





www.valleyjoist.com

Valley Joist + Deck
2350 Jordan Road SW
Fort Payne, AL 35967
256-845-2330

Valley Deck Manufacturing
3019 Gault Avenue N
Fort Payne, AL 35957
256-845-2330

Valley Joist +Deck
255 Logan Lane
Fernley, NV 89408
775-575-7337



Valley Joist is a member in good standing of the
Steel Joist Institute and the Steel Deck Institute



Table of Contents

General Deck Information	D2
Steel Roof Deck	
Load Tables and Section Properties – Type 1.5B.....	D3
Load Tables and Section Properties – Type 1.5BV (vented).....	D3
Load Tables and Section Properties – Type 1.5F.....	D5
SDI Specifications.....	D7
Non-Composite Steel Form Deck	
Load Tables and Section Properties – Type 0.6Form.....	D16
Load Tables and Section Properties – Type 1.0Form.....	D19
Load Tables and Section Properties – Type 1.5Form.....	D22
Load Tables and Section Properties – Type 2.0Form.....	D25
SDI Specifications.....	D28
Composite Steel Floor Deck	
Load Tables and Section Properties – Type 1.5Composite.....	D37
Load Tables and Section Properties – Type 2.0Composite.....	D40
SDI Specifications.....	D43
SDI Pour Stop Selection Table.....	D51
SDI Code of Recommended Standard Practice	D52
Diaphragm Shear Strength and Stiffness	
Typical Deck Attachment Patterns.....	D57
Diaphragm Design Example.....	D58
1.5B Bare Deck.....	D60
1.5B with 2 ½” Normal Weight Concrete (above deck).....	D72
1.5B with 2 ½” Light Weight Concrete (above deck).....	D84
1.5B with Type I Insulating Concrete Fill.....	D96
1.5B with Type II Insulating Concrete Fill.....	D108
0.6Form.....	D120
1.5Form.....	D126
1.5Composite.....	D126
2.0Form.....	D126
2.0Composite.....	D126
Deck Fabrication List	D136

General Information

Deck Availability

APPLICATION	DECK TYPE	AVAILABLE GAGES	AVAILABLE FINISHES	COVERAGE WIDTH
ROOF	1.5B,1.5F 1.5BV	22, 20, 18	Painted (Gray or White) Galvanized G60 (G90 available upon request)	36"
NON-COMPOSITE FLOOR	0.6Form	28, 26, 24	Galvanized G60	30"
	1.5Form	22, 20, 18	Galvanized G60 (G90 available upon request)	36"
	2.0Form	22, 20		36"
COMPOSITE FLOOR	2.0Composite	22, 20	Galvanized G60 (G90 available upon request)	36"
	1.5Composite	22, 20, 18		36"

GENERAL NOTES:

- When a welded deck attachment is specified, Valley Joist+Deck supplies weld washers for 24, 26 and 28 gage deck as recommended by the Steel Deck Institute. Unless told otherwise, weld washers **ARE NOT** included for any roof deck.
- An extra charge for deck lengths less than 5'-0" applies to all deck purchases. Contact plant for price and availability.
- Valley Joist+Deck stocks both #10 and #12 screws.
 - Attachment Screws: #12 screw x 1 ½" long with a #5 drill point
 - Sidelap Screws: #10 screw x ¾" long with a #2 drill point
 - #12 screw x ¾" long with a #2 drill point

WHITE PAINT DISCLAIMER AND LETTER OF UNDERSTANDING

Valley Joist+Deck will supply white painted cold rolled steel roof deck. However, prior to manufacturing and subsequent delivery, it is important that the buyer fully understand the limitations of a white primer. White paint is not recommended as a primer, nor can white primer suffice as a finish coat because it is substantially affected by rust staining. Consequently, Valley Joist+Deck will not be responsible for any charges resulting from rust on the painted deck surface or edges.

White deck primer should not be specified if appearance is a strong consideration without a second field applied finish coat. Please understand that Valley Joist+Deck will not be invoiced or back charged for field painting due to rust stains.

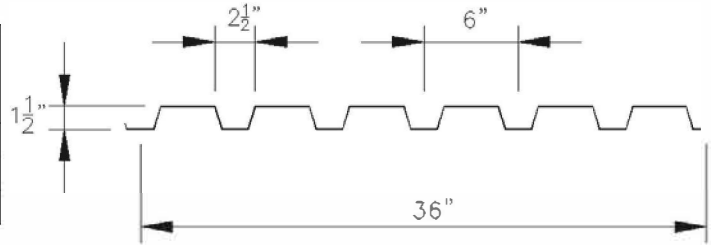
1 .5B (Wide Rib)

- $F_y = 50$ ksi
- Factory Mutual Research Approval for use as a component in Class 1-60, 1-75 and 1-90 wind uplift.
- Underwriter's Laboratories Classified as a component in Roof/Ceiling systems in UL specifications P211, P225, P230, P404, P510, P921 and P923. This deck is listed in the UL certification directory as Type B.

Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I in^4	S_p in^3	S_n in^3
22	0.0295	1.64	0.179	0.188	0.196
20	0.0358	1.99	0.219	0.232	0.242
18	0.0474	2.63	0.292	0.315	0.322

Section properties shown are the maximum values calculated at deflection level stresses. They are not necessarily those used in the development of the associated load tables.



1 .5BV (Wide Rib) – Vented

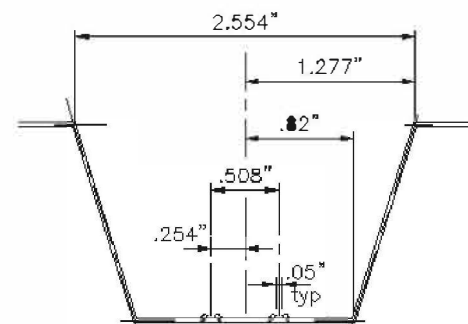
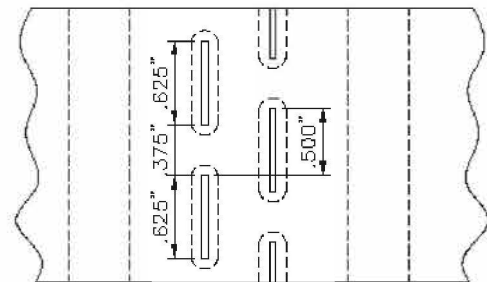
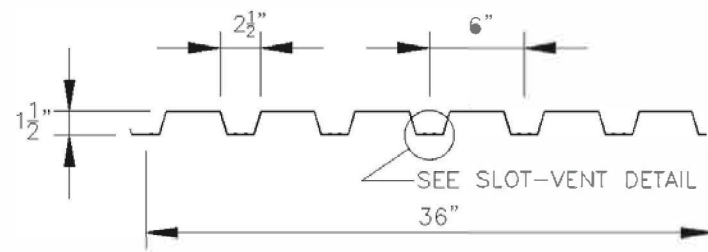
- $F_y = 50$ ksi
- .63% open area within the lower flutes. See SLOT-VENT DETAIL below.
- Factory Mutual Research Approval for use as a component in Class 1-60, 1-75 and 1-90 wind uplift.
- Underwriter's Laboratories Classified as a component in Roof/Ceiling systems in UL specifications P231, P246, P509, P921 and P923. This deck is listed in the UL certification directory as Type B vented.

Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I in^4	S_p in^3	S_n in^3
22	0.0295	1.64	0.179	0.188	0.196
20	0.0358	1.99	0.219	0.232	0.242

* 18ga. 1.5BV is not available.

Section properties shown are the maximum values calculated at deflection level stresses. They are not necessarily those used in the development of the associated load tables.



SLOT-VENT DETAIL

1 .5B (Wide Rib), 1.5BV (Wide Rib Vented)

Uniform Design Load (PSF) – ASD

No. Spans	Deck Gage	Max. SDI Const. Span	Span (ft-in)											
			4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
1	22	5'-6"	<u>114</u>	<u>86</u>	<u>67</u>	<u>54</u>	<u>45</u>	<u>38</u>	<u>33</u>	<u>29</u>	<u>26</u>	<u>23</u>	<u>21</u>	<u>20</u>
	20	6'-3"	<u>145</u>	<u>108</u>	<u>84</u>	<u>67</u>	<u>55</u>	<u>46</u>	<u>39</u>	<u>34</u>	<u>30</u>	<u>27</u>	<u>24</u>	<u>22</u>
	18	7'-6"	<u>206</u>	<u>153</u>	<u>117</u>	<u>93</u>	<u>75</u>	<u>62</u>	<u>52</u>	<u>45</u>	<u>39</u>	<u>34</u>	<u>31</u>	<u>28</u>
2	22	6'-6"	175	142	118	99	<u>85</u>	<u>73</u>	<u>64</u>	<u>55</u>	<u>47</u>	<u>41</u>	<u>37</u>	<u>33</u>
	20	7'-5"	223	181	150	127	<u>108</u>	<u>93</u>	<u>80</u>	<u>68</u>	<u>58</u>	<u>51</u>	<u>44</u>	<u>40</u>
	18	8'-10"	304	247	205	173	148	<u>127</u>	<u>111</u>	<u>94</u>	<u>80</u>	<u>69</u>	<u>60</u>	<u>53</u>
3	22	6'-6"	<u>207</u>	<u>154</u>	<u>118</u>	<u>93</u>	<u>76</u>	<u>62</u>	<u>53</u>	<u>45</u>	<u>39</u>	<u>35</u>	<u>31</u>	<u>28</u>
	20	7'-5"	<u>265</u>	<u>196</u>	<u>149</u>	<u>117</u>	<u>94</u>	<u>78</u>	<u>65</u>	<u>55</u>	<u>48</u>	<u>42</u>	<u>37</u>	<u>33</u>
	18	8'-10"	<u>376</u>	<u>280</u>	<u>213</u>	<u>166</u>	<u>133</u>	<u>108</u>	<u>90</u>	<u>76</u>	<u>65</u>	<u>56</u>	<u>49</u>	<u>44</u>

Notes: Load values underlined above are governed by a live load deflection not in excess of 1/240 of the span.
A dead load of 10 PSF has been assumed for the deck and typical built-up roof.

Uniform Design Load (PSF) – LRFD

No. Spans	Deck Gage	Max. SDI Const. Span	Span (ft-in)											
			4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
1	22	5'-6"	<u>179</u>	<u>134</u>	<u>104</u>	<u>83</u>	<u>67</u>	<u>56</u>	<u>48</u>	<u>42</u>	<u>37</u>	<u>33</u>	<u>30</u>	<u>27</u>
	20	6'-3"	<u>228</u>	<u>169</u>	<u>130</u>	<u>103</u>	<u>84</u>	<u>69</u>	<u>59</u>	<u>50</u>	<u>44</u>	<u>39</u>	<u>35</u>	<u>32</u>
	18	7'-6"	<u>326</u>	<u>241</u>	<u>184</u>	<u>144</u>	<u>116</u>	<u>95</u>	<u>80</u>	<u>68</u>	<u>59</u>	<u>51</u>	<u>45</u>	<u>41</u>
2	22	6'-6"	263	214	177	149	127	110	96	<u>84</u>	<u>72</u>	<u>62</u>	<u>55</u>	<u>49</u>
	20	7'-5"	335	272	226	190	162	140	122	<u>104</u>	<u>89</u>	<u>77</u>	<u>67</u>	<u>59</u>
	18	8'-10"	457	372	309	260	222	192	167	<u>146</u>	<u>124</u>	<u>106</u>	<u>92</u>	<u>81</u>
3	22	6'-6"	326	<u>242</u>	<u>185</u>	<u>145</u>	<u>117</u>	<u>96</u>	<u>80</u>	<u>68</u>	<u>59</u>	<u>51</u>	<u>46</u>	<u>41</u>
	20	7'-5"	415	<u>309</u>	<u>235</u>	<u>184</u>	<u>147</u>	<u>120</u>	<u>100</u>	<u>85</u>	<u>72</u>	<u>63</u>	<u>55</u>	<u>49</u>
	18	8'-10"	566	<u>444</u>	<u>337</u>	<u>262</u>	<u>209</u>	<u>169</u>	<u>140</u>	<u>117</u>	<u>100</u>	<u>86</u>	<u>75</u>	<u>66</u>

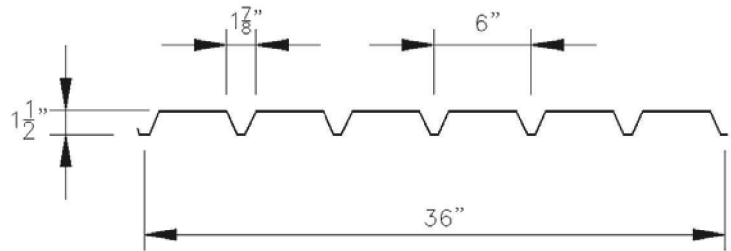
Notes: Load values underlined above are governed by a live load deflection not in excess of 1/240 of the span.
A factored dead load of 12 PSF has been assumed for the deck and typical built-up roof.

1 .5F (Intermediate Rib)

- $F_y = 50$ ksi
- Underwriter's Laboratories Classified as a component in Roof/Ceiling systems in UL specifications P211, P225, P230, P404, P510, P921 and P923. This deck is listed in the UL certification directory as Type F.

Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I in^4	S_p in^3	S_n in^3
22	0.0295	1.59	0.128	0.112	0.121
20	0.0358	1.93	0.156	0.139	0.147
18	0.0474	2.56	0.207	0.190	0.194



Section properties shown are the maximum values calculated at deflection level stresses. They are not necessarily those used in the development of the associated load tables.

Uniform Design Load (PSF) – ASD

No. Spans	Deck Gage	Max. SDI Const. Span	Span (ft-in)										
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
1	22	4'-6"	<u>118</u>	<u>86</u>	<u>65</u>	<u>51</u>	<u>42</u>	<u>35</u>	<u>30</u>	<u>26</u>	<u>23</u>	<u>21</u>	<u>19</u>
	20	5'-3"	<u>150</u>	<u>108</u>	<u>81</u>	<u>64</u>	<u>51</u>	<u>43</u>	<u>36</u>	<u>31</u>	<u>27</u>	<u>25</u>	<u>22</u>
	18	6'-4"	<u>211</u>	<u>151</u>	<u>113</u>	<u>87</u>	<u>70</u>	<u>57</u>	<u>48</u>	<u>41</u>	<u>35</u>	<u>31</u>	<u>28</u>
2	22	5'-6"	150	118	96	79	67	57	49	43	38	33	30
	20	6'-3"	182	144	117	97	81	69	60	<u>52</u>	<u>46</u>	<u>41</u>	<u>36</u>
	18	7'-5"	240	190	154	127	107	91	79	69	60	<u>53</u>	<u>48</u>
3	22	5'-6"	186	<u>148</u>	<u>114</u>	<u>88</u>	<u>70</u>	<u>57</u>	<u>48</u>	<u>41</u>	<u>35</u>	<u>31</u>	<u>28</u>
	20	6'-3"	227	179	<u>145</u>	<u>111</u>	<u>88</u>	<u>71</u>	<u>59</u>	<u>50</u>	<u>43</u>	<u>37</u>	<u>33</u>
	18	7'-5"	299	237	192	<u>156</u>	<u>123</u>	<u>99</u>	<u>81</u>	<u>68</u>	<u>57</u>	<u>50</u>	<u>43</u>

Notes: Load values underlined above are governed by a live load deflection not in excess of 1/240 of the span. A dead load of 10 PSF has been assumed for the deck and typical built-up roof.

1 .5F (Intermediate Rib)

Uniform Design Load (PSF) – LRFD

No. Spans	Deck Gage	Max. SDI Const. Span	Span (ft-in)										
			4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
1	22	4'-6"	<u>184</u>	<u>133</u>	<u>100</u>	<u>78</u>	<u>63</u>	<u>52</u>	<u>44</u>	<u>38</u>	<u>34</u>	<u>30</u>	<u>27</u>
	20	5'-3"	<u>235</u>	<u>169</u>	<u>126</u>	<u>98</u>	<u>78</u>	<u>64</u>	<u>54</u>	<u>46</u>	<u>40</u>	<u>35</u>	<u>32</u>
	18	6'-4"	<u>334</u>	<u>238</u>	<u>177</u>	<u>136</u>	<u>107</u>	<u>87</u>	<u>72</u>	<u>61</u>	<u>52</u>	<u>46</u>	<u>40</u>
2	22	5'-6"	<u>225</u>	<u>178</u>	<u>144</u>	<u>119</u>	<u>100</u>	<u>86</u>	<u>74</u>	<u>64</u>	<u>57</u>	<u>50</u>	<u>45</u>
	20	6'-3"	<u>273</u>	<u>216</u>	<u>175</u>	<u>145</u>	<u>122</u>	<u>104</u>	<u>90</u>	<u>78</u>	<u>69</u>	<u>61</u>	<u>54</u>
	18	7'-5"	<u>361</u>	<u>286</u>	<u>232</u>	<u>192</u>	<u>161</u>	<u>137</u>	<u>118</u>	<u>103</u>	<u>91</u>	<u>80</u>	<u>72</u>
3	22	5'-6"	<u>280</u>	<u>222</u>	<u>179</u>	<u>137</u>	<u>108</u>	<u>88</u>	<u>73</u>	<u>61</u>	<u>53</u>	<u>46</u>	<u>41</u>
	20	6'-3"	<u>341</u>	<u>270</u>	<u>219</u>	<u>174</u>	<u>137</u>	<u>110</u>	<u>91</u>	<u>76</u>	<u>65</u>	<u>56</u>	<u>49</u>
	18	7'-5"	<u>449</u>	<u>356</u>	<u>289</u>	<u>239</u>	<u>192</u>	<u>154</u>	<u>125</u>	<u>104</u>	<u>88</u>	<u>75</u>	<u>65</u>

Notes: Load values underlined above are governed by a live load deflection not in excess of 1/240 of the span.
 A factored dead load of 12 PSF has been assumed for the deck and typical built-up roof.

SDI Specifications and Commentary

FOR STEEL ROOF DECK

1. Scope

The requirements of this section shall govern only ribbed steel roof deck construction of varying configurations used for the support of roofing materials, design live loads and SDI construction loads shown on page 25.

Commentary: Suspended ceilings, light fixtures, ducts, or other utilities shall not be supported by the steel deck.

2. Materials

2.1 Steel Roof Deck: The steel roof deck units and accessories shall be fabricated from steel conforming to Section A3 of the latest edition, (1996) of the American Iron and Steel Institute, Specifications for the Design of Cold-Formed Steel Structural Members. The steel used shall have a minimum yield strength of 33 ksi (230 MPa).

2.2 Tolerances:

Panel length: Plus or minus ½ inch (13 mm).

Thickness: Shall not be less than 95% of the design thickness.

Panel cover width: Minus 3/8 inch (10 mm), plus ¾ inch (20 mm).

Panel camber and/or sweep: ¼ inch in 10 foot length (6 mm in 3 meters).

Panel end out of square: 1/8 inch per foot (3 mm in 300 mm) of panel width.

Commentary: The above tolerances reflect the fabrication processes for steel deck products. Variation in cover width tolerances may vary due to trucking, storage, handling.

The steel roof deck shall be manufactured from steel conforming to ASTM Designation A1008-00 Grades C, D or E or from A653/A653M-00 Structural Quality grade SQ33 or higher. If the published product literature does not show the uncoated steel thickness in decimal inches (or millimeters) but lists gages or type numbers, then the thickness of steel before coating with paint or metal shall be in conformance with the following table:

TYPE NO.	DESIGN THICKNESS		MINIMUM THICKNESS	
	in.	mm	in.	mm
22	0.0295	0.75	0.028	0.70
20	0.0358	0.90	0.034	0.85
18	0.0474	1.20	0.045	1.15
16	0.0598	1.50	0.057	1.45

3. Design

3.1a Allowable Stress Design (ASD):

Under the combined dead and design live loads, the bending stress in the steel deck shall not exceed 0.6 times the yield strength or 36ksi (250MPa).

3.1b Load Resistance Factor Design (LRFD):

The load and resistance factors and the load combinations shall be as required by the AISI Specification.

Commentary: Either ASD or LRFD design is acceptable to the Steel Deck Institute. If LRFD uniform load tables are desired, the SDI Roof Deck Construction Handbook is a source. Generally, in ASD, 20 ksi (140Mpa) is the published maximum stress as is shown in the load tables of this manual.

3.2 Section Properties: Structural properties of roof deck sections shall be computed in accordance with the

American Iron and Steel Institute (AISI) specification for the Design of Cold-formed Steel Structural Members, 1996 edition.

Commentary: Arbitrarily assumed effective compression flange widths shall not be allowed. Testing shall not be used in lieu of the above in determination of vertical load carrying capacity of steel deck.

3.3 Load Tables: Uniform loads determined for published tables shall be based on equal adjacent two and three span conditions and on single spans. Appropriate combinations of shear and bending shall be made to determine the published loads. Widths of 2.0 inches (50mm) for end bearing and 4.0 inches (100mm) for interior shall be used to check web crippling. Deflection coefficients shall be 0.013 for single spans, 0.0054 for double spans and 0.0069 for triple spans.

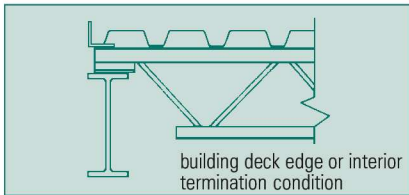
Commentary: For deck layouts that provide more than three equal spans, the user can apply the loads published for three spans. Published uniform load tables do not apply for adjacent spans that differ in length by more than 10%.

3.4 Maximum Deflections:

Deflection of the deck shall not exceed L/240 or 1 inch (25 mm) whichever is less, under the uniformly distributed design live load. All spans are to be considered center-to-center of supports.

Commentary: The adequacy of deck edge support details should be reviewed. At the building perimeter or any other deck termination or direction change, occasional concentrated loading of the roof

deck could result in temporary differences in deflection between the roof deck and the adjacent stationary building component. Supplemental support such as a perimeter angle may be warranted.



Construction and Maintenance loads: SPANS are governed by a maximum stress of 26 ksi (180 MPa) and a maximum deflection of L/240 with a 200-pound (0.89 kN) concentrated load at midspan on a 1'-0" (300 mm) wide section of deck. If the designer contemplates loads of greater magnitude, spans shall be decreased or the thickness of the steel deck increased as required.

All loads shall be distributed by appropriate means to prevent damage to the completed assembly during construction.

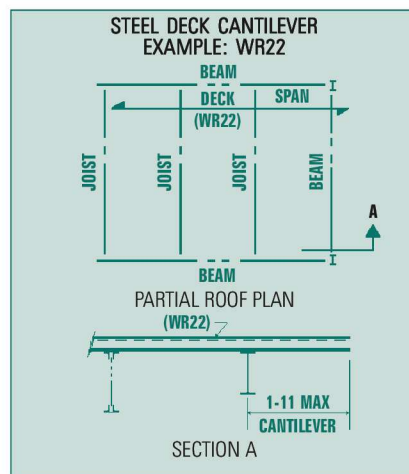
Cantilever loads:

Construction phase load of 10 psf (0.48 kPa) on adjacent span and cantilever, plus 200 pound load (0.89 kN) at end of cantilever with a stress limit of 26 ksi (180 MPa) (ASD).

Service load of 45 psf (2.15 kPa) on adjacent span and cantilever, plus 100 pound load (0.44 kN) at end of cantilever with a stress limit of 20 ksi (140 MPa) (ASD).

Deflection limited to L/240 of adjacent span for interior span and deflection at end of cantilever to L/120 of overhang.

RECOMMENDED MAXIMUM SPANS FOR CONSTRUCTION AND MAINTENANCE LOADS STANDARD FOR 1 1/2 INCH AND 3 INCH ROOF DECK					
TYPE	SPAN CONDITION	SPAN		MAX. RECOMMENDED SPANS ROOF DECK CANTILEVER	
		FT.-IN.	METERS	FT.-IN.	METERS
NARROW RIB DECK	NR22	1	3'-10"	1.15 m	
	NR22	2 or more	4'-9"	1.45 m	1'0" .30 m
	NR20	1	4'-10"	1.45 m	
	NR20	2 or more	5'-11"	1.80 m	1'2" .35 m
INTERMEDIATE RIB DECK	NR18	1	5'-11"	1.80 m	
	NR18	2 or more	6'-11"	2.10 m	1'7" .45 m
	IR22	1	4'-6"	1.35 m	
	IR22	2 or more	5'-6"	1.65 m	1'2" .35 m
WIDE RIB DECK	IR20	1	5'-3"	1.60 m	
	IR20	2 or more	6'-3"	1.90 m	1'5" .40 m
	WR22	1	5'-6"	1.65 m	
	WR22	2 or more	6'-6"	1.75 m	1'11" .55 m
DEEP RIB DECK	WR20	1	6'-3"	1.90 m	
	WR20	2 or more	7'-5"	2.25 m	2'4" .70 m
	WR18	1	7'-6"	2.30 m	
	WR18	2 or more	8'-10"	2.70 m	2'-10" .85 m
DEEP RIB DECK	3DR22	1	11'-0"	3.35 m	
	3DR22	2 or more	13'-0"	3.95 m	3'-5" 1.05 m
	3DR20	1	12'-6"	3.80 m	
	3DR20	2 or more	14'-8"	4.45 m	3'-11" 1.20 m
	3DR18	1	15'-0"	4.55 m	
	3DR18	2 or more	17'-8"	5.40 m	4'-9" 1.45 m



Notes:

1. Adjacent span: Limited to those spans shown in Section 3.4 of Roof Deck Specifications. In those instances where the adjacent span is less than 3 times the cantilever span, the individual manufacturer should be consulted for the appropriate cantilever span.
2. Sidelaps must be attached at end of cantilever and at a maximum of 12 inches (300 mm) on center from end.
3. No permanent suspended loads are to be supported by the steel deck.
4. The deck must be completely attached to the supports and at the sidelaps before any load is applied to the cantilever.

continued on next page

SDI Specifications and Commentary

FOR STEEL ROOF DECK

continued

4. Installation & Site Storage

4.1 Site Storage: Steel deck shall be stored off the ground with one end elevated to provide drainage, and shall be protected from the elements with a waterproof covering, ventilated to avoid condensation.

4.2 Deck Placement: Place each deck unit on supporting structural frame. Adjust to final position with accurately aligned side laps and ends bearing on supporting members. On joist framing, be sure the appropriate end lap occurs over a top chord angle for proper anchorage.

Commentary: Staggering roof deck end laps is not a recommended practice. The deck capacity is not increased by staggering the end laps, yet layout and erection costs are increased.

4.3 Lapped or Butted Ends: Deck Ends may be either butted or lapped over supports. Standard tolerance for ordered length is plus or minus ½ inch (13 mm).

4.4 Anchorage: Roof deck units shall be anchored to supporting members including perimeter support steel and/or bearing walls by either welding or mechanical fasteners, to provide lateral stability to the top flange of the supporting structural members and to resist the following minimum gross uplifts; 45 pounds per square foot (2.15 kPa) for eave overhang; 30 pounds per square foot (1.44 kPa) for all other roof areas. The dead load of the roof

deck construction shall be deducted from the above forces. The location and number of fasteners required for satisfactory attachment of deck to supporting structural members are as follows:

All side laps plus a sufficient number of interior ribs to limit the spacing between adjacent points of attachment to 18 inches (500 mm). Do not walk or stand on deck until these minimum attachments are accomplished at the structural supports. Deck units with spans greater than 5 feet (1.5 m) shall have side laps and perimeter edges (at perimeter support steel) fastened at midspan or 36 inches (1 m) intervals, whichever distance is smaller. Sidelap attachment shall progress from support to midspan.

A perimeter deck system support parallel to deck flutes or ribs is necessary to provide for a minimum fastener spacing as specified. The design and detailing of this perimeter deck support system is the responsibility of the project designer.

Commentary: The deck should be anchored as soon as possible to act as a working platform, to prevent blowoff and slipoff from supports and to provide stability to deck system and frame. The designer should check the appropriate codes for the required uplift loading and show the required anchorage connections on the plans. If no information is shown on the plans, the uplift loads shown in paragraph 4.4 will be assumed. Sidelap fasteners can be welds, screws, crimps (button punching), or other methods approved by the designer. Welding sidelaps on thicknesses 0.028 inches (.7 mm) or less may

cause large burn holes and is not recommended. The objective of sidelap fastening is to prevent differential sheet deflection. The five foot (1.5 m) limit on side lap spacing is based on experience.

The deck erector should not leave broken bundles or unattached deck at the end of the day as the wind may displace the sheets and cause injury to persons or property. In the past, 1½ inches (38 mm) of end bearing was the minimum; this is still a good "rule of thumb" that will, in general prevent slip off. If less than 1½ inches (38 mm) of end bearing is available, or if high support reactions are expected, the design engineer should ask the deck manufacturer to check the deck web stress. In any case, the deck must be adequately attached to the structure to prevent slip off.

The SDI Diaphragm Design Manual, Second Edition, should be used to determine fastening requirements if the deck is to be designed to resist horizontal loads. The most stringent requirements, of either section 4.4 or, if applicable, the SDI Diaphragm Design Manual, should be used.

4.4a Welding: All field welding of deck shall be in strict accordance with ANSI/AWS D1.3 Structural Welding Code-Sheet Steel. Each welder must demonstrate an ability to produce satisfactory welds using a procedure such as shown in the Steel Deck Institute Manual of Construction with Steel Deck or as described in ANSI/AWS D1.3. A minimum visible 5/8 inch (15 mm) diameter puddle weld or an elongated weld with an equal perimeter is required. Fillet welds, when used, shall be at least 1 inch (25 mm)



long. Weld metal shall penetrate all layers of deck material at end laps and shall have good fusion to the supporting members. Welding washers shall be used on all deck units with a metal thickness less than 0.028 inches (0.7 mm).

Welding washers shall be a minimum thickness of 0.056 inches (1.5 mm), 16 gage, and have a nominal 3/8 inch (10 mm) diameter hole. Care shall be exercised in the selection of electrodes and amperage to provide a positive weld and prevent high amperage blow holes.

Commentary: The obligation is placed on the contractor to prepare welding procedure specifications and to qualify them before production use. These procedure specifications must include classification of the filler metal, its size, and for each type of weld, its melting rate or any other suitable means of current control indicative of melting rate, as applicable.

The welder qualification test requires each welder to prove the ability to produce satisfactory welds using these qualified procedures. The fact that the welder may have been successfully qualified on plate or pipe under the provisions of ANSI/AWS D1.1 Structural Welding Code-Steel for structural welding, or on plate or pipe under the provisions of other codes governing the welding of specific products, does not qualify the welder for welding steel sheet.

The selections of welding rod and amperage are left to the individual welder. Welds are made from the top side of the deck, with the welder immediately following the placement

crew. In general, stronger welds are obtained on 0.028 inches (.70 mm) or thicker deck without weld washers. Welds on deck less than 0.028 inches (.70 mm) are stronger with washers.

4.4b Mechanical Fasteners:

Mechanical fasteners (powder-actuated, screws, pneumatically driven fasteners, etc.) are recognized as viable anchoring methods, provided the type and spacing of the fasteners satisfy the design criteria. Documentation in the form of test data, design calculations, or design charts should be submitted by the fastener manufacturer as the basis for obtaining approval. The deck manufacturer may recommend additional fasteners to stabilize the given profile against sideslip of any unfastened ribs.

Commentary: The allowable load value per fastener used to determine the maximum fastener spacing is based on a structural support thickness of not less than 1/8 inch (3 mm) when powder-actuated or pneumatically driven fasteners with 5/16 inch (8 mm) diameter minimum bearing surface (fastener head size) are used. When the structural support thickness is less than 1/8 inch (3 mm), powder actuated or pneumatically driven fasteners shall not be used but screws are acceptable.

5. Protective Coatings

5.1 Finishes: All steel to be used for roof deck shall be galvanized, aluminized or prime painted. The roof deck shall be free of grease and dirt prior to the coating.

Commentary: The primer coat is intended to protect the steel for only a short period of exposure in ordinary atmospheric conditions and shall be considered an impermanent and provisional coating. Field painting of prime painted deck is recommended especially where the deck is exposed. In corrosive or high moisture atmospheres, a galvanized finish is desirable in a G-60 (Z180) or G-90 (Z275) coating. In highly corrosive or chemical atmospheres or where reactive materials could be in contact with the steel deck, special care in specifying the finish should be used. In this case, individual manufacturers should be contacted. See important information Section 4.1. Insulation, page 7.

In most cases, deck welds are removed from a corrosive environment when the roof is installed and no weld touch up paint or cold galvanizing is necessary. In those instances where the welds are left exposed to a corrosive atmosphere, the weld should be wire brushed and coated with an approved substance.

5.2 Fireproofing: The metal deck manufacturer shall not be responsible for the cleaning of the underside of metal deck to ensure bond of fireproofing. Adherence of fireproofing materials is dependent on many variables; the deck manufacturer (supplier) is not responsible for the adhesion or adhesive ability of the fireproofing.

continued on next page

SDI Specifications and Commentary

FOR STEEL ROOF DECK

continued

6. Erection

Deck sheets will be placed in accordance with approved erection layout drawings supplied by the deck manufacturer and in conformance with the deck manufacturer's standards. End joints of sheets shall occur over supports. (see Section 4.4)

Commentary: Openings greater than 25 square feet (2.3m²) are generally located and shown on the detailed erection drawings and deck will be provided to the job in lengths to accommodate the opening. Openings less than 25 square feet (2.3m²) can be located and shown on the erection drawings, and be decked over; the deck erector or the appropriate trade is to cut these openings as well as provide any skew cutting shown.

It is extremely important that deck cantilevers and decked over areas are not overloaded. Openings in the deck and building edges must be protected by using OSHA approved methods.

Openings not shown on the erection drawings, such as those required for stacks, conduits, plumbing, vents, etc. are to be cut, and reinforced if necessary, by the trades requiring the openings. Refer to the *SDI Manual of Construction with Steel Deck* for a reinforcing schedule.

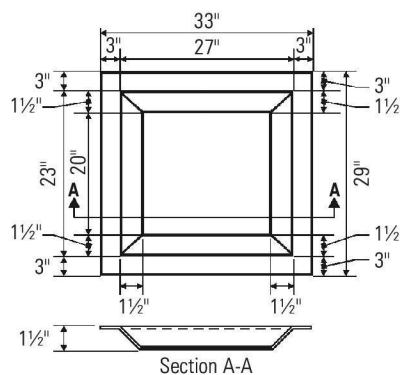
7. Insulation

Insulation board shall be of sufficient strength and thickness to permit unsupported spans and edges over the deck's rib openings. Cementitious insulating fills shall be poured only over galvanized deck and shall be adequately vented. In all cases, the recommendations of the insulation manufacturer shall be followed.

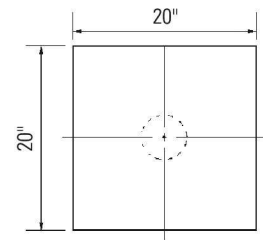
8. CAUTION

Steel roof deck may be used in a variety of ways, some of which do not lend themselves to a standard "steel deck" analysis for span and loading. There are, in these cases, other criteria which must be considered besides that given by the Steel Deck Institute. Make sure that this investigation starts with a review of the applicable Codes and that any special conditions are included in the design.

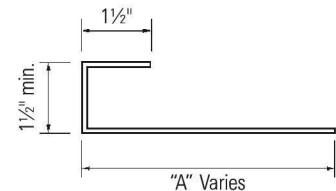
9. Accessories



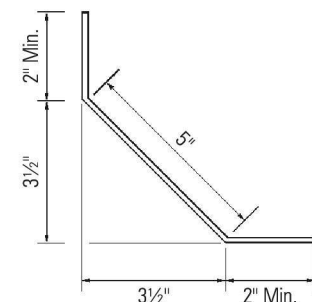
Recessed Sump Pan - Level (0.071" Min.)
(Hole cut in field by others)



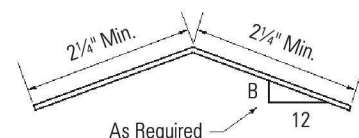
Flat Sump Plate (0.071" Min.)
Dimensions shown are minimum.
(Hole cut in field by others)



Eave Plate (0.028" Min.)
(Hole cut in field by others)



Cant Strip (0.028" Min.)



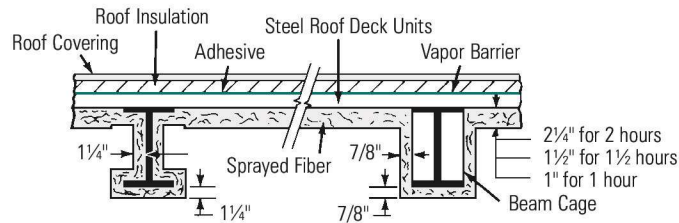
Ridge and Valley Plate (0.028" Min.)

Steel Roof Deck

FIRE RESISTANCE RATINGS

2 Hour Rating with Directly Applied Protection

Illustration refers to UL Design P801 using a sprayed mineral fiber insulation. See also UL Designs P701, 711, and P805.



2 Hour Rating with Metal Lath and Plaster Ceiling

Illustration refers to UL Design P404. See also UL Design P409



Other 2 Hour Ratings

Although standard roof deck sections were not used for the following tests, it is the opinion of persons knowledgeable in fire test procedures that galvanized steel roof deck with a minimum depth of 1 1/2 inches and a 0.0295-inch design thickness can be used without decreasing the fire resistance of the assembly.

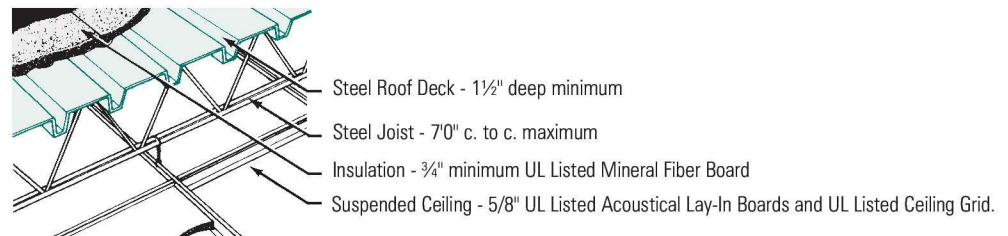
In each case, the assembly was tested using either a steel form unit with a minimum depth of 9/16 inch or a steel floor deck essentially identical to products marketed as roof deck. The authorities having jurisdiction should be consulted before substituting steel roof deck in the following assemblies: UL

Designs P215 and P219: acoustical ceiling systems. 2 inches vermiculite concrete on special roof topping mixture on steel deck.

UL Design P902: no ceiling required. 2 3/4 inches cellular concrete on steel deck.

1-Hour Ratings with Suspended Acoustical Ceiling

Illustration refers to UL Design P201. See also UL Designs P204, P210, P211, P224, P232, P235, P238 and P243, and Factory Mutual Roof-Ceiling Construction 3-1 hour.



SDI Short Form Specifications

FOR STEEL ROOF DECK

PART 1 - GENERAL

1.1 Related Documents

General provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to work of this section.

1.2 Summary

This section shall include all materials, equipment and labor necessary for the installation of steel roof deck in accordance with this specification and design drawings.

Related work specified elsewhere.

Requirements for structural deck supports, field painting, fireproofing, roof sumps, flashings, drains, collars, gutters, downspouts, insulation and other miscellaneous items are specified elsewhere.

1.3 Submittals

General: Submit each item in this section according to the conditions of the contract and Division 1 Specification Section.

Product data: Submit manufacturers' specifications/installation instructions for each steel roof deck type and specified accessories.

Shop drawings: Submit roof deck placement drawings showing layout for each type of deck, anchorage details, sump pans, cut openings and accessories.

D. Welder certification signed by contractor certifying that welders comply with requirements specified under "Quality Assurance", or if mechanical fasteners are used, certification from the manufacturer evidencing compliance of mechanical fasteners with design requirements based upon comprehensive testing.

1.4 Quality Assurance

A. Codes and Standards - Comply with provisions of the following unless otherwise indicated.

1. American Iron and Steel Institute (AISI) Specification for Design of Cold Formed Steel Structural Members, latest edition.
2. American Welding Society (AWS) D1.3 Structural Welding Code/ Sheet Metal.
3. Steel Deck Institute (SDI) Design Manual, latest edition.

B. Certify that each welder has satisfactorily passed AWS qualification test for the welding process involved, and, if applicable, has undergone recertification.

1.5 Delivery, Storage and Handling

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage and handling.

B. If ground storage is needed, the deck bundles must be stored off the ground, with one end elevated to provide drainage. Bundles must be protected against condensation with a ventilated waterproof covering. Bundles must be stacked so there is no danger of tipping, sliding, rolling, shifting or material damage. Bundles must be periodically checked for tightness and retightened as necessary (so wind cannot loosen

sheets) to prevent damage caused by the wind.

C. Deck bundles placed on the building frame must always be placed near a main supporting beam at a column or wall. In no case are the bundles to be placed on unbolted frames or on unattached and unbridged joists. The structural frame must be properly braced to receive the bundles.

PART 2 - PRODUCTS

2.1 A manufacturer offering steel roof deck products to be incorporated into the work must be a member of the Steel Deck Institute.

2.2 Materials

A. Steel roof deck shall be (narrow rib) (intermediate rib) (wide rib) (deep rib) (long span) configuration _____ in depth with a design thickness of _____ and shall be designed in accordance with and comply with the standard load tables of the Roof Deck Specifications of the SDI.

B. Sheet steel for galvanized roof deck and accessories shall conform to ASTM A653/A653M-00 Structural Quality grade SS33 (230 MPa) or higher.

1. Galvanizing shall conform to ASTM A924/A924M-99 with a minimum coating class of G30 (Z090) as defined in ASTM A653/A653M-00.

C. Sheet steel for primer painted roof deck and/or accessories shall conform to ASTM A1008-00 with a minimum yield strength of 33 ksi (230 MPa).

D. Steel deck shall have a coat of manufacturers standard shop primer paint.



2.3 Accessories

A. The deck manufacturer shall furnish ridge and valley plates, flat plates at change of deck direction and sump pans, as shown on plans to provide a finished surface for the application of roof insulation and roof covering.

PART 3 - EXECUTION

3.1 Examine support framing and field conditions for compliance with requirements and installation tolerances and other conditions affecting performance of work of this section. All OSHA, State and Local rules for erection must be followed.

3.2 Preparation

A. Place deck in accordance with approved placement plans. Locate deck bundles to prevent overloading of support members.

3.3 Installation - General

A. Install deck panels and accessories according to SDI Specifications, SDI Manual of Construction with Steel Deck, and in accordance with the placement plans, and requirements of this section.

B. Place deck panels on structural supports and adjust to final position with ends lapped or butted over structural supports with a minimum end bearing of 1.5 inches (40 mm). Attach the deck panels firmly to the supports immediately after placement in order to form a safe working platform.

C. Cut and neatly fit deck and accessories at skew conditions, around openings and other work projecting through or adjacent to the decking.

D. Trades that subsequently cut unscheduled openings through the roof deck are responsible for reinforcing those openings in accordance with the requirements of the Engineer of Record.

3.4 Attachment

A. Anchor deck units to steel supporting members by arc spot puddle welds or approved mechanical fasteners.

1. Arc spot puddle welds shall be 5/8 inch (15 mm) minimum visible diameter with the attachment pattern shown on placement drawings.
2. Mechanical fasteners, either powder actuated, pneumatically driven, or self drilling screws may be used in lieu of welding, provided product data has been submitted and approved.

B. Minimum Side Lap Attachment – Fasten side laps of deck units with span greater than 5'-0" (1.5m) at mid-span or 36" (1m) intervals whichever distance is smaller or as shown on design drawings for diaphragm design using one of the following methods:

1. #10 self drilling screws
2. Crimp or button punching
3. Arc spot puddle welds 5/8 inch (15 mm) minimum visible diameter or 1 inch (25 mm) long arc seam or fillet weld.

C. Minimum Edge Attachment – Fasten perimeter edges of deck units at 36" (1m) maximum intervals or as shown on design drawings for diaphragm design using one of the following methods:

1. Arc spot puddle welds 5/8 inch (15 mm) minimum visible diameter or 1 inch (25 mm) long arc seam or fillet weld.

2. Mechanical fasteners, either powder actuated, pneumatically driven or self drilling screws may be used in lieu of welding, provided product data has been submitted and approved.

D. Anchor accessories to supporting members by arc spot welds or self drilling screws at 12 inches (300 mm) maximum intervals or as shown on design drawings.

3.5 Repairs

A. Before placement of roof insulation and roof covering, the deck shall be inspected for tears, dents or other damage that may prevent the deck from acting as a structural roof base. The need for repair of the damaged deck shall be determined by the Architect or Engineer of Record.

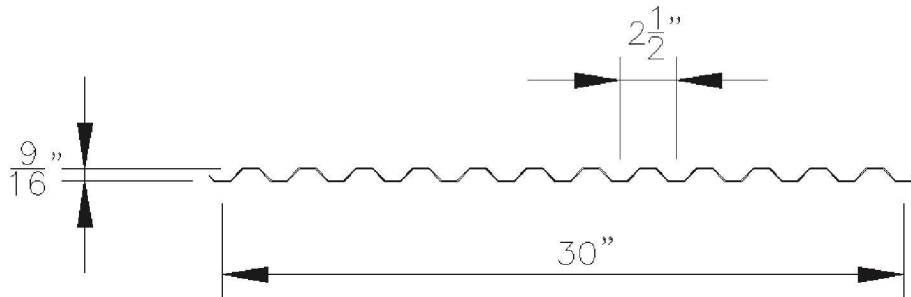
3.6 Construction Guidelines

A. Do not use deck units as a working platform or storage area until units are permanently attached in position.

B. Construction loads must not exceed load carrying capacity of deck.

0.6 Form (9/16" Form Deck) VS

- $F_y = 60$ ksi
- Underwriter's Laboratories Classified as a component in Roof/Ceiling systems in UL specifications P246, P921 and P923. This deck is listed in the UL certification directory as Type VS.
- ICBO evaluated.



Section Properties

GAGE	t (in)	W_d PT.D. (PSF)	I in ⁴	S_b in ³	S_n in ³
28	0.0149	0.74	0.011	0.037	0.037
26	0.0179	0.89	0.013	0.044	0.044
24	0.0239	1.19	0.018	0.059	0.059

Maximum Construction Clear Spans* - ASD

Depth of Slab	Deck Gage	Weight (psf)	Normal Weight Concrete (145pcf)			Weight (psf)	Light Weight Concrete (110pcf)		
			1 SPAN	2 SPAN	3 SPAN		1 SPAN	2 SPAN	3 SPAN
2" (t = 1 1/2")	28	23	2'-2"	2'-9"	2'-9"	18	2'-3"	2'-10"	2'-11"
	26	23	2'-8"	3'-4"	3'-5"	18	2'-9"	3'-6"	3'-7"
	24	23	3'-5"	4'-4"	4'-5"	18	3'-7"	4'-7"	4'-7"
2 1/2" (t = 2")	28	29	2'-1"	2'-8"	2'-8"	22	2'-2"	2'-9"	2'-10"
	26	29	2'-6"	3'-3"	3'-3"	22	2'-8"	3'-5"	3'-5"
	24	29	3'-3"	4'-2"	4'-2"	22	3'-5"	4'-5"	4'-6"
3" (t = 2 1/2")	28	35	2'-0"	2'-7"	2'-7"	27	2'-1"	2'-8"	2'-9"
	26	35	2'-5"	3'-1"	3'-2"	27	2'-6"	3'-3"	3'-4"
	24	35	3'-1"	4'-0"	4'-0"	27	3'-3"	4'-3"	4'-3"
3 1/2" (t = 3")	28	41	1'-11"	2'-6"	2'-6"	31	2'-0"	2'-7"	2'-8"
	26	41	2'-4"	3'-0"	3'-1"	31	2'-5"	3'-2"	3'-3"
	24	41	2'-11"	3'-10"	3'-11"	31	3'-2"	4'-1"	4'-2"
4" (t = 3 1/2")	28	47	1'-10"	2'-5"	2'-5"	36	2'-0"	2'-7"	2'-7"
	26	47	2'-3"	2'-11"	2'-11"	36	2'-5"	3'-1"	3'-2"
	24	47	2'-10"	3'-8"	3'-9"	36	3'-0"	4'-0"	4'-0"
4 1/2" (t = 4")	28	53	1'-10"	2'-4"	2'-5"	41	1'-11"	2'-6"	2'-6"
	26	53	2'-2"	2'-10"	2'-10"	41	2'-4"	3'-0"	3'-1"
	24	53	2'-9"	3'-7"	3'-8"	41	2'-11"	3'-10"	3'-11"
5" (t = 4 1/2")	28	59	1'-9"	2'-3"	2'-4"	45	1'-10"	2'-5"	2'-6"
	26	59	2'-1"	2'-9"	2'-9"	45	2'-3"	2'-11"	3'-0"
	24	59	2'-7"	3'-6"	3'-6"	45	2'-10"	3'-9"	3'-10"

*Maximum construction clear spans have been determined utilizing the design criteria outlined within the SDI Design Manual – Publication No. 31.

0.6 Form (9/16" Form Deck)

Uniform Design Load (PSF) – ASD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
28	1	$F_y = 60,000$	204	130	90	65	51	40	33	27	23	19	17
		Defl. = $l/240$	90	46	27	17	11	8	6	4	3	3	2
		Defl. = $l/180$	120	62	36	22	15	11	8	6	4	4	3
	2	$F_y = 60,000$	208	134	93	68	52	41	33	28	23	20	17
		Defl. = $l/240$	208	111	64	41	27	19	14	10	8	6	5
		Defl. = $l/180$	208	134	86	54	36	25	19	14	11	8	7
	3	$F_y = 60,000$	259	167	116	85	65	52	42	35	29	25	21
		Defl. = $l/240$	171	87	51	32	21	15	11	8	6	5	4
		Defl. = $l/180$	227	116	67	42	28	20	15	11	8	7	5
26	1	$F_y = 60,000$	257	165	114	84	64	51	41	34	29	24	21
		Defl. = $l/240$	107	55	32	20	13	9	7	5	4	3	2
		Defl. = $l/180$	142	73	42	27	18	12	9	7	5	4	3
	2	$F_y = 60,000$	261	168	117	86	66	52	42	35	29	25	21
		Defl. = $l/240$	257	131	76	48	32	23	16	12	10	7	6
		Defl. = $l/180$	261	168	101	64	43	30	22	16	13	10	8
	3	$F_y = 60,000$	326	209	146	107	82	65	53	43	37	31	27
		Defl. = $l/240$	202	103	60	38	25	18	13	10	7	6	5
		Defl. = $l/180$	269	138	80	50	34	24	17	13	10	8	6
24	1	$F_y = 60,000$	353	226	157	115	88	70	57	47	39	33	29
		Defl. = $l/240$	148	76	44	28	18	13	9	7	5	4	3
		Defl. = $l/180$	197	101	58	37	25	17	13	9	7	6	5
	2	$F_y = 60,000$	351	225	156	115	88	70	56	47	39	33	29
		Defl. = $l/240$	351	182	105	66	44	31	23	17	13	10	8
		Defl. = $l/180$	351	225	140	88	59	42	30	23	18	14	11
	3	$F_y = 60,000$	437	281	195	144	110	87	71	58	49	42	36
		Defl. = $l/240$	279	143	83	52	35	25	18	13	10	8	7
		Defl. = $l/180$	372	191	110	69	47	33	24	18	14	11	9

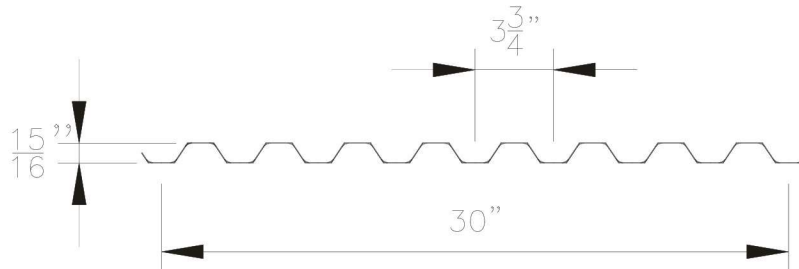
0.6 Form (9/16" Form Deck)

Uniform Design Load (PSF) – LRFD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
28	1	$F_y = 60,000$	306	196	136	99	77	60	49	40	34	29	25
		Defl. = $l/240$	90	46	27	17	11	8	6	4	3	3	2
		Defl. = $l/180$	120	62	36	22	15	11	8	6	4	4	3
	2	$F_y = 60,000$	313	201	140	103	79	62	50	42	35	30	26
		Defl. = $l/240$	217	111	64	41	27	19	14	10	8	6	5
		Defl. = $l/180$	290	148	86	54	36	25	19	14	11	8	7
	3	$F_y = 60,000$	390	250	174	128	98	78	63	52	44	37	32
		Defl. = $l/240$	171	87	51	32	21	15	11	8	6	5	4
		Defl. = $l/180$	227	116	67	42	28	20	15	11	8	7	5
26	1	$F_y = 60,000$	387	248	172	126	97	76	62	51	43	37	32
		Defl. = $l/240$	107	55	32	20	13	9	7	5	4	3	2
		Defl. = $l/180$	142	73	42	27	18	12	9	7	5	4	3
	2	$F_y = 60,000$	393	252	175	129	99	78	63	52	44	37	32
		Defl. = $l/240$	257	131	76	48	32	23	16	12	10	7	6
		Defl. = $l/180$	342	175	101	64	43	30	22	16	13	10	8
	3	$F_y = 60,000$	490	315	219	161	123	98	79	65	55	47	40
		Defl. = $l/240$	202	103	60	38	25	18	13	10	7	6	5
		Defl. = $l/180$	269	138	80	50	34	24	17	13	10	8	6
24	1	$F_y = 60,000$	531	340	236	173	133	105	85	70	59	50	43
		Defl. = $l/240$	148	76	44	28	18	13	9	7	5	4	3
		Defl. = $l/180$	197	101	58	37	25	17	13	9	7	6	5
	2	$F_y = 60,000$	527	338	235	173	132	105	85	70	59	50	43
		Defl. = $l/240$	355	182	105	66	44	31	23	17	13	10	8
		Defl. = $l/180$	474	243	140	88	59	42	30	23	18	14	11
	3	$F_y = 60,000$	657	422	294	216	165	131	106	88	74	63	54
		Defl. = $l/240$	279	143	83	52	35	25	18	13	10	8	7
		Defl. = $l/180$	372	191	110	69	47	33	24	18	14	11	9

1.0 Form (15/16" Form Deck)

- $F_y = 60$ ksi



Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I in ⁴	S_b in ³	S_n in ³
26	0.0179	0.95	0.037	0.067	0.068
24	0.0239	1.26	0.052	0.097	0.100
22	0.0295	1.56	0.064	0.126	0.126

Maximum Construction Clear Spans* - ASD

Depth of Slab	Deck Gage	Weight (psf)	Normal Weight Concrete (145pcf)			Weight (psf)	Light Weight Concrete (110pcf)		
			1 SPAN	2 SPAN	3 SPAN		1 SPAN	2 SPAN	3 SPAN
2 1/2" (t = 1 1/2")	26	26	3'-8"	4'-9"	4'-9"	20	3'-11"	5'-0"	5'-1"
	24	26	4'-10"	6'-3"	6'-4"	20	5'-2"	6'-8"	6'-9"
	22	26	5'-9"	7'-4"	7'-4"	20	6'-3"	8'-0"	8'-0"
3" (t = 2")	26	32	3'-5"	4'-6"	4'-7"	24	3'-8"	4'-10"	4'-10"
	24	32	4'-6"	5'-11"	6'-0"	25	4'-10"	6'-4"	6'-5"
	22	32	5'-5"	6'-10"	6'-10"	25	5'-10"	7'-5"	7'-5"
3 1/2" (t = 2 1/2")	26	38	3'-3"	4'-4"	4'-4"	29	3'-6"	4'-7"	4'-8"
	24	38	4'-3"	5'-8"	5'-9"	29	4'-8"	6'-1"	6'-2"
	22	38	5'-1"	6'-6"	6'-6"	30	5'-7"	7'-0"	7'-0"
4" (t = 3")	26	44	3'-2"	4'-2"	4'-2"	34	3'-5"	4'-5"	4'-6"
	24	44	4'-1"	5'-5"	5'-6"	34	4'-5"	5'-10"	5'-11"
	22	44	4'-10"	6'-2"	6'-2"	34	5'-4"	6'-9"	6'-9"
4 1/2" (t = 3 1/2")	26	50	3'-0"	4'-0"	4'-1"	38	3'-3"	4'-4"	4'-4"
	24	50	3'-11"	5'-2"	5'-3"	38	4'-3"	5'-8"	5'-9"
	22	50	4'-8"	5'-11"	5'-11"	39	5'-1"	6'-5"	6'-5"
5" (t = 4")	26	56	2'-11"	3'-10"	3'-11"	43	3'-2"	4'-2"	4'-3"
	24	56	3'-9"	5'-0"	5'-1"	43	4'-1"	5'-5"	5'-6"
	22	56	4'-5"	5'-8"	5'-8"	43	4'-11"	6'-3"	6'-3"
5 1/2" (t = 4 1/2")	26	62	2'-10"	3'-9"	3'-10"	47	3'-1"	4'-1"	4'-1"
	24	62	3'-7"	4'-10"	4'-11"	48	4'-0"	5'-3"	5'-4"
	22	62	4'-3"	5'-6"	5'-6"	48	4'-9"	6'-0"	6'-0"

*Maximum construction clear spans have been determined utilizing the design criteria outlined within the SDI Design Manual – Publication No. 31.

1.0 Form (15/ 16" Form Deck)

Uniform Design Load (PSF) – ASD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)												
			3'-0"	3'-3"	3'-6"	3'-9"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
26	1	$F_y = 60000$	178	152	131	114	100	79	64	53	45	38	33	29	25
		Defl. = $l/240$	90	71	57	46	38	27	19	15	11	9	7	6	5
		Defl. = $l/180$	120	94	76	61	51	36	26	19	15	12	9	8	6
	2	$F_y = 60000$	177	151	131	114	100	79	64	53	45	38	33	29	25
		Defl. = $l/240$	177	151	131	111	91	64	47	35	27	21	17	14	11
		Defl. = $l/180$	177	151	131	114	100	79	62	47	36	28	23	18	15
	3	$F_y = 60000$	220	188	162	142	125	99	80	66	56	48	41	36	32
		Defl. = $l/240$	170	134	107	87	72	50	37	28	21	17	13	11	9
		Defl. = $l/180$	220	178	143	116	96	67	49	37	28	22	18	15	12
24	1	$F_y = 60000$	258	220	189	165	145	115	93	77	64	55	47	41	36
		Defl. = $l/240$	126	99	79	64	53	37	27	20	16	12	10	8	7
		Defl. = $l/180$	167	132	105	86	71	50	36	27	21	16	13	11	9
	2	$F_y = 60000$	260	222	192	168	148	117	95	78	66	56	49	42	37
		Defl. = $l/240$	260	222	190	155	127	89	65	49	38	30	24	19	16
		Defl. = $l/180$	260	222	192	168	148	117	87	65	50	40	32	26	21
	3	$F_y = 60000$	322	276	239	208	184	146	118	98	82	70	61	53	46
		Defl. = $l/240$	237	187	149	121	100	70	51	38	30	23	19	15	13
		Defl. = $l/180$	316	249	199	162	133	94	68	51	40	31	25	20	17
22	1	$F_y = 60000$	334	285	245	214	188	148	120	99	84	71	61	53	47
		Defl. = $l/240$	155	122	98	79	65	46	33	25	19	15	12	10	8
		Defl. = $l/180$	207	163	130	106	87	61	45	34	26	20	16	13	11
	2	$F_y = 60000$	327	280	242	211	186	147	119	99	83	71	61	53	47
		Defl. = $l/240$	327	280	235	191	157	111	81	61	47	37	29	24	20
		Defl. = $l/180$	327	280	242	211	186	147	107	81	62	49	39	32	26
	3	$F_y = 60000$	405	347	300	262	231	183	149	123	104	88	76	66	58
		Defl. = $l/240$	293	230	185	150	124	87	63	48	37	29	23	19	15
		Defl. = $l/180$	391	307	246	200	165	116	84	63	49	38	31	25	21

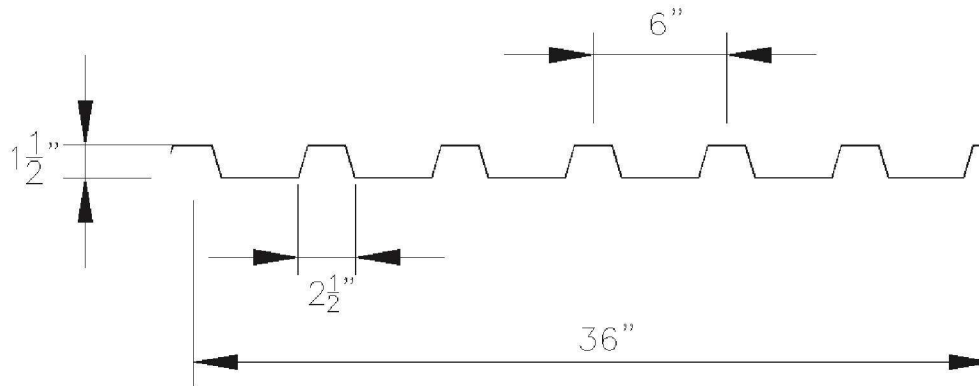
1.0 Form (15/ 16" Form Deck)

Uniform Design Load (PSF) – LRFD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)												
			3'-0"	3'-3"	3'-6"	3'-9"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"
26	1	$F_y = 60000$	283	241	208	181	159	126	102	84	71	60	52	45	40
		Defl. = $l/240$	90	71	57	46	38	27	19	15	11	9	7	6	5
		Defl. = $l/180$	120	94	76	61	51	36	26	19	15	12	9	8	6
	2	$F_y = 60000$	280	240	207	181	159	126	102	84	71	61	52	46	40
		Defl. = $l/240$	216	170	136	111	91	64	47	35	27	21	17	14	11
		Defl. = $l/180$	280	227	182	148	122	86	62	47	36	28	23	18	15
	3	$F_y = 60000$	348	297	257	225	198	157	127	105	89	76	65	57	50
		Defl. = $l/240$	170	134	107	87	72	50	37	28	21	17	13	11	9
		Defl. = $l/180$	227	178	143	116	96	67	49	37	28	22	18	15	12
24	1	$F_y = 60000$	409	349	301	262	230	182	147	122	102	87	75	65	58
		Defl. = $l/240$	126	99	79	64	53	37	27	20	16	12	10	8	7
		Defl. = $l/180$	167	132	105	86	71	50	36	27	21	16	13	11	9
	2	$F_y = 60000$	412	352	304	266	234	185	150	124	105	89	77	67	59
		Defl. = $l/240$	302	237	190	155	127	89	65	49	38	30	24	19	16
		Defl. = $l/180$	402	317	253	206	170	119	87	65	50	40	32	26	21
	3	$F_y = 60000$	510	437	378	330	291	231	187	155	131	111	96	84	74
		Defl. = $l/240$	237	187	149	121	100	70	51	38	30	23	19	15	13
		Defl. = $l/180$	316	249	199	162	133	94	68	51	40	31	25	20	17
22	1	$F_y = 60000$	530	452	389	339	298	236	191	158	133	113	97	85	75
		Defl. = $l/240$	155	122	98	79	65	46	33	25	19	15	12	10	8
		Defl. = $l/180$	207	163	130	106	87	61	45	34	26	20	16	13	11
	2	$F_y = 60000$	518	443	383	334	294	233	189	157	132	112	97	84	74
		Defl. = $l/240$	373	293	235	191	157	111	81	61	47	37	29	24	20
		Defl. = $l/180$	497	391	313	255	210	147	107	81	62	49	39	32	26
	3	$F_y = 60000$	642	549	475	415	366	290	236	195	164	140	121	105	93
		Defl. = $l/240$	293	230	185	150	124	87	63	48	37	29	23	19	15
		Defl. = $l/180$	391	307	246	200	165	116	84	63	49	38	31	25	21

1.5 Form (1 1/2" Form Deck)

- $F_y = 50$ ksi



Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I_p in ⁴	I_n in ⁴	S_b in ³	S_n in ³
22	0.0295	1.64	0.145	0.179	0.196	0.188
20	0.0358	1.99	0.187	0.219	0.242	0.232
18	0.0474	2.63	0.272	0.292	0.322	0.315

Section properties shown are the maximum values calculated at deflection level stresses. They are not necessarily those used in the development of the associated load tables.

Maximum Construction Clear Spans* - ASD

Depth of Slab	Deck Gage	Weight (psf)	Normal Weight Concrete (145pcf)			Weight (psf)	Light Weight Concrete (110pcf)		
			1 SPAN	2 SPAN	3 SPAN		1 SPAN	2 SPAN	3 SPAN
3 1/2" (t = 2")	22	32	6'-1"	8'-1"	8'-2"	25	6'-7"	8'-8"	8'-10"
	20	33	7'-2"	9'-2"	9'-6"	25	7'-10"	9'-11"	10'-3"
	18	33	8'-9"	10'-9"	11'-1"	26	9'-8"	11'-6"	11'-11"
4" (t = 2 1/2")	22	38	5'-9"	7'-8"	7'-9"	30	6'-3"	8'-3"	8'-4"
	20	39	6'-9"	8'-8"	9'-0"	30	7'-5"	9'-5"	9'-9"
	18	39	8'-3"	10'-2"	10'-6"	31	9'-1"	10'-11"	11'-3"
4 1/2" (t = 3")	22	44	5'-5"	7'-3"	7'-5"	34	6'-0"	7'-11"	8'-1"
	20	45	6'-4"	8'-3"	8'-7"	35	7'-0"	9'-0"	9'-4"
	18	45	7'-9"	9'-8"	10'-0"	35	8'-7"	10'-6"	10'-10"
5" (t = 3 1/2")	22	50	5'-2"	7'-0"	7'-1"	39	5'-9"	7'-7"	7'-8"
	20	51	6'-1"	7'-11"	8'-2"	39	6'-8"	8'-8"	9'-0"
	18	51	7'-4"	9'-3"	9'-7"	40	8'-2"	10'-1"	10'-5"
5 1/2" (t = 4")	22	56	5'-0"	6'-8"	6'-10"	43	5'-6"	7'-4"	7'-5"
	20	57	5'-10"	7'-7"	7'-10"	44	6'-5"	8'-4"	8'-7"
	18	57	7'-0"	8'-11"	9'-2"	44	7'-9"	9'-9"	10'-1"
6" (t = 4 1/2")	22	63	4'-10"	6'-5"	6'-6"	48	5'-4"	7'-1"	7'-2"
	20	63	5'-7"	7'-4"	7'-7"	48	6'-2"	8'-1"	8'-4"
	18	64	6'-9"	8'-6"	8'-9"	49	7'-5"	9'-5"	9'-8"
6 1/2" (t = 5")	22	69	4'-8"	6'-2"	6'-4"	53	5'-1"	6'-10"	6'-11"
	20	69	5'-5"	7'-1"	7'-4"	53	6'-0"	7'-10"	8'-1"
	18	70	6'-7"	8'-3"	8'-6"	54	7'-3"	9'-1"	9'-4"

*Maximum construction clear spans have been determined utilizing the design criteria outlined within the SDI Design Manual – Publication No. 31.

1.5 Form (1 1/2" Form Deck)

Uniform Design Load (PSF) – ASD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
22	1	F _y = 50000	132	119	100	86	74	64	56	50	45	40	36
		Defl. = l/240	94	71	54	43	34	28	23	19	16	14	12
		Defl. = l/180	125	94	73	57	46	37	31	26	21	18	16
	2	F _y = 50000	117	107	94	80	69	60	53	47	42	38	34
		Defl. = l/240	117	107	94	80	69	60	53	46	39	33	28
		Defl. = l/180	117	107	94	80	69	60	53	47	42	38	34
	3	F _y = 50000	133	121	111	99	86	75	66	59	52	47	42
		Defl. = l/240	133	121	103	81	65	53	43	36	30	26	22
		Defl. = l/180	133	121	111	99	86	70	58	48	41	35	30
20	1	F _y = 50000	184	152	128	109	94	82	72	64	57	51	46
		Defl. = l/240	115	86	67	52	42	34	28	23	20	17	14
		Defl. = l/180	153	115	89	70	56	45	37	31	26	22	19
	2	F _y = 50000	169	146	123	105	91	79	70	62	55	49	45
		Defl. = l/240	169	146	123	105	91	79	68	56	47	40	35
		Defl. = l/180	169	146	123	105	91	79	70	62	55	49	45
	3	F _y = 50000	192	175	153	130	113	98	87	77	69	62	56
		Defl. = l/240	192	163	126	99	79	64	53	44	37	32	27
		Defl. = l/180	192	175	153	130	106	86	71	59	50	42	36
18	1	F _y = 50000	252	209	175	149	129	112	99	87	78	70	63
		Defl. = l/240	153	115	89	70	56	45	37	31	26	22	19
		Defl. = l/180	205	154	118	93	75	61	50	42	35	30	26
	2	F _y = 50000	240	199	168	143	124	108	95	84	75	67	61
		Defl. = l/240	240	199	168	143	124	108	90	75	63	54	46
		Defl. = l/180	240	199	168	143	124	108	95	84	75	67	61
	3	F _y = 50000	297	247	208	178	154	134	118	105	94	84	76
		Defl. = l/240	290	218	168	132	106	86	71	59	50	42	36
		Defl. = l/180	297	247	208	176	141	114	94	79	66	56	48

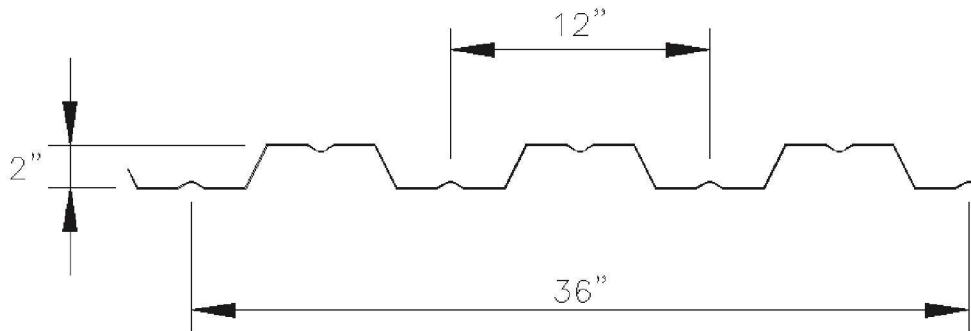
1.5 Form (1 1/2" Form Deck)

Uniform Design Load (PSF) – LRFD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
22	1	$F_y = 50000$	194	176	161	149	138	129	121	114	105	94	85
		Defl. = $l/240$	94	71	54	43	34	28	23	19	16	14	12
		Defl. = $l/180$	125	94	73	57	46	37	31	26	21	18	16
	2	$F_y = 50000$	175	159	146	134	125	116	109	103	97	92	86
		Defl. = $l/240$	175	159	131	103	82	67	55	46	39	33	28
		Defl. = $l/180$	175	159	146	134	110	89	74	61	52	44	38
	3	$F_y = 50000$	198	180	165	153	142	132	124	117	110	104	99
		Defl. = $l/240$	178	133	103	81	65	53	43	36	30	26	22
		Defl. = $l/180$	198	178	137	108	86	70	58	48	41	35	30
20	1	$F_y = 50000$	286	260	238	220	204	191	173	153	136	122	111
		Defl. = $l/240$	115	86	67	52	42	34	28	23	20	17	14
		Defl. = $l/180$	153	115	89	70	56	45	37	31	26	22	19
	2	$F_y = 50000$	251	229	210	193	180	168	157	148	137	123	111
		Defl. = $l/240$	251	208	160	126	101	82	68	56	47	40	35
		Defl. = $l/180$	251	229	210	168	134	109	90	75	63	54	46
	3	$F_y = 50000$	286	260	238	220	204	191	179	168	159	150	138
		Defl. = $l/240$	217	163	126	99	79	64	53	44	37	32	27
		Defl. = $l/180$	286	218	168	132	106	86	71	59	50	42	36
18	1	$F_y = 50000$	496	451	413	380	328	285	251	222	198	178	161
		Defl. = $l/240$	153	115	89	70	56	45	37	31	26	22	19
		Defl. = $l/180$	205	154	118	93	75	61	50	42	35	30	26
	2	$F_y = 50000$	425	386	354	327	303	281	248	220	197	177	160
		Defl. = $l/240$	369	277	213	168	134	109	90	75	63	54	46
		Defl. = $l/180$	425	370	285	224	179	146	120	100	84	72	61
	3	$F_y = 50000$	483	439	402	371	345	322	302	272	244	219	199
		Defl. = $l/240$	290	218	168	132	106	86	71	59	50	42	36
		Defl. = $l/180$	386	290	224	176	141	114	94	79	66	56	48

2.0 Form (2" Form Deck)

- $F_y = 50$ ksi



Section Properties

GAGE	t (in)	W_d PTD. (PSF)	I in ⁴	S_p in ³	S_n in ³
22	0.0295	1.62	0.348	0.269	0.277
20	0.0358	1.96	0.440	0.349	0.357

Maximum Construction Clear Spans* - ASD

Depth of Slab	Deck Gage	Weight (psf)	Normal Weight Concrete (145pcf)			Weight (psf)	Light Weight Concrete (110pcf)		
			1 SPAN	2 SPAN	3 SPAN		1 SPAN	2 SPAN	3 SPAN
4" (t = 2")	22	38	7'-5"	9'-9"	10'-1"	30	8'-2"	10'-6"	10'-10"
	20	39	8'-9"	11'-0"	11'-4"	30	9'-6"	11'-11"	12'-4"
4 1/2" (t = 2 1/2")	22	44	7'-0"	9'-3"	9'-7"	34	7'-9"	10'-1"	10'-5"
	20	45	8'-3"	10'-5"	10'-10"	35	9'-0"	11'-4"	11'-9"
5" (t = 3")	22	50	6'-8"	8'-9"	9'-2"	39	7'-5"	9'-8"	9'-11"
	20	51	7'-10"	10'-0"	10'-4"	39	8'-7"	11'-0"	11'-4"
5 1/2" (t = 3 1/2")	22	56	6'-5"	8'-1"	8'-9"	43	7'-1"	9'-4"	9'-8"
	20	57	7'-6"	9'-7"	9'-11"	44	8'-2"	10'-6"	10'-11"
6" (t = 4")	22	63	6'-2"	7'-5"	8'-5"	48	6'-10"	9'-0"	9'-4"
	20	63	7'-2"	9'-3"	9'-7"	48	7'-10"	10'-3"	10'-7"
6 1/2" (t = 4 1/2")	22	69	6'-0"	6'-11"	7'-10"	53	6'-7"	8'-5"	9'-0"
	20	69	7'-0"	8'-11"	9'-3"	53	7'-8"	9'-10"	10'-2"
7" (t = 5")	22	75	5'-10"	6'-5"	7'-4"	57	6'-4"	7'-11"	8'-9"
	20	75	6'-10"	8'-8"	8'-11"	57	7'-6"	9'-7"	9'-11"

*Maximum construction clear spans have been determined utilizing the design criteria outlined within the SDI Design Manual – Publication No. 31.

2.0 Form (2" Form Deck)

Uniform Design Load (PSF) – ASD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
22	1	$F_y = 50000$	122	111	102	94	87	81	76	72	66	59	54
		Defl. = $l/240$	122	111	101	79	64	52	43	35	30	25	22
		Defl. = $l/180$	122	111	102	94	85	69	57	47	40	34	29
	2	$F_y = 50000$	123	112	103	95	88	82	77	72	67	60	54
		Defl. = $l/240$	123	112	103	95	88	82	77	72	67	60	52
		Defl. = $l/180$	123	112	103	95	88	82	77	72	67	60	54
	3	$F_y = 50000$	140	127	117	108	100	93	87	82	78	74	67
		Defl. = $l/240$	140	127	117	108	100	93	80	67	57	48	41
		Defl. = $l/180$	140	127	117	108	100	93	87	82	75	64	55
20	1	$F_y = 50000$	183	167	153	141	131	122	109	96	86	77	70
		Defl. = $l/240$	183	165	127	100	80	65	54	45	38	32	27
		Defl. = $l/180$	183	167	153	133	107	87	71	60	50	43	37
	2	$F_y = 50000$	176	160	147	136	126	118	109	97	87	78	70
		Defl. = $l/240$	176	160	147	136	126	118	109	97	87	77	66
		Defl. = $l/180$	176	160	147	136	126	118	109	97	87	78	70
	3	$F_y = 50000$	200	182	167	154	143	134	125	118	107	97	87
		Defl. = $l/240$	200	182	167	154	143	123	101	84	71	60	52
		Defl. = $l/180$	200	182	167	154	143	134	125	113	95	81	69

2.0 Form (2" Form Deck)

Uniform Design Load (PSF) – LRFD

Deck Gage	No. of Spans	Design Criteria	Span (ft-in)										
			5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"
22	1	$F_y = 50000$	179	162	149	137	128	119	112	105	99	94	85
		Defl. = $l/240$	174	131	101	79	64	52	43	35	30	25	22
		Defl. = $l/180$	179	162	135	106	85	69	57	47	40	34	29
	2	$F_y = 50000$	183	167	153	141	131	122	115	108	102	95	86
		Defl. = $l/240$	183	167	153	141	131	122	102	85	72	61	52
		Defl. = $l/180$	183	167	153	141	131	122	115	108	96	82	70
	3	$F_y = 50000$	208	189	174	160	149	139	130	122	116	110	104
		Defl. = $l/240$	208	189	174	150	120	98	80	67	57	48	41
		Defl. = $l/180$	208	189	174	160	149	130	107	89	75	64	55
20	1	$F_y = 50000$	268	244	223	206	191	179	167	153	136	122	111
		Defl. = $l/240$	220	165	127	100	80	65	54	45	38	32	27
		Defl. = $l/180$	268	220	169	133	107	87	71	60	50	43	37
	2	$F_y = 50000$	262	238	219	202	187	175	164	153	137	123	111
		Defl. = $l/240$	262	238	219	202	187	156	129	107	91	77	66
		Defl. = $l/180$	262	238	219	202	187	175	164	143	121	103	88
	3	$F_y = 50000$	298	271	248	229	213	199	186	175	166	153	138
		Defl. = $l/240$	298	271	240	189	151	123	101	84	71	60	52
		Defl. = $l/180$	298	271	248	229	202	164	135	113	95	81	69

SDI Specifications and Commentary

FOR NON-COMPOSITE STEEL FLOOR DECK

1. Scope

This specification and commentary pertains to the use of non-composite steel deck as a form for reinforced concrete slabs.

Commentary: This specification is not intended to cover highway bridges (see SDI publication *Bridge Form*, 1996), siding applications, or exposed roofs. In the past, most of the steel decking used in the manner that this specification covers, was referred to as “centering,” however, various roof deck units have successfully been used as non-composite forms. The specification is intended to also include these applications.

2. Materials

2.1 Non-Composite Steel Form Deck:

The steel deck units shall be manufactured from steel conforming to ASTM designation A1008-00, Grades C, D, or E, or A653-00 Structural Steel with a minimum yield strength of 33 ksi (230 MPa). The unit design stress shall not exceed the yield strength multiplied by 0.60, with a maximum of 36 ksi (250 MPa).

Commentary: Most of the “centering” materials are offered in A653-00 grade 80, steel (galvanized) or ASTM A1008-00 grade E steel, (uncoated); this steel has a minimum yield strength of 80 ksi (550 MPa) and is generally over 90 ksi (620 MPa); the AISI specifications allow a design stress of 36 ksi (250 MPa) for this material.

2.2 Tolerance:

Panel length: Plus or minus 1/2 inch (12 mm).

Thickness: Shall not be less than 95% of the design thickness.

Panel cover width: Minus 3/8 inch. (10 mm), plus 3/4 inch (20 mm).

Panel camber and/or sweep: 1/4 inch in 10 foot length (6 mm in 3 m).

Panels end out of square: 1/8 inch per foot of panel width (10 mm per m).

Commentary: The above tolerances reflect fabrication practices for steel deck products. Cover width tolerances may vary due to trucking, storage, or handling.

TYPE NO.	DESIGN THICKNESS		MINIMUM THICKNESS	
	in.	mm	in.	mm
28	0.0149	0.38	0.014	0.35
26	0.0179	0.45	0.017	0.43
24	0.0238	0.60	0.023	0.57
22	0.0295	0.75	0.028	0.71
20	0.0358	0.91	0.034	0.86
18	0.0474	1.20	0.045	1.14
16	0.0598	1.52	0.057	1.44

Finishes available are:

- 1) Galvanized (Conforming to ASTM A924-99 and or ASTM A653-00);
- 2) Uncoated (Black);
- 3) Painted with a shop coat of primer paint (one or both sides). The uncoated finish is, by custom, referred to as “black” by some users and manufacturers; the use of the word “black” does not refer to paint color on the product.

Centering materials are usually available galvanized or uncoated. When unshored galvanized material is used to support a reinforced concrete slab, the slab load is considered to be permanently

carried by the deck. When uncoated or painted deck is used to support a reinforced concrete slab, the form is considered impermanent and the concrete load should be deducted from the load capacity of the reinforced slab.

For any permanent load carrying function, a minimum galvanized coating conforming to ASTM A653-98a, G30 (Z090) is recommended.

3. Design

3.1 The section properties of the steel deck unit shall be computed in accordance with American Iron and Steel Institute, *Specification for the Design of Cold-Formed Steel Structural Members*, 1996 edition (AISI Specifications).

3.2 Deck used as a form for structural (reinforced) concrete slab:

3.2a Allowable Stress Design (ASD): Stress shall not exceed 0.60 times the yield strength, nor exceed 36 ksi (250 MPa) under the combined loads of wet concrete, deck, and the following construction live loads: 20 pounds per square foot (1 kPa) uniform load or 150 pound concentrated load on a 1'-0" wide section of deck (2.2 kN per m). The interaction of shear and bending shall be considered in the calculations. See Figure 1.

3.2b Load and Resistance Factor Design (LRFD) The load factors for the construction shown in Figure 1 and the resistance factors for bending, shear, and interior bearing shall be as required in the 1996 AISI Specification.



Commentary: The loading shown in Figure 1 is representative of the sequential loading of wet concrete on the form. The 150 pound load (per foot of width) is the result of distributing a 300 pound man over a 2 foot width. Experience has shown this to be a conservative distribution and, if welded wire reinforcing is present, the distribution is greater than 2 feet. The metric equivalent of the 150 pound load is 2.2kN per meter of width. For single span deck conditions, the ability to control the concrete placement may be restricted and a factor of 1.5 is applied to the concrete load to address this condition; however, in order to keep this 50% load increase within a reasonable limit the increase is not to exceed 30 psf (1.44 kPa).

3.2c Calculated theoretical deflection of the deck shall be based on the load of the wet concrete (as determined by the design slab thickness) and the steel deck weight, uniformly loaded on all spans, and shall be limited to $L/180$ or $3/4$ inch (20 mm), whichever is smaller. Deflection shall be relative to supporting members. See Figure 2.

Commentary: The deflection limits of $L/180$ and $3/4$ inches (20 mm) are intended to be minimum requirements. Architectural or other considerations may influence the design professional to use a more stringent limit.

If the design professional wants to include additional concrete loading on the deck because of frame deflection, the additional load should be shown on the design drawings or

stated in the deck section of the job specifications. The deck supplier is not responsible for frame deflection, nor for any cambering.

3.2d The minimum bearing lengths shall be determined in accordance with the 1996 AISI Specification; the uniform loading case of wet concrete plus deck plus 20 pounds per square foot (1 kPa) construction load shall be used. Minimum bearing shall be 1-1/2 inches (40 mm) unless otherwise shown.

Commentary: Form decks made of grade E steel may have a radius of thickness ratio not covered by the AISI Specification. Experience has shown that 1-1/2 inches (40 mm) of bearing is sufficient for these decks. If less than 1-1/2 inches (40 mm) of end bearing is available for any form deck, or if high support reactions are expected, the design professional should check the deck web crippling capacity. The deck must be adequately attached to the structure to prevent slip off.

3.2e Design of the concrete slabs shall be done in accordance with the ACI 318 Building Code. The concrete cover over the top of the deck shall not be less than 1-1/2 inches (40 mm). Randomly distributed fibers or fibrous add mixes shall not be substituted for welded wire fabric tensile reinforcement. Admixtures containing chloride salts shall not be used.

Commentary: In following the ACI 318 requirements for temperature reinforcement, the designer may eliminate the concrete area that is displaced by the deck ribs. For slabs

with total depth of 3 inches (75 mm) or less, the reinforcing mesh may be considered to be at the center of the concrete above the deck. See Figure 3. If uncoated or painted deck is used as the form, the load of the concrete slab must be deducted from the calculated capacity of the reinforced concrete slab. If galvanized form is used, the load of the slab is considered to be permanently carried by the deck and need not be deducted from the live load. If temporary shoring is used, the load of the slab must be deducted from the calculated capacity of the reinforced slab regardless of the deck finish. Except for some diaphragm values, the deck should not be assumed to act compositely with the concrete even though strong chemical bonds can, and do, develop.

4. Installation & Site Storage

4.1 Site Storage: Steel deck shall be stored off the ground with one end elevated to provide drainage and shall be protected from the elements with a waterproof covering, ventilated to avoid condensation.

4.2 Deck Placement: Place each deck unit on the supporting structural frame. Adjust to final position with accurately aligned side laps and ends bearing on supporting members and attach immediately. On joist framing, be sure the appropriate end joint occurs over a top chord angle for proper anchorage.

continued on next page

SDI Specifications and Commentary

FOR NON-COMPOSITE STEEL FLOOR DECK *continued*

Commentary: Staggering deck ends is not a recommended practice. The deck capacity as a form and the load capacity of the non-composite deck/slab system are not increased by staggering the end joints, yet layout and erection costs are increased.

4.3 Lapped or Butted Ends: Deck ends may be either butted or lapped over supports.

Commentary: Gaps are acceptable at butted ends. If taping of butted ends is requested, it is not the responsibility of the deck manufacturer.

4.4 Anchorage: Form deck units shall be anchored to supporting members including perimeter support steel and/or bearing walls by either welding or by mechanical fastening. This shall be done immediately after alignment. The minimum recommended attachment is defined in Section 4.4a. Do not walk or stand on deck until the minimum attachments are accomplished at the structural supports.

Deck units with spans greater than five feet (1.5 m) shall have side laps and perimeter edges (at perimeter support steel) fastened at midspan or 36 inch (1 m) intervals - whichever is smaller.

Commentary: This anchorage may be required to provide lateral stability to the top flange of the supporting structural members. The minimum attachment is to prevent slip off from supports and provide stability of the deck systems. The deck should be anchored to act as a working platform and to prevent blow off. The frame fastening shown in Figure 4 and the side lap fastening of 4.4 ARE MINIMUM REQUIREMENTS. In no case should fasteners to the supports be spaced greater than 36 inches (1 m) on center. The *SDI Diaphragm Design Manual, Second Edition*, should be used to determine fastening requirements when the deck is designed to resist horizontal loads. The most stringent fastening requirements, of this specification or, if applicable, the *SDI Diaphragm Design Manual, Second Edition*, should be used. Side lap fasteners can be welds, screws, crimps (button punching), or other methods approved by the designer. Welding side laps on thickness less than 0.028 inches (0.7 mm) may cause large burn holes, and is not recommended. The objective of side lap fastening is to prevent differential sheet deflection during concrete loading, therefore preventing side joints from opening. The five foot (1.5 m) limit on side lap spacing is based on experience.

The deck contractor should not leave unattached deck at the end of the day as the wind may displace the sheets and cause injury to persons or property. If studs are being welded to the top flange of the beams, deck sheets should be butted over the supports.

4.4a Welding: All welding of deck shall be in strict accordance with ANSI/AWS D1.3, *Structural Welding Code - Sheet Steel*. Each welder must demonstrate an ability to produce satisfactory welds using a procedure such as shown in the *SDI Manual of Construction with Steel Deck*, or as described in ANSI/AWS D1.3. Welding washers shall be used on all deck units with metal thickness less than 0.028 inches (0.7 mm). Welding washers shall be a minimum thickness of 0.0598 inches (16 gage, 1.50 mm) and have a nominal 3/8 inch (12 mm) diameter hole. Where welding washers are not used, a minimum visible 5/8 inch (15 mm) diameter arc puddle weld shall be used. Weld metal shall penetrate all layers of deck material at end laps and shall have good fusion to the supporting members. When used, fillet welds shall be at least 1 inch (25 mm) long.

Commentary: The welder may be qualified under ANSI/AWS D1.1, *Structural Welding Code - Steel*, or under the provisions of other codes governing the welding of specific products, but may not be qualified for welding sheet steel. In general, stronger welds are obtained on 0.028 inches (0.7 mm) or thicker deck without weld washers. Welds on deck less than 0.028 inches (0.7 mm) are stronger with washers. The layout, design, numbering or sizing of shear connectors is not the responsibility of the deck manufacturer. If studs are being applied through the deck onto structural steel, the stud welds can be used to replace the puddle welds.



4.4b Mechanical Fasteners:

Mechanical fasteners (powder actuated, screws, pneumatically driven, etc.) are recognized as viable anchoring methods, provided the type and spacing of the fasteners satisfy the design criteria. Documentation in the form of test data, design calculations, or design charts should be submitted by the fastener manufacturer as the bases for obtaining approval. The deck manufacturer may recommend additional fasteners to stabilize the given profile against sideslip of any unfastened ribs.

Commentary: When the fasteners are powder actuated or pneumatically driven, the load value per fastener spacing is based on a minimum structural support thickness of not less than 1/8 inch (3 mm) and on the fastener providing a 5/16 inch (8 mm) diameter bearing surface (fastener head size). When the structural support thickness is less than 1/8 inch (3 mm), powder actuated or pneumatically driven fasteners shall not be used, but screws are acceptable.

4.5 Construction Practice

4.5a All deck sheets shall have adequate bearing and fastening to all supports so as not to lose support during construction. Deck areas subject to heavy or repeated traffic, concentrated loads, impact loads, wheel loads, etc. shall be adequately protected by planking or other approved means to avoid overloading and/or damage.

Damaged deck (sheets containing distortions or deformations caused by construction practices) shall be repaired, replaced, or shored to the satisfaction of the designer before placing concrete. The cost of repairing, replacing, or shoring of damaged units shall be the liability of the trade contractor responsible for the damage.

Commentary: For temporary construction loads prior to concrete placement, it should be safe to assume that the deck will support a minimum uniform load of 50 psf (2.4 kPa) without further investigation.

4.5b The need for temporary shoring shall be investigated and, if required, it shall be designed and installed in accordance with the applicable ACI code and shall be left in place until the slab attains 75% of its specified compressive strength.

4.5c Prior to concrete placement, the steel deck shall be free of soil, debris, standing water, loose mill scale and all other foreign matter.

4.5d Care must be exercised when placing concrete so the deck will not be subjected to any impact that exceeds the design capacity of the deck. Concrete shall be placed from a low level to avoid impact, in a uniform manner, over the supporting structure and spread toward the center of the deck span. If buggies are used to place the concrete, runways shall be planked and the buggies shall only operate on planking. Planks shall be of adequate stiffness to transfer loads to the

steel deck without damaging the deck. Deck damage caused by roll bars or careless placement must be avoided.

4.6 Information:

Commentary: Fire ratings, diaphragm design information, and reinforced concrete slab capacities are available from most SDI form deck manufacturers.

Steel form deck may be used in a variety of ways, some of which do not lend themselves to a standard "steel deck" analysis for span and loading. In these cases there are other criteria which must be considered besides those given by the Steel Deck Institute. Make sure that this investigation starts with a review of the applicable codes and that any special conditions are included in the design.

4.7 Fireproofing: The steel deck manufacturer shall not be responsible for ensuring the bonding of fireproofing. The adherence of fireproofing materials is dependent on many variables; the deck manufacturer (supplier) is not responsible for the adhesion or adhesive ability of the fireproofing.

SDI Specifications and Commentary

FIGURE 1

Loading Diagrams and Bending Moments

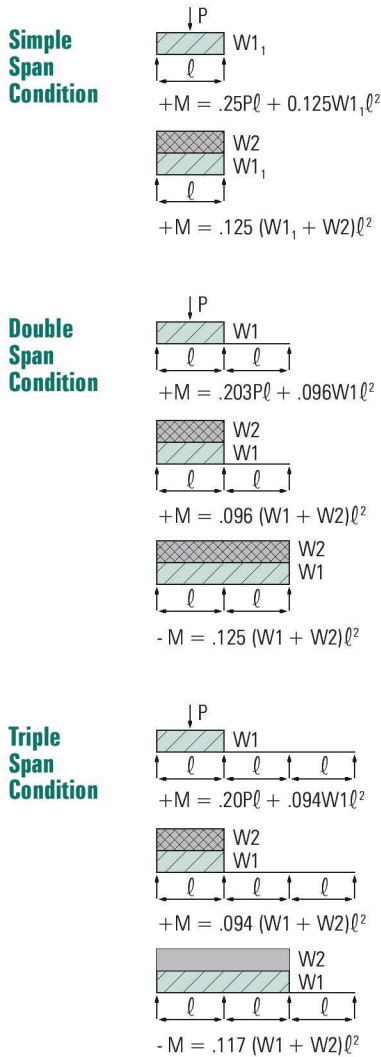


FIGURE 2

Loading Diagrams and Deflections

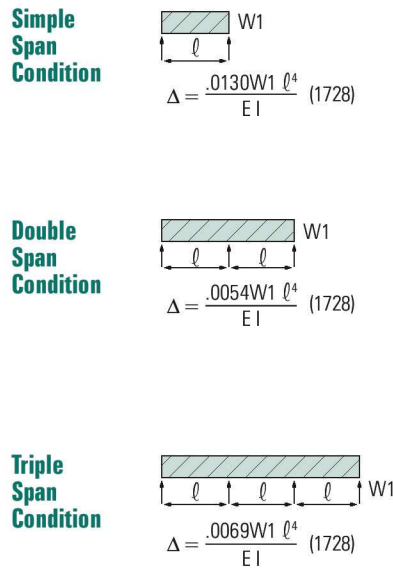


FIGURE 3

Form Deck Typical Slabs

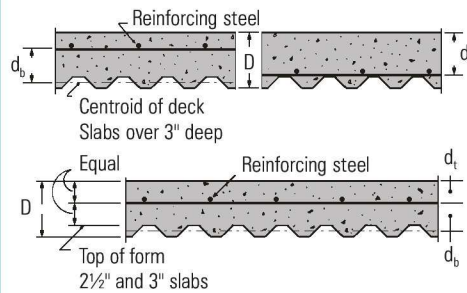
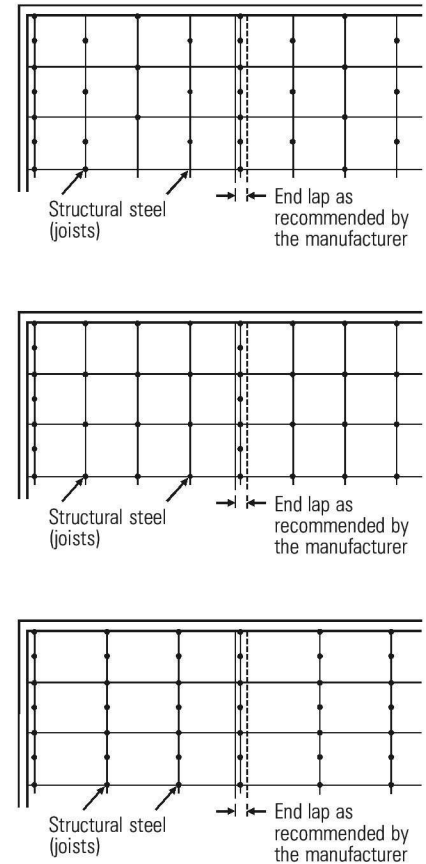


FIGURE 4

Minimum Fastening Patterns



Intermediate side lap attachments not shown. See Section 4.4 Anchorage non-composite steel form deck.

Note:

Fastener patterns A and B are for deck spans up to 4'6". Fastener pattern C is for deck spans from 4'6" to 8'0". If spans exceed 8'0", fastener should be placed so that the average spacing (at supports) is not more than 12".

Notes for Figures 1, 2, and 3

- P = 150 - pound concentrated load
- I = In^4/ft . - deck moment of inertia
- W1 = slab weight + deck weight, psf
- W2 = 20 pounds per square foot construction load
- E = 29.5×10^6 psi
- ℓ = clear span length (ft.)
- $W1_1 = 1.5 \times \text{slab weight} + \text{deck weight} \leq \text{slab weight} + 30 + \text{deck weight}$
- D = depth of slab
- d_t = distance from reinforcing steel to top of concrete
- d_b = distance from reinforcing steel to centroid of deck

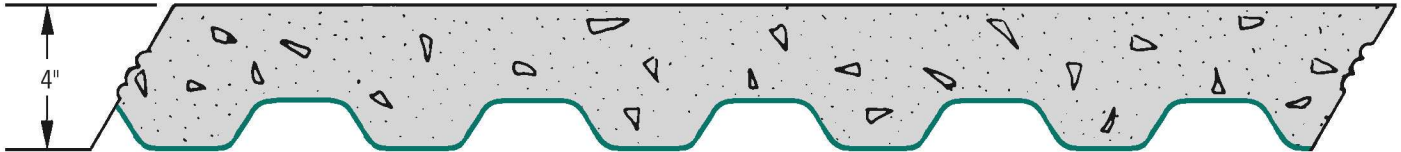
Dimensional check shows the need for the 1728 factor when calculating deflections using pound inch units.

Non-Composite Steel Form Deck



DESIGN EXAMPLE

1. Deck is to be used as a permanent form for a reinforced concrete slab.
Specify the form section properties based on the following conditions:



1.1 Concrete slab is 4" total thickness
- 150 pcf concrete.

1.2 Deck to be used is nominal
1 3/8" deep, grade E steel conforming
to ASTM-A653-98a (galvanized)
fy = 80,000 psi
f = 36,000 psi

1.3 Joists at 5'0" o.c. with 3" flange
width (clear span = 4.75 ft.) All
sheets of deck can span three or
more supports.

1.4 For architectural considerations,
the wet load deflection is to be limited
to L/240 of the span.

2. Constructions Loads

(to find concrete weight, consult
manufacturer's catalog).

Concrete weight (typical)	43 psf
Deck weight (estimated)	2 psf
Total wet load (W ₁)	45 psf

3. Negative Bending

$$-M = .117 (W_1 + W_2) \ell^2 (12)$$

$$= .117 (45 + 20) (4.75)^2 (12)$$

$$-M = 2059 \text{ in. lbs.}$$

4. Positive Bending

$$+M = [0.20 P \ell + .094 W_1 \ell^2] 12$$

$$+M = [0.20 \times 150 \times 4.75 +$$

$$0.094 \times 45 \times (4.75)^2] 12$$

$$+M = 2855 \text{ in. lbs.}$$

5. Section Moduli

$$-S \text{ (required)} = 2059/36,000$$

$$= 0.057 \text{ in.}^3$$

$$+S \text{ (required)} = 2855/36,000$$

$$= 0.079 \text{ in.}^3$$

6. Calculate Required I.

$$\Delta = \ell/240 = 4.75 \times 12/240$$

$$= 0.2375 \text{ in.}$$

$$\Delta = \frac{0.0069 W_1 \ell^4 (1728)}{EI}$$

$$I = \frac{.0069 (45) (4.75)^4 1728}{29.5 \times 10^6 \times .2375}$$

$$I \text{ (required)} = 0.039 \text{ in.}^4$$

7. Summary.

Designer should specify deck based
on these properties or specify the
performance requirements.

SDI Short Form Specifications

FOR NON-COMPOSITE FORM DECK

PART 1 - GENERAL

1.1 Related Documents

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 Summary

B. Related Sections

a. This section pertains to non-composite steel form deck.

b. Related Sections

1. Division 3 Section "Cast In Place Concrete" for concrete fill and reinforcing steel.
2. Division 5 Section "Structural Steel" for structural steel supporting the deck.
3. Division 7 Section "Insulating Fill."

1.3 Submittals

A. **General:** Submit each item in this Article according to the conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of decking specified, including dimensions of individual components, profiles, and finishes.

C. Shop Drawings showing location of deck units, anchorage details, and other information required for a thorough review.

D. Product Certificates (if required) signed by the manufacturer of the steel deck, certifying the supplied products comply with specified requirements.

E. Welder Certificates signed by Contractor, certifying that welders comply with requirements specified under "Quality Assurance" Article, or if mechanical fasteners are used, test reports from a qualified independent testing agency evidencing compliance of mechanical fasteners with requirements based on comprehensive testing.

1.4 Quality Assurance

A. **Codes and Standards:** Comply with applicable provisions of the following specifications:

1. American Iron and Steel Institute (AISI);
2. American Welding Society (ANSI/AWS D1.3 Structural Welding Code/Sheet Steel);
3. Steel Deck Institute (SDI)

B. Certify that each welder has satisfactorily passed A.W.S. qualification tests for welding processes involved, and, if applicable, has undergone recertification.

C. Fire Resistance Assemblies: Provide deck units classied by Underwriters Laboratories (UL) in the *Fire Resistance Directory* for Design number _____. (If a fire rated assembly is required)

1.5 Delivery, Storage, and Handling

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage and handling.

B. If ground storage is needed, the deck bundles must be stored off the ground with one end elevated to provide drainage. Bundles must be protected against condensation with a ventilated waterproof covering. Bundles must be stacked so there is

no danger of tipping, sliding, rolling, shifting or material damage. Bundles must be periodically checked for tightness and retightened as necessary so wind cannot loosen sheets.

C. Deck bundles placed on the building frame must be placed near a main supporting beam at a column or wall. In no case, are the bundles to be placed on unbolted frames or on unattached and/or unbridged joists. The structural frame must be properly braced to receive the bundles.

PART 2 - PRODUCTS

2.1 A manufacturer offering deck products to be incorporated into the work must be a member of the Steel Deck Institute.

2.2 Materials [The specifier must choose the appropriate section(s) and eliminate those not applicable].

A. Sheet steel for deck and accessories shall conform to ASTM A653-00 Structural Quality, with a minimum yield strength of 33 ksi (230 MPa).

1. Galvanizing shall conform to ASTM A924-99 with a minimum coating class of G30 (Z090) as defined in A653-98a.

or

B. Sheet steel for deck and accessories shall conform to ASTM A1008-00 with a minimum yield strength of 33 ksi (230 MPa).

C. The deck type and thickness shall be as shown on the plans.

or

D. The deck shall be ____ with a minimum metal thickness of ____.

or

E. The deck shall be selected to provide the load capacities shown



on the drawings and as determined using the Steel Deck Institute construction loading criteria.

- F. Whenever possible, the deck shall be multi-span and not require shoring during the concrete placement procedure.

2.3 Accessories

- A. Pour stops, column closures, end closures, cover plates, and girder fillers shall be the type required by the Steel Deck Institute.
- B. Mechanical fasteners or welds are acceptable for accessory attachments.

PART 3 - EXECUTION

3.1 Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section. All OSHA rules for erection must be followed.

3.2 Preparation

- A. Place deck in accordance with approved placement plans.
- B. Do not place deck panels on concrete support structure until concrete has cured and is dry.
- C. Locate deck bundles to prevent overloading of support members.

3.3 Installation, General

- A. Install deck panels and accessories according to Steel Deck Institute specifications and recommendations, and in accordance with the placement plans, and requirements of this Section.

- B. Install temporary shoring, if required, before placing deck panels.
- C. Place deck panels on structural supports and adjust to final position with ends aligned. Attach firmly to the supports immediately after placement in order to form a safe working platform.
- D. Cut and neatly fit deck units and accessories around openings and other work projecting through or adjacent to the decking.
- E. Trades that subsequently cut unscheduled openings through the deck are responsible for reinforcing the openings.

3.4 Installation, Form Deck

- A. Anchor deck units to steel supporting members by arc spot puddle welds of the following diameter and spacing, or fillet welds of equal strength.
 - 1. For deck units with metal thickness equal to or greater than 0.028 inches (22 gage, 0.7 mm) use 5/8 inch (15 mm) minimum visible diameter welds with the weld pattern shown on the design drawings.
 - 2. For deck units with metal thickness less than 0.028 inches (22 gage, 0.7 mm) weld deck through manufacturer's standard welding washers with the weld pattern shown on the design drawings.
 - 3. Mechanical fasteners, either powder actuated, pneumatically driven or screws may be used in lieu of welding to fasten deck to supporting framing, provided they have been specifically approved.

- 4. For deck units with spans greater than five feet (1.5m) fasten side laps and perimeter edges of units between supports at intervals not exceeding 36 inches (1 m) on center, using one of the following methods:
 - a. #10 self drilling screws;
 - b. crimp or button punch;
 - c. arc puddle welds - 5/8 inch (15 mm) minimum visible diameter or 1 inch (25 mm) long fillet welds.
- B. Install deck ends over supports with a minimum end bearing of 1.5 inches (40 mm).
- C. Fasten pour stops and girder fillers to supporting structure according to the manufacturers recommendations.

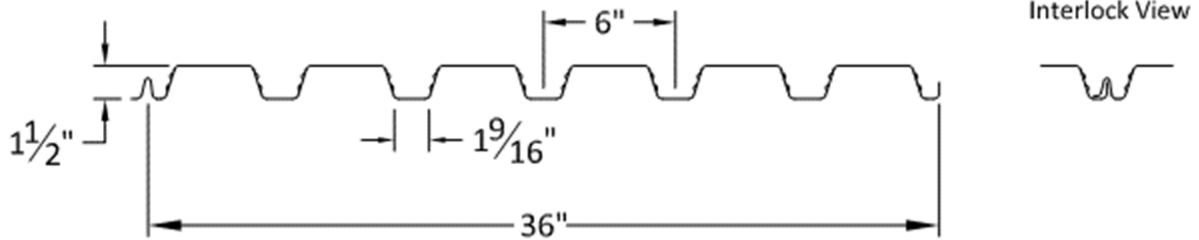
- D. Fasten column closures, cell closures, and Z closures to deck to provide tight fitting closures at open ends of ribs and sides of decking.
- E. Fasten cell closures at changes of direction of deck units unless otherwise directed.

3.5 Repairs

- A. Before concrete placement, the deck shall be inspected for tears, dents, or other damage that may prevent the deck from acting as a tight and substantial form. The need for the repair or temporary shoring of the damaged deck shall be determined.

1.5 Composite (1 ½" Composite Deck), WVC 1 ½

- $F_y = 50$ ksi
- Underwriter's Laboratories Classified as a component in composite steel floor units in UL specifications D216, D502, D733, D768, D826, D902, D907, D908, D914, D916, D918, D919, D920, D922, D923, D925, D927, D929 and D931. This deck is listed in the UL certification directory as WVC 1 ½.



Section Properties

GAGE	t (in)	Weight (PSF)	I_p in^4	I_n in^4	S_p in^3	S_n in^3
22	0.0295	1.67	0.1400	0.1733	0.1760	0.1881
20	0.0358	2.02	0.1767	0.2167	0.2310	0.2397
18	0.0474	2.68	0.2600	0.2967	0.3140	0.3287

Deck Design Reaction Capacity

Web Crippling Reactions								
Gage	ASD (lbs)				LRFD (lbs)			
	$\Omega = 1.70$	$\Omega = 1.75$	$\Omega = 1.80$	$\Omega = 1.75$	$\phi = 0.90$	$\phi = 0.85$	$\phi = 0.85$	$\phi = 0.85$
	OFE	OFI	TFE	TFI	OFE	OFI	TFE	TFI
22	811	1346	779	1664	1241	2003	1192	2476
20	1158	1956	1193	2447	1772	2909	1826	3640
18	1968	3394	2219	4308	3011	5049	3396	6408

1. Web crippling designations: OFE = One Flange End Loaded; OFI = One Flange Interior Loaded; TFE = Two Flange End Loaded; TFI = Two Flange Interior Loaded.
2. Web crippling loads are calculated using the following minimum bearing lengths: 1.5" exterior/3" interior.

1.5 Composite (1.5" Composite Deck)

Normal Weight Concrete (145 pcf) - ASD

Depth of Slab	Deck Gage	Wt. (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load, psf Clear Span (ft.-in.)														
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'	
3 1/2"	22	33	5'-11"	7'-0"	7'-1"	400	369	311	264	227	197	171	150	132	117	104	92	82	74	
	20	33	7'-3"	8'-6"	8'-8"	400	400	374	319	274	238	208	183	162	144	128	114	103	92	
	18	33	9'-0"	10'-7"	10'-8"	400	400	362	309	266	231	202	177	156	139	124	110	99	89	
4"	22	39	5'-8"	6'-8"	6'-9"	400	400	390	332	286	248	216	189	167	148	131	117	105	94	
	20	39	6'-11"	8'-1"	8'-3"	400	400	400	400	345	300	262	231	204	181	162	145	130	117	
	18	39	8'-7"	10'-0"	10'-2"	400	400	400	389	335	291	255	224	198	176	157	140	126	113	
4 1/2"	22	45	5'-5"	6'-5"	6'-6"	400	400	400	400	347	301	262	230	203	180	160	143	128	115	
	20	45	6'-7"	7'-9"	7'-10"	400	400	400	400	400	364	319	281	249	221	197	177	159	143	
	18	45	8'-2"	9'-7"	9'-8"	400	400	400	400	400	355	310	273	242	215	192	172	154	139	
5"	22	51	5'-3"	6'-2"	6'-3"	400	400	400	400	400	355	310	273	241	214	190	170	152	137	
	20	51	6'-4"	7'-6"	7'-7"	400	400	400	400	400	400	377	332	294	262	234	210	189	170	
	18	51	7'-10"	9'-2"	9'-3"	400	400	400	400	400	400	368	324	287	255	228	204	184	166	
5 1/2"	22	57	5'-1"	6'-0"	6'-1"	400	400	400	400	400	400	359	316	279	248	221	197	177	159	
	20	57	6'-2"	7'-2"	7'-3"	400	400	400	400	400	400	400	385	341	304	272	244	219	198	
	18	57	7'-7"	8'-10"	8'-11"	400	400	400	400	400	400	400	377	334	297	265	238	214	193	
6"	22	63	4'-11"	5'-10"	5'-10"	400	400	400	400	400	400	400	400	360	318	282	252	225	202	182
	20	63	5'-11"	7'-0"	7'-1"	400	400	400	400	400	400	400	400	400	389	347	310	278	250	226
	18	63	7'-4"	8'-6"	8'-7"	400	400	400	400	400	400	400	400	400	381	339	303	272	245	221
6 1/2"	22	69	4'-10"	5'-8"	5'-8"	400	400	400	400	400	400	400	400	400	357	317	283	253	227	205
	20	69	5'-9"	6'-9"	6'-10"	400	400	400	400	400	400	400	400	400	400	390	349	313	282	255
	18	69	7'-1"	8'-3"	8'-4"	400	400	400	400	400	400	400	400	400	400	382	342	307	276	249

Light Weight Concrete (115 pcf) - ASD

Depth of Slab	Deck Gage	Wt. (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load, psf Clear Span (ft.-in.)														
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'	
3 1/2"	22	26	6'-3"	7'-5"	7'-6"	400	352	297	253	218	189	166	146	129	114	102	91	82	73	
	20	26	7'-8"	9'-1"	9'-3"	400	400	355	303	262	227	199	176	156	139	124	111	100	90	
	18	26	9'-8"	11'-4"	11'-6"	400	400	341	292	252	219	192	169	149	133	119	107	96	86	
4"	22	30	6'-1"	7'-2"	7'-3"	400	400	375	320	276	240	210	185	164	145	130	116	105	94	
	20	30	7'-5"	8'-9"	8'-10"	400	400	400	383	331	288	253	223	198	176	158	142	128	116	
	18	30	9'-3"	10'-11"	11'-0"	400	400	400	370	319	278	244	215	191	170	152	136	123	111	
4 1/2"	22	35	5'-10"	6'-11"	7'-0"	400	400	400	390	336	292	256	225	200	178	159	142	128	115	
	20	35	7'-1"	8'-5"	8'-6"	400	400	400	400	400	352	308	272	242	216	193	174	157	142	
	18	35	8'-10"	10'-5"	10'-6"	400	400	400	400	390	340	298	263	233	208	186	167	151	136	
5"	22	39	5'-8"	6'-8"	6'-9"	400	400	400	400	399	347	304	268	238	212	189	170	153	138	
	20	39	6'-11"	8'-1"	8'-3"	400	400	400	400	400	400	367	324	288	257	230	207	187	169	
	18	39	8'-7"	10'-0"	10'-2"	400	400	400	400	400	400	356	314	279	249	223	201	181	164	
5 1/2"	22	44	5'-6"	6'-6"	6'-7"	400	400	400	400	400	400	353	311	276	246	220	197	178	161	
	20	44	6'-8"	7'-10"	7'-11"	400	400	400	400	400	400	400	376	334	298	268	241	218	197	
	18	44	8'-3"	9'-8"	9'-9"	400	400	400	400	400	400	400	366	325	290	260	234	211	191	
6"	22	49	5'-4"	6'-3"	6'-4"	400	400	400	400	400	400	400	400	355	315	280	251	225	203	183
	20	49	6'-5"	7'-7"	7'-8"	400	400	400	400	400	400	400	400	400	382	341	306	275	249	226
	18	49	7'-11"	9'-3"	9'-5"	400	400	400	400	400	400	400	400	400	372	332	298	268	242	219
6 1/2"	22	53	5'-2"	6'-1"	6'-2"	400	400	400	400	400	400	400	400	400	355	316	283	254	229	207
	20	53	6'-3"	7'-5"	7'-6"	400	400	400	400	400	400	400	400	400	400	385	345	311	281	255
	18	53	7'-9"	9'-1"	9'-2"	400	400	400	400	400	400	400	400	400	400	375	337	303	274	248

1.5 Composite (1.5" Composite Deck)

Normal Weight Concrete (145 pcf) - LRFD

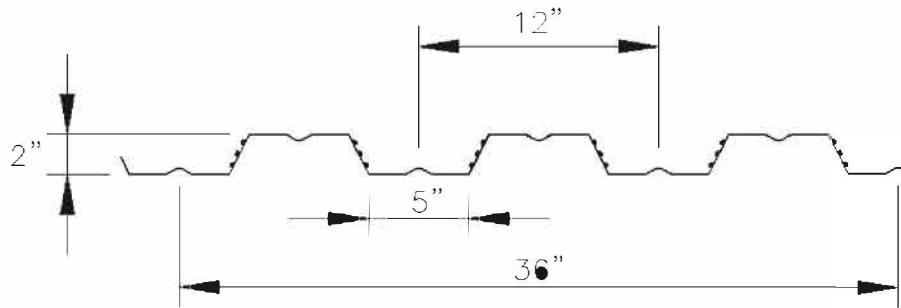
Depth of Slab	Deck Gage	Wt. (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load (factored), psf Clear Span (ft.-in.)														
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'	
3 1/2"	22	33	5'-11"	7'-0"	7'-1"	640	590	497	423	363	315	274	240	212	187	166	148	132	118	
	20	33	7'-3"	8'-6"	8'-8"	640	640	598	510	439	381	333	293	259	230	205	183	164	147	
	18	33	9'-0"	10'-7"	10'-8"	640	640	580	494	425	369	322	283	250	222	198	177	158	122	
4"	22	39	5'-8"	6'-8"	6'-9"	640	640	624	532	457	396	345	303	267	237	210	187	168	150	
	20	39	6'-11"	8'-1"	8'-3"	640	640	640	640	552	480	420	369	327	290	259	232	208	187	
	18	39	8'-7"	10'-0"	10'-2"	640	640	640	623	537	466	407	358	317	281	251	224	201	181	
4 1/2"	22	45	5'-5"	6'-5"	6'-6"	640	640	640	640	555	481	420	369	325	288	257	229	205	184	
	20	45	6'-7"	7'-9"	7'-10"	640	640	640	640	640	583	510	449	398	354	316	283	254	229	
	18	45	8'-2"	9'-7"	9'-8"	640	640	640	640	640	568	497	437	387	344	307	275	247	222	
5"	22	51	5'-3"	6'-2"	6'-3"	640	640	640	640	640	568	496	436	385	342	304	272	243	219	
	20	51	6'-4"	7'-6"	7'-7"	640	640	640	640	640	640	604	532	471	419	375	336	302	272	
	18	51	7'-10"	9'-2"	9'-3"	640	640	640	640	640	640	589	519	459	409	365	327	294	265	
5 1/2"	22	57	5'-1"	6'-0"	6'-1"	640	640	640	640	640	640	575	505	446	396	353	316	283	254	
	20	57	6'-2"	7'-2"	7'-3"	640	640	640	640	640	640	640	616	546	486	435	390	351	317	
	18	57	7'-7"	8'-10"	8'-11"	640	640	640	640	640	640	640	602	534	475	424	381	342	309	
6"	22	63	4'-11"	5'-10"	5'-10"	640	640	640	640	640	640	640	640	575	509	452	403	360	323	291
	20	63	5'-11"	7'-0"	7'-1"	640	640	640	640	640	640	640	640	622	554	496	445	401	362	
	18	63	7'-4"	8'-6"	8'-7"	640	640	640	640	640	640	640	640	609	543	485	435	392	354	
6 1/2"	22	69	4'-10"	5'-8"	5'-8"	640	640	640	640	640	640	640	640	640	571	508	453	405	364	327
	20	69	5'-9"	6'-9"	6'-10"	640	640	640	640	640	640	640	640	640	623	558	501	451	408	
	18	69	7'-1"	8'-3"	8'-4"	640	640	640	640	640	640	640	640	640	611	547	491	442	399	

Light Weight Concrete (115 pcf) - LRFD

Depth of Slab	Deck Gage	Wt. (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load (factored), psf Clear Span (ft.-in.)														
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'	
3 1/2"	22	26	6'-3"	7'-5"	7'-6"	640	563	475	405	349	303	265	233	206	183	163	146	131	117	
	20	26	7'-8"	9'-1"	9'-3"	640	640	567	485	418	364	319	281	249	222	198	178	160	144	
	18	26	9'-8"	11'-4"	11'-6"	640	640	546	467	403	350	306	270	239	213	190	170	153	138	
4"	22	30	6'-1"	7'-2"	7'-3"	640	640	600	513	442	384	336	296	262	233	208	186	167	151	
	20	30	7'-5"	8'-9"	8'-10"	640	640	640	613	530	461	404	357	317	282	253	227	205	185	
	18	30	9'-3"	10'-11"	11'-0"	640	640	640	592	511	445	390	344	305	272	243	218	197	178	
4 1/2"	22	35	5'-10"	6'-11"	7'-0"	640	640	640	624	538	468	409	361	319	284	254	228	205	185	
	20	35	7'-1"	8'-5"	8'-6"	640	640	640	640	640	562	493	436	387	345	309	278	250	227	
	18	35	8'-10"	10'-5"	10'-6"	640	640	640	640	625	544	477	421	373	333	298	268	242	218	
5"	22	39	5'-8"	6'-8"	6'-9"	640	640	640	640	638	555	487	429	380	339	303	272	245	221	
	20	39	6'-11"	8'-1"	8'-3"	640	640	640	640	640	640	587	518	460	411	368	331	299	271	
	18	39	8'-7"	10'-0"	10'-2"	640	640	640	640	640	640	569	502	446	398	357	321	290	262	
5 1/2"	22	44	5'-6"	6'-6"	6'-7"	640	640	640	640	640	640	564	498	441	393	352	316	284	257	
	20	44	6'-8"	7'-10"	7'-11"	640	640	640	640	640	640	640	602	535	478	428	386	348	316	
	18	44	8'-3"	9'-8"	9'-9"	640	640	640	640	640	640	640	585	520	464	416	374	338	306	
6"	22	49	5'-4"	6'-3"	6'-4"	640	640	640	640	640	640	640	640	568	503	449	401	361	325	294
	20	49	6'-5"	7'-7"	7'-8"	640	640	640	640	640	640	640	640	611	545	489	441	398	361	
	18	49	7'-11"	9'-3"	9'-5"	640	640	640	640	640	640	640	640	595	531	476	429	387	351	
6 1/2"	22	53	5'-2"	6'-1"	6'-2"	640	640	640	640	640	640	640	640	640	568	506	453	407	367	332
	20	53	6'-3"	7'-5"	7'-6"	640	640	640	640	640	640	640	640	640	616	552	498	450	408	
	18	53	7'-9"	9'-1"	9'-2"	640	640	640	640	640	640	640	640	640	600	539	485	438	397	

2.0 Composite (2" Composite Deck), WVC2

- $F_y = 50$ ksi
- Underwriter's Laboratories Classified as a component in composite steel floor units in UL specifications D216, D502, D733, D768, D826, D902, D907, D908, D914, D916, D918, D919, D920, D922, D923, D925, D927, D929 and D931. This deck is listed in the UL certification directory as Type WVC 2.



Section Properties*

GAGE	t (in)	W_d PTD. (PSF)	I in ⁴	S_p in ³	S_n in ³
22	0.0295	1.62	0.332	0.269	0.277
20	0.0358	1.96	0.418	0.349	0.357

* 18ga. 2" Composite is not available.

Deck Design Reaction Capacity*

Gage	t (in)	WEB CRIPPLING REACTIONS			
		End Bearing - 2 in. minimum		Interior Bearing - 4 in. minimum	
		P/Ω (plf) - ASD	ΦP (plf) - LRFD	P/Ω (plf) - ASD	ΦP (plf) - LRFD
22	0.0295	305	447	770	1145
20	0.0358	458	670	1102	1639

* Values based on web crippling capacity. P = nominal deck reaction capacity

2.0 Composite (2" Composite Deck)

Normal Weight Concrete (145pcf) * - ASD

Depth of Slab	Deck Gage	Weight (psf)	SDI Max. Unshored Clear Span		Superimposed Live Load (unfactored), psf															
					Clear Span (ft.-in.)															
					1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"
4" (t = 2")	22	38	7'-5"	9'-5"	9'-9"	400	400	336	284	243	209	181	157	137	120	105	93	81	72	63
	20	39	8'-9"	10'-9"	11'-2"	400	400	400	346	297	256	222	194	170	150	132	117	104	92	82
4 1/2" (t = 2 1/2")	22	44	7'-1"	8'-11"	9'-3"	400	400	400	346	296	255	221	192	168	147	129	114	101	89	78
	20	45	8'-3"	10'-2"	10'-7"	400	400	400	400	361	312	271	237	208	183	162	144	128	114	101
5" (t = 3")	22	50	6'-8"	8'-6"	8'-10"	400	400	400	400	352	303	263	229	200	176	155	137	121	107	95
	20	51	7'-10"	9'-9"	10'-1"	400	400	400	400	400	371	323	282	248	219	194	172	153	136	122
5 1/2" (t = 3 1/2")	22	56	6'-5"	8'-1"	8'-5"	400	400	400	400	400	353	306	267	234	206	181	160	142	126	112
	20	57	7'-6"	9'-4"	9'-8"	400	400	400	400	400	400	376	330	290	256	227	202	180	160	143
6" (t = 4")	22	63	6'-2"	7'-9"	8'-1"	400	400	400	400	400	400	350	306	268	236	208	184	163	144	128
	20	63	7'-2"	9'-0"	9'-4"	400	400	400	400	400	400	400	378	333	294	261	232	207	185	166
6 1/2" (t = 4 1/2")	22	69	6'-0"	7'-5"	7'-9"	400	400	400	400	400	400	396	346	303	267	236	209	185	164	146
	20	69	7'-0"	8'-8"	9'-0"	400	400	400	400	400	400	400	400	377	333	296	263	235	210	188

* Minimum exterior bearing length required is 2.0 inches. Minimum interior bearing length is 4.0 inches. If these minimum lengths are not provided, web crippling must be checked.

Light Weight Concrete (110pcf) * - ASD

Depth of Slab	Deck Gage	Weight (psf)	SDI Max. Unshored Clear Span		Superimposed Live Load (unfactored), psf															
					Clear Span (ft.-in.)															
					1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"
4" (t = 2")	22	30	8'-2"	10'-2"	10'-7"	400	400	344	292	251	217	189	165	145	128	113	101	89	80	71
	20	30	9'-8"	11'-9"	12'-2"	400	400	400	355	306	265	231	203	179	159	141	126	113	101	91
4 1/2" (t = 2 1/2")	22	34	7'-9"	9'-9"	10'-2"	400	400	400	356	306	265	231	202	178	157	139	124	111	99	88
	20	35	9'-2"	11'-2"	11'-7"	400	400	400	400	371	322	281	247	218	193	172	154	138	124	111
5" (t = 3")	22	39	7'-5"	9'-4"	9'-8"	400	400	400	400	363	314	274	240	211	187	166	148	132	118	106
	20	39	8'-9"	10'-9"	11'-2"	400	400	400	400	400	383	335	294	260	231	206	184	165	148	134
5 1/2" (t = 3 1/2")	22	43	7'-1"	9'-0"	9'-4"	400	400	400	400	400	366	319	280	247	219	194	173	155	139	125
	20	44	8'-4"	10'-4"	10'-8"	400	400	400	400	400	400	389	343	303	269	240	215	193	173	156
6" (t = 4")	22	48	6'-10"	8'-7"	9'-0"	400	400	400	400	400	400	365	321	283	251	223	199	178	159	143
	20	48	8'-0"	10'-0"	10'-4"	400	400	400	400	400	400	400	393	348	309	276	247	222	200	181
6 1/2" (t = 4 1/2")	22	53	6'-7"	8'-4"	8'-8"	400	400	400	400	400	400	400	400	362	319	283	252	225	201	180
	20	53	7'-8"	9'-7"	10'-0"	400	400	400	400	400	400	400	400	400	393	349	312	279	251	226

* Minimum exterior bearing length required is 2.0 inches. Minimum interior bearing length is 4.0 inches. If these minimum lengths are not provided, web crippling must be checked.

2.0 Composite (2" Composite Deck)

Normal Weight Concrete (145pcf) * - LRFD

Depth of Slab	Deck Gage	Weight (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load (unfactored), psf															
						Clear Span (ft.-in.)															
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	
4" (t = 2")	22	38	7'-8"	9'-11"	10'-3"	400	400	341	290	249	216	188	164	145	128	113	101	90	80	71	
	20	39	9'-0"	11'-2"	11'-7"	400	400	400	352	303	263	229	201	178	158	140	125	112	100	90	
4 1/2" (t = 2 1/2")	22	44	7'-3"	9'-5"	9'-9"	400	400	400	353	303	262	229	200	177	156	139	123	110	98	88	
	20	45	8'-5"	10'-8"	11'-0"	400	400	400	400	368	319	279	245	217	192	171	153	137	123	111	
5" (t = 3")	22	50	6'-10"	9'-0"	9'-4"	400	400	400	400	360	312	272	238	210	186	165	147	131	118	106	
	20	51	8'-0"	10'-2"	10'-6"	400	400	400	400	400	379	331	292	258	229	204	182	164	147	133	
5 1/2" (t = 3 1/2")	22	56	6'-7"	8'-7"	8'-11"	400	400	400	400	400	363	317	278	245	217	193	172	154	138	124	
	20	57	7'-8"	9'-9"	10'-1"	400	400	400	400	400	400	386	340	300	267	238	213	191	172	155	
6" (t = 4")	22	63	6'-5"	8'-3"	8'-6"	400	400	400	400	400	400	362	317	280	248	221	197	176	158	142	
	20	63	7'-5"	9'-4"	9'-8"	400	400	400	400	400	400	400	389	344	306	273	245	220	198	179	
6 1/2" (t = 4 1/2")	22	69	6'-3"	7'-11"	8'-2"	400	400	400	400	400	400	400	359	317	281	250	223	200	179	161	
	20	69	7'-2"	9'-0"	9'-4"	400	400	400	400	400	400	400	400	389	346	309	277	249	225	203	

* Minimum exterior bearing length required is 2.0 inches. Minimum interior bearing length is 4.0 inches. If these minimum lengths are not provided, web crippling must be checked.

Light Weight Concrete (110pcf) * - LRFD

Depth of Slab	Deck Gage	Weight (psf)	SDI Max. Unshored Clear Span			Superimposed Live Load (unfactored), psf															
						Clear Span (ft.-in.)															
			1 span	2 span	3 span	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	
4" (t = 2")	22	30	8'-6"	10'-9"	11'-1"	400	400	347	296	255	222	194	170	151	134	119	107	96	86	77	
	20	30	10'-0"	12'-3"	12'-7"	400	400	400	359	310	269	236	208	184	164	147	132	119	107	94	
4 1/2" (t = 2 1/2")	22	34	8'-0"	10'-4"	10'-8"	400	400	400	360	311	270	236	208	184	164	146	131	117	106	96	
	20	35	9'-5"	11'-7"	12'-0"	400	400	400	400	375	327	286	253	224	200	179	160	145	131	118	
5" (t = 3")	22	39	7'-8"	9'-10"	10'-2"	400	400	400	400	368	320	280	247	218	194	173	155	140	126	114	
	20	39	8'-11"	11'-2"	11'-7"	400	400	400	400	400	388	340	301	267	238	213	191	173	156	142	
5 1/2" (t = 3 1/2")	22	43	7'-4"	9'-6"	9'-10"	400	400	400	400	400	372	326	288	255	227	203	182	164	148	134	
	20	44	8'-6"	10'-9"	11'-1"	400	400	400	400	400	400	396	349	310	277	248	223	201	182	165	
6" (t = 4")	22	48	7'-0"	9'-2"	9'-5"	400	400	400	400	400	400	373	329	291	259	232	208	187	169	153	
	20	48	8'-2"	10'-5"	10'-9"	400	400	400	400	400	400	400	400	356	317	285	256	231	209	190	
6 1/2" (t = 4 1/2")	22	53	6'-9"	8'-10"	9'-1"	400	400	400	400	400	400	400	371	329	293	262	235	212	191	173	
	20	53	7'-10"	10'-0"	10'-4"	400	400	400	400	400	400	400	400	400	358	321	289	261	237	215	

* Minimum exterior bearing length required is 2.0 inches. Minimum interior bearing length is 4.0 inches. If these minimum lengths are not provided, web crippling must be checked.



FOR COMPOSITE STEEL FLOOR DECK

1. Scope

This specification pertains to composite steel floor deck. Composite steel floor deck is cold formed steel deck which acts as a permanent form and as the positive bending reinforcement for the structural concrete. When suitably fastened, the steel deck also acts as a working platform for the various trades. After the concrete cures, the steel deck and the concrete are interlocked by the shape of the deck, mechanical means, surface bond, or by a combination of these means.

2. Materials

2.1 Composite Steel Deck:

Composite steel floor deck shall be fabricated from steel conforming to Section A3 of the 1996 edition of the American Iron and Steel Institute, *Specification for the Design of Cold Formed Steel Structural Members*, (AISI Specifications). The steel used shall have a minimum yield point of 33 ksi (230 MPa).

2.1a Tolerances:

Panel length: Plus or minus 1/2 inch (12 mm).

Thickness: Shall not be less than 95% of the design thickness.

Panel cover width: minus 3/8 inch (10 mm), plus 3/4 inch (20 mm).

Panel camber and/or sweep: 1/4 inch in 10 foot length (6 mm in 3 m).

Panel end out of square: 1/8 inch per foot of panel width (10 mm per m).

Commentary: Most composite steel floor deck is manufactured from steel conforming to ASTM Designation A1008-00, Grades C and D, or from A653-00, Structural Steel. If the published product literature does not show the uncoated steel thickness in decimal inches (or millimeters), but lists gage or type numbers, then the thickness of steel before coating with paint or metal shall be in conformance with the following table:

TYPE NO.	DESIGN THICKNESS		MINIMUM THICKNESS	
	in.	mm	in.	mm
22	0.0295	0.75	0.028	0.71
21	0.0329	0.84	0.031	0.79
20	0.0358	0.91	0.034	0.86
19	0.0418	1.06	0.040	1.01
18	0.0474	1.20	0.045	1.14
17	0.0538	1.37	0.051	1.30
16	0.0598	1.52	0.057	1.44

The tolerances reflect fabrication processes for steel deck products. Variation in cover width may be from trucking, storage or handling.

2.1b Finish: The finish on the steel composite deck shall be as specified by the designer and be suitable for the environment of the structure.

Commentary: Since the composite deck is the positive bending reinforcement for the slab, it must be designed to last the life of the structure; a minimum of recommended finish is a galvanized coating as defined in ASTM A653-00, G30 (Z090).

3. Design (Deck as a Form)

3.1: The section properties for the steel floor deck (as a form in bending) shall be computed in accordance with the AISI Specifications.

3.2a: Allowable Stress Design (ASD):

The interaction of shear and bending shall be considered in the calculations. Bending stress in the deck shall not exceed 0.6 times the yield strength with a maximum of 36 ksi (250 MPa) under the combined loads of wet concrete, deck, and the following construction live loads: 20 pounds per square foot uniform load (1 kPa) or 150 pound concentrated load on a 1'0" wide section of deck (2.2 kN per m). See Figure 1.

3.2b: Load and Resistance Factor Design (LRFD):

The load factors for the construction shown in Figure 1 and the resistance factors for bending, shear, and interior bearing shall be as required in the 1996 AISI Specification.

continued on next page

SDI Specifications and Commentary

FOR COMPOSITE STEEL FLOOR DECK *continued*

Commentary: The loading shown in Figure 1 is representative of the sequential loading of wet concrete on the form. The 150 pound load (per foot of width) is the result of distributing a 300 pound man over a 2 foot width. Experience has shown this to be a conservative distribution and, if welded wire reinforcing is present the distribution is greater than 2 feet. The metric equivalent of the 150 pound load is 2.2 kN per meter of width. For single span deck conditions, the ability to control the concrete placement may be restricted and a factor of 1.5 is applied to the concrete load to address this condition; however, in order to keep this 50% load increase within a reasonable limit, the increase is not to exceed 30 psf (1.44 kPa).

3.3 Calculated theoretical deflections of the deck, as a form, shall be based on the load of the wet concrete (as determined by the design slab thickness) and the load from the steel deck, uniformly loaded on all spans, and shall be limited to $L/180$ or $3/4$ inch (20 mm), whichever is smaller. Deflections shall be relative to supporting members. *See Figure 2.*

Commentary: The deflection calculations do not take into account construction loads since these are considered as temporary loads. The deck is designed to always be in the elastic range so removal of temporary loads should allow the deck to recover. The structural steel also deflects under the loading of the wet concrete.

The design professional is urged to check the deflection of the total system especially if composite beams and girders are being used. If the designer wants to include additional concrete loading on the deck because of frame deflection, the additional load should be shown on the design drawings or stated in the deck section of the job specifications. The deck supplier is not responsible for frame deflection, nor for any cambering.

3.4: Minimum interior bearing lengths shall be determined in accordance with the 1996 AISI Specification; a uniform loading case of wet concrete, plus deck, plus 20 psf (1 kPa) construction load shall be used. *See Figure 3.*

Commentary: In the past, 1-1/2 inches (40 mm) of end bearing was the minimum; this is still a good "rule of thumb" that will, in general, prevent slip off. The deck must be adequately attached to the structure to prevent slip off.

4. Installation & Site Storage

4.1 Site Storage: Steel deck shall be stored off the ground with one end elevated to provide drainage and shall be protected from the elements with a waterproof covering, ventilated to avoid condensation.

4.2 Deck Placement: Place each deck unit on the supporting structural frame. Adjust to final position with accurately aligned side laps and ends bearing on supporting members.

Commentary: Staggering floor deck end joints is not a recommended practice. The deck capacity as a form and the load capacity of the

composite deck/slab system are not increased by staggering the ends, yet layout and erection costs are increased.

4.3 Butted Ends: Deck sheets shall be butted over supports. [Standard tolerance for ordered length is plus or minus 1/2 inch (12 mm), - See section 2.1a]

Commentary: Lapping composite deck ends can be difficult because shear lugs (web embossment) or profile shape can prevent a tight metal to metal fit. The space between lapped sheets can make welded attachments more difficult. Gaps are acceptable at butted ends. If taping of butted ends is requested, it is not the responsibility of the deck manufacturer.

4.4 Anchorage: Floor deck units shall be anchored to supporting members including perimeter support steel and/or bearing walls by either welding or by mechanical fastening. This shall be done immediately after alignment. The minimum recommended attachments are defined in Section 4.4a. Do not walk or stand on deck until these minimum attachments are provided at the structural support. Deck units with spans greater than five feet (1.5 m) shall have side laps and perimeter edges (at perimeter support steel) fastened at midspan or 36 inch (1 m) intervals, whichever distance is smaller. Side lap attachment shall progress from the support to midspan.

Commentary: This anchorage may be required to provide lateral stability to the top flange of the supporting structural members. The



minimum attachment is to prevent slip off from supports and to provide stability to the deck system. The deck must be anchored to act as a working platform and to prevent blow off. Side lap fasteners can be welds, screws, crimps (button punching), or other methods approved by the designer. Welding side laps on thicknesses 0.028 inches (0.7 mm) or less may cause large burn holes, and is not recommended. The objective of side lap fastening is to prevent differential sheet deflection during concrete placing and therefore prevent side joints from opening. The five foot (1.5 m) limit on side lap spacing is based on experience. The deck erector must not leave unattached deck at the end of the day, as the wind may displace the sheets and cause injury to persons or property. The SDI *Diaphragm Design Manual, Second Edition*, should be used to determine fastening requirements if the deck will be designed to resist horizontal loads. The most stringent requirements, of either section 4.4 or, if applicable, the SDI *Diaphragm Design Manual, Second Edition*, should be used.

4.4a Welding: All welding of deck shall be in strict accordance with ANSI/AWS D1.3 *Structural Welding Code - Sheet Steel*. Each welder must demonstrate an ability to produce satisfactory welds using a procedure such as shown in the SDI *Manual of Construction with Steel Deck* or as described in ANSI/AWS D1.3. A minimum visible 5/8 inch (15 mm) diameter puddle weld or equivalent is required at all edge ribs, plus a sufficient number of interior ribs to provide a maximum average spacing of 12 inches

(300 mm). The maximum spacing between adjacent points of attachment shall not exceed 18 inches (460 mm). Fillet welds, when used, shall be at least 1 inch (25 mm) long. Weld metal shall penetrate all layers of deck material at end laps and shall have good fusion to the supporting members. Welding washers shall be used on all deck units with a metal thickness less than 0.028 inches (0.7 mm, 22 gage). Welding washers shall be a minimum thickness of 0.0567 inches (1.5 mm, 16 gage) and have a nominal 3/8 inch (10 mm) diameter hole.

Commentary: The welder may be qualified on plate or pipe under ANSI/AWS D1.1, *Structural Welding Code - Steel*, or under the provisions of other codes governing the welding of specific products, but may not be qualified for welding sheet steel. The layout, design numbering or sizing of shear connectors is not the responsibility of the deck manufacturer. If studs are being applied through the deck onto structural steel, the stud welds can be used to replace the puddle welds. In general, stronger welds are obtained on 0.028 inches (0.7 mm, 22 gage) or thicker deck without weld washers. Welds on deck less than 0.028 inches (0.7 mm, 22 gage) are stronger with washers.

4.4b Mechanical Fasteners: Mechanical fasteners (powder actuated, screws, pneumatically driven fasteners, etc.) are recognized as viable anchoring methods, provided the type and spacing of the fastener satisfies the design criteria. Documentation in the form of test data, design calculations, or design

charts should be submitted by the fastener manufacturer as the basis for obtaining approval. The deck manufacturer may recommend additional fasteners to stabilize the given profile against sideslip of unfastened ribs.

Commentary: When the fasteners are powder actuated or pneumatically driven, the load value per fastener used to determine the maximum fastener spacing is based on a minimum structural support thickness of not less than 1/8 inch (3mm) and on the fastener providing a 5/16 inch (8mm) diameter bearing surface (fastener head size). When the structural support thickness is less than 1/8 inch (3mm), powder actuated or pneumatically driven fasteners shall not be used, but screws are acceptable.

5. Design Deck and Concrete As A Composite Unit

5.1 General: The composite slab shall be designed as a reinforced concrete slab with the steel deck acting as the positive reinforcement. Slabs shall be designed as simple or continuous spans under uniform loads.

Commentary: High concentrated loads, diaphragm loads, etc. require additional analysis. Horizontal load capacities can be checked by referring to the SDI *Diaphragm Design Manual, Second Edition*. Concentrated loads may be analyzed by the methods shown in the SDI *Composite Deck Design Handbook, 1997*.

continued on next page

SDI Specifications and Commentary

FOR COMPOSITE STEEL FLOOR DECK *continued*

Most published live load tables are based on simple span analysis of the composite system; that is, the slab is assumed to crack over each support. If the designer wants a continuous slab, then negative reinforcing should be designed using conventional reinforced concrete design techniques. The welded wire mesh, chosen for temperature reinforcing (Section 5.5), does not usually supply enough area for continuity. The deck is not considered to be compression reinforcing. Care should be used during the placement of loads on all types of hanger tabs for the support of ceilings so that an approximate uniform loading is maintained. The individual manufacturer should be consulted for allowable loading on single hanger tabs. Improper use of hanger tabs could result in the overstressing of tabs and/or the overloading of the composite deck slab.

5.2 Testing: The deck manufacturer shall have performed, under the supervision of a professional engineer, a sufficient number of tests on the composite deck slab system to have verified composite behavior; or, the deck manufacturer shall have participated in the Steel Deck Institute research program used to establish the design criteria as shown in the *SDI Composite Deck Design Handbook, 1992 or 1997*; or, the deck manufacturer shall have submitted deck drawings and samples to the Steel Deck Institute for certification as composite deck.

5.2a Load Determination: Using standard reinforced concrete design procedures, the allowable superimposed load shall be found by using appropriate load resistance design factors and applicable reduction factors based on the presence, absence, or spacing of shear studs on beams perpendicular to the deck as shown in the *SDI Composite Deck Design Handbook, 1997*.

Commentary: By using the referenced analysis techniques or test results, the deck manufacturer determines the live loads that can be applied to the composite deck slab combination. The results are usually published as uniform load tables. The manufacturer may instead publish loads based on the results of a "shear bond" testing program and these loads would also be appropriate. For most applications, the deck thickness and profile is selected so that shoring is not required; the live load capacity of the composite system is usually more than adequate for the superimposed (live) loads. In calculating the section properties of the deck (under section 3.1 of these specifications), the AISI provisions may require that compression zones in the deck be reduced to an "effective width," but as tensile reinforcement, the total area of the cross section may be used.

Coatings other than those tested may be investigated, and if there is evidence that their performance will be better than that of the tested product, additional testing may not be required. For example, it is well accepted that deck with light tight rust provides better shear bond than

galvanized, therefore tested galvanized load capacities may be used for rusted decking.

5.3 Concrete: Concrete shall be in accordance with the applicable sections of Chapters 3, 4 and 5 of the ACI 318 *Building Code Requirements for Reinforced Concrete*. Minimum compressive strength (f'_c) shall be 3 ksi (20 MPa) or as required for fire ratings or durability. Admixtures containing chloride salts shall not be used.

Commentary: Load tables are generally calculated by using a concrete strength of 3 ksi (20 MPa). Composite slab capacities are not greatly affected by variations in concrete strength; but, if the strength falls below 3 ksi (20 MPa), it would be advisable to check shear stud strengths. Fire rating requirements may dictate the minimum concrete strength.

The use of admixtures containing chloride salts is not allowed because the salts will corrode the steel deck which has been designed as the slab reinforcement.

5.3a Minimum Cover: The minimum concrete above the top of the floor deck shall be 2 inches (50 mm). When additional (negative bending) reinforcement is placed in the slab, the minimum cover of concrete above the reinforcing shall be 3/4 inch (20 mm).

5.4 Deflection: Deflection of the composite slab shall not exceed $L/360$ under the superimposed load.

Commentary: Live load deflections are seldom a design factor. The



deflection of the slab/deck combination can best be predicted by using the average of the cracked and uncracked moments of inertia as determined by the transformed section method of analysis.

5.5 Temperature and Shrinkage Reinforcement: Temperature and Shrinkage reinforcement, consisting of welded wire fabric or reinforcing bars, shall have a minimum area of 0.00075 times the area of concrete above the deck (per foot or per meter of width), but shall not be less than the area provided by 6 x 6 - W1.4 x W1.4 welded wire fabric. For those products so manufactured, shear transfer wires welded to the top of the deck may be considered to act as shrinkage or temperature reinforcement.

Commentary: Welded wire fabric with a steel area given by the above formula will generally not be sufficient as the total negative reinforcement; however, the mesh has shown that it does a good job of crack control especially if kept near the top of the slab (3/4 inch to 1 inch cover, 20 to 25 mm).

All deck sheets shall have adequate bearing and fastening to all supports to prevent slip off during construction. Deck areas subject to heavy or repeated traffic, concentrated loads, impact loads, wheel loads, etc. shall be adequately protected by planking or other approved means to avoid overloading and/or damage.

Damaged deck (sheets containing distortions or deformations caused by construction practices) shall be repaired, replaced, or shored to the satisfaction of the design profes-

sional before placing concrete. The cost of repairing, replacing, or shoring of damaged units shall be the liability of the trade contractor responsible for the damage.

Commentary: Deck must be selected to support a minimum uniform load of 50 psf (2.4kPa)

6. Construction Practice

6.1 Temporary Shoring: If temporary shoring is required to attain the minimum uniform load of 50 psf (2.4 kpa), the shoring must be securely in place before the floor deck erection begins. The shoring shall be designed and installed in accordance with the applicable ACI code and shall be left in place until the slab attains 75% of its specified compressive strength.

6.2: Prior to concrete placement, the steel deck shall be free of soil, debris, standing water, loose mill scale and all other foreign matter.

6.3: Care must be exercised when placing concrete so that the deck will not be subjected to any impact that exceeds the design capacity of the deck. Concrete shall be placed from a low level to avoid impact, and in a uniform manner over the supporting structure and spread toward the center of the deck span. If buggies are used to place the concrete, runways shall be planked and the buggies shall only operate on planking. Planks shall be of adequate stiffness to transfer loads to the steel deck without damaging the deck. Deck damage caused by roll bars or careless placement must be avoided.

7. Commentary and Information

7.1 Parking Garages: Composite floor deck has been used successfully in many parking structures around the country; however, the following precautions should be observed:

1. Slabs should be designed as continuous spans with negative bending reinforcing over the supports;
2. Additional reinforcing should be included to deter cracking caused by large temperature differences and to provide load distribution; and,
3. In areas where salt water; either brought into the structure by cars in winter or carried by the wind in coastal areas, may deteriorate the deck, protective measures must be taken. The top surface of the slab must be effectively sealed so that the salt water cannot migrate through the slab to the steel deck. A minimum G90 (Z275) galvanizing is recommended, and, the exposed bottom surface of the deck should be protected with a durable paint. The protective measures must be maintained for the life of the building. If the protective measures cannot be assured, the steel deck can be used as a stay in place form and the concrete can be reinforced with mesh or bars as required.

7.2 Cantilevers: When cantilevered slabs are encountered, the deck acts only as a permanent form; top reinforcing steel must be proportioned by the designer.

continued on next page

SDI Specifications and Commentary

FOR COMPOSITE STEEL FLOOR DECK *continued*

7.3 Composite Beam and Girders:

Most composite floor deck sections are suitable for use with composite beams. The AISC Specification specifically provides for the use of deck in this type of construction.

7.4 Fire Ratings: Many fire rated assemblies that use composite floor decks are available. Consult a SDI member manufacturer for a list of ratings.

In the Underwriters Laboratories *Fire Resistance Directory*, the composite deck constructions show hourly ratings for restrained and unrestrained assemblies. ASTM E119 provides information in appendix X3 called *Guide for Determining Conditions of Restraint for Floor and Roof Assemblies and for Individual Beams*. After a careful review of this guide, the Steel Deck Institute determined that all interior and exterior spans of multispan deck properly attached to bearing walls are restrained. In fact, there is almost no realistic condition that a composite deck-slab could not be considered to be restrained - except perhaps a single span deck system which is unattached to framing or a wall in order to provide a removable slab.

7.5 Fireproofing: The steel deck manufacturer shall not be responsible for ensuring the bonding of fireproofing. The adherence of fireproofing materials is dependent on many variables; the deck manufacturer (supplier) is not responsible for the adhesion or adhesive ability of the fireproofing.

7.6 Concentrated Loads:

Concentrated loads can be analyzed and distributed with the methods shown in the *SDI Composite Deck Design Handbook, 1997*.

7.7 Conduits: Conduits are permitted in deck slabs subject to local code requirements and fire rating considerations. When conduit sizes are 1" (25.4 mm) or less in diameter, or less than 1/3 the concrete cover, and no crossovers occur, and conduit is spaced at least 18" apart with 3/4" (19 mm) minimum cover, conduit may be permitted in the slab unless further restricted by the design documents.

7.8 Other Criteria: Composite steel floor deck may be used in a variety of ways, some of which do not lend themselves to a standard "steel deck" analysis for span and loading. There are, in these cases, other criteria which must be considered besides that given by the Steel Deck Institute. Make sure this investigation starts with a review of the applicable Codes and that any special conditions are included in the design.

FIGURE 1
Loading Diagrams
and Bending Moments

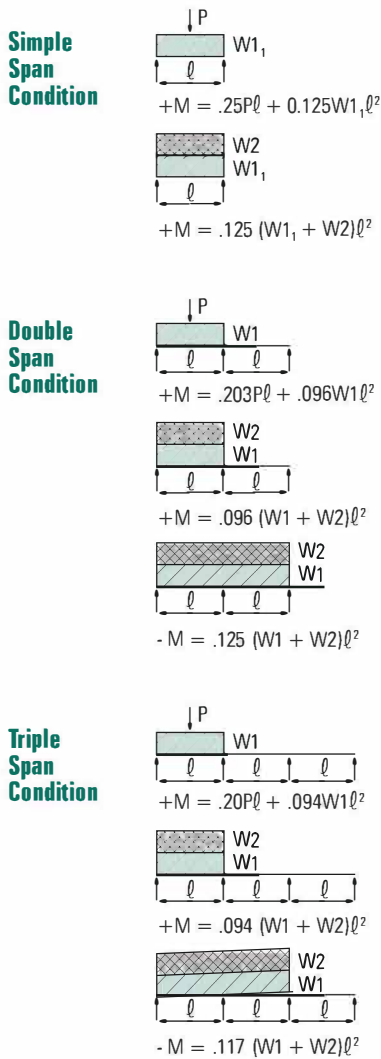


FIGURE 2
Loading Diagrams
and Deflections

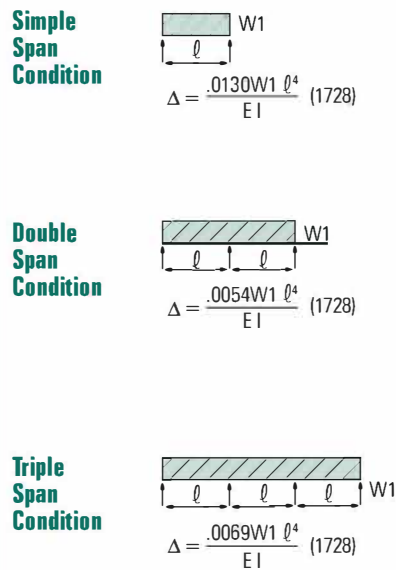
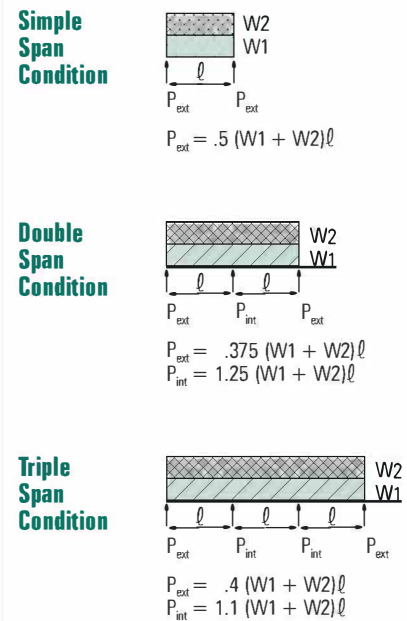


FIGURE 3
Loading Diagrams
and Support Reactions



Notes for Figures 1, 2, and 3

- P = 150 - pound concentrated load
- I = $ln^4/ft.$ - deck moment of inertia
- W1 = slab weight + deck weight, psf
- W2 = 20 pounds per square foot construction load
- E = 29.5×10^6 psi
- ℓ = clear span length (ft.)
- W1₁ = $1.5 \times$ slab weight + deck weight \leq slab weight + 30 + deck weight

Dimensional check shows the need for the 1728 factor when calculating deflections using pound inch units.

Composite Steel Floor Deck

DESIGN EXAMPLE

Given:

A. Bay Size = 26' x 26'

B. Superimposed loads = 155 psf

C. Fire rating required = 2 hour

D. Concrete cover required on deck = 3 1/4" lightweight

E. Composite beam construction.

F. Temporary shoring not desired.

1

Review deck manufacturer's literature or SDI *Composite Deck Design Handbook* for available deck types.

In shoring tables, choose deck that will not require temporary shoring during construction.

Check the allowable superimposed load tables for the required loading.

2

Review deck manufacturer's literature or SDI *Composite Deck Design Handbook* for combinations that meet requirements.

13'0" Beam Spacing

Embossed Deck: Formed and reinforced with 3" x 0.0474" design thickness composite steel deck. Determine required shrinkage and temperature reinforcement.

8'8" Beam Spacing

Embossed Deck: Formed and reinforced with 2" x 0.0358" design thickness composite steel deck. Determine required shrinkage and temperature reinforcement.

6'6" Beam Spacing

Embossed Deck: Formed and reinforced with 1 1/2" x 0.0295" design thickness composite steel deck. Determine required shrinkage and temperature reinforcement.

3

Factors that should be considered in selecting composite floor deck systems:

- Compatibility of deck to total structure.
- Hanging requirements.
- Rib width-to-height ratio to determine stud values.
- Electrical requirements.
- Future flexibility.
- Deck material and erection costs. (Obtain from Steel Deck Institute member companies.)
- Overall floor depth.
- Cost of temporary shoring, if shored forming is selected.
- Deck fireproofing cost, if protected deck is selected.
- Concrete availability and cost: (lightweight) (semi-lightweight) (regular weight).
- Concrete volume required.
- Various beam spacings.
- Total material cost.
- Steel erection cost.
- Steel fireproofing cost.

NOTE:

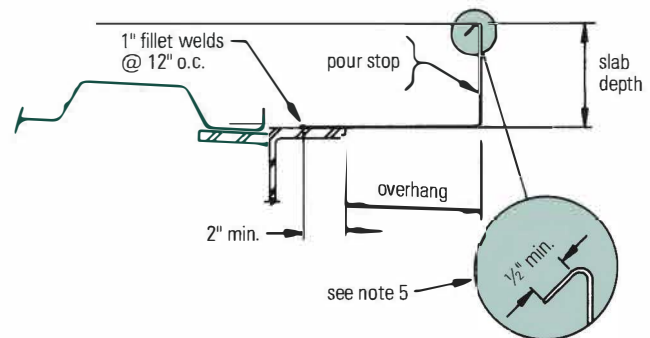
For all the above, **no spray-applied fireproofing** of the deck is required for a 2-hour fire rating.

REVIEW OF COMPOSITE DECK DESIGN HANDBOOK SHOWS THAT 8'-8" BEAM SPACING MEETS REQUIREMENTS MOST EFFICIENTLY.

SELECTION TABLE

SLAB DEPTH (INCHES)	OVERHANG (INCHES)												
	0	1	2	3	4	5	6	7	8	9	10	11	12
4.00	20	20	20	20	18	18	16	14	12	12	12	10	10
4.25	20	20	20	18	18	16	16	14	12	12	12	10	10
4.50	20	20	20	18	18	16	16	14	12	12	12	10	10
4.75	20	20	18	18	16	16	14	14	12	12	10	10	10
5.00	20	20	18	18	16	16	14	14	12	12	10	10	
5.25	20	18	18	16	16	14	14	12	12	12	10	10	
5.50	20	18	18	16	16	14	14	12	12	12	10	10	
5.75	20	18	16	16	14	14	12	12	12	12	10	10	
6.00	18	18	16	16	14	14	12	12	12	10	10	10	
6.25	18	18	16	14	14	12	12	12	12	10	10		
6.50	18	16	16	14	14	12	12	12	12	10	10		
6.75	18	16	14	14	14	12	12	12	10	10	10		
7.00	18	16	14	14	12	12	12	12	10	10	10		
7.25	16	16	14	14	12	12	12	10	10	10			
7.50	16	14	14	12	12	12	12	10	10	10	10		
7.75	16	14	14	12	12	12	10	10	10	10			
8.00	14	14	12	12	12	12	10	10	10				
8.25	14	14	12	12	12	10	10	10	10				
8.50	14	12	12	12	12	10	10	10					
8.75	14	12	12	12	12	10	10	10					
9.00	14	12	12	12	10	10	10						
9.25	12	12	12	12	10	10	10						
9.50	12	12	12	10	10	10							
9.75	12	12	12	10	10	10							
10.00	12	12	10	10	10	10							
10.25	12	12	10	10	10								
10.50	12	12	10	10	10								
10.75	12	10	10	10									
11.00	12	10	10	10									
11.25	12	10	10										
11.50	10	10	10										
11.75	10	10											
12.00	10	10											

TYPES	DESIGN THICKNESS
20	0.0358
18	0.0474
16	0.0598
14	0.0747
12	0.1046
10	0.1345



NOTES: This Selection Chart is based on following criteria:

1. Normal weight concrete (150 PCF).
2. Horizontal and vertical deflection is limited to 1/4" maximum for concrete dead load.
3. Design stress is limited to 20 KSI for concrete dead load temporarily increased by one-third for the construction live load of 20 PSF.
4. Pour Stop Selection Chart does not consider the effect of the performance, deflection, or rotation of the pour stop support which may include both the supporting composite deck and/or the frame.
5. Vertical leg return lip is recommended for all types (gages).
6. This selection is not meant to replace the judgement of experienced Structural Engineers and shall be considered as a reference only.

SDI reserves the right to change any information in this selection table without notice.

SDI Short Form Specifications

FOR COMPOSITE FLOOR DECK

PART 1 - GENERAL

1.1 Related Documents

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 Summary

B. Related Sections

a. This section pertains to composite steel floor deck.

b. Related Sections

1. Division 3 Section "Cast in Place Concrete" for concrete fill and reinforcing steel.
2. Division 5 Section "Structural Steel" for structural steel supporting the deck.

1.3 Submittals

A. **General:** Submit each item in this Article according to the conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of decking specified, including dimensions of individual components, profiles, and finishes.

C. Shop Drawings showing location of deck units, anchorage details, and other information required for a thorough review.

D. Product Certificates (if required) signed by the manufacturer of the steel deck certifying that the supplied products comply with specified requirements.

E. Welder Certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" Article, or if mechanical fasteners are used, test reports from a qualified independent testing agency evidencing compliance of mechanical fasteners with requirements based on comprehensive testing.

1.4 Quality Assurance

A. **Codes and Standards:** Comply with applicable provisions of the following specifications:

1. American Iron and Steel Institute (AISI);
2. American Welding Society (ANSI/AWS D1.3 Structural Welding Code/Sheet Steel);
3. Steel Deck Institute (SDI).

B. Certify that each welder has satisfactorily passed A.W.S. qualification tests for welding processes involved, and, if applicable, has undergone recertification.

C. Fire Resistance Assemblies:

Provide steel deck units classified by Underwriters Laboratories (UL) in the "Fire Resistance Directory" for design number _____. (If a fire rated assembly is required.)

1. Identify steel deck bundles with labels bearing the U.L. mark.

1.5 Delivery, Storage, and Handling

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage and handling.

B. If ground storage is needed, the deck bundles must be stored off the ground, with one end elevated to provide drainage. Bundles must be protected against condensation with

a ventilated waterproof covering. Bundles must be stacked so there is no danger of tipping, sliding, rolling, shifting or material damage. Bundles must be periodically checked for tightness, and retightened as necessary so wind cannot loosen sheets.

C. Deck bundles placed on the building frame must be placed near a main supporting beam at a column or wall. In no case are the bundles to be placed on unbolted frames or on unattached and/or unbridged joists. The structural frame must be properly braced to receive the bundles.

PART 2 - PRODUCTS

2.1 A manufacturer offering deck products to be incorporated into the work must be a member of the Steel Deck Institute.

2.2 Materials [The specifier must choose the appropriate section(s) and eliminate those not applicable.]

A. Sheet steel for deck and accessories shall conform to ASTM A653-00 Structural Quality, with a minimum yield strength of 33 ksi (230 MPa).

1. Galvanizing shall conform to ASTM A924-99 with a minimum coating class of G30 (Z090) as defined in ASTM A653-00.

or

B. Sheet steel for deck and accessories shall conform to ASTM A1008-00 with a minimum yield strength of 33 ksi (230 MPa).

C. The deck type and thickness shall be as shown on the plans.

or



- D. The deck shall be ____ with a minimum metal thickness of ____.
or
- E. The deck shall be selected to provide the load capacities shown on the drawings and as determined using the Steel Deck Institute construction loading criteria.
- F. Whenever possible, the deck shall be multi-span and not require shoring during the concrete placement procedure.
- G. The deck type provided shall be capable of supporting the superimposed live loads as shown on the plans.

2.3 Accessories

- A. Pour stops, column closures, end closures, cover plates, and girder fillers shall be the type required by the Steel Deck Institute.
- B. Mechanical fasteners or welds are acceptable for accessory attachments.

PART 3 - EXECUTION

3.1 Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section. All OSHA rules for erection must be followed.

3.2 Preparation

- A. Place deck in accordance with approved placement plans.
- B. Do not place deck panels on concrete support structure until concrete has cured and is dry.
- C. Locate deck bundles to prevent overloading of support members.

3.3 Installation, General

- A. Install deck panels and accessories according to Steel Deck Institute specifications and recommendations, and in accordance with the placement plans, and requirements of this Section.
- B. Install temporary shoring, if required, before placing deck panels.
- C. Place deck panels on structural supports and adjust to final position with ends aligned. Attach firmly to the supports immediately after placement in order to form a safe working platform.
- D. Cut and neatly fit deck units and accessories around openings and other work projecting through or adjacent to the decking.
- E. Trades that subsequently cut unscheduled openings through the deck are responsible for reinforcing the openings.

3.4 Installation, Floor Deck

- A. Anchor floor deck units to steel supporting members by arc spot puddle welds of the following diameter and spacing or fillet welds of equal strength.
 1. **Weld diameter:** Minimum visible 5/8 inch (15 mm).
 2. **Weld spacing:** Weld edge ribs of panels at each support. Space additional welds an average of 12 inches (300 mm) apart but not more than 18 inches (460 mm).
 3. Mechanical fasteners, either powder actuated, pneumatically driven, or screws, may be used in lieu of welding to fasten deck to supporting framing, provided they have been specifically approved.

- 4. For deck units with spans greater than five feet (1.5 m) fasten side laps and perimeter edges of units between supports at intervals not exceeding 36 inches (1 m) on center, using one of the following methods.

- a. #10 self drilling screws;
- b. crimp or button punch;
- c. arc puddle welds 5/8 inch (15 mm) minimum visible diameter, or 1 inch (25 mm) long fillet

B. End Bearing: Install deck ends over supports with a minimum end bearing of 1.5 inches (40 mm).

C. Pour Stops and Girder Fillers:

Fasten pour stops and girder fillers to supporting structure according to the manufacturers recommendations.

D. Floor Deck Closures: Fasten column closures, cell closures, and Z closures to deck to provide tight fitting closures at open ends of ribs and sides of decking. Fasten cell closures at changes of direction of floor deck units unless otherwise directed.

3.5 Repairs

- A. Before concrete placement, the deck shall be inspected for tears, dents, or other damage that may prevent the deck from acting as a tight and substantial form. The need for the repair or temporary shoring of the damaged deck shall be determined by the architect or engineer of record.

Code of Recommended Standard Practice

FOR COMPOSITE DECK, FORM DECK, AND ROOF DECK CONSTRUCTION

1. General

1.1 Scope: This code is intended to promote safety and quality construction in accordance with good engineering practice. It is designed to assist in the preparation of the sales contract by providing contract details which can be adopted by reference.

1.2 Application: This code shall govern where building codes, architects' and engineers' plans and specifications or contracts are not complete or clear. There shall be no conflict between this code and any legal building regulation; it shall only supplement and amplify such laws.

1.3 Design: In the absence of ordinances or specifications to the contrary, design shall be in accordance with the current Specifications of the Steel Deck Institute. Steel roof deck and floor deck, both composite and non-composite, may be used in a variety of ways, some of which do not lend themselves to a standard "steel deck" analysis for span and loading. There are, in these cases, other criteria which must be considered besides those given by the Steel Deck Institute. Make sure that this investigation starts with a review of the applicable Codes and that any special conditions are included in the design.

1.4 Plans and Specifications for Bidding: Plans and specifications shall clearly show details and shall be complete as to the extent of deck and accessories to be furnished by the seller.

1.5 Responsibility for Design:

When details of design are specified, the seller shall assume no responsibility other than to furnish materials as specified. When details of design are not specified, the seller shall furnish all materials required in accordance with Section 1.3 of this code.

2. Bidding

2.1 Base Bids:

2.1.1 Roof Deck: Base bids shall include roof deck as shown in plan on structural drawings. Base bid shall also include ridge and valley plates and sump pans per architectural drawings and specifications. No other deck or accessories shall be included unless specified.

2.1.2 Composite Floor Deck and Non-Composite Floor Deck: Base bids shall include deck as shown in plan and only those accessories specifically designated on the structural drawings and called for in the appropriate division of the specifications. No other deck or accessories shall be included unless specified.

2.2 Incomplete Plans and Specifications: Incomplete plans and specifications shall be bid on the basis that the seller shall provide material in agreement with the provisions of this code.

2.3 Special Details: Any material required to support the steel deck shall not be included. The design of deck supports shall be the responsibility of the architect and/or engineer of record. Deck shall be furnished in sheet lengths of 6 feet (2.0 m) or greater. Any deck sheets requiring lengths less than 6 feet (2.0 m) shall be field cut by others unless special arrangements are made with individual manufacturers.

3. Drawings and Specifications

3.1 Furnished by the Buyer:

The buyer shall furnish complete architectural plans and specifications, structural steel drawings, and purlin placing plans, all correctly dimensioned.

3.2 Furnished by Seller: The seller shall furnish erection layouts clearly showing the location of all sheets. The seller shall also furnish as many prints as may be reasonably necessary, but the tracing shall remain the property of the seller.

3.3 Discrepancies: The architect's plans shall be assumed to be correct in the absence of written notice from the buyer to the contrary. When structural steel or purlin placing plans do not agree with the architect's plans, the structural plans shall be considered as a written notice of change of plans.

3.4 Approval: The erection layouts shall be submitted to the buyer for approval unless the buyer instructs the seller to submit same directly to the architect or waives his right of approval. The buyer (or architect) shall return one copy marked with his approval or with such corrections as he may deem necessary. The seller shall not start shop work prior to final approval of his drawings unless such approval is waived.

The deck manufacturer is not responsible for putting a professional seal or signature on erection drawings. Erection drawings are made to show the deck products as an overlay on the structural or architectural plans and as such the drawings are trying to meet the job requirements set forth by the designer. If the deck manufacturer



were to check and seal erection drawings, it would subvert that important function.

3.5 Changes by Buyer After Approval:

When any changes are made by the buyer after approval or when any extra materials are required, the cost of such changes and extra materials shall be paid by the buyer at a price agreed upon between the buyer and seller.

Although certain collateral materials are not supplied by the steel deck manufacturer, it is the desire of the Steel Deck Institute to have certain principles followed in specifying and furnishing these collateral materials in order to provide a satisfactory deck assembly. This code is not intended to encroach upon the standard practices of the related industries, but is intended to supplement and amplify specifications pertaining to their products.

4. General Information

4.1 Insulation: All steel roof decks shall be covered with a material of sufficient insulating value to prevent condensation under normal occupancy conditions. Insulation shall be adequately attached to the steel roof deck by adhesives or mechanical fasteners. Insulation materials shall be protected from the elements at all times during their storage and installation.

Phenolic foam insulation in contact with steel deck can be very corrosive when water is present. Phenolic foam insulation is not recommended for use with steel deck.

Fire retardant treated plywood contains chemicals that can develop a corrosive environment when

adequate moisture and heat are present. Precautionary measures should be taken by the designer to prevent such an environment when using fire retardant treated plywood with steel deck.

Polystyrene foam insulation applied directly to steel deck without a thermal barrier may require sprinklers to meet fire rating requirements. Consult the local codes for this construction.

4.2 Acoustical Batts: When open rib acoustical deck is provided, any sound absorbing acoustical batts shall be installed in the field by the roofing contractor. Batts shall be shipped and stored at the jobsite in such a manner as to ensure protection until installation. If acoustical batts become wet, they shall be allowed to thoroughly dry without being compressed before installation.

4.3 Roof Coverings: A suitable roof covering shall be applied over the insulation.

4.4 Sheet Metal Work: All closures, flashing, etc., used in roof deck construction, unless otherwise specified, shall be detailed and furnished by the sheet metal contractor.

4.5 Field Painting: Any field painting or touch-up of abrasions or deterioration of the primer coat or other protective finishes shall be the responsibility of the buyer.

4.6 Shear Connectors: The layout, design, numbering or sizing of shear connectors is not the responsibility of the deck manufacturer.

4.7 Oil Canning: Steel sheets of thicknesses typically used in the manufacture of steel deck products may exhibit a degree of waviness in their flat surfaces. This is a condition commonly referred to as “oil canning.”

Oil canning is an inherent condition with light gage cold formed metal products, and can result from residual stresses induced or redistributed during coil production, slitting, perforating, forming, or fabrication of steel deck. Improper deck handling, installation, or attachment to misaligned steel supports can also cause oil canning.

In general, oil canning is an aesthetic condition with no effect on the structural integrity of the deck. Since many uncontrollable factors can lead to oil canning, the manufacturer assumes no responsibility for the cost of actions taken in response to an oil canning condition. Oil canning shall not be a cause for rejection of steel deck products.

5. Construction Practice

The Steel Deck Institute recommendations for site storage, installation, and construction practices are addressed specifically in the appropriate deck specifications in this design manual and are an integral part of this Code of Recommended Standard Practice.

SHEAR DIAPHRAGM LOAD TABLES

THE LOAD TABLES ARE SHOWING NOMINAL STRENGTH VALUES. THE VALUES MUST NOT BE USED WITHOUT APPLYING THE PROPER SAFETY OR RESISTANCE FACTOR.

LRFD

The values of the load tables must be multiplied by a resistance factor (number smaller than or equal to 0.70) when comparing to forces evaluated using Load and Resistance Factor Design.

ASD

The values of the load tables must be divided by a safety factor (number greater than or equal to 2.35) when comparing to forces evaluated using Allowable Stress Design.

The following load tables are for typical panel configurations and connector types. Specific design applications may dictate an arrangement, not listed, which would require the designer to make direct use of the strength and stiffness formulas shown in Sections 1 through 5 of the Steel Deck Institute Diaphragm Design Manual – 3rd Edition.

The tables are arranged showing the fastener types, safety factor and resistance factor at the top along with the fastener patterns as defined on page D55. For each steel base sheet metal thickness given, nominal shear strengths are listed under the specific span lengths.

Nominal diaphragm shears due to panel buckling are tabulated at the bottom of the pages to check whether the panel buckling governs over connector strength for diaphragm design. Underlined values in the strength table indicate the potential of panel buckling governing over connector strength under a certain type of lateral load. The tables were done in this because of the different safety or resistance factors that apply to connector strength and panel buckling.

For roof deck, 2.0Form and composite floor deck, the steel yield point is 50ksi; 0.6Form deck yield strength is 60ksi. Structural concrete strength is 3000 psi, and the densities are 145pcf and 110pcf for normal weight and light weight concrete, respectively. Though load tables show sidelap stitch welds for all thickness listed, they are not recommended for design thickness of 0.0295 in. and less.

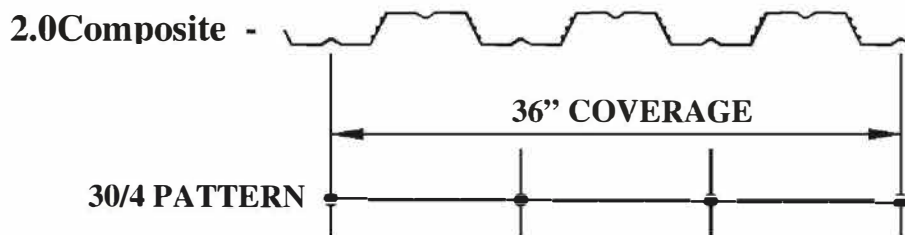
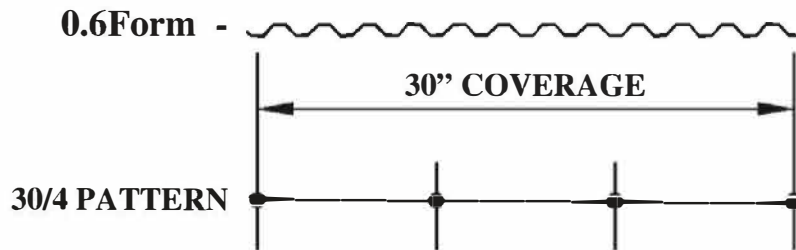
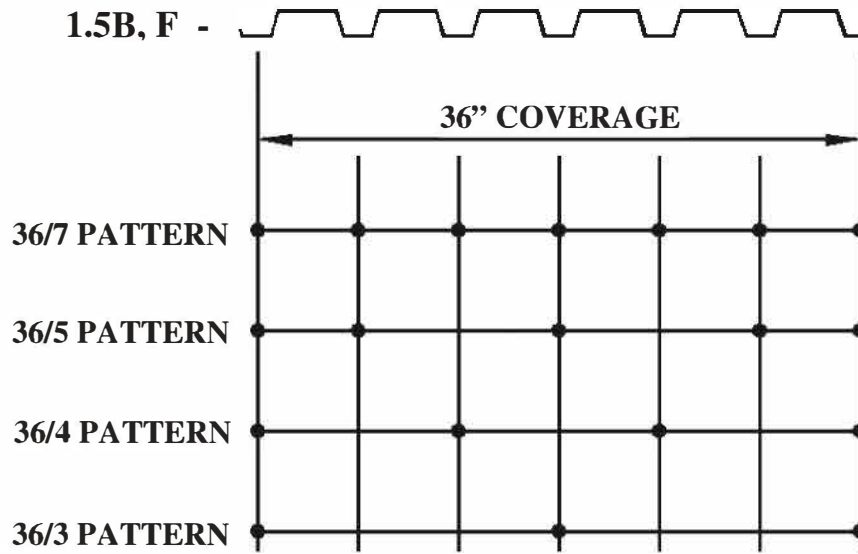
The D_{xx} -values are the warping constants for the particular connector pattern and panel profile. They may be substituted directly into the following equations. D_{xx} -values, K_1 , K_2 , K_3 and K_4 values can be found in the appropriate load table.

$$\text{Bare Decks: } G' = \frac{K_2}{K_4 + \frac{0.3D_{xx}}{l_v} + 3K_1l_v} \quad (\text{for decks with triple span condition})$$

$$\text{Filled Decks: } G' = \frac{K_2}{K_4 + 3K_1l_v} + K_3$$

The load tables for the 0.6Form deck are shown with structural concrete fill of minimum 2.5 in. cover or with insulating concrete assembled as Type I and Type II attached at a basic 30/4 pattern. Type I decks have 2.5 in. of insulating concrete above the deck. Type II decks have insulating concrete poured to the top of the steel deck; next, rigid insulating boards of expanded polystyrene, having about 2% of the area containing holes, are embedded into the insulating concrete with the excess concrete moving into the holes (rigid insulating boards should be held 3 in. away from diaphragm shear resisting lines); finally a topping layer of 2 in. or more of insulating concrete is placed above the rigid insulating board. The strength of the insulating concrete is taken as $f'_c = 125$ psi.

Typical Attachment Patterns

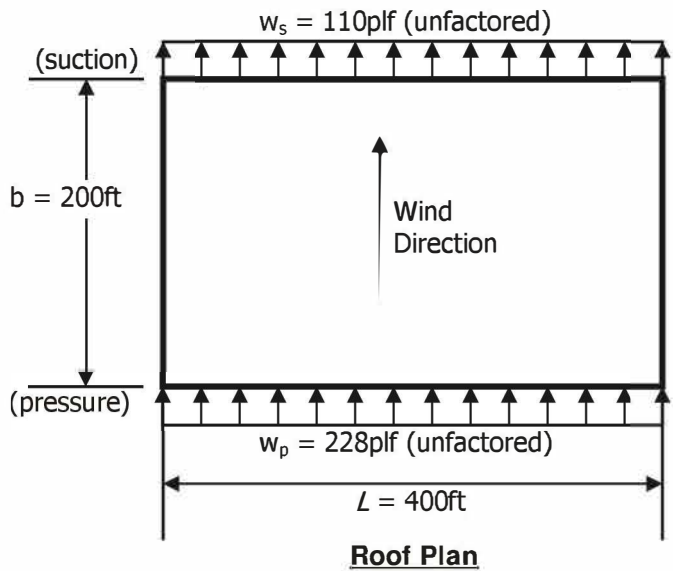


Diaphragm Design Example

Joist Spacing = 6'-0"
Deck Type: 1.5B 22ga.
(minimum 3 span condition)

Attachment Pattern: 36/7 with 5/8" puddle welds
Sidelap Fasteners: #10 screws

Note: $w = w_p + w_s = 288\text{plf} + 110\text{plf} = 398\text{plf}$



LRFD

The loads given are to be factored, using a wind load factor $\gamma_w = 1.6$, the required diaphragm shear delivered to the end walls is:

$$R_{ult} = \gamma_w w \frac{L}{2} \quad R_{ult} = 127\text{kip}$$

Along the 200-ft end wall, the average shear is:

$$S_u = \frac{R_{ult}}{b} \quad S_u = 635\text{plf}$$

From page D55, with (2) #10 sidelap screws per span, the design strength is:

$$\Phi S_n = 0.70 \times 1019\text{plf} = 713\text{plf} > S_u = 635\text{plf} - \text{OK.}$$

ASD

The required diaphragm shear delivered to the end wall is:

$$R = w \frac{L}{2} \quad R = 79\text{kip}$$

$$S = \frac{R}{b} \quad S = 398\text{plf}$$

$$S_n / \Omega = 1019\text{plf} / 2.35 = 433\text{plf} > S = 398\text{plf} - \text{OK.}$$

Verify panel buckling does not control the design of the diaphragm. From page D55, the design strength due to panel buckling is:

$$\Phi S_n = 0.80 \times 1636\text{plf} = 1308\text{plf} > S_u = 635\text{plf} - \text{OK.}$$

$$S_n / \Omega = 1636\text{plf} / 2.65 = 617\text{plf} > S = 398\text{plf} - \text{OK.}$$

Diaphragm Design Example (continued)

The deflection at the centerline of the diaphragm is:

$$\Delta_{CL} = \frac{5wL^4}{384EI} + \frac{wL^2}{8bG}$$

The first term accounts for bending which is not applicable to most diaphragms because they are short, deep and shear sensitive. Therefore, in this example the deflection at centerline will be taken as:

$$\Delta_{CL} = \frac{wL^2}{8bG}$$

where,

$$G = \frac{K_2}{K_{4B} + \frac{0.3D_B}{l_v} + 3K_1l_v} = \frac{870}{3.55 + \frac{0.3 * 92}{6} + 3 * 0.308 * 6} = 63.53 \text{ kip/in}$$

$$\Delta_{CL} = \frac{0.398 \text{ klf} * (400 \text{ ft})^2}{8 * 200 \text{ ft} * 63.53 \text{ kip/in}} = 0.627 \text{ in}$$

Notes:

1. From a strength viewpoint, the diaphragm used in the preceding example is adequate. The design professional must determine if the diaphragm stiffness and corresponding deflection are within the tolerable limits of the given project parameters.
2. Wind load effects from other directions must be examined. The most severe case typically arises when loads are received from the long walls and delivered to the short walls.
3. The potential economical advantages of varying the fastener pattern and/or panel thickness for various roof zones should be investigated by the design professional and is beyond the scope of the preceding example.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE:	1.5 B,F		
DECK GAGE:	22 (t = 0.0295")		
SUPPORT FASTENERS:	3/4" puddle weld or equivalent	Φ (EQ): 0.55	Ω (EQ): 3.00
SIDLAP FASTENERS:	5/8" puddle weld or 1 1/2" long fillet weld	Φ (WIND): 0.70	Ω (WIND): 2.35
		Φ (OTHER): 0.60	Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
NO FILL (BARE DECK)	36/9	0	3104	2731	2432	2154	<u>1924</u>	---	---	---	---	---	---	---	---	---	0.324		
		1	3537	3137	2810	<u>2540</u>	<u>2301</u>	<u>2078</u>	1893	---	---	---	---	---	---	---	0.222		
		2	3923	3508	3161	2870	2624	2415	2207	2026	1870	1736	1618	1519	1434	1359	1291	0.169	
		3	4264	<u>3844</u>	<u>3486</u>	<u>3180</u>	<u>2918</u>	<u>2693</u>	<u>2497</u>	<u>2315</u>	<u>2140</u>	<u>1987</u>	<u>1854</u>	<u>1740</u>	<u>1644</u>	<u>1557</u>	<u>1479</u>	0.136	
		4	4565	4147	3783	3468	3195	2957	2749	2566	2405	2238	2089	1962	1853	1755	1668	0.114	
		5	4828	4419	4056	3736	3454	3207	2989	2796	2625	2472	2325	2184	2062	1954	1856	0.098	
		6	5060	4663	4304	3983	3697	3443	3217	3016	2836	2675	2530	2398	2272	2152	2045	0.086	
		7	<u>5262</u>	<u>4881</u>	<u>4529</u>	<u>4210</u>	<u>3923</u>	<u>3665</u>	<u>3434</u>	<u>3226</u>	<u>3039</u>	<u>2871</u>	<u>2718</u>	<u>2580</u>	<u>2454</u>	<u>2340</u>	<u>2233</u>	0.077	
		8	5439	5075	4734	4420	4133	3873	3638	3426	3233	3059	2901	2756	2625	2504	2394	0.069	
		9	5595	5248	4919	4611	4328	4068	3831	3615	3419	3240	3076	2927	2790	2664	2549	0.063	
		K2 =	870		K4 _B =	3.55		K4 _F =	3.41		D _B	92		D _F	173				
	36/7	0	1986	1727	1502	1327	1187	---	---	---	---	---	---	---	---	---	0.486		
		1	2490	2183	1940	1743	1564	1415	1291	---	---	---	---	---	---	---	0.287		
		2	2939	2601	2326	2100	1912	1753	1605	1476	1365	1269	1185	1113	1052	996	946	0.204	
		3	3333	2978	2682	2435	2225	2047	1894	1761	1634	1520	1421	1335	1261	1195	1135	0.158	
		4	3675	3315	3007	2744	2519	2325	2157	2010	1880	1766	1656	1557	1470	1393	1323	0.129	
		5	3970	3613	3301	3029	2793	2587	2407	2248	2107	1982	1870	1770	1679	1591	1512	0.109	
		6	4222	<u>3876</u>	<u>3565</u>	<u>3290</u>	<u>3047</u>	<u>2833</u>	<u>2643</u>	<u>2474</u>	<u>2324</u>	<u>2190</u>	<u>2070</u>	<u>1961</u>	<u>1862</u>	<u>1773</u>	<u>1691</u>	0.094	
		7	4439	4106	3802	3528	3282	3062	2865	2689	2532	2390	2262	2146	2040	1944	1856	0.083	
		8	4625	4309	4014	3743	3497	3275	3074	2893	2729	2581	2446	2324	2212	2110	2017	0.074	
		9	4784	4486	4202	3938	3694	3472	3269	3084	2916	2763	2623	2495	2378	2271	2172	0.067	
		K2 =	870		K4 _B =	3.55		K4 _F =	3.41		D _B	92		D _F	173				
	36/5	0	1758	1546	1376	1227	1097	---	---	---	---	---	---	---	---	---	0.583		
		1	2176	1941	1746	1583	1446	1329	1216	---	---	---	---	---	---	---	---	0.319	
		2	2515	2275	2069	1891	1738	1606	1491	1390	1301	1209	1129	1060	1002	949	901	0.219	
		3	2786	2553	2346	2162	2001	1859	1733	1622	1523	1435	1355	1282	1211	1147	1090	0.167	
		4	3000	2782	2581	2398	2234	2087	1955	1836	1730	1634	1547	1468	1397	1331	1271	0.135	
		5	3171	2970	2779	2602	2439	2291	2156	2033	1921	1820	1727	1643	1565	1494	1429	0.113	
		6	3307	3124	2946	2777	2619	2472	2337	2212	2097	1992	1896	1807	1725	1650	1580	0.098	
		7	3416	3250	3086	2927	2775	2632	2499	2374	2259	2152	2052	1961	1876	1797	1723	0.086	
		8	3504	3355	3204	3055	2911	2774	2644	2521	2406	2298	2198	2104	2017	1935	1859	0.076	
		9	3576	3441	3303	3165	3030	2899	2773	2653	2539	2433	2332	2237	2149	2066	1988	0.069	
		K2 =	870		K4 _B =	3.55		K4 _F =	3.41		D _B	590		D _F	601				
	36/4	0	1346	1185	1052	927	827	---	---	---	---	---	---	---	---	---	0.728		
		1	1744	1565	1414	1286	1178	1085	991	---	---	---	---	---	---	---	---	0.358	
		2	2042	1866	1710	1573	1453	1348	1255	1174	1101	1029	960	902	851	807	766	0.237	
		3	2262	2099	1948	1812	1689	1578	1479	1390	1309	1237	1171	1112	1058	1005	955	0.177	
		4	2423	2278	2139	2008	1887	1776	1675	1582	1497	1419	1349	1284	1224	1170	1119	0.142	
		5	2543	2415	2289	2168	2053	1945	1844	1751	1664	1584	1510	1442	1379	1320	1266	0.118	
		6	2633	2522	2409	2298	2191	2088	1991	1899	1813	1732	1657	1586	1521	1460	1402	0.101	
		7	2702	2605	2505	2405	2306	2209	2116	2028	1943	1863	1788	1717	1651	1588	1529	0.088	
		8	2755	2671	2582	2492	2401	2311	2224	2139	2058	1980	1906	1836	1769	1706	1646	0.078	
		9	2797	2723	2645	2563	2480	2398	2316	2236	2158	2083	2011	1942	1876	1813	1753	0.071	
		K2 =	870		K4 _B =	3.55		K4 _F =	3.41		D _B	839		D _F	816				
	36/3	0	1124	1005	906	823	737	---	---	---	---	---	---	---	---	---	0.971		
		1	1416	1301	1197	1106	1024	953	889	---	---	---	---	---	---	---	---	0.408	
		2	1600	1501	1407	1319	1238	1164	1096	1035	978	927	880	838	799	759	721	0.258	
		3	1717	1636	1555	1477	1402	1331	1264	1202	1144	1091	1041	995	952	912	875	0.189	
		4	1794	1728	1660	1592	1526	1461	1398	1339	1282	1229	1178	1131	1087	1045	1006	0.149	
		5	1847	1793	1736	1678	1619	1561	1504	1449	1396	1344	1295	1248	1204	1162	1122	0.123	
		6	1884	1840	1792	1742	1691	1640	1589	1538	1489	1440	1394	1349	1305	1264	1224	0.105	
		7	1911	1874	1834	1791	1747	1702	1656	1610	1565	1520	1476	1434	1392	1352	1313	0.091	
		8	1931	1900	1866	1829	1791	1751	1710	1669	1628	1586	1546	1506	1466	1428	1391	0.081	
		9	1946	1920	1890	1859	1825	1790	1754	1717	1679	1642	1604	1567	1530	1494	1458	0.072	
		K2 =	870		K4 _B =	3.55		K4 _F =	3.41		D _B	1735		D _F	1601				

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.179	6545	4808	3681	2909	2356	1947	1636	1394	1202	1047	920	815	727	653	589
	F	0.128	5140	3776	2891	2284	1850	1529	1285	1095	944	822	723	640	571	513	463

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

ϕ (EQ): 0.55 Ω (EQ): 3.00
 ϕ (WIND): 0.70 Ω (WIND): 2.35
 ϕ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
NO FILL (BARE DECK)	36/9	0	3734	3285	2926	2608	2331	---	---	---	---	---	---	---	---	---	0.357		
		1	4254	3772	3379	3054	<u>2783</u>	<u>2515</u>	<u>2292</u>	---	---	---	---	---	---	---	0.244		
		2	4717	4218	3801	3451	3156	<u>2903</u>	<u>2669</u>	<u>2452</u>	<u>2265</u>	<u>2103</u>	<u>1962</u>	<u>1837</u>	<u>1726</u>	<u>1634</u>	<u>1552</u>	0.186	
		3	5127	4622	4191	<u>3823</u>	<u>3508</u>	<u>3237</u>	<u>3002</u>	<u>2797</u>	<u>2588</u>	<u>2405</u>	<u>2245</u>	<u>2103</u>	<u>1977</u>	<u>1872</u>	<u>1778</u>	0.150	
		4	5489	4986	4549	4170	3841	3555	3305	3085	2891	2707	2527	2369	2229	2110	2004	0.126	
		5	5806	<u>5313</u>	<u>4876</u>	<u>4491</u>	<u>4153</u>	<u>3855</u>	<u>3593</u>	<u>3361</u>	<u>3155</u>	<u>2971</u>	<u>2806</u>	<u>2635</u>	<u>2480</u>	<u>2348</u>	<u>2231</u>	0.108	
		6	6084	5606	5174	4788	4444	4139	3867	3625	3409	3215	3040	2882	2731	2586	2457	0.095	
		7	6327	<u>5868</u>	<u>5445</u>	<u>5061</u>	<u>4716</u>	<u>4405</u>	<u>4127</u>	<u>3877</u>	<u>3653</u>	<u>3450</u>	<u>3267</u>	<u>3101</u>	<u>2950</u>	<u>2812</u>	<u>2683</u>	0.085	
		8	6540	6102	5691	5313	4968	4656	4373	4117	3886	3676	3486	3313	3155	3010	2877	0.076	
		9	6727	<u>6310</u>	<u>5914</u>	<u>5544</u>	<u>5202</u>	<u>4890</u>	<u>4605</u>	<u>4345</u>	<u>4109</u>	<u>3894</u>	<u>3697</u>	<u>3518</u>	<u>3353</u>	<u>3202</u>	<u>3063</u>	0.069	
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B 69		D _F 130									
NO FILL (BARE DECK)	36/7	0	2389	2077	1815	1605	1436	---	---	---	---	---	---	---	---	0.535			
		1	2984	2625	2333	2096	1889	1710	1560	---	---	---	---	---	---	---	0.317		
		2	3534	3127	2797	2525	2299	<u>2108</u>	<u>1937</u>	<u>1782</u>	<u>1649</u>	<u>1534</u>	<u>1433</u>	<u>1344</u>	<u>1265</u>	<u>1198</u>	<u>1138</u>	0.225	
		3	4007	3580	3224	2926	<u>2675</u>	<u>2460</u>	<u>2276</u>	<u>2116</u>	<u>1972</u>	<u>1836</u>	<u>1716</u>	<u>1610</u>	<u>1516</u>	<u>1436</u>	<u>1364</u>	0.174	
		4	4418	3985	3615	<u>3299</u>	<u>3028</u>	<u>2795</u>	<u>2592</u>	<u>2415</u>	<u>2260</u>	<u>2122</u>	<u>1999</u>	<u>1876</u>	<u>1768</u>	<u>1674</u>	<u>1590</u>	0.142	
		5	4772	4343	<u>3968</u>	<u>3641</u>	<u>3357</u>	<u>3109</u>	<u>2892</u>	<u>2701</u>	<u>2532</u>	<u>2382</u>	<u>2248</u>	<u>2127</u>	<u>2018</u>	<u>1912</u>	<u>1816</u>	0.120	
		6	5076	4659	<u>4286</u>	<u>3955</u>	<u>3662</u>	<u>3404</u>	<u>3176</u>	<u>2974</u>	<u>2793</u>	<u>2632</u>	<u>2487</u>	<u>2356</u>	<u>2238</u>	<u>2130</u>	<u>2032</u>	0.104	
		7	5337	4936	<u>4570</u>	<u>4240</u>	<u>3944</u>	<u>3680</u>	<u>3443</u>	<u>3232</u>	<u>3042</u>	<u>2872</u>	<u>2718</u>	<u>2578</u>	<u>2452</u>	<u>2336</u>	<u>2230</u>	0.092	
		8	5560	5180	4825	4499	4203	3935	3694	3476	3279	3101	2939	2792	2658	2536	2423	0.082	
		9	5752	<u>5393</u>	<u>5051</u>	<u>4733</u>	<u>4440</u>	<u>4172</u>	<u>3928</u>	<u>3706</u>	<u>3504</u>	<u>3320</u>	<u>3152</u>	<u>2998</u>	<u>2858</u>	<u>2729</u>	<u>2610</u>	0.074	
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B 69		D _F 130									
NO FILL (BARE DECK)	36/5	0	2115	1860	1656	1484	1328	---	---	---	---	---	---	---	---	0.642			
		1	2617	2334	2099	1903	1738	1598	1470	---	---	---	---	---	---	---	0.351		
		2	3024	2735	2487	2274	2090	1931	1793	<u>1672</u>	<u>1565</u>	<u>1462</u>	<u>1365</u>	<u>1280</u>	<u>1205</u>	<u>1141</u>	<u>1083</u>	0.242	
		3	3349	3069	2820	2600	2406	<u>2235</u>	<u>2084</u>	<u>1950</u>	<u>1831</u>	<u>1725</u>	<u>1629</u>	<u>1543</u>	<u>1456</u>	<u>1379</u>	<u>1310</u>	0.184	
		4	3608	3345	3103	2883	<u>2686</u>	<u>2509</u>	<u>2350</u>	<u>2207</u>	<u>2079</u>	<u>1964</u>	<u>1859</u>	<u>1765</u>	<u>1679</u>	<u>1600</u>	<u>1528</u>	0.149	
		5	3813	3570	3341	<u>3128</u>	<u>2932</u>	<u>2754</u>	<u>2591</u>	<u>2443</u>	<u>2309</u>	<u>2187</u>	<u>2076</u>	<u>1974</u>	<u>1881</u>	<u>1796</u>	<u>1718</u>	0.125	
		6	3976	3756	3542	<u>3338</u>	<u>3148</u>	<u>2971</u>	<u>2808</u>	<u>2658</u>	<u>2521</u>	<u>2394</u>	<u>2278</u>	<u>2171</u>	<u>2073</u>	<u>1982</u>	<u>1899</u>	0.108	
		7	4107	3908	3710	<u>3519</u>	<u>3336</u>	<u>3164</u>	<u>3003</u>	<u>2854</u>	<u>2715</u>	<u>2586</u>	<u>2467</u>	<u>2356</u>	<u>2254</u>	<u>2159</u>	<u>2071</u>	0.094	
		8	4214	4034	3852	<u>3673</u>	<u>3500</u>	<u>3334</u>	<u>3178</u>	<u>3030</u>	<u>2891</u>	<u>2762</u>	<u>2641</u>	<u>2529</u>	<u>2424</u>	<u>2326</u>	<u>2234</u>	0.084	
		9	4301	4138	<u>3972</u>	<u>3806</u>	<u>3642</u>	<u>3484</u>	<u>3333</u>	<u>3189</u>	<u>3052</u>	<u>2924</u>	<u>2803</u>	<u>2689</u>	<u>2582</u>	<u>2482</u>	<u>2389</u>	0.076	
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B 442		D _F 450									
NO FILL (BARE DECK)	36/4	0	1619	1425	1270	1123	1003	---	---	---	---	---	---	---	---	0.802			
		1	2097	1881	1700	1546	1416	1304	1199	---	---	---	---	---	---	---	0.394		
		2	2455	2243	2055	1891	1747	1620	1509	1411	1324	1245	1162	1089	1024	969	921	0.261	
		3	2719	2523	2342	2178	2030	1897	<u>1777</u>	<u>1670</u>	<u>1574</u>	<u>1487</u>	<u>1408</u>	<u>1336</u>	<u>1271</u>	<u>1208</u>	<u>1147</u>	0.195	
		4	2913	2739	2571	2414	2269	<u>2135</u>	<u>2013</u>	<u>1901</u>	<u>1799</u>	<u>1706</u>	<u>1621</u>	<u>1543</u>	<u>1471</u>	<u>1406</u>	<u>1345</u>	0.156	
		5	3058	2904	2753	2607	2468	<u>2338</u>	<u>2217</u>	<u>2104</u>	<u>2000</u>	<u>1904</u>	<u>1815</u>	<u>1733</u>	<u>1657</u>	<u>1586</u>	<u>1521</u>	0.130	
		6	3166	3032	2897	2763	<u>2634</u>	<u>2510</u>	<u>2393</u>	<u>2282</u>	<u>2179</u>	<u>2082</u>	<u>1991</u>	<u>1906</u>	<u>1828</u>	<u>1754</u>	<u>1685</u>	0.111	
		7	3249	3132	3012	2891	<u>2772</u>	<u>2656</u>	<u>2544</u>	<u>2437</u>	<u>2336</u>	<u>2240</u>	<u>2149</u>	<u>2064</u>	<u>1984</u>	<u>1908</u>	<u>1837</u>	0.097	
		8	3314	3212	3105	2996	<u>2887</u>	<u>2779</u>	<u>2673</u>	<u>2572</u>	<u>2474</u>	<u>2380</u>	<u>2291</u>	<u>2206</u>	<u>2126</u>	<u>2050</u>	<u>1978</u>	0.086	
		9	3364	3275	3180	<u>3082</u>	<u>2982</u>	<u>2883</u>	<u>2784</u>	<u>2688</u>	<u>2595</u>	<u>2504</u>	<u>2417</u>	<u>2334</u>	<u>2255</u>	<u>2179</u>	<u>2107</u>	0.078	
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B 628		D _F 610									
NO FILL (BARE DECK)	36/3	0	1352	1209	1090	990	894	---	---	---	---	---	---	---	---	1.070			
		1	1703	1564	1440	1329	1232	1145	1069	---	---	---	---	---	---	---	0.450		
		2	1924	1805	1692	1586	1489	1399	1318	1244	1176	<u>1115</u>	<u>1058</u>	<u>1007</u>	<u>960</u>	<u>912</u>	<u>867</u>	0.285	
		3	2065	1967	1870	1776	1685	1600	1520	1445	<u>1375</u>	<u>1311</u>	<u>1251</u>	<u>1196</u>	<u>1144</u>	<u>1096</u>	<u>1052</u>	0.208	
		4	2158	2078	1997	1915	1834	1756	1681	1609	<u>1541</u>	<u>1477</u>	<u>1416</u>	<u>1360</u>	<u>1306</u>	<u>1256</u>	<u>1209</u>	0.164	
		5	2221	2156	2088	2018	1947	1877	1809	1742	<u>1678</u>	<u>1616</u>	<u>1557</u>	<u>1501</u>	<u>1447</u>	<u>1396</u>	<u>1348</u>	0.135	
		6	2266	2212	2155	2095	2034	1972	1910	1849	<u>1789</u>	<u>1731</u>	<u>1675</u>	<u>1621</u>	<u>1569</u>	<u>1519</u>	<u>1471</u>	0.115	
		7	2298	2254	2205	2154	2101	2046	<u>1991</u>	<u>1936</u>	<u>1881</u>	<u>1827</u>	<u>1775</u>	<u>1723</u>	<u>1673</u>	<u>1625</u>	<u>1578</u>	0.100	
		8	2323	2285	2244	2200	2153	2105	<u>2056</u>	<u>2007</u>	<u>1957</u>	<u>1907</u>	<u>1858</u>	<u>1810</u>	<u>1763</u>	<u>1717</u>	<u>1672</u>	0.089	
		9	2341	2309	2274	2235	2195	2153	<u>2109</u>	<u>2064</u>	<u>2019</u>	<u>1974</u>	<u>1929</u>	<u>1884</u>	<u>1840</u>	<u>1796</u>	<u>1753</u>	0.080	
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B 1298		D _F 1198									

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

ϕ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.219	8803	6467	4952	3912	3169	2619	2201	1875	1617	1408	1238	1097	978	878	792
	F	0.156	6893	5065	3878	3064	2482	2051	1723	1468	1266	1103	969	859	766	687	620

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ") Φ (EQ): 0.55 Ω (EQ): 3.00
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent Φ (WIND): 0.70 Ω (WIND): 2.35
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
NO FILL (BARE DECK)	36/9	0	4864	4279	3811	3424	3063	---	---	---	---	---	---	---	---	---	0.410		
		1	5538	4911	4399	3977	3623	<u>3302</u>	<u>3012</u>	---	---	---	---	---	---	---	0.281		
		2	6140	5490	4947	4492	4107	<u>3779</u>	<u>3496</u>	<u>3218</u>	<u>2975</u>	<u>2764</u>	<u>2580</u>	<u>2418</u>	<u>2273</u>	<u>2144</u>	<u>2028</u>	0.214	
		3	6673	6015	5453	4975	4565	<u>4212</u>	<u>3906</u>	<u>3639</u>	<u>3394</u>	<u>3156</u>	<u>2947</u>	<u>2763</u>	<u>2600</u>	<u>2453</u>	<u>2321</u>	0.172	
		4	7143	6488	5919	5425	4997	<u>4625</u>	<u>4299</u>	<u>4013</u>	<u>3760</u>	<u>3536</u>	<u>3314</u>	<u>3109</u>	<u>2926</u>	<u>2762</u>	<u>2615</u>	0.144	
		5	7555	6914	<u>6344</u>	<u>5843</u>	<u>5402</u>	<u>5015</u>	<u>4674</u>	<u>4372</u>	<u>4103</u>	<u>3864</u>	<u>3649</u>	<u>3454</u>	<u>3252</u>	<u>3071</u>	<u>2909</u>	0.124	
		6	7917	7295	<u>6732</u>	<u>6229</u>	<u>5781</u>	<u>5383</u>	<u>5030</u>	<u>4715</u>	<u>4434</u>	<u>4181</u>	<u>3954</u>	<u>3748</u>	<u>3562</u>	<u>3380</u>	<u>3202</u>	0.109	
		7	8234	7635	<u>7084</u>	<u>6584</u>	<u>6134</u>	<u>5730</u>	<u>5368</u>	<u>5043</u>	<u>4750</u>	<u>4487</u>	<u>4248</u>	<u>4032</u>	<u>3836</u>	<u>3656</u>	<u>3492</u>	0.097	
		8	8511	7940	<u>7404</u>	<u>6911</u>	<u>6462</u>	<u>6055</u>	<u>5687</u>	<u>5354</u>	<u>5053</u>	<u>4781</u>	<u>4533</u>	<u>4307</u>	<u>4101</u>	<u>3913</u>	<u>3740</u>	0.088	
		9	8755	<u>8211</u>	<u>7694</u>	<u>7212</u>	<u>6767</u>	<u>6360</u>	<u>5988</u>	<u>5650</u>	<u>5343</u>	<u>5063</u>	<u>4807</u>	<u>4573</u>	<u>4359</u>	<u>4163</u>	<u>3982</u>	0.080	
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85								
NO FILL (BARE DECK)	36/7	0	3112	2706	2378	2104	1884	---	---	---	---	---	---	---	---	0.615			
		1	3897	3417	3036	2728	2472	2239	2044	---	---	---	---	---	---	---	0.364		
		2	4598	4069	3639	3285	2991	2742	2531	<u>2332</u>	<u>2159</u>	<u>2009</u>	<u>1878</u>	<u>1762</u>	<u>1659</u>	<u>1567</u>	<u>1484</u>	0.259	
		3	5213	4657	4194	3807	3479	<u>3200</u>	<u>2960</u>	<u>2752</u>	<u>2570</u>	<u>2400</u>	<u>2245</u>	<u>2107</u>	<u>1985</u>	<u>1876</u>	<u>1778</u>	0.200	
		4	5747	5183	4701	4290	<u>3938</u>	<u>3634</u>	<u>3371</u>	<u>3141</u>	<u>2938</u>	<u>2759</u>	<u>2600</u>	<u>2453</u>	<u>2311</u>	<u>2185</u>	<u>2071</u>	0.164	
		5	6208	5649	5161	<u>4735</u>	<u>4366</u>	<u>4043</u>	<u>3761</u>	<u>3512</u>	<u>3292</u>	<u>3097</u>	<u>2922</u>	<u>2765</u>	<u>2623</u>	<u>2494</u>	<u>2365</u>	0.138	
		6	6604	6060	5574	<u>5143</u>	<u>4762</u>	<u>4426</u>	<u>4129</u>	<u>3866</u>	<u>3631</u>	<u>3421</u>	<u>3233</u>	<u>3063</u>	<u>2909</u>	<u>2769</u>	<u>2642</u>	0.120	
		7	6944	6422	<u>5944</u>	<u>5514</u>	<u>5129</u>	<u>4784</u>	<u>4477</u>	<u>4202</u>	<u>3955</u>	<u>3733</u>	<u>3533</u>	<u>3351</u>	<u>3186</u>	<u>3036</u>	<u>2899</u>	0.106	
		8	7235	6738	<u>6275</u>	<u>5851</u>	<u>5466</u>	<u>5117</u>	<u>4803</u>	<u>4519</u>	<u>4263</u>	<u>4031</u>	<u>3821</u>	<u>3629</u>	<u>3455</u>	<u>3295</u>	<u>3149</u>	0.094	
		9	7485	7016	<u>6571</u>	<u>6156</u>	<u>5774</u>	<u>5425</u>	<u>5107</u>	<u>4818</u>	<u>4555</u>	<u>4315</u>	<u>4097</u>	<u>3897</u>	<u>3714</u>	<u>3547</u>	<u>3392</u>	0.085	
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85								
NO FILL (BARE DECK)	36/5	0	2755	2422	2157	1941	1743	---	---	---	---	---	---	---	---	0.739			
		1	3406	3038	2732	2477	2263	2080	1923	---	---	---	---	---	---	---	0.404		
		2	3936	3560	3236	2958	2719	2512	2332	2175	2036	1913	1789	1679	1580	1492	1413	0.278	
		3	4359	3994	3669	3382	3129	2907	<u>2710</u>	<u>2536</u>	<u>2381</u>	<u>2243</u>	<u>2119</u>	<u>2007</u>	<u>1906</u>	<u>1802</u>	<u>1707</u>	0.212	
		4	4695	4352	4037	3751	3493	<u>3263</u>	<u>3056</u>	<u>2870</u>	<u>2704</u>	<u>2554</u>	<u>2418</u>	<u>2295</u>	<u>2183</u>	<u>2080</u>	<u>1987</u>	0.171	
		5	4962	4646	4347	4069	<u>3814</u>	<u>3581</u>	<u>3370</u>	<u>3177</u>	<u>3003</u>	<u>2844</u>	<u>2699</u>	<u>2567</u>	<u>2446</u>	<u>2335</u>	<u>2233</u>	0.144	
		6	5175	4887	4608	4343	<u>4095</u>	<u>3865</u>	<u>3652</u>	<u>3457</u>	<u>3278</u>	<u>3113</u>	<u>2962</u>	<u>2823</u>	<u>2695</u>	<u>2577</u>	<u>2468</u>	0.124	
		7	5346	5086	4828	4578	<u>4340</u>	<u>4116</u>	<u>3906</u>	<u>3711</u>	<u>3530</u>	<u>3362</u>	<u>3207</u>	<u>3063</u>	<u>2930</u>	<u>2807</u>	<u>2692</u>	0.109	
		8	5485	5250	5013	<u>4779</u>	<u>4553</u>	<u>4337</u>	<u>4133</u>	<u>3940</u>	<u>3760</u>	<u>3591</u>	<u>3434</u>	<u>3288</u>	<u>3151</u>	<u>3023</u>	<u>2905</u>	0.097	
		9	5599	5386	5169	<u>4952</u>	<u>4739</u>	<u>4533</u>	<u>4335</u>	<u>4147</u>	<u>3969</u>	<u>3802</u>	<u>3644</u>	<u>3496</u>	<u>3357</u>	<u>3227</u>	<u>3105</u>	0.087	
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	290	D_F	295								
NO FILL (BARE DECK)	36/4	0	2109	1856	1654	1477	1320	---	---	---	---	---	---	---	---	0.923			
		1	2729	2449	2212	2012	1843	1697	1572	---	---	---	---	---	---	---	0.454		
		2	3195	2919	2674	2460	2272	2108	1963	1835	1722	1621	1525	1430	1345	1270	1202	0.301	
		3	3539	3283	3048	2834	2641	2467	2312	2172	2046	1933	1831	1738	1653	1576	1495	0.225	
		4	3792	3564	3345	3141	2951	2777	2618	<u>2472</u>	<u>2339</u>	<u>2218</u>	<u>2107</u>	<u>2006</u>	<u>1913</u>	<u>1828</u>	<u>1749</u>	0.180	
		5	3980	3779	3582	3391	3211	3041	2883	<u>2737</u>	<u>2601</u>	<u>2476</u>	<u>2360</u>	<u>2253</u>	<u>2154</u>	<u>2062</u>	<u>1977</u>	0.150	
		6	4121	3946	3770	3595	3427	<u>3265</u>	<u>3112</u>	<u>2968</u>	<u>2833</u>	<u>2707</u>	<u>2589</u>	<u>2479</u>	<u>2376</u>	<u>2280</u>	<u>2191</u>	0.128	
		7	4230	4077	3920	3762	3606	<u>3455</u>	<u>3309</u>	<u>3170</u>	<u>3038</u>	<u>2913</u>	<u>2795</u>	<u>2683</u>	<u>2579</u>	<u>2481</u>	<u>2389</u>	0.112	
		8	4314	4180	4041	3899	3756	<u>3615</u>	<u>3478</u>	<u>3345</u>	<u>3217</u>	<u>3095</u>	<u>2979</u>	<u>2869</u>	<u>2764</u>	<u>2665</u>	<u>2571</u>	0.099	
		9	4380	4263	4139	4011	3881	<u>3751</u>	<u>3623</u>	<u>3497</u>	<u>3375</u>	<u>3257</u>	<u>3144</u>	<u>3035</u>	<u>2932</u>	<u>2833</u>	<u>2739</u>	0.090	
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	412	D_F	400								
NO FILL (BARE DECK)	36/3	0	1761	1575	1420	1289	1179	---	---	---	---	---	---	---	---	1.231			
		1	2216	2036	1874	1730	1603	1491	1391	---	---	---	---	---	---	---	0.517		
		2	2504	2349	2202	2064	1937	1821	1715	1618	1530	1450	1377	1310	1249	1192	1131	0.327	
		3	2688	2561	2434	2310	2193	2081	1977	1880	1789	1705	1627	1555	1488	1426	1368	0.239	
		4	2809	2705	2599	2492	2387	2285	2187	2093	2005	1921	1842	1768	1699	1633	1572	0.189	
		5	2892	2807	2718	2626	2534	2443	2353	2266	2182	2102	2025	1952	1882	1816	1753	0.156	
		6	2950	2880	2805	2727	2647	2566	2485	2406	2328	2252	2179	2108	2040	1975	1913	0.133	
		7	2993	2934	2871	2804	2734	2663	2591	2519	2448	2377	2309	2242	2176	2113	2053	0.115	
		8	3025	2975	2921	2864	2803	2740	2676	2611	2546	2482	2418	2355	2293	2233	2174	0.102	
		9	3049	3007	2960	2910	2857	2802	2745	2687	2628	2569	2510	2451	2393	2336	2280	0.092	
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	852	D_F	786								

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.292	13482	9905	7583	5992	4853	4011	3370	2872	2476	2157	1896	1679	1498	1344	1213
	F	0.207	10519	7728	5917	4675	3787	3130	2630	2241	1932	1683	1479	1310	1169	1049	947

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE: 1.5 B,F
 DECK GAGE: 22 (t = 0.0295 ")
 SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
 SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
NO FILL (BARE DECK)	36/9	0	2565	2257	2010	1780	1590	---	---	---	---	---	---	---	---	---	0.324		
		1	2993	2659	2385	2158	<u>1967</u>	<u>1777</u>	<u>1619</u>	---	---	---	---	---	---	---	0.222		
		2	3365	3019	2728	<u>2482</u>	<u>2273</u>	<u>2094</u>	<u>1933</u>	<u>1775</u>	<u>1639</u>	<u>1522</u>	<u>1419</u>	<u>1332</u>	<u>1258</u>	<u>1192</u>	<u>1132</u>	0.169	
		3	3684	3338	<u>3038</u>	<u>2780</u>	<u>2558</u>	<u>2364</u>	<u>2196</u>	<u>2049</u>	<u>1908</u>	<u>1773</u>	<u>1655</u>	<u>1554</u>	<u>1467</u>	<u>1390</u>	<u>1321</u>	0.136	
		4	3958	3618	3318	<u>3053</u>	<u>2822</u>	<u>2618</u>	<u>2439</u>	<u>2281</u>	<u>2141</u>	<u>2015</u>	<u>1890</u>	<u>1775</u>	<u>1677</u>	<u>1589</u>	<u>1509</u>	0.114	
		5	4191	<u>3863</u>	<u>3567</u>	<u>3302</u>	<u>3065</u>	<u>2855</u>	<u>2668</u>	<u>2502</u>	<u>2353</u>	<u>2219</u>	<u>2099</u>	<u>1990</u>	<u>1886</u>	<u>1787</u>	<u>1698</u>	0.098	
		6	4389	4077	3789	3526	<u>3289</u>	3075	2883	2710	2554	2414	2286	2171	2066	1969	1881	0.086	
		7	4558	<u>4264</u>	<u>3986</u>	<u>3729</u>	<u>3493</u>	<u>3278</u>	<u>3083</u>	<u>2906</u>	<u>2745</u>	<u>2599</u>	<u>2466</u>	<u>2345</u>	<u>2234</u>	<u>2132</u>	<u>2039</u>	0.077	
		8	4703	<u>4426</u>	<u>4161</u>	<u>3911</u>	<u>3679</u>	<u>3465</u>	<u>3269</u>	<u>3090</u>	<u>2926</u>	<u>2775</u>	<u>2638</u>	<u>2512</u>	<u>2396</u>	<u>2292</u>	<u>2192</u>	0.069	
		9	4826	<u>4568</u>	<u>4316</u>	<u>4075</u>	<u>3849</u>	<u>3638</u>	<u>3442</u>	<u>3262</u>	<u>3095</u>	<u>2942</u>	<u>2802</u>	<u>2672</u>	<u>2552</u>	<u>2442</u>	<u>2340</u>	0.063	
			K2 = 870	K4 _B = 3.55			K4 _F = 3.41			D _B 92			D _F 173						
NO FILL (BARE DECK)	36/7	0	1641	1427	1242	1097	981	---	---	---	---	---	---	---	---	0.486			
		1	2140	1880	1672	1504	1358	1229	1121	---	---	---	---	---	---	---	0.287		
		2	2571	2285	2049	1854	1691	<u>1553</u>	<u>1434</u>	<u>1320</u>	<u>1222</u>	<u>1136</u>	<u>1061</u>	<u>997</u>	<u>942</u>	<u>892</u>	<u>848</u>	0.204	
		3	2938	2640	2389	2176	1994	<u>1838</u>	<u>1703</u>	<u>1586</u>	<u>1483</u>	<u>1387</u>	<u>1297</u>	<u>1219</u>	<u>1151</u>	<u>1091</u>	<u>1036</u>	0.158	
		4	3244	2949	2691	<u>2467</u>	<u>2273</u>	<u>2104</u>	<u>1957</u>	<u>1827</u>	<u>1712</u>	<u>1610</u>	<u>1519</u>	<u>1437</u>	<u>1360</u>	<u>1289</u>	<u>1224</u>	0.129	
		5	3499	3213	<u>2957</u>	<u>2730</u>	<u>2529</u>	<u>2351</u>	<u>2194</u>	<u>2054</u>	<u>1930</u>	<u>1819</u>	<u>1719</u>	<u>1628</u>	<u>1547</u>	<u>1472</u>	<u>1405</u>	0.109	
		6	3711	3440	<u>3190</u>	<u>2964</u>	<u>2760</u>	<u>2577</u>	<u>2414</u>	<u>2267</u>	<u>2136</u>	<u>2017</u>	<u>1909</u>	<u>1812</u>	<u>1724</u>	<u>1643</u>	<u>1569</u>	0.094	
		7	3887	3632	<u>3393</u>	<u>3171</u>	<u>2969</u>	<u>2785</u>	<u>2617</u>	<u>2466</u>	<u>2329</u>	<u>2204</u>	<u>2091</u>	<u>1988</u>	<u>1894</u>	<u>1807</u>	<u>1728</u>	0.083	
		8	4033	<u>3796</u>	<u>3569</u>	<u>3355</u>	<u>3156</u>	<u>2973</u>	<u>2805</u>	<u>2651</u>	<u>2510</u>	<u>2381</u>	<u>2264</u>	<u>2155</u>	<u>2056</u>	<u>1965</u>	<u>1881</u>	0.074	
		9	4155	<u>3936</u>	<u>3722</u>	<u>3517</u>	<u>3324</u>	<u>3144</u>	<u>2976</u>	<u>2822</u>	<u>2679</u>	<u>2548</u>	<u>2426</u>	<u>2315</u>	<u>2212</u>	<u>2116</u>	<u>2028</u>	0.067	
			K2 = 870	K4 _B = 3.55			K4 _F = 3.41			D _B 92			D _F 173						
NO FILL (BARE DECK)	36/5	0	1453	1278	1138	1014	907	---	---	---	---	---	---	---	---	0.583			
		1	1862	1666	1502	1364	1248	1148	1059	---	---	---	---	---	---	---	0.319		
		2	2179	1982	1810	1661	1531	1418	<u>1319</u>	<u>1231</u>	<u>1154</u>	<u>1086</u>	<u>1015</u>	<u>953</u>	<u>900</u>	<u>853</u>	<u>810</u>	0.219	
		3	2419	2234	2065	1913	1778	<u>1657</u>	<u>1550</u>	<u>1454</u>	<u>1368</u>	<u>1291</u>	<u>1221</u>	<u>1158</u>	<u>1101</u>	<u>1049</u>	<u>999</u>	0.167	
		4	2600	2432	2273	2125	1990	<u>1868</u>	<u>1756</u>	<u>1655</u>	<u>1563</u>	<u>1480</u>	<u>1404</u>	<u>1335</u>	<u>1272</u>	<u>1214</u>	<u>1161</u>	0.135	
		5	2738	2587	2441	<u>2302</u>	<u>2171</u>	<u>2050</u>	<u>1938</u>	<u>1835</u>	<u>1740</u>	<u>1653</u>	<u>1573</u>	<u>1500</u>	<u>1432</u>	<u>1370</u>	<u>1312</u>	0.113	
		6	2844	2710	2577	<u>2448</u>	<u>2325</u>	<u>2207</u>	<u>2098</u>	<u>1995</u>	<u>1899</u>	<u>1811</u>	<u>1728</u>	<u>1652</u>	<u>1581</u>	<u>1515</u>	<u>1454</u>	0.098	
		7	2926	2808	2688	<u>2570</u>	<u>2454</u>	<u>2343</u>	<u>2237</u>	<u>2136</u>	<u>2042</u>	<u>1953</u>	<u>1870</u>	<u>1792</u>	<u>1719</u>	<u>1651</u>	<u>1587</u>	0.086	
		8	2990	2886	2779	<u>2671</u>	<u>2563</u>	<u>2459</u>	<u>2357</u>	<u>2260</u>	<u>2168</u>	<u>2081</u>	<u>1998</u>	<u>1920</u>	<u>1846</u>	<u>1777</u>	<u>1712</u>	0.076	
		9	3042	2950	2853	<u>2755</u>	<u>2656</u>	<u>2558</u>	<u>2462</u>	<u>2370</u>	<u>2280</u>	<u>2195</u>	<u>2114</u>	<u>2036</u>	<u>1962</u>	<u>1893</u>	<u>1827</u>	0.069	
			K2 = 870	K4 _B = 3.55			K4 _F = 3.41			D _B 590			D _F 601						
NO FILL (BARE DECK)	36/4	0	1112	979	869	766	683	---	---	---	---	---	---	---	---	0.728			
		1	1499	1351	1224	1116	1024	944	873	---	---	---	---	---	---	---	0.358		
		2	1771	1629	1501	1387	1287	1197	1118	1047	984	928	875	822	776	736	699	0.237	
		3	1958	1832	1714	1604	1502	1410	<u>1327</u>	<u>1251</u>	<u>1182</u>	<u>1119</u>	<u>1062</u>	<u>1010</u>	<u>962</u>	<u>918</u>	<u>878</u>	0.177	
		4	2088	1980	1874	1773	1677	<u>1587</u>	<u>1503</u>	<u>1426</u>	<u>1354</u>	<u>1289</u>	<u>1228</u>	<u>1172</u>	<u>1120</u>	<u>1072</u>	<u>1027</u>	0.142	
		5	2179	2088	1996	1904	1816	<u>1731</u>	<u>1651</u>	<u>1575</u>	<u>1504</u>	<u>1437</u>	<u>1375</u>	<u>1317</u>	<u>1262</u>	<u>1212</u>	<u>1164</u>	0.118	
		6	2246	2168	2088	2007	1927	<u>1849</u>	<u>1774</u>	<u>1701</u>	<u>1632</u>	<u>1566</u>	<u>1504</u>	<u>1446</u>	<u>1390</u>	<u>1338</u>	<u>1290</u>	0.101	
		7	2295	2229	2160	2088	<u>2017</u>	<u>1945</u>	<u>1875</u>	<u>1807</u>	<u>1741</u>	<u>1678</u>	<u>1617</u>	<u>1560</u>	<u>1505</u>	<u>1452</u>	<u>1403</u>	0.088	
		8	2332	2275	2215	2153	<u>2089</u>	<u>2024</u>	<u>1960</u>	<u>1896</u>	<u>1834</u>	<u>1774</u>	<u>1716</u>	<u>1660</u>	<u>1606</u>	<u>1554</u>	<u>1505</u>	0.078	
		9	2360	2312	2259	2204	<u>2147</u>	<u>2089</u>	<u>2030</u>	<u>1972</u>	<u>1914</u>	<u>1857</u>	<u>1801</u>	<u>1748</u>	<u>1695</u>	<u>1645</u>	<u>1597</u>	0.071	
			K2 = 870	K4 _B = 3.55			K4 _F = 3.41			D _B 839			D _F 816						
NO FILL (BARE DECK)	36/3	0	929	831	749	680	609	---	---	---	---	---	---	---	---	0.971			
		1	1208	1115	1031	955	888	827	774	---	---	---	---	---	---	---	0.408		
		2	1368	1293	1220	1150	1085	1024	968	917	869	<u>826</u>	<u>786</u>	<u>749</u>	<u>715</u>	<u>684</u>	<u>655</u>	0.258	
		3	1462	1403	1344	1284	1226	1171	1117	1067	<u>1020</u>	<u>976</u>	<u>934</u>	<u>895</u>	<u>859</u>	<u>825</u>	<u>793</u>	0.189	
		4	1521	1475	1426	1377	1327	1278	1231	1184	<u>1140</u>	<u>1097</u>	<u>1056</u>	<u>1017</u>	<u>981</u>	<u>946</u>	<u>913</u>	0.149	
		5	1558	1522	1483	1442	1400	1358	<u>1316</u>	<u>1275</u>	<u>1234</u>	<u>1194</u>	<u>1155</u>	<u>1118</u>	<u>1083</u>	<u>1048</u>	<u>1015</u>	0.123	
		6	1584	1555	1523	1489	1454	1418	<u>1381</u>	<u>1344</u>	<u>1308</u>	<u>1272</u>	<u>1236</u>	<u>1201</u>	<u>1167</u>	<u>1135</u>	<u>1103</u>	0.105	
		7	1602	1579	1552	1524	1494	1463	<u>1431</u>	<u>1399</u>	<u>1366</u>	<u>1334</u>	<u>1301</u>	<u>1269</u>	<u>1238</u>	<u>1207</u>	<u>1177</u>	0.091	
		8	1616	1596	1574	1550	1525	1498	<u>1470</u>	<u>1442</u>	<u>1413</u>	<u>1384</u>	<u>1354</u>	<u>1325</u>	<u>1296</u>	<u>1267</u>	<u>1239</u>	0.081	
		9	1626	1609	1590	1570	1548	1525	<u>1501</u>	<u>1476</u>	<u>1450</u>	<u>1424</u>	<u>1398</u>	<u>1371</u>	<u>1345</u>	<u>1318</u>	<u>1292</u>	0.072	
			K2 = 870	K4 _B = 3.55			K4 _F = 3.41			D _B 1735			D _F 1601						

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.179	6545	4808	3681	2909	2356	1947	1636	1394	1202	1047	920	815	727	653	589
	F	0.128	5140	3776	2891	2284	1850	1529	1285	1095	944	822	723	640	571	513	463

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
NO FILL (BARE DECK)	36/9	0	3080	2710	2414	2151	1923	---	---	---	---	---	---	---	---	---	0.357		
		1	3594	3193	2864	2591	2363	<u>2147</u>	<u>1957</u>	---	---	---	---	---	---	---	0.244		
		2	4040	3625	3275	2980	<u>2729</u>	<u>2514</u>	<u>2328</u>	<u>2144</u>	<u>1982</u>	<u>1841</u>	<u>1717</u>	<u>1609</u>	<u>1512</u>	<u>1431</u>	<u>1360</u>	0.186	
		3	4424	4008	3648	<u>3338</u>	<u>3071</u>	<u>2839</u>	<u>2637</u>	<u>2460</u>	<u>2304</u>	<u>2142</u>	<u>2000</u>	<u>1875</u>	<u>1763</u>	<u>1669</u>	<u>1586</u>	0.150	
		4	4752	4344	3983	<u>3666</u>	<u>3388</u>	<u>3144</u>	<u>2929</u>	<u>2739</u>	<u>2570</u>	<u>2420</u>	<u>2283</u>	<u>2141</u>	<u>2015</u>	<u>1907</u>	<u>1812</u>	0.126	
		5	5032	4639	<u>4283</u>	<u>3964</u>	<u>3680</u>	<u>3428</u>	<u>3204</u>	<u>3004</u>	<u>2825</u>	<u>2664</u>	<u>2520</u>	<u>2389</u>	<u>2266</u>	<u>2146</u>	<u>2038</u>	0.108	
		6	5270	4896	4550	4234	3949	3692	3461	3254	3067	2898	2745	2607	2480	2365	2259	0.095	
		7	5473	<u>5120</u>	<u>4786</u>	<u>4477</u>	<u>4194</u>	<u>3936</u>	<u>3702</u>	<u>3489</u>	<u>3296</u>	<u>3121</u>	<u>2961</u>	<u>2816</u>	<u>2683</u>	<u>2560</u>	<u>2448</u>	0.085	
		8	5646	<u>5315</u>	<u>4996</u>	<u>4697</u>	<u>4418</u>	<u>4161</u>	<u>3925</u>	<u>3710</u>	<u>3513</u>	<u>3332</u>	<u>3167</u>	<u>3016</u>	<u>2877</u>	<u>2750</u>	<u>2632</u>	0.076	
		9	5795	<u>5485</u>	<u>5183</u>	<u>4894</u>	<u>4622</u>	<u>4368</u>	<u>4133</u>	<u>3916</u>	<u>3717</u>	<u>3533</u>	<u>3364</u>	<u>3208</u>	<u>3065</u>	<u>2932</u>	<u>2809</u>	0.069	
		K2 =	1056	K4_B =	3.55	K4_F =	3.41	D_B	69	D_F	130								
	36/7	0	1971	1714	1498	1324	1185	---	---	---	---	---	---	---	---	0.535			
		1	2569	2257	2008	1806	1637	1482	1353	---	---	---	---	---	---	---	0.317		
		2	3087	2743	2461	2227	2030	1864	1722	1592	1474	1371	1281	1202	1131	1071	1018	0.225	
		3	3527	3170	2869	2613	2394	<u>2207</u>	<u>2045</u>	<u>1904</u>	<u>1780</u>	<u>1671</u>	<u>1564</u>	<u>1468</u>	<u>1383</u>	<u>1309</u>	<u>1244</u>	0.174	
		4	3896	3541	3231	2963	<u>2730</u>	<u>2527</u>	<u>2349</u>	<u>2193</u>	<u>2056</u>	<u>1933</u>	<u>1824</u>	<u>1725</u>	<u>1634</u>	<u>1548</u>	<u>1470</u>	0.142	
		5	4202	3858	3551	<u>3277</u>	<u>3036</u>	<u>2823</u>	<u>2634</u>	<u>2466</u>	<u>2317</u>	<u>2184</u>	<u>2063</u>	<u>1955</u>	<u>1857</u>	<u>1768</u>	<u>1687</u>	0.120	
		6	4456	4130	3830	<u>3558</u>	<u>3314</u>	<u>3095</u>	<u>2898</u>	<u>2722</u>	<u>2564</u>	<u>2422</u>	<u>2293</u>	<u>2176</u>	<u>2070</u>	<u>1973</u>	<u>1884</u>	0.104	
		7	4667	4361	<u>4074</u>	<u>3808</u>	<u>3565</u>	<u>3343</u>	<u>3143</u>	<u>2961</u>	<u>2796</u>	<u>2647</u>	<u>2511</u>	<u>2387</u>	<u>2274</u>	<u>2170</u>	<u>2074</u>	0.092	
		8	4842	4558	4285	<u>4029</u>	<u>3790</u>	<u>3570</u>	<u>3368</u>	<u>3183</u>	<u>3014</u>	<u>2859</u>	<u>2718</u>	<u>2588</u>	<u>2469</u>	<u>2359</u>	<u>2258</u>	0.082	
		9	4989	4726	<u>4469</u>	<u>4223</u>	<u>3992</u>	<u>3775</u>	<u>3574</u>	<u>3388</u>	<u>3217</u>	<u>3059</u>	<u>2913</u>	<u>2779</u>	<u>2655</u>	<u>2541</u>	<u>2435</u>	0.074	
		K2 =	1056	K4_B =	3.55	K4_F =	3.41	D_B	69	D_F	130								
	36/5	0	1745	1534	1366	1225	1095	---	---	---	---	---	---	---	---	0.642			
		1	2236	2001	1804	1638	1498	1379	1276	---	---	---	---	---	---	---	0.351		
		2	2616	2380	2174	1994	1838	1702	1583	<u>1478</u>	<u>1386</u>	<u>1303</u>	<u>1225</u>	<u>1149</u>	<u>1082</u>	<u>1024</u>	<u>973</u>	0.242	
		3	2904	2682	2479	2297	2135	1990	<u>1861</u>	<u>1746</u>	<u>1643</u>	<u>1550</u>	<u>1466</u>	<u>1391</u>	<u>1322</u>	<u>1259</u>	<u>1199</u>	0.184	
		4	3122	2920	2729	2552	2390	<u>2243</u>	<u>2109</u>	<u>1987</u>	<u>1877</u>	<u>1777</u>	<u>1686</u>	<u>1603</u>	<u>1527</u>	<u>1458</u>	<u>1394</u>	0.149	
		5	3287	3107	2931	2764	<u>2607</u>	<u>2462</u>	<u>2327</u>	<u>2203</u>	<u>2090</u>	<u>1985</u>	<u>1889</u>	<u>1801</u>	<u>1720</u>	<u>1645</u>	<u>1575</u>	0.125	
		6	3414	3254	3095	2940	2791	<u>2651</u>	<u>2519</u>	<u>2395</u>	<u>2281</u>	<u>2174</u>	<u>2075</u>	<u>1984</u>	<u>1899</u>	<u>1820</u>	<u>1746</u>	0.108	
		7	3513	3372	3228	<u>3085</u>	<u>2946</u>	<u>2813</u>	<u>2685</u>	<u>2565</u>	<u>2451</u>	<u>2345</u>	<u>2245</u>	<u>2151</u>	<u>2064</u>	<u>1982</u>	<u>1906</u>	0.094	
		8	3590	3466	3337	<u>3207</u>	<u>3078</u>	<u>2952</u>	<u>2831</u>	<u>2714</u>	<u>2603</u>	<u>2498</u>	<u>2399</u>	<u>2305</u>	<u>2217</u>	<u>2133</u>	<u>2055</u>	0.084	
		9	3652	3542	3426	<u>3308</u>	<u>3189</u>	<u>3072</u>	<u>2957</u>	<u>2845</u>	<u>2738</u>	<u>2636</u>	<u>2538</u>	<u>2445</u>	<u>2356</u>	<u>2273</u>	<u>2193</u>	0.076	
		K2 =	1056	K4_B =	3.55	K4_F =	3.41	D_B	442	D_F	450								
	36/4	0	1336	1176	1048	927	827	---	---	---	---	---	---	---	---	0.802			
		1	1800	1622	1470	1340	1229	1134	1051	---	---	---	---	---	---	---	0.394		
		2	2126	1956	1803	1666	1545	1437	1342	1258	1182	1114	1053	992	933	883	839	0.261	
		3	2351	2200	2058	1925	1804	1693	1593	<u>1502</u>	<u>1419</u>	<u>1344</u>	<u>1275</u>	<u>1212</u>	<u>1155</u>	<u>1103</u>	<u>1055</u>	0.195	
		4	2507	2377	2250	2128	2013	1905	<u>1805</u>	<u>1712</u>	<u>1626</u>	<u>1547</u>	<u>1474</u>	<u>1407</u>	<u>1345</u>	<u>1287</u>	<u>1234</u>	0.156	
		5	2617	2507	2396	2287	2181	<u>2079</u>	<u>1982</u>	<u>1891</u>	<u>1806</u>	<u>1726</u>	<u>1651</u>	<u>1581</u>	<u>1516</u>	<u>1455</u>	<u>1398</u>	0.130	
		6	2696	2603	2507	2410	2314	<u>2220</u>	<u>2130</u>	<u>2043</u>	<u>1960</u>	<u>1881</u>	<u>1806</u>	<u>1736</u>	<u>1670</u>	<u>1607</u>	<u>1548</u>	0.111	
		7	2755	2676	2593	2508	2421	<u>2336</u>	<u>2252</u>	<u>2170</u>	<u>2091</u>	<u>2015</u>	<u>1942</u>	<u>1873</u>	<u>1807</u>	<u>1744</u>	<u>1684</u>	0.097	
		8	2800	2732	2660	2585	2508	<u>2430</u>	<u>2353</u>	<u>2277</u>	<u>2203</u>	<u>2130</u>	<u>2060</u>	<u>1993</u>	<u>1928</u>	<u>1866</u>	<u>1807</u>	0.086	
		9	2834	2776	2713	2647	2578	<u>2508</u>	<u>2438</u>	<u>2367</u>	<u>2298</u>	<u>2230</u>	<u>2163</u>	<u>2098</u>	<u>2036</u>	<u>1975</u>	<u>1917</u>	0.078	
		K2 =	1056	K4_B =	3.55	K4_F =	3.41	D_B	628	D_F	610								
	36/3	0	1115	998	899	817	738	---	---	---	---	---	---	---	---	1.070			
		1	1451	1339	1238	1147	1066	993	929	---	---	---	---	---	---	---	0.450		
		2	1643	1552	1464	1381	1302	1230	1162	1100	1044	991	943	899	859	821	787	0.285	
		3	1756	1685	1613	1542	1472	1405	1342	1281	1225	1171	1121	1075	1031	990	952	0.208	
		4	1826	1771	1713	1653	1594	1535	1478	1422	1368	<u>1317</u>	<u>1268</u>	<u>1222</u>	<u>1177</u>	<u>1136</u>	<u>1096</u>	0.164	
		5	1871	1828	1781	1732	1682	1631	1580	<u>1530</u>	<u>1481</u>	<u>1434</u>	<u>1387</u>	<u>1343</u>	<u>1300</u>	<u>1259</u>	<u>1219</u>	0.135	
		6	1902	1867	1829	1788	1746	1703	1658	1614	<u>1570</u>	<u>1527</u>	<u>1484</u>	<u>1442</u>	<u>1402</u>	<u>1362</u>	<u>1324</u>	0.115	
		7	1924	1895	1864	1830	1794	1757	1719	<u>1680</u>	<u>1641</u>	<u>1601</u>	<u>1563</u>	<u>1524</u>	<u>1486</u>	<u>1449</u>	<u>1413</u>	0.100	
		8	1940	1916	1890	1861	1831	1799	1765	<u>1731</u>	<u>1697</u>	<u>1661</u>	<u>1626</u>	<u>1591</u>	<u>1556</u>	<u>1522</u>	<u>1488</u>	0.089	
		9	1952	1932	1910	1885	1859	1831	<u>1802</u>	<u>1772</u>	<u>1742</u>	<u>1710</u>	<u>1678</u>	<u>1647</u>	<u>1615</u>	<u>1583</u>	<u>1551</u>	0.080	
		K2 =	1056	K4_B =	3.55	K4_F =	3.41	D_B	1298	D_F	1198								

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.219	8803	6467	4952	3912	3169	2619	2201	1875	1617	1408	1238	1097	978	878	792
	F	0.156	6893	5065	3878	3064	2482	2051	1723	1468	1266	1103	969	859	766	687	620

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ") Φ (EQ): 0.55 Ω (EQ): 3.00
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent Φ (WIND): 0.70 Ω (WIND): 2.35
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
36/9	0	3998	3518	3133	2815	2518	---	---	---	---	---	---	---	---	---	0.410			
	1	4665	4144	3717	3363	3066	2810	2563	---	---	---	---	---	---	---	0.281			
	2	5244	4705	4251	3868	3542	<u>3263</u>	<u>3022</u>	<u>2806</u>	<u>2595</u>	<u>2412</u>	<u>2252</u>	<u>2110</u>	<u>1985</u>	<u>1873</u>	<u>1771</u>	0.214		
	3	5742	5202	4735	4333	<u>3986</u>	<u>3685</u>	<u>3423</u>	<u>3193</u>	<u>2990</u>	<u>2803</u>	<u>2619</u>	<u>2456</u>	<u>2311</u>	<u>2182</u>	<u>2065</u>	0.172		
	4	6168	5639	5170	4759	<u>4398</u>	<u>4081</u>	<u>3802</u>	<u>3555</u>	<u>3336</u>	<u>3141</u>	<u>2966</u>	<u>2801</u>	<u>2637</u>	<u>2491</u>	<u>2359</u>	0.144		
	5	6531	6021	5559	5145	<u>4777</u>	<u>4450</u>	<u>4158</u>	<u>3899</u>	<u>3667</u>	<u>3458</u>	<u>3271</u>	<u>3101</u>	<u>2947</u>	<u>2800</u>	<u>2652</u>	0.124		
	6	6840	6355	5905	5496	5125	4792	4493	4223	3981	3762	3563	3383	3219	3069	2932	0.109		
	7	7104	6645	<u>6212</u>	<u>5811</u>	<u>5444</u>	<u>5109</u>	<u>4805</u>	<u>4529</u>	<u>4278</u>	<u>4051</u>	<u>3844</u>	<u>3655</u>	<u>3482</u>	<u>3323</u>	<u>3178</u>	0.097		
	8	7329	6898	<u>6485</u>	<u>6096</u>	<u>5734</u>	<u>5401</u>	<u>5095</u>	<u>4815</u>	<u>4559</u>	<u>4325</u>	<u>4111</u>	<u>3915</u>	<u>3735</u>	<u>3569</u>	<u>3416</u>	0.088		
	9	7522	7119	<u>6727</u>	<u>6352</u>	<u>5999</u>	<u>5669</u>	<u>5365</u>	<u>5083</u>	<u>4824</u>	<u>4586</u>	<u>4366</u>	<u>4164</u>	<u>3978</u>	<u>3806</u>	<u>3646</u>	0.080		
		K2 =	1398	K4_B =		3.55	K4_F =		3.41	D_B		45	D_F		85				
36/7	0	2558	2224	1955	1730	1549	---	---	---	---	---	---	---	---	---	0.615			
	1	3335	2930	2606	2344	2128	1935	1768	---	---	---	---	---	---	---	0.364			
	2	4007	3561	3194	2890	2635	2420	2235	2076	1924	1791	1674	1571	1480	1398	1324	0.259		
	3	4578	4115	3723	3391	3108	2865	<u>2654</u>	<u>2471</u>	<u>2311</u>	<u>2169</u>	<u>2041</u>	<u>1917</u>	<u>1806</u>	<u>1707</u>	<u>1618</u>	0.200		
	4	5056	4596	4194	3845	3543	<u>3280</u>	<u>3049</u>	<u>2847</u>	<u>2668</u>	<u>2509</u>	<u>2367</u>	<u>2239</u>	<u>2124</u>	<u>2016</u>	<u>1912</u>	0.164		
	5	5454	5008	4609	4254	<u>3941</u>	<u>3664</u>	<u>3419</u>	<u>3201</u>	<u>3008</u>	<u>2834</u>	<u>2678</u>	<u>2538</u>	<u>2410</u>	<u>2295</u>	<u>2189</u>	0.138		
	6	5784	5360	4971	4619	<u>4301</u>	<u>4017</u>	<u>3762</u>	<u>3534</u>	<u>3328</u>	<u>3143</u>	<u>2976</u>	<u>2824</u>	<u>2686</u>	<u>2560</u>	<u>2445</u>	0.120		
	7	6057	5661	5287	<u>4942</u>	<u>4627</u>	<u>4340</u>	<u>4079</u>	<u>3843</u>	<u>3630</u>	<u>3436</u>	<u>3259</u>	<u>3098</u>	<u>2951</u>	<u>2816</u>	<u>2693</u>	0.106		
	8	6285	5916	5562	<u>5229</u>	<u>4919</u>	<u>4633</u>	<u>4371</u>	<u>4131</u>	<u>3912</u>	<u>3711</u>	<u>3528</u>	<u>3359</u>	<u>3205</u>	<u>3062</u>	<u>2931</u>	0.094		
	9	6475	6134	5801	<u>5482</u>	<u>5181</u>	<u>4900</u>	<u>4639</u>	<u>4398</u>	<u>4175</u>	<u>3970</u>	<u>3781</u>	<u>3607</u>	<u>3447</u>	<u>3298</u>	<u>3161</u>	0.085		
		K2 =	1398	K4_B =		3.55	K4_F =		3.41	D_B		45	D_F		85				
36/5	0	2265	1991	1773	1595	1433	---	---	---	---	---	---	---	---	---	0.739			
	1	2903	2597	2341	2126	1945	1789	1656	---	---	---	---	---	---	---	0.404			
	2	3396	3089	2821	2588	2386	2209	2055	1919	1799	1692	1596	1503	1415	1337	1266	0.278		
	3	3770	3481	3218	2982	2771	2583	2416	2266	2132	2012	1903	1805	1716	1634	1560	0.212		
	4	4052	3790	3542	3312	3102	2911	<u>2737</u>	<u>2579</u>	<u>2437</u>	<u>2307</u>	<u>2189</u>	<u>2081</u>	<u>1982</u>	<u>1892</u>	<u>1809</u>	0.171		
	5	4267	4032	3804	3587	3384	<u>3195</u>	<u>3021</u>	<u>2860</u>	<u>2712</u>	<u>2577</u>	<u>2452</u>	<u>2338</u>	<u>2232</u>	<u>2135</u>	<u>2045</u>	0.144		
	6	4432	4224	4017	3815	3623	3440	3269	3109	2960	2822	2694	2575	2464	2362	2266	0.124		
	7	4560	4376	4190	4005	<u>3824</u>	<u>3651</u>	<u>3486</u>	<u>3329</u>	<u>3182</u>	<u>3043</u>	<u>2914</u>	<u>2793</u>	<u>2679</u>	<u>2573</u>	<u>2474</u>	0.109		
	8	4660	4498	4331	4162	<u>3995</u>	<u>3832</u>	<u>3674</u>	<u>3523</u>	<u>3379</u>	<u>3242</u>	<u>3113</u>	<u>2992</u>	<u>2877</u>	<u>2769</u>	<u>2667</u>	0.097		
	9	4741	4597	4447	4293	<u>4139</u>	<u>3987</u>	<u>3838</u>	<u>3693</u>	<u>3554</u>	<u>3421</u>	<u>3294</u>	<u>3173</u>	<u>3058</u>	<u>2950</u>	<u>2847</u>	0.087		
		K2 =	1398	K4_B =		3.55	K4_F =		3.41	D_B		290	D_F		295				
36/4	0	1734	1526	1360	1214	1085	---	---	---	---	---	---	---	---	---	0.923			
	1	2337	2105	1907	1739	1596	1472	1365	---	---	---	---	---	---	---	0.454			
	2	2760	2539	2340	2162	2005	1866	1742	1632	1534	1446	1367	1296	1222	1154	1092	0.301		
	3	3051	2856	2671	2499	2342	2198	2068	1949	1842	1744	1655	1574	1499	1431	1369	0.225		
	4	3253	3086	2921	2763	2613	2473	2343	2222	<u>2111</u>	<u>2008</u>	<u>1913</u>	<u>1826</u>	<u>1745</u>	<u>1670</u>	<u>1601</u>	0.180		
	5	3396	3254	3110	2968	2830	2698	2573	2455	2344	2240	2143	2052	1968	1889	1815	0.150		
	6	3500	3379	3254	3129	3004	2882	<u>2764</u>	<u>2651</u>	<u>2543</u>	<u>2441</u>	<u>2344</u>	<u>2253</u>	<u>2167</u>	<u>2086</u>	<u>2010</u>	0.128		
	7	3576	3474	3366	3255	3143	3032	<u>2923</u>	<u>2816</u>	<u>2714</u>	<u>2615</u>	<u>2521</u>	<u>2431</u>	<u>2345</u>	<u>2264</u>	<u>2186</u>	0.112		
	8	3634	3546	3453	3355	3255	3154	3054	2955	2859	2765	2674	2587	2503	2422	2345	0.099		
	9	3678	3603	3521	3435	3346	3255	3164	3073	2982	2894	2808	2724	2642	2564	2488	0.090		
		K2 =	1398	K4_B =		3.55	K4_F =		3.41	D_B		412	D_F		400				
36/3	0	1448	1295	1167	1060	969	---	---	---	---	---	---	---	---	---	1.231			
	1	1883	1738	1607	1489	1383	1289	1206	---	---	---	---	---	---	---	0.517			
	2	2132	2015	1901	1792	1690	1596	1509	1428	1355	1287	1225	1167	1115	1066	1021	0.327		
	3	2279	2187	2094	2001	1911	1824	1742	1663	1590	1520	1456	<u>1395</u>	<u>1338</u>	<u>1285</u>	<u>1236</u>	0.239		
	4	2370	2298	2223	2146	2069	1992	1918	1846	1776	1709	1646	<u>1585</u>	<u>1528</u>	<u>1474</u>	<u>1422</u>	0.189		
	5	2429	2372	2311	2248	2183	2117	2051	1986	1923	1861	1801	1743	1687	1634	1583	0.156		
	6	2469	2423	2374	2321	2266	2210	2153	2095	2038	1982	1926	1872	1819	1768	1719	0.133		
	7	2497	2460	2419	2375	2329	2280	2231	2180	2129	2079	2028	1978	1929	1881	1834	0.115		
	8	2518	2487	2453	2416	2376	2335	2291	2247	2202	2157	2111	2065	2020	1975	1931	0.102		
	9	2534	2508	2479	2447	2413	2377	2339	2300	2260	2220	2179	2137	2096	2055	2014	0.092		
		K2 =	1398	K4_B =		3.55	K4_F =		3.41	D_B		852	D_F		786				

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.292	13482	9905	7583	5992	4853	4011	3370	2872	2476	2157	1896	1679	1498	1344	1213
	F	0.207	10519	7728	5917	4675	3787	3130	2630	2241	1932	1683	1479	1310	1169	1049	947

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295")
SUPPORT FASTENERS: 5/8" puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF														K1	
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5		10
NO FILL (BARE DECK)	36/9	0	2565	2257	2010	1780	1590	---	---	---	---	---	---	---	---	---	---	0.324
		1	2716	2397	2140	1921	1717	<u>1550</u>	<u>1410</u>	---	---	---	---	---	---	---	---	0.272
		2	2859	2532	2266	2046	1843	<u>1665</u>	<u>1516</u>	<u>1390</u>	<u>1282</u>	<u>1188</u>	<u>1106</u>	<u>1038</u>	<u>980</u>	<u>929</u>	<u>882</u>	0.234
		3	2997	2662	2388	2161	1970	<u>1780</u>	<u>1621</u>	<u>1487</u>	<u>1372</u>	<u>1273</u>	<u>1186</u>	<u>1112</u>	<u>1051</u>	<u>995</u>	<u>946</u>	0.206
		4	3127	2788	2507	2272	<u>2075</u>	<u>1895</u>	<u>1727</u>	<u>1585</u>	<u>1463</u>	<u>1357</u>	<u>1265</u>	<u>1187</u>	<u>1121</u>	<u>1062</u>	<u>1009</u>	0.183
		5	3252	2909	2622	<u>2381</u>	<u>2178</u>	<u>2004</u>	<u>1833</u>	<u>1682</u>	<u>1553</u>	<u>1442</u>	<u>1344</u>	<u>1261</u>	<u>1191</u>	<u>1129</u>	<u>1072</u>	0.165
		6	3371	3025	2733	<u>2487</u>	<u>2278</u>	<u>2098</u>	<u>1938</u>	<u>1780</u>	<u>1644</u>	<u>1526</u>	<u>1423</u>	<u>1336</u>	<u>1262</u>	<u>1195</u>	<u>1136</u>	0.151
		7	3483	3136	2841	<u>2590</u>	<u>2376</u>	<u>2191</u>	<u>2031</u>	<u>1877</u>	<u>1734</u>	<u>1611</u>	<u>1502</u>	<u>1410</u>	<u>1332</u>	<u>1262</u>	<u>1199</u>	0.138
		8	3590	3243	<u>2945</u>	<u>2690</u>	<u>2471</u>	<u>2282</u>	<u>2118</u>	<u>1974</u>	<u>1825</u>	<u>1695</u>	<u>1581</u>	<u>1485</u>	<u>1402</u>	<u>1329</u>	<u>1262</u>	0.128
		9	3692	3346	<u>3046</u>	<u>2788</u>	<u>2565</u>	<u>2371</u>	<u>2203</u>	<u>2055</u>	<u>1915</u>	<u>1779</u>	<u>1661</u>	<u>1559</u>	<u>1473</u>	<u>1395</u>	<u>1326</u>	0.119
		K2 =	870	K4_B =	3.55	K4_F =	3.41	D_B	92	D_F	173							
	36/7	0	1641	1427	1242	1097	981	---	---	---	---	---	---	---	---	---	0.486	
		1	1816	1584	1400	1238	1108	1002	913	---	---	---	---	---	---	---	---	0.377
		2	1984	1737	1541	1378	1234	1117	1019	936	864	803	749	703	664	629	597	0.308
		3	2144	1883	1676	1507	1361	1232	1124	1033	<u>955</u>	<u>887</u>	<u>828</u>	<u>777</u>	<u>734</u>	<u>696</u>	<u>661</u>	0.261
		4	2296	2025	1806	1628	1480	1347	1230	<u>1130</u>	<u>1045</u>	<u>972</u>	<u>907</u>	<u>852</u>	<u>805</u>	<u>762</u>	<u>724</u>	0.226
		5	2441	2161	1933	1746	1589	1458	<u>1335</u>	<u>1228</u>	<u>1136</u>	<u>1056</u>	<u>986</u>	<u>926</u>	<u>875</u>	<u>829</u>	<u>787</u>	0.199
		6	2578	2291	2056	1860	1696	<u>1558</u>	<u>1439</u>	<u>1325</u>	<u>1226</u>	<u>1140</u>	<u>1065</u>	<u>1001</u>	<u>945</u>	<u>896</u>	<u>851</u>	0.178
		7	2708	2416	2174	1971	1801	<u>1656</u>	<u>1531</u>	<u>1423</u>	<u>1317</u>	<u>1225</u>	<u>1145</u>	<u>1075</u>	<u>1016</u>	<u>962</u>	<u>914</u>	0.161
		8	2830	2535	2288	2079	<u>1902</u>	<u>1751</u>	<u>1621</u>	<u>1508</u>	<u>1407</u>	<u>1309</u>	<u>1224</u>	<u>1150</u>	<u>1086</u>	<u>1029</u>	<u>977</u>	0.147
		9	2946	2649	2397	2184	<u>2002</u>	<u>1845</u>	<u>1710</u>	<u>1592</u>	<u>1489</u>	<u>1394</u>	<u>1303</u>	<u>1225</u>	<u>1156</u>	<u>1096</u>	<u>1041</u>	0.135
		K2 =	870	K4_B =	3.55	K4_F =	3.41	D_B	92	D_F	173							
	36/5	0	1453	1278	1138	1014	907	---	---	---	---	---	---	---	---	---	0.583	
		1	1602	1417	1266	1143	1033	934	851	---	---	---	---	---	---	---	---	0.433
		2	1739	1547	1389	1257	1147	1049	957	878	811	753	702	659	622	590	560	0.345
		3	1865	1669	1505	1367	1250	1151	1062	976	902	<u>837</u>	<u>781</u>	<u>734</u>	<u>693</u>	<u>656</u>	<u>624</u>	0.286
		4	1981	1783	1615	1472	1349	1244	1153	1073	<u>992</u>	<u>922</u>	<u>861</u>	<u>808</u>	<u>763</u>	<u>723</u>	<u>687</u>	0.245
		5	2087	1889	1718	1571	1444	1335	1239	<u>1156</u>	<u>1082</u>	<u>1006</u>	<u>940</u>	<u>883</u>	<u>834</u>	<u>790</u>	<u>750</u>	0.214
		6	2184	1987	1815	1666	1535	1422	<u>1323</u>	<u>1235</u>	<u>1158</u>	<u>1089</u>	<u>1019</u>	<u>957</u>	<u>904</u>	<u>856</u>	<u>814</u>	0.190
		7	2271	2078	1906	1755	1622	1506	<u>1403</u>	<u>1312</u>	<u>1232</u>	<u>1160</u>	<u>1095</u>	<u>1032</u>	<u>974</u>	<u>923</u>	<u>877</u>	0.171
		8	2351	2162	1991	1840	1705	<u>1586</u>	<u>1481</u>	<u>1387</u>	<u>1303</u>	<u>1229</u>	<u>1161</u>	<u>1101</u>	<u>1045</u>	<u>990</u>	<u>940</u>	0.155
		9	2424	2239	2071	1919	1784	<u>1663</u>	<u>1556</u>	<u>1459</u>	<u>1373</u>	<u>1296</u>	<u>1226</u>	<u>1163</u>	<u>1105</u>	<u>1053</u>	<u>1004</u>	0.142
		K2 =	870	K4_B =	3.55	K4_F =	3.41	D_B	590	D_F	601							
	36/4	0	1112	979	869	766	683	---	---	---	---	---	---	---	---	---	0.728	
		1	1257	1115	999	903	810	731	665	---	---	---	---	---	---	---	---	0.509
		2	1387	1240	1117	1014	927	846	770	707	652	604	563	528	498	472	449	0.391
		3	1502	1353	1227	1119	1026	947	876	804	742	689	642	602	569	<u>539</u>	<u>512</u>	0.318
		4	1604	1456	1328	1216	1120	1036	963	899	833	773	721	<u>677</u>	<u>639</u>	<u>606</u>	<u>575</u>	0.267
		5	1695	1549	1420	1307	1208	1121	1044	976	916	<u>858</u>	<u>800</u>	<u>751</u>	<u>710</u>	<u>672</u>	<u>639</u>	0.231
		6	1775	1633	1505	1392	1291	1201	1122	1051	<u>988</u>	<u>931</u>	<u>879</u>	<u>826</u>	<u>780</u>	<u>739</u>	<u>702</u>	0.203
		7	1845	1708	1583	1470	1368	1277	1195	<u>1122</u>	<u>1057</u>	<u>998</u>	<u>945</u>	<u>896</u>	<u>850</u>	<u>806</u>	<u>765</u>	0.181
		8	1907	1776	1654	1542	1440	1348	1265	<u>1191</u>	<u>1123</u>	<u>1062</u>	<u>1007</u>	<u>956</u>	<u>910</u>	<u>868</u>	<u>829</u>	0.164
		9	1962	1837	1718	1608	1507	1415	<u>1332</u>	<u>1256</u>	<u>1186</u>	<u>1124</u>	<u>1066</u>	<u>1014</u>	<u>966</u>	<u>923</u>	<u>882</u>	0.149
		K2 =	870	K4_B =	3.55	K4_F =	3.41	D_B	839	D_F	816							
	36/3	0	929	831	749	680	609	---	---	---	---	---	---	---	---	---	0.971	
		1	1040	941	856	783	719	663	603	---	---	---	---	---	---	---	---	0.617
		2	1133	1036	950	875	809	750	699	649	599	555	516	484	457	433	411	0.452
		3	1210	1117	1033	957	890	829	775	727	684	639	595	558	527	500	<u>475</u>	0.356
		4	1274	1186	1105	1031	963	901	846	796	751	710	673	633	<u>598</u>	<u>566</u>	<u>538</u>	0.294
		5	1326	1245	1168	1095	1029	967	911	860	814	771	<u>733</u>	<u>697</u>	<u>665</u>	<u>633</u>	<u>601</u>	0.251
		6	1370	1295	1222	1153	1087	1027	971	919	872	<u>828</u>	<u>788</u>	<u>752</u>	<u>718</u>	<u>686</u>	<u>658</u>	0.218
		7	1407	1338	1269	1203	1140	1081	1026	974	926	<u>882</u>	<u>841</u>	<u>803</u>	<u>768</u>	<u>736</u>	<u>706</u>	0.193
		8	1438	1374	1310	1248	1187	1130	1075	1024	<u>977</u>	<u>932</u>	<u>891</u>	<u>852</u>	<u>816</u>	<u>783</u>	<u>752</u>	0.173
		9	1464	1406	1346	1287	1229	1174	1121	1071	<u>1023</u>	<u>979</u>	<u>937</u>	<u>898</u>	<u>862</u>	<u>828</u>	<u>796</u>	0.157
		K2 =	870	K4_B =	3.55	K4_F =	3.41	D_B	1735	D_F	1601							

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.179	6545	4808	3681	2909	2356	1947	1636	1394	1202	1047	920	815	727	653	589
	F	0.128	5140	3776	2891	2284	1850	1529	1285	1095	944	822	723	640	571	513	463

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws

Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
NO FILL (BARE DECK)	36/9	0	3080	2710	2414	2151	1923	---	---	---	---	---	---	---	---	---	0.357	
		1	3263	2880	2571	2318	2076	1876	1708	---	---	---	---	---	---	---	0.299	
		2	3437	3044	2724	2460	2230	2015	1836	1685	1555	1443	1344	1257	1180	1117	1061	0.258
		3	3603	3202	2872	2599	2370	2155	1964	1803	1665	1545	1440	1348	1265	1198	1138	0.226
		4	3762	3354	3016	2734	2497	2295	2093	1921	1775	1647	1536	1438	1351	1279	1215	0.202
		5	3913	3500	3156	2866	2621	2412	2221	2040	1884	1750	1632	1528	1436	1359	1291	0.182
		6	4056	3641	3291	2994	2743	2527	2340	2158	1994	1852	1728	1619	1522	1440	1368	0.166
		7	4192	3776	3421	3119	2861	2639	2447	2276	2104	1955	1824	1709	1607	1521	1445	0.152
		8	4322	3905	3547	3241	2977	2749	2552	2379	2214	2057	1921	1800	1692	1602	1522	0.141
		9	4444	4029	3669	3358	3090	2857	2654	2476	2319	2160	2017	1890	1778	1683	1599	0.131
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B = 69		D _F = 130								
NO FILL (BARE DECK)	36/7	0	1971	1714	1498	1324	1185	---	---	---	---	---	---	---	---	---	0.535	
		1	2183	1904	1686	1495	1339	1211	1104	---	---	---	---	---	---	---	---	0.415
		2	2386	2089	1854	1665	1492	1351	1232	1133	1047	973	908	850	800	757	719	0.340
		3	2580	2267	2017	1815	1646	1490	1361	1251	1157	1075	1004	941	885	838	796	0.287
		4	2764	2438	2176	1961	1783	1630	1489	1369	1267	1178	1100	1031	970	919	873	0.249
		5	2940	2603	2329	2103	1915	1757	1617	1487	1376	1280	1196	1122	1056	1000	950	0.219
		6	3106	2761	2477	2242	2045	1878	1735	1606	1486	1383	1292	1212	1141	1080	1026	0.196
		7	3263	2912	2620	2377	2171	1997	1846	1716	1596	1485	1388	1303	1227	1161	1103	0.178
		8	3411	3056	2758	2507	2295	2113	1956	1820	1700	1588	1484	1393	1312	1242	1180	0.162
		9	3550	3193	2891	2634	2415	2226	2063	1921	1797	1686	1580	1483	1397	1323	1257	0.149
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B = 69		D _F = 130								
NO FILL (BARE DECK)	36/5	0	1745	1534	1366	1225	1095	---	---	---	---	---	---	---	---	---	0.642	
		1	1925	1703	1522	1374	1249	1130	1030	---	---	---	---	---	---	---	---	0.477
		2	2092	1861	1671	1513	1380	1268	1158	1064	983	913	852	798	750	710	674	0.380
		3	2245	2009	1811	1646	1505	1385	1282	1182	1093	1016	948	888	835	791	751	0.315
		4	2385	2146	1944	1772	1625	1499	1389	1294	1203	1118	1044	979	921	872	828	0.270
		5	2512	2274	2069	1893	1740	1609	1494	1393	1304	1221	1140	1069	1006	953	905	0.236
		6	2629	2393	2187	2007	1850	1714	1595	1489	1396	1313	1236	1160	1091	1033	982	0.209
		7	2735	2503	2297	2115	1956	1815	1692	1583	1485	1399	1321	1250	1177	1114	1059	0.188
		8	2831	2604	2399	2217	2056	1913	1786	1673	1572	1482	1401	1328	1262	1195	1136	0.171
		9	2919	2697	2495	2313	2151	2006	1876	1760	1657	1563	1479	1403	1334	1271	1212	0.156
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B = 442		D _F = 450								
NO FILL (BARE DECK)	36/4	0	1336	1176	1048	927	827	---	---	---	---	---	---	---	---	---	0.802	
		1	1511	1340	1201	1086	981	886	806	---	---	---	---	---	---	---	---	0.561
		2	1668	1492	1344	1221	1116	1026	935	858	792	734	684	640	601	569	540	0.431
		3	1808	1629	1477	1347	1236	1140	1057	976	901	837	780	731	686	650	617	0.350
		4	1931	1754	1599	1465	1349	1248	1160	1083	1011	939	876	821	772	731	694	0.294
		5	2040	1866	1711	1575	1456	1351	1259	1177	1105	1040	973	911	857	811	771	0.254
		6	2137	1967	1814	1677	1556	1448	1353	1268	1192	1124	1062	1002	943	892	848	0.224
		7	2221	2058	1907	1771	1649	1540	1442	1354	1275	1204	1140	1082	1028	973	925	0.200
		8	2296	2139	1993	1858	1736	1626	1526	1436	1355	1282	1215	1154	1099	1048	1001	0.180
		9	2361	2212	2070	1939	1817	1707	1606	1515	1432	1356	1287	1224	1167	1114	1065	0.164
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B = 628		D _F = 610								
NO FILL (BARE DECK)	36/3	0	1115	998	899	817	738	---	---	---	---	---	---	---	---	---	1.070	
		1	1251	1131	1029	941	865	799	732	---	---	---	---	---	---	---	---	0.679
		2	1363	1246	1143	1053	973	903	841	787	728	675	628	588	551	522	496	0.498
		3	1455	1344	1243	1152	1071	999	934	876	824	777	725	678	637	603	572	0.393
		4	1532	1428	1330	1241	1160	1086	1019	959	905	856	812	768	722	683	649	0.324
		5	1596	1499	1406	1319	1239	1165	1098	1037	981	930	883	841	801	764	726	0.276
		6	1648	1559	1471	1388	1310	1237	1170	1108	1051	999	951	907	866	828	793	0.240
		7	1692	1610	1528	1449	1373	1302	1236	1174	1117	1064	1015	969	927	888	852	0.213
		8	1730	1654	1577	1502	1430	1361	1296	1235	1178	1124	1075	1028	985	945	908	0.191
		9	1761	1691	1620	1549	1481	1414	1351	1291	1234	1181	1131	1084	1040	999	961	0.173
		K2 = 1056		K4 _B = 3.55		K4 _F = 3.41		D _B = 1298		D _F = 1198								

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.219	8803	6467	4952	3912	3169	2619	2201	1875	1617	1408	1238	1097	978	878	792
	F	0.156	6893	5065	3878	3064	2482	2051	1723	1468	1266	1103	969	859	766	687	620

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF														
			SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
36/9	0	3998	3518	3133	2815	2518	---	---	---	---	---	---	---	---	---	0.410	
	1	4239	3742	3341	3012	2722	2461	2243	---	---	---	---	---	---	---	0.344	
	2	4470	3959	3543	3200	2914	2646	2413	2216	2047	1900	1772	1659	1559	1469	1388	0.297
	3	4690	4168	3739	3384	3086	2831	2582	2372	2192	2036	1899	1779	1672	1576	1489	0.261
	4	4899	4369	3930	3563	3254	2991	2752	2529	2337	2172	2027	1899	1785	1683	1591	0.232
	5	5098	4562	4114	3737	3418	3146	2911	2685	2483	2307	2154	2018	1898	1790	1693	0.210
	6	5286	4747	4292	3906	3578	3297	3055	2842	2628	2443	2281	2138	2011	1897	1795	0.191
	7	5466	4925	4464	4071	3735	3446	3195	2977	2774	2579	2408	2258	2124	2004	1897	0.175
	8	5636	5095	4630	4231	3888	3591	3333	3108	2909	2714	2535	2377	2237	2111	1998	0.162
	9	5797	5257	4790	4386	4037	3734	3469	3237	3032	2850	2663	2497	2350	2219	2100	0.151
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85						
36/7	0	2558	2224	1955	1730	1549	---	---	---	---	---	---	---	---	---	0.615	
	1	2839	2477	2193	1956	1753	1587	1448	---	---	---	---	---	---	---	0.478	
	2	3107	2721	2415	2169	1956	1772	1618	1487	1376	1279	1195	1120	1053	994	941	0.391
	3	3363	2956	2631	2367	2149	1957	1787	1644	1521	1415	1322	1240	1167	1101	1042	0.330
	4	3607	3182	2840	2560	2328	2133	1957	1801	1667	1551	1449	1359	1280	1208	1144	0.286
	5	3838	3400	3043	2748	2503	2296	2119	1957	1812	1686	1576	1479	1393	1315	1246	0.253
	6	4056	3608	3238	2932	2674	2456	2269	2108	1957	1822	1703	1599	1506	1423	1348	0.226
	7	4262	3806	3427	3109	2841	2613	2417	2247	2098	1958	1831	1718	1619	1530	1449	0.204
	8	4457	3996	3608	3281	3004	2766	2561	2383	2227	2090	1958	1838	1732	1637	1551	0.187
	9	4640	4176	3782	3448	3162	2916	2703	2517	2354	2210	2082	1958	1845	1744	1653	0.172
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85						
36/5	0	2265	1991	1773	1595	1433	---	---	---	---	---	---	---	---	---	0.739	
	1	2503	2214	1980	1787	1626	1481	1351	---	---	---	---	---	---	---	0.549	
	2	2723	2423	2176	1970	1798	1652	1521	1398	1293	1202	1122	1052	989	933	883	0.437
	3	2925	2618	2362	2146	1963	1807	1672	1555	1438	1338	1249	1171	1102	1040	984	0.363
	4	3109	2800	2537	2313	2122	1957	1814	1690	1581	1473	1376	1291	1215	1147	1086	0.310
	5	3277	2968	2702	2472	2274	2102	1952	1821	1705	1603	1504	1411	1328	1254	1188	0.271
	6	3429	3124	2856	2622	2419	2241	2085	1948	1826	1718	1621	1531	1441	1362	1290	0.241
	7	3568	3267	3000	2764	2557	2374	2213	2071	1944	1831	1729	1638	1554	1489	1391	0.216
	8	3694	3400	3135	2898	2688	2502	2337	2190	2059	1941	1835	1739	1653	1574	1493	0.196
	9	3808	3522	3260	3025	2813	2625	2456	2305	2170	2048	1938	1839	1748	1666	1591	0.180
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	290	D_F	295						
36/4	0	1734	1526	1360	1214	1085	---	---	---	---	---	---	---	---	---	0.923	
	1	1965	1744	1563	1413	1288	1165	1061	---	---	---	---	---	---	---	0.645	
	2	2173	1943	1752	1591	1455	1339	1231	1131	1044	970	905	847	796	750	709	0.496
	3	2357	2125	1927	1758	1613	1489	1381	1286	1190	1106	1032	967	909	857	810	0.403
	4	2519	2288	2088	1914	1763	1631	1517	1416	1327	1241	1159	1086	1022	964	912	0.339
	5	2662	2436	2235	2058	1903	1767	1646	1540	1461	1381	1296	1206	1135	1071	1014	0.293
	6	2787	2568	2370	2192	2034	1894	1770	1659	1560	1471	1391	1319	1248	1178	1116	0.257
	7	2897	2686	2492	2316	2157	2015	1887	1773	1670	1577	1493	1417	1348	1285	1217	0.230
	8	2994	2792	2603	2429	2271	2128	1998	1881	1775	1679	1592	1513	1440	1374	1313	0.207
	9	3079	2887	2704	2534	2377	2234	2103	1984	1876	1777	1687	1605	1530	1461	1397	0.189
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	412	D_F	400						
36/3	0	1448	1295	1167	1060	969	---	---	---	---	---	---	---	---	---	1.231	
	1	1626	1472	1339	1224	1126	1040	965	---	---	---	---	---	---	---	0.782	
	2	1774	1623	1490	1372	1268	1177	1097	1026	962	892	832	779	731	689	651	0.573
	3	1896	1752	1621	1503	1397	1303	1219	1144	1077	1016	959	898	844	796	752	0.452
	4	1996	1861	1735	1619	1514	1418	1332	1254	1183	1119	1061	1008	957	903	854	0.373
	5	2078	1953	1834	1722	1618	1522	1435	1355	1283	1216	1155	1100	1049	1002	956	0.318
	6	2147	2032	1919	1812	1711	1617	1530	1449	1375	1307	1244	1187	1134	1084	1039	0.277
	7	2204	2098	1993	1891	1794	1702	1616	1536	1461	1392	1328	1269	1214	1163	1116	0.245
	8	2252	2155	2057	1960	1867	1778	1694	1615	1541	1471	1407	1347	1290	1238	1189	0.220
	9	2292	2203	2112	2021	1933	1847	1765	1688	1614	1545	1480	1420	1363	1309	1259	0.199
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	852	D_F	786						

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.292	13482	9905	7583	5992	4853	4011	3370	2872	2476	2157	1896	1679	1498	1344	1213
	F	0.207	10519	7728	5917	4675	3787	3130	2630	2241	1932	1683	1479	1310	1169	1049	947

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
NO FILL (BARE DECK)	36/9	0	1412	1242	1107	980	875	---	---	---	---	---	---	---	---	---	0.366	
		1	1560	1380	1235	1115	1002	905	824	---	---	---	---	---	---	---	0.301	
		2	1696	1510	1356	1229	1121	1020	929	853	787	730	680	638	603	571	543	0.255
		3	1820	1630	1471	1337	1224	1127	1035	950	877	815	759	713	673	638	606	0.222
		4	1933	1742	1579	1441	1322	1220	1131	1048	968	899	839	787	744	704	669	0.196
		5	2037	1846	1681	1539	1416	1309	1216	1135	1058	983	918	862	814	771	733	0.176
		6	2131	1942	1776	1632	1506	1395	1299	1213	1138	1068	997	936	884	838	796	0.159
		7	2216	2031	1865	1720	1591	1478	1378	1290	1211	1141	1076	1011	955	904	859	0.145
		8	2293	2112	1949	1802	1673	1557	1455	1364	1282	1209	1143	1084	1025	971	923	0.134
		9	2363	2187	2026	1880	1750	1633	1528	1435	1351	1275	1207	1145	1089	1038	986	0.124
		K2 =	870		K4_B =	3.55		K4_F =	3.41		D_B	92		D_F	173			
	36/7	0	904	786	683	604	540	---	---	---	---	---	---	---	---	0.549		
		1	1075	941	835	745	667	603	550	---	---	---	---	---	---	---	0.414	
		2	1234	1086	968	872	792	718	656	603	557	518	483	454	429	406	386	0.333
		3	1378	1222	1095	989	902	827	761	700	648	602	562	528	499	473	449	0.278
		4	1509	1348	1213	1101	1006	925	856	796	738	687	642	603	569	539	513	0.239
		5	1627	1463	1324	1207	1106	1020	945	880	823	771	721	677	640	606	576	0.209
		6	1733	1569	1428	1306	1201	1110	1031	962	901	846	798	752	710	673	639	0.186
		7	1827	1665	1523	1400	1291	1197	1114	1041	976	918	867	820	778	739	703	0.168
		8	1912	1753	1612	1487	1376	1279	1193	1117	1049	988	934	885	840	800	763	0.152
		9	1987	1833	1694	1568	1457	1357	1269	1190	1119	1056	999	947	900	857	818	0.140
		K2 =	870		K4_B =	3.55		K4_F =	3.41		D_B	92		D_F	173			
	36/5	0	800	703	626	558	499	---	---	---	---	---	---	---	---	0.659		
		1	944	839	752	681	621	566	516	---	---	---	---	---	---	---	0.474	
		2	1068	959	867	789	723	666	617	571	528	490	458	430	406	385	365	0.370
		3	1173	1065	970	889	818	757	703	656	615	575	537	504	476	451	429	0.304
		4	1262	1156	1062	979	905	841	784	734	689	649	613	579	547	518	492	0.257
		5	1338	1236	1143	1060	985	919	860	807	759	716	678	643	611	582	555	0.223
		6	1401	1305	1215	1133	1058	991	930	875	826	781	740	703	669	638	610	0.197
		7	1454	1364	1278	1198	1125	1057	996	939	888	842	799	761	725	692	662	0.177
		8	1499	1415	1334	1257	1185	1118	1056	999	947	900	856	816	779	744	713	0.160
		9	1538	1460	1383	1309	1239	1173	1112	1055	1003	954	909	868	830	794	762	0.146
		K2 =	870		K4_B =	3.55		K4_F =	3.41		D_B	590		D_F	601			
	36/4	0	612	539	479	422	376	---	---	---	---	---	---	---	---	0.823		
		1	751	670	603	547	500	454	413	---	---	---	---	---	---	---	0.554	
		2	863	781	711	650	598	553	513	477	440	409	381	358	338	320	304	0.417
		3	953	874	803	741	686	637	594	556	522	492	460	432	408	387	367	0.334
		4	1025	951	882	820	764	714	669	628	592	559	529	502	478	453	431	0.279
		5	1082	1014	949	888	833	782	736	694	656	621	590	561	534	510	488	0.240
		6	1128	1065	1005	947	893	843	797	754	715	679	646	616	588	562	539	0.210
		7	1165	1108	1052	998	946	897	851	809	769	733	699	668	639	612	587	0.187
		8	1195	1143	1092	1041	992	945	900	858	819	782	748	716	686	659	633	0.168
		9	1219	1173	1125	1078	1032	987	944	903	864	828	793	761	731	703	676	0.153
		K2 =	870		K4_B =	3.55		K4_F =	3.41		D_B	839		D_F	816			
	36/3	0	511	457	412	374	335	---	---	---	---	---	---	---	---	1.098		
		1	615	561	514	473	436	405	377	---	---	---	---	---	---	---	0.665	
		2	689	640	594	553	516	482	452	425	400	378	355	333	315	298	283	0.477
		3	742	698	657	618	581	548	517	488	463	439	417	397	379	362	347	0.372
		4	779	742	705	669	635	602	572	544	518	493	471	450	430	412	395	0.305
		5	807	775	742	710	678	648	619	591	565	541	518	497	477	458	440	0.258
		6	828	800	772	743	714	686	658	632	607	583	560	539	519	499	481	0.224
		7	844	820	795	769	743	717	692	667	643	620	598	576	556	537	519	0.198
		8	856	835	813	790	767	743	720	697	674	652	630	610	590	571	553	0.177
		9	866	848	828	808	787	765	743	722	701	680	659	639	620	602	584	0.160
		K2 =	870		K4_B =	3.55		K4_F =	3.41		D_B	1735		D_F	1601			

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.179	6545	4808	3681	2909	2356	1947	1636	1394	1202	1047	920	815	727	653	589
	F	0.128	5140	3776	2891	2284	1850	1529	1285	1095	944	822	723	640	571	513	463

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
NO FILL (BARE DECK)	36/9	0	1714	1508	1343	1197	1070	---	---	---	---	---	---	---	---	---	0.403	
		1	1893	1675	1498	1353	1223	1105	1007	---	---	---	---	---	---	---	0.331	
		2	2058	1832	1646	1491	1361	1245	1135	1042	963	893	833	780	732	693	658	0.281
		3	2209	1978	1785	1623	1485	1367	1263	1161	1072	996	929	<u>870</u>	<u>818</u>	<u>774</u>	<u>735</u>	0.244
		4	2346	2114	1917	1748	1604	1480	1372	1279	1182	1098	<u>1025</u>	<u>961</u>	<u>903</u>	<u>855</u>	<u>812</u>	0.216
		5	2472	2240	2040	1868	1718	1589	1476	1377	1290	<u>1201</u>	<u>1121</u>	<u>1051</u>	<u>988</u>	<u>936</u>	<u>889</u>	0.193
		6	2586	2357	2156	1980	1827	1693	1576	<u>1473</u>	<u>1381</u>	<u>1299</u>	<u>1217</u>	<u>1141</u>	<u>1074</u>	<u>1017</u>	<u>966</u>	0.175
		7	2689	2464	2264	2087	1931	1794	1673	<u>1565</u>	<u>1470</u>	<u>1384</u>	<u>1308</u>	<u>1232</u>	<u>1159</u>	<u>1098</u>	<u>1043</u>	0.160
		8	2783	2563	2365	2187	2030	1890	<u>1765</u>	<u>1655</u>	<u>1467</u>	<u>1387</u>	<u>1315</u>	<u>1245</u>	<u>1179</u>	<u>1120</u>	<u>1067</u>	0.147
		9	2868	2654	2459	2282	2123	1982	<u>1855</u>	<u>1741</u>	<u>1639</u>	<u>1548</u>	<u>1465</u>	<u>1390</u>	<u>1322</u>	<u>1259</u>	<u>1196</u>	0.137
			K2 = 1056		K4_B = 3.55		K4_F = 3.41		D_B = 69		D_F = 130							
NO FILL (BARE DECK)	36/7	0	1097	953	833	737	659	---	---	---	---	---	---	---	---	0.605		
		1	1305	1142	1013	907	813	736	671	---	---	---	---	---	---	---	0.456	
		2	1497	1318	1175	1058	962	875	799	735	680	632	590	553	521	493	468	0.366
		3	1672	1483	1328	1201	1094	1004	927	853	790	735	686	644	606	574	545	0.306
		4	1831	1635	1473	1336	1221	1123	1039	966	899	837	782	734	691	655	<u>622</u>	0.263
		5	1974	1776	1607	1464	1342	1238	1147	1068	999	938	879	825	<u>777</u>	<u>736</u>	<u>699</u>	0.230
		6	2103	1904	1733	1585	1458	1348	1251	1167	1093	1027	969	<u>915</u>	<u>862</u>	<u>817</u>	<u>776</u>	0.205
		7	2217	2021	1849	1698	1567	1452	1352	1263	1184	<u>1114</u>	<u>1052</u>	<u>996</u>	<u>945</u>	<u>897</u>	<u>853</u>	0.185
		8	2320	2128	1956	1804	1670	1552	1448	1355	<u>1273</u>	<u>1199</u>	<u>1133</u>	<u>1073</u>	<u>1019</u>	<u>970</u>	<u>926</u>	0.168
		9	2411	2225	2055	1903	1768	1647	1540	1444	<u>1358</u>	<u>1281</u>	<u>1212</u>	<u>1149</u>	<u>1092</u>	<u>1041</u>	<u>993</u>	0.154
			K2 = 1056		K4_B = 3.55		K4_F = 3.41		D_B = 69		D_F = 130							
NO FILL (BARE DECK)	36/5	0	971	854	760	681	609	---	---	---	---	---	---	---	---	0.726		
		1	1146	1018	913	826	753	690	630	---	---	---	---	---	---	---	0.522	
		2	1296	1164	1052	958	877	809	749	697	644	599	559	524	493	467	443	0.408
		3	1424	1292	1177	1078	993	918	853	796	746	701	655	615	578	548	520	0.334
		4	1532	1403	1289	1188	1099	1020	951	890	836	787	744	704	664	629	597	0.283
		5	1623	1500	1388	1286	1196	1115	1043	979	921	869	822	780	742	<u>707</u>	<u>674</u>	0.246
		6	1700	1583	1475	1375	1285	1203	1129	1062	1002	947	898	853	<u>812</u>	<u>775</u>	<u>740</u>	0.217
		7	1765	1655	1551	1454	1365	1283	1208	1140	1078	1022	<u>970</u>	<u>923</u>	<u>880</u>	<u>840</u>	<u>804</u>	0.195
		8	1820	1718	1619	1525	1438	1356	1282	1213	1150	1092	<u>1039</u>	<u>990</u>	<u>945</u>	<u>903</u>	<u>865</u>	0.176
		9	1866	1771	1678	1588	1503	1424	1349	1281	1217	<u>1158</u>	<u>1104</u>	<u>1053</u>	<u>1007</u>	<u>964</u>	<u>924</u>	0.161
			K2 = 1056		K4_B = 3.55		K4_F = 3.41		D_B = 442		D_F = 450							
NO FILL (BARE DECK)	36/4	0	743	654	583	516	460	---	---	---	---	---	---	---	---	0.907		
		1	911	813	732	664	607	555	506	---	---	---	---	---	---	---	0.610	
		2	1048	948	863	789	726	671	623	581	538	499	466	436	410	388	369	0.459
		3	1157	1061	975	899	832	773	721	675	634	597	562	527	495	469	446	0.368
		4	1244	1154	1071	995	927	866	811	762	718	678	642	610	580	550	523	0.307
		5	1313	1230	1151	1078	1011	949	893	842	796	754	716	681	649	619	592	0.264
		6	1369	1293	1219	1149	1084	1023	967	915	868	824	784	748	714	683	<u>654</u>	0.231
		7	1413	1345	1277	1211	1148	1089	1033	982	934	889	848	810	<u>775</u>	<u>743</u>	<u>712</u>	0.206
		8	1450	1388	1325	1263	1204	1146	1092	1042	994	949	908	<u>869</u>	<u>833</u>	<u>799</u>	<u>768</u>	0.185
		9	1479	1423	1366	1308	1252	1198	1145	1096	1049	1004	963	<u>924</u>	<u>887</u>	<u>853</u>	<u>820</u>	0.168
			K2 = 1056		K4_B = 3.55		K4_F = 3.41		D_B = 628		D_F = 610							
NO FILL (BARE DECK)	36/3	0	621	555	500	454	411	---	---	---	---	---	---	---	---	1.209		
		1	746	681	624	574	530	491	457	---	---	---	---	---	---	---	0.733	
		2	836	776	721	671	626	585	548	515	486	459	435	407	382	362	344	0.526
		3	900	847	797	750	705	665	627	593	561	533	506	482	460	440	421	0.410
		4	946	901	856	812	770	731	694	660	628	598	571	546	522	500	480	0.336
		5	979	941	901	862	823	786	751	718	686	656	629	603	578	556	534	0.285
		6	1005	971	937	901	867	832	799	767	737	707	680	654	629	606	584	0.247
		7	1024	995	965	933	902	870	839	809	780	752	725	699	675	652	<u>630</u>	0.218
		8	1039	1014	987	959	931	902	873	845	818	791	765	740	716	<u>693</u>	<u>671</u>	0.195
		9	1050	1029	1005	980	955	929	902	876	850	825	800	776	753	<u>730</u>	<u>709</u>	0.177
			K2 = 1056		K4_B = 3.55		K4_F = 3.41		D_B = 1298		D_F = 1198							

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.219	8803	6467	4952	3912	3169	2619	2201	1875	1617	1408	1238	1097	978	878	792
	F	0.156	6893	5065	3878	3064	2482	2051	1723	1468	1266	1103	969	859	766	687	620

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.55 Ω (EQ): 3.00
 Φ (WIND): 0.70 Ω (WIND): 2.35
 Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
NO FILL (BARE DECK)	36/9	0	2269	1996	1778	1597	1429	---	---	---	---	---	---	---	---	---	0.464	
		1	2506	2218	1984	1791	1631	1477	1346	---	---	---	---	---	---	---	0.381	
		2	2724	2426	2179	1974	1802	1655	1516	1393	1287	1196	1116	1045	982	926	876	0.324
		3	2924	2619	2364	2149	1966	1810	1676	1549	1433	1331	1243	1165	1095	1033	<u>977</u>	0.281
		4	3107	2800	2538	2315	2124	1960	1817	1693	1578	1467	1370	1285	<u>1208</u>	<u>1140</u>	<u>1079</u>	0.248
		5	3273	2966	2701	2473	2275	2104	1954	1823	1708	1603	<u>1497</u>	<u>1404</u>	<u>1322</u>	<u>1248</u>	<u>1181</u>	0.223
		6	3424	3121	2854	2622	2419	2242	2087	1950	1828	<u>1720</u>	<u>1624</u>	<u>1524</u>	<u>1435</u>	<u>1355</u>	<u>1283</u>	0.202
		7	3560	3263	2997	2763	2557	2375	2214	2072	<u>1946</u>	<u>1833</u>	<u>1731</u>	<u>1640</u>	<u>1548</u>	<u>1462</u>	<u>1384</u>	0.184
		8	3685	3394	3131	2896	2687	2502	2337	2191	<u>2060</u>	<u>1942</u>	<u>1837</u>	<u>1741</u>	<u>1655</u>	<u>1569</u>	<u>1486</u>	0.170
		9	3797	3514	3255	3021	2811	2624	2456	<u>2305</u>	<u>2170</u>	<u>2049</u>	<u>1939</u>	<u>1840</u>	<u>1750</u>	<u>1667</u>	<u>1588</u>	0.157
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85							
	36/7	0	1452	1262	1110	982	879	---	---	---	---	---	---	---	---	---	0.696	
		1	1728	1512	1341	1204	1083	980	895	---	---	---	---	---	---	---	---	0.525
		2	1982	1746	1556	1401	1273	1165	1065	980	907	843	788	739	696	657	622	0.422
		3	2214	1964	1759	1590	1449	1329	1227	1136	1052	979	915	859	809	764	724	0.352
		4	2425	2165	1950	1769	1617	1487	1375	1279	1194	1115	1042	979	922	871	825	0.303
		5	2614	2351	2128	1939	1777	1639	1519	1414	1322	1241	1169	1098	1035	978	927	0.265
		6	2784	2521	2294	2099	1930	1784	1657	1545	1447	1360	1282	1213	1148	<u>1085</u>	<u>1029</u>	0.236
		7	2936	2676	2448	2249	2075	1923	1790	1672	1568	1476	1393	<u>1318</u>	<u>1251</u>	<u>1190</u>	<u>1131</u>	0.212
		8	3071	2817	2590	2389	2212	2055	1917	1794	1685	1588	<u>1500</u>	<u>1421</u>	<u>1350</u>	<u>1285</u>	<u>1226</u>	0.193
		9	3192	2945	2721	2520	2341	2181	2039	1912	1799	<u>1697</u>	<u>1605</u>	<u>1522</u>	<u>1446</u>	<u>1378</u>	<u>1315</u>	0.177
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	45	D_F	85							
	36/5	0	1285	1130	1006	905	813	---	---	---	---	---	---	---	---	---	0.835	
		1	1517	1348	1209	1094	998	916	840	---	---	---	---	---	---	---	---	0.601
		2	1716	1541	1393	1268	1162	1071	992	923	860	799	747	700	659	622	589	0.469
		3	1885	1710	1559	1428	1314	1216	1130	1054	988	928	874	820	772	729	691	0.385
		4	2028	1858	1706	1573	1455	1351	1260	1179	1107	1042	984	932	885	836	792	0.326
		5	2149	1986	1837	1703	1583	1477	1381	1296	1220	1151	1089	1033	982	936	893	0.283
		6	2251	2096	1953	1821	1701	1592	1495	1406	1327	1254	1189	1130	1075	1026	<u>980</u>	0.250
		7	2337	2192	2054	1926	1807	1699	1600	1510	1427	1353	1284	1222	1165	<u>1112</u>	<u>1064</u>	0.224
		8	2409	2274	2143	2019	1904	1796	1697	1606	1522	1446	1375	<u>1311</u>	<u>1251</u>	<u>1196</u>	<u>1145</u>	0.203
		9	2471	2345	2222	2103	1991	1885	1787	1695	1611	1533	1461	<u>1395</u>	<u>1333</u>	<u>1277</u>	<u>1224</u>	0.185
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	290	D_F	295							
	36/4	0	984	866	772	689	616	---	---	---	---	---	---	---	---	---	1.044	
		1	1206	1077	969	879	804	739	676	---	---	---	---	---	---	---	---	0.702
		2	1387	1256	1142	1045	961	888	824	769	718	668	623	584	549	518	490	0.528
		3	1532	1405	1291	1190	1102	1024	955	894	839	791	747	704	662	625	592	0.424
		4	1647	1528	1417	1317	1227	1147	1074	1009	951	898	850	807	768	732	694	0.354
		5	1739	1629	1524	1427	1338	1257	1182	1115	1054	998	947	901	859	820	784	0.304
		6	1812	1712	1614	1522	1435	1354	1280	1212	1149	1091	1039	990	945	904	866	0.266
		7	1871	1780	1690	1603	1520	1441	1368	1300	1236	1178	1123	1073	1026	983	943	0.237
		8	1919	1837	1754	1673	1594	1518	1446	1379	1316	1257	1202	1151	1103	<u>1058</u>	<u>1017</u>	0.213
		9	1959	1885	1808	1732	1658	1586	1517	1451	1389	1330	1275	1223	1174	<u>1129</u>	<u>1086</u>	0.194
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	412	D_F	400							
	36/3	0	822	735	662	602	550	---	---	---	---	---	---	---	---	---	1.392	
		1	988	902	826	759	701	650	605	---	---	---	---	---	---	---	---	0.843
		2	1107	1028	955	889	829	775	726	682	643	608	576	545	513	484	457	0.605
		3	1191	1122	1055	992	934	880	830	785	743	705	671	639	609	582	557	0.472
		4	1252	1192	1133	1075	1020	968	919	874	832	792	756	722	691	662	635	0.387
		5	1297	1245	1193	1141	1090	1041	994	950	908	869	832	798	766	736	707	0.327
		6	1330	1286	1240	1194	1147	1102	1058	1016	975	937	900	866	833	802	773	0.284
		7	1356	1317	1277	1236	1194	1152	1111	1071	1033	996	960	926	894	863	834	0.251
		8	1375	1342	1307	1270	1232	1194	1156	1119	1083	1047	1013	980	948	918	888	0.224
		9	1391	1362	1331	1298	1264	1229	1195	1160	1126	1092	1059	1027	997	967	938	0.203
		K2 =	1398	K4_B =	3.55	K4_F =	3.41	D_B	852	D_F	786							

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Deck Profile	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
No Fill	B	0.292	13482	9905	7583	5992	4853	4011	3370	2872	2476	2157	1896	1679	1498	1344	1213
	F	0.207	10519	7728	5917	4675	3787	3130	2630	2241	1932	1683	1479	1310	1169	1049	947

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE:	1.5 B,F		
DECK GAGE:	22 (t = 0.0295 ")		Φ (EQ): 0.50 Ω (EQ): 3.25
SUPPORT FASTENERS:	3/4 " puddle weld or equivalent		Φ (WIND): 0.50 Ω (WIND): 3.25
SIDLAP FASTENERS:	5/8 " puddle weld or 1 1/2" long fillet weld		Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	8357	7863	7493	7206	6976	---	---	---	---	---	---	---	---	---	0.324		
		1	8985	8402	7964	7624	7352	7130	6944	---	---	---	---	---	---	---	0.222		
		2	9613	8940	8435	8043	7729	7472	7258	7077	6922	6788	6670	6566	6474	6391	6317	0.169	
		3	10241	9478	8907	8462	8106	7815	7572	7367	7191	7039	6905	6788	6683	6589	6505	0.136	
		4	10869	10017	9378	8881	8483	8158	7886	7657	7460	7290	7141	7009	6892	6788	6694	0.114	
		5	11497	10555	9849	9299	8860	8500	8200	7947	7730	7541	7376	7231	7102	6986	6882	0.098	
		6	12125	11093	10320	9718	9237	8843	8514	8237	7999	7792	7612	7453	7311	7184	7070	0.086	
		7	12753	11632	10791	10137	9613	9185	8829	8527	8268	8044	7847	7674	7520	7383	7259	0.077	
		8	13381	12170	11262	10555	9990	9528	9143	8817	8537	8295	8083	7896	7730	7581	7447	0.069	
	9	14009	12708	11733	10974	10367	9870	9457	9106	8806	8546	8318	8118	7939	7779	7636	0.063		
			K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	7006	6705	6480	6305	6165	---	---	---	---	---	---	---	---	---	0.486		
		1	7634	7244	6951	6724	6542	6393	6269	---	---	---	---	---	---	---	0.287		
		2	8262	7782	7422	7143	6919	6736	6583	6454	6343	6247	6163	6089	6023	5965	5912	0.204	
		3	8890	8320	7893	7561	7296	7078	6897	6744	6612	6498	6399	6311	6233	6163	6100	0.158	
		4	9518	8859	8364	7980	7672	7421	7211	7034	6882	6750	6634	6533	6442	6361	6288	0.129	
		5	10146	9397	8835	8399	8049	7763	7525	7323	7151	7001	6870	6754	6651	6560	6477	0.109	
		6	10774	9935	9306	8817	8426	8106	7839	7613	7420	7252	7105	6976	6861	6758	6665	0.094	
7		11402	10474	9777	9236	8803	8448	8153	7903	7689	7503	7341	7198	7070	6956	6854	0.083		
8		12030	11012	10248	9655	9180	8791	8467	8193	7958	7755	7576	7419	7280	7154	7042	0.074		
9	12658	11550	10720	10073	9556	9134	8781	8483	8227	8006	7812	7641	7489	7353	7230	0.067			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	6856	6577	6368	6205	6075	---	---	---	---	---	---	---	---	---	0.583			
	1	7484	7115	6839	6624	6452	6311	6194	---	---	---	---	---	---	---	0.319			
	2	8112	7653	7310	7043	6829	6654	6508	6385	6279	6187	6107	6036	5973	5917	5867	0.219		
	3	8740	8192	7781	7461	7206	6996	6822	6674	6548	6438	6343	6258	6183	6115	6055	0.167		
	4	9368	8730	8252	7880	7582	7339	7136	6964	6817	6690	6578	6480	6392	6314	6243	0.135		
	5	9996	9268	8723	8299	7959	7681	7450	7254	7086	6941	6814	6701	6601	6512	6432	0.113		
	6	10624	9807	9194	8717	8336	8024	7764	7544	7355	7192	7049	6923	6811	6710	6620	0.098		
	7	11252	10345	9665	9136	8713	8367	8078	7834	7625	7443	7285	7145	7020	6909	6809	0.086		
	8	11880	10883	10136	9555	9090	8709	8392	8124	7894	7695	7520	7366	7229	7107	6997	0.076		
9	12508	11422	10607	9973	9466	9052	8706	8414	8163	7946	7756	7588	7439	7305	7185	0.069			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	6405	6191	6030	5905	5805	---	---	---	---	---	---	---	---	---	0.728			
	1	7033	6729	6501	6324	6182	6066	5969	---	---	---	---	---	---	---	0.358			
	2	7661	7267	6972	6742	6559	6408	6283	6177	6086	6007	5938	5877	5823	5775	5731	0.237		
	3	8289	7806	7443	7161	6935	6751	6597	6467	6355	6258	6174	6099	6033	5973	5920	0.177		
	4	8917	8344	7914	7580	7312	7093	6911	6756	6624	6510	6409	6321	6242	6172	6108	0.142		
	5	9545	8882	8385	7998	7689	7436	7225	7046	6893	6761	6645	6542	6451	6370	6297	0.118		
	6	10173	9421	8856	8417	8066	7778	7539	7336	7163	7012	6880	6764	6661	6568	6485	0.101		
	7	10801	9959	9327	8836	8443	8121	7853	7626	7432	7263	7116	6986	6870	6767	6673	0.088		
	8	11429	10497	9798	9254	8819	8464	8167	7916	7701	7514	7351	7207	7079	6965	6862	0.078		
9	12058	11036	10269	9673	9196	8806	8481	8206	7970	7766	7587	7429	7289	7163	7050	0.071			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	6255	6062	5917	5805	5715	---	---	---	---	---	---	---	---	---	0.971			
	1	6883	6600	6388	6224	6092	5984	5894	---	---	---	---	---	---	---	0.408			
	2	7511	7139	6859	6642	6468	6326	6208	6108	6022	5947	5882	5824	5773	5728	5686	0.258		
	3	8139	7677	7331	7061	6845	6669	6522	6397	6291	6198	6117	6046	5983	5926	5875	0.189		
	4	8767	8215	7802	7480	7222	7011	6836	6687	6560	6450	6353	6268	6192	6124	6063	0.149		
	5	9395	8754	8273	7898	7599	7354	7150	6977	6829	6701	6588	6489	6401	6323	6252	0.123		
	6	10023	9292	8744	8317	7976	7697	7464	7267	7098	6952	6824	6711	6611	6521	6440	0.105		
	7	10651	9830	9215	8736	8353	8039	7778	7557	7367	7203	7059	6933	6820	6719	6628	0.091		
	8	11279	10369	9686	9154	8729	8382	8092	7847	7636	7454	7295	7154	7029	6917	6817	0.081		
9	11907	10907	10157	9573	9106	8724	8406	8137	7906	7706	7530	7376	7239	7116	7005	0.072			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	9057	8464	8019	7673	7396	---	---	---	---	---	---	---	---	---	0.357		
		1	9811	9110	8584	8176	7848	7581	7358	---	---	---	---	---	---	---	0.244		
		2	10565	9757	9150	8678	8301	7992	7735	7517	7330	7169	7027	6902	6791	6692	6603	0.186	
		3	11319	10403	9716	9181	8753	8403	8112	7865	7654	7470	7310	7168	7043	6930	6829	0.150	
		4	12073	11049	10281	9684	9206	8815	8489	8213	7977	7772	7593	7435	7294	7168	7055	0.126	
		5	12828	11696	10847	10186	9658	9226	8866	8561	8300	8074	7876	7701	7545	7406	7281	0.108	
		6	13582	12342	11412	10689	10111	9637	9243	8909	8623	8375	8158	7967	7797	7645	7508	0.095	
		7	14336	12988	11978	11192	10563	10049	9620	9257	8946	8677	8441	8233	8048	7883	7734	0.085	
		8	15090	13635	12543	11695	11016	10460	9997	9605	9270	8979	8724	8499	8299	8121	7960	0.076	
		9	15844	14281	13109	12197	11468	10871	10374	9953	9593	9280	9007	8765	8551	8359	8186	0.069	
		K2 =	1056	K3	2377	K4B =	3.55	K4F =	3.41										
	36/7	0	7432	7071	6800	6590	6421	---	---	---	---	---	---	---	---	---	0.535		
		1	8186	7717	7366	7092	6873	6694	6545	---	---	---	---	---	---	---	0.317		
		2	8940	8364	7931	7595	7326	7106	6922	6767	6634	6519	6418	6329	6250	6179	6115	0.225	
		3	9694	9010	8497	8098	7778	7517	7299	7115	6957	6820	6701	6595	6501	6417	6341	0.174	
		4	10448	9656	9062	8600	8231	7928	7676	7463	7280	7122	6983	6861	6752	6655	6568	0.142	
		5	11203	10303	9628	9103	8683	8340	8053	7811	7604	7424	7266	7127	7004	6893	6794	0.120	
		6	11957	10949	10194	9606	9136	8751	8430	8159	7927	7725	7549	7393	7255	7131	7020	0.104	
		7	12711	11596	10759	10109	9588	9162	8808	8507	8250	8027	7832	7660	7506	7369	7246	0.092	
		8	13465	12242	11325	10611	10041	9574	9185	8855	8573	8329	8114	7926	7758	7608	7472	0.082	
		9	14219	12888	11890	11114	10493	9985	9562	9203	8896	8630	8397	8192	8009	7846	7699	0.074	
		K2 =	1056	K3	2377	K4B =	3.55	K4F =	3.41										
	36/5	0	7252	6916	6665	6469	6313	---	---	---	---	---	---	---	---	---	0.642		
		1	8006	7563	7230	6972	6765	6596	6455	---	---	---	---	---	---	---	0.351		
		2	8760	8209	7796	7475	7218	7007	6832	6684	6557	6446	6350	6265	6189	6122	6061	0.242	
		3	9514	8855	8361	7977	7670	7419	7209	7032	6880	6748	6633	6531	6441	6360	6287	0.184	
		4	10268	9502	8927	8480	8122	7830	7586	7380	7203	7050	6916	6797	6692	6598	6513	0.149	
		5	11022	10148	9493	8983	8575	8241	7963	7728	7526	7351	7198	7063	6944	6836	6740	0.125	
		6	11776	10794	10058	9485	9027	8653	8340	8076	7849	7653	7481	7330	7195	7074	6966	0.108	
		7	12530	11441	10624	9988	9480	9064	8717	8424	8173	7955	7764	7596	7446	7312	7192	0.094	
		8	13284	12087	11189	10491	9932	9475	9094	8772	8496	8256	8047	7862	7698	7551	7418	0.084	
		9	14038	12733	11755	10994	10385	9887	9471	9120	8819	8558	8330	8128	7949	7789	7645	0.076	
		K2 =	1056	K3	2377	K4B =	3.55	K4F =	3.41										
	36/4	0	6710	6452	6258	6108	5988	---	---	---	---	---	---	---	---	---	0.802		
		1	7464	7098	6824	6611	6440	6300	6184	---	---	---	---	---	---	---	0.394		
		2	8218	7745	7390	7113	6893	6712	6561	6434	6324	6230	6147	6074	6009	5951	5898	0.261	
		3	8972	8391	7955	7616	7345	7123	6938	6782	6648	6531	6430	6340	6260	6189	6125	0.195	
		4	9726	9037	8521	8119	7797	7534	7315	7130	6971	6833	6713	6606	6512	6427	6351	0.156	
		5	10480	9684	9086	8622	8250	7946	7692	7478	7294	7135	6995	6872	6763	6665	6577	0.130	
		6	11234	10330	9652	9124	8702	8357	8069	7826	7617	7436	7278	7138	7014	6903	6803	0.111	
		7	11988	10976	10217	9627	9155	8768	8446	8174	7940	7738	7561	7405	7266	7141	7030	0.097	
		8	12743	11623	10783	10130	9607	9180	8823	8522	8264	8040	7844	7671	7517	7380	7256	0.086	
		9	13497	12269	11349	10633	10060	9591	9200	8870	8587	8341	8126	7937	7768	7618	7482	0.078	
		K2 =	1056	K3	2377	K4B =	3.55	K4F =	3.41										
	36/3	0	6529	6297	6123	5988	5879	---	---	---	---	---	---	---	---	---	1.070		
		1	7283	6944	6689	6490	6332	6202	6094	---	---	---	---	---	---	---	0.450		
		2	8037	7590	7254	6993	6784	6613	6471	6350	6247	6158	6079	6010	5949	5894	5844	0.285	
		3	8792	8236	7820	7496	7237	7025	6848	6698	6570	6459	6362	6276	6200	6132	6070	0.208	
		4	9546	8883	8385	7999	7689	7436	7225	7046	6893	6761	6645	6542	6451	6370	6297	0.164	
		5	10300	9529	8951	8501	8142	7847	7602	7395	7217	7062	6928	6809	6703	6608	6523	0.135	
		6	11054	10175	9516	9004	8594	8259	7979	7743	7540	7364	7210	7075	6954	6846	6749	0.115	
		7	11808	10822	10082	9507	9046	8670	8356	8091	7863	7666	7493	7341	7206	7084	6975	0.100	
		8	12562	11468	10648	10009	9499	9081	8733	8439	8186	7967	7776	7607	7457	7323	7202	0.089	
		9	13316	12114	11213	10512	9951	9493	9110	8787	8509	8269	8059	7873	7708	7561	7428	0.080	
		K2 =	1056	K3	2377	K4B =	3.55	K4F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2 " long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	10313	9541	8961	8510	8150	---	---	---	---	---	---	---	---	---	0.410		
		1	11292	10380	9695	9163	8737	8389	8098	---	---	---	---	---	---	---	0.281		
		2	12271	11219	10429	9815	9324	8922	8588	8304	8061	7851	7667	7504	7360	7231	7114	0.214	
		3	13250	12058	11163	10468	9912	9456	9077	8756	8481	8242	8034	7850	7686	7540	7408	0.172	
		4	14229	12896	11897	11120	10499	9990	9566	9208	8900	8634	8401	8195	8012	7849	7702	0.144	
		5	15207	13735	12632	11773	11086	10524	10056	9660	9320	9025	8768	8541	8339	8158	7995	0.124	
		6	16186	14574	13366	12425	11673	11058	10545	10111	9739	9417	9135	8886	8665	8467	8289	0.109	
		7	17165	15413	14100	13078	12261	11592	11035	10563	10159	9809	9502	9232	8991	8776	8582	0.097	
		8	18144	16252	14834	13730	12848	12126	11524	11015	10578	10200	9869	9577	9317	9085	8876	0.088	
	9	19122	17091	15568	14383	13435	12660	12013	11466	10998	10592	10236	9922	9644	9394	9170	0.080		
			K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	8197	7726	7374	7099	6880	---	---	---	---	---	---	---	---	---	0.615		
		1	9176	8565	8108	7752	7467	7234	7040	---	---	---	---	---	---	---	0.364		
		2	10154	9404	8842	8404	8054	7768	7529	7327	7154	7004	6873	6757	6654	6562	6479	0.259	
		3	11133	10243	9576	9057	8642	8302	8019	7779	7574	7396	7240	7103	6981	6871	6773	0.200	
		4	12112	11082	10310	9709	9229	8836	8508	8231	7993	7787	7607	7448	7307	7180	7067	0.164	
		5	13091	11921	11044	10362	9816	9370	8997	8683	8413	8179	7974	7794	7633	7489	7360	0.138	
		6	14069	12760	11778	11014	10403	9903	9487	9134	8832	8570	8341	8139	7959	7799	7654	0.120	
7		15048	13599	12512	11667	10991	10437	9976	9586	9252	8962	8708	8485	8286	8108	7947	0.106		
8		16027	14438	13246	12319	11578	10971	10466	10038	9671	9353	9075	8830	8612	8417	8241	0.094		
9	17006	15277	13980	12972	12165	11505	10955	10490	10091	9745	9442	9175	8938	8726	8535	0.085			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	7962	7525	7197	6943	6739	---	---	---	---	---	---	---	---	---	0.739			
	1	8940	8364	7931	7595	7326	7106	6922	---	---	---	---	---	---	---	0.404			
	2	9919	9203	8665	8248	7913	7640	7412	7219	7054	6910	6785	6674	6576	6488	6409	0.278		
	3	10898	10042	9400	8900	8500	8174	7901	7671	7473	7302	7152	7020	6902	6797	6702	0.212		
	4	11877	10881	10134	9553	9088	8707	8391	8122	7892	7693	7519	7365	7228	7106	6996	0.171		
	5	12855	11720	10868	10205	9675	9241	8880	8574	8312	8085	7886	7711	7555	7415	7290	0.144		
	6	13834	12559	11602	10858	10262	9775	9369	9026	8731	8476	8253	8056	7881	7724	7583	0.124		
	7	14813	13398	12336	11510	10850	10309	9859	9478	9151	8868	8620	8402	8207	8033	7877	0.109		
	8	15792	14236	13070	12163	11437	10843	10348	9929	9570	9259	8987	8747	8533	8342	8171	0.097		
9	16771	15075	13804	12815	12024	11377	10837	10381	9990	9651	9354	9092	8860	8652	8464	0.087			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	7256	6920	6668	6472	6315	---	---	---	---	---	---	---	---	---	0.923			
	1	8235	7759	7402	7125	6903	6721	6570	---	---	---	---	---	---	---	0.454			
	2	9214	8598	8136	7777	7490	7255	7059	6893	6751	6628	6520	6425	6341	6265	6197	0.301		
	3	10192	9437	8870	8430	8077	7789	7548	7345	7171	7020	6887	6771	6667	6574	6491	0.225		
	4	11171	10276	9604	9082	8664	8323	8038	7797	7590	7411	7254	7116	6993	6883	6784	0.180		
	5	12150	11115	10339	9735	9252	8856	8527	8248	8010	7803	7621	7462	7320	7192	7078	0.150		
	6	13129	11954	11073	10387	9839	9390	9017	8700	8429	8194	7988	7807	7646	7501	7372	0.128		
	7	14108	12793	11807	11040	10426	9924	9506	9152	8849	8586	8356	8152	7972	7811	7665	0.112		
	8	15086	13632	12541	11692	11013	10458	9995	9604	9268	8977	8723	8498	8298	8120	7959	0.099		
9	16065	14471	13275	12345	11601	10992	10485	10055	9687	9369	9090	8843	8625	8429	8253	0.090			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	7021	6719	6492	6315	6174	---	---	---	---	---	---	---	---	---	1.231			
	1	8000	7557	7226	6968	6762	6593	6452	---	---	---	---	---	---	---	0.517			
	2	8978	8396	7960	7620	7349	7127	6941	6785	6650	6534	6432	6342	6262	6191	6127	0.327		
	3	9957	9235	8694	8273	7936	7660	7431	7236	7070	6925	6799	6688	6589	6500	6420	0.239		
	4	10936	10074	9428	8925	8523	8194	7920	7688	7489	7317	7166	7033	6915	6809	6714	0.189		
	5	11915	10913	10162	9578	9111	8728	8410	8140	7909	7708	7533	7379	7241	7118	7007	0.156		
	6	12894	11752	10896	10230	9698	9262	8899	8592	8328	8100	7900	7724	7567	7427	7301	0.133		
	7	13872	12591	11630	10883	10285	9796	9388	9043	8748	8492	8267	8069	7894	7736	7595	0.115		
	8	14851	13430	12364	11535	10872	10330	9878	9495	9167	8883	8634	8415	8220	8045	7888	0.102		
9	15830	14269	13098	12188	11460	10864	10367	9947	9587	9275	9001	8760	8546	8354	8182	0.092			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE: 1.5 B,F
 DECK GAGE: 22 (t = 0.0295 ")
 SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
 SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7758	7350	7044	6806	6616	---	---	---	---	---	---	---	---	---	0.324		
		1	8386	7888	7515	7225	6993	6803	6645	---	---	---	---	---	---	---	0.222		
		2	9014	8427	7986	7644	7370	7146	6959	6801	6665	6548	6445	6355	6274	6202	6137	0.169	
		3	9642	8965	8457	8063	7747	7488	7273	7091	6935	6799	6681	6576	6483	6400	6326	0.136	
		4	10270	9503	8928	8481	8124	7831	7587	7381	7204	7050	6916	6798	6693	6599	6514	0.114	
		5	10898	10042	9399	8900	8500	8173	7901	7671	7473	7302	7152	7020	6902	6797	6702	0.098	
		6	11526	10580	9870	9319	8877	8516	8215	7960	7742	7553	7387	7241	7111	6995	6891	0.086	
		7	12154	11118	10341	9737	9254	8859	8529	8250	8011	7804	7623	7463	7321	7194	7079	0.077	
		8	12782	11656	10812	10156	9631	9201	8843	8540	8280	8055	7858	7685	7530	7392	7268	0.069	
	9	13410	12195	11283	10575	10008	9544	9157	8830	8550	8307	8094	7906	7739	7590	7456	0.063		
			K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	6641	6393	6207	6062	5946	---	---	---	---	---	---	---	---	---	0.486		
		1	7269	6931	6678	6481	6323	6194	6087	---	---	---	---	---	---	---	0.287		
		2	7897	7470	7149	6900	6700	6537	6401	6286	6187	6101	6027	5961	5902	5849	0.204		
		3	8525	8008	7620	7318	7077	6879	6715	6575	6456	6353	6262	6182	6111	6048	5991	0.158	
		4	9153	8546	8091	7737	7454	7222	7029	6865	6725	6604	6498	6404	6321	6246	6179	0.129	
		5	9781	9085	8562	8156	7830	7564	7343	7155	6994	6855	6733	6626	6530	6444	6367	0.109	
		6	10409	9623	9033	8574	8207	7907	7657	7445	7264	7106	6969	6847	6739	6643	6556	0.094	
7		11037	10161	9504	8993	8584	8250	7971	7735	7533	7358	7204	7069	6949	6841	6744	0.083		
8		11665	10699	9975	9412	8961	8592	8285	8025	7802	7609	7440	7291	7158	7039	6933	0.074		
9	12293	11238	10446	9830	9338	8935	8599	8315	8071	7860	7675	7512	7367	7238	7121	0.067			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	6517	6287	6114	5979	5872	---	---	---	---	---	---	---	---	---	0.583			
	1	7145	6825	6585	6398	6249	6127	6025	---	---	---	---	---	---	---	0.319			
	2	7773	7363	7056	6817	6626	6469	6339	6228	6134	6052	5980	5917	5861	5810	0.219			
	3	8401	7902	7527	7236	7002	6812	6653	6518	6403	6303	6216	6138	6070	6009	5953	0.167		
	4	9029	8440	7998	7654	7379	7154	6967	6808	6672	6554	6451	6360	6279	6207	6142	0.135		
	5	9657	8978	8469	8073	7756	7497	7281	7098	6941	6805	6687	6582	6489	6405	6330	0.113		
	6	10285	9517	8940	8492	8133	7839	7595	7388	7210	7057	6922	6803	6698	6604	6519	0.098		
	7	10913	10055	9411	8910	8510	8182	7909	7678	7480	7308	7158	7025	6907	6802	6707	0.086		
	8	11541	10593	9882	9329	8886	8524	8223	7968	7749	7559	7393	7247	7117	7000	6895	0.076		
9	12169	11131	10353	9748	9263	8867	8537	8257	8018	7810	7629	7468	7326	7199	7084	0.069			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	6145	5968	5835	5731	5649	---	---	---	---	---	---	---	---	---	0.728			
	1	6773	6506	6306	6150	6025	5924	5839	---	---	---	---	---	---	---	0.358			
	2	7401	7044	6777	6569	6402	6266	6153	6057	5974	5903	5841	5785	5737	5693	0.237			
	3	8029	7583	7248	6987	6779	6609	6467	6346	6243	6154	6076	6007	5946	5891	5842	0.177		
	4	8657	8121	7719	7406	7156	6951	6781	6636	6513	6405	6312	6229	6155	6089	6030	0.142		
	5	9285	8659	8190	7825	7533	7294	7095	6926	6782	6657	6547	6450	6365	6288	6219	0.118		
	6	9913	9198	8661	8243	7910	7636	7409	7216	7051	6908	6783	6672	6574	6486	6407	0.101		
	7	10541	9736	9132	8662	8286	7979	7723	7506	7320	7159	7018	6894	6783	6684	6595	0.088		
	8	11169	10274	9603	9081	8663	8321	8037	7796	7589	7410	7254	7115	6993	6883	6784	0.078		
9	11797	10812	10074	9500	9040	8664	8351	8086	7858	7661	7489	7337	7202	7081	6972	0.071			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	6021	5861	5742	5649	5574	---	---	---	---	---	---	---	---	---	0.971			
	1	6649	6400	6213	6067	5951	5856	5777	---	---	---	---	---	---	---	0.408			
	2	7277	6938	6684	6486	6328	6198	6091	5999	5921	5853	5794	5742	5695	5654	5616	0.258		
	3	7905	7476	7155	6905	6705	6541	6405	6289	6190	6105	6030	5963	5905	5852	5804	0.189		
	4	8533	8015	7626	7323	7081	6884	6719	6579	6459	6356	6265	6185	6114	6050	5993	0.149		
	5	9161	8553	8097	7742	7458	7226	7033	6869	6729	6607	6501	6407	6323	6249	6181	0.123		
	6	9789	9091	8568	8161	7835	7569	7347	7159	6998	6858	6736	6628	6533	6447	6370	0.105		
	7	10417	9629	9039	8579	8212	7911	7661	7449	7267	7109	6972	6850	6742	6645	6558	0.091		
	8	11045	10168	9510	8998	8589	8254	7975	7738	7536	7361	7207	7072	6951	6843	6747	0.081		
9	11673	10706	9981	9417	8966	8596	8289	8028	7805	7612	7443	7293	7161	7042	6935	0.072			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	8330	7841	7474	7188	6960	---	---	---	---	---	---	---	---	---	0.357		
		1	9084	8487	8039	7691	7412	7184	6994	---	---	---	---	---	---	---	0.244		
		2	9838	9134	8605	8194	7865	7596	7371	7182	7019	6878	6755	6646	6549	6462	6385	0.186	
		3	10593	9780	9170	8696	8317	8007	7748	7530	7342	7180	7037	6912	6800	6701	6611	0.150	
		4	11347	10426	9736	9199	8770	8418	8125	7878	7665	7481	7320	7178	7052	6939	6837	0.126	
		5	12101	11073	10302	9702	9222	8830	8503	8226	7988	7783	7603	7444	7303	7177	7063	0.108	
		6	12855	11719	10867	10205	9675	9241	8880	8574	8312	8085	7886	7710	7554	7415	7289	0.095	
		7	13609	12365	11433	10707	10127	9652	9257	8922	8635	8386	8169	7977	7806	7653	7516	0.085	
		8	14363	13012	11998	11210	10580	10064	9634	9270	8958	8688	8451	8243	8057	7891	7742	0.076	
		9	15117	13658	12564	11713	11032	10475	10011	9618	9281	8989	8734	8509	8309	8129	7968	0.069	
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/7	0	6990	6692	6468	6295	6156	---	---	---	---	---	---	---	---	---	0.535			
	1	7744	7338	7034	6797	6608	6453	6324	---	---	---	---	---	---	---	0.317			
	2	8498	7984	7599	7300	7060	6864	6701	6563	6444	6342	6252	6173	6102	6039	5982	0.225		
	3	9252	8631	8165	7803	7513	7276	7078	6911	6768	6643	6535	6439	6354	6277	6209	0.174		
	4	10006	9277	8731	8305	7965	7687	7455	7259	7091	6945	6817	6705	6605	6515	6435	0.142		
	5	10760	9924	9296	8808	8418	8098	7832	7607	7414	7247	7100	6971	6856	6754	6661	0.120		
	6	11514	10570	9862	9311	8870	8510	8209	7955	7737	7548	7383	7237	7108	6992	6887	0.104		
	7	12268	11216	10427	9814	9323	8921	8586	8303	8060	7850	7666	7503	7359	7230	7114	0.092		
	8	13022	11863	10993	10316	9775	9332	8963	8651	8383	8152	7949	7770	7610	7468	7340	0.082		
	9	13776	12509	11558	10819	10228	9744	9340	8999	8707	8453	8231	8036	7862	7706	7566	0.074		
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	6841	6564	6357	6195	6066	---	---	---	---	---	---	---	---	---	0.642			
	1	7595	7210	6922	6698	6519	6372	6250	---	---	---	---	---	---	---	0.351			
	2	8349	7857	7488	7201	6971	6783	6627	6494	6381	6282	6196	6120	6053	5992	5938	0.242		
	3	9103	8503	8053	7703	7424	7195	7004	6842	6704	6584	6479	6386	6304	6230	6164	0.184		
	4	9857	9150	8619	8206	7876	7606	7381	7190	7027	6885	6762	6652	6555	6468	6390	0.149		
	5	10611	9796	9184	8709	8328	8017	7758	7538	7350	7187	7044	6918	6807	6706	6616	0.125		
	6	11365	10442	9750	9212	8781	8428	8135	7886	7673	7489	7327	7185	7058	6945	6843	0.108		
	7	12119	11089	10316	9714	9233	8840	8512	8234	7996	7790	7610	7451	7309	7183	7069	0.094		
	8	12873	11735	10881	10217	9686	9251	8889	8582	8320	8092	7893	7717	7561	7421	7295	0.084		
	9	13628	12381	11447	10720	10138	9662	9266	8930	8643	8394	8176	7983	7812	7659	7521	0.076		
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	6394	6181	6021	5897	5798	---	---	---	---	---	---	---	---	---	0.802			
	1	7148	6827	6587	6400	6250	6128	6026	---	---	---	---	---	---	---	0.394			
	2	7902	7474	7153	6903	6703	6539	6403	6288	6189	6103	6028	5962	5904	5851	5804	0.261		
	3	8656	8120	7718	7406	7155	6951	6780	6636	6512	6405	6311	6228	6155	6089	6030	0.195		
	4	9410	8767	8284	7908	7608	7362	7157	6984	6835	6707	6594	6495	6406	6327	6256	0.156		
	5	10164	9413	8849	8411	8060	7773	7534	7332	7159	7008	6877	6761	6658	6565	6482	0.130		
	6	10918	10059	9415	8914	8513	8185	7911	7680	7482	7310	7160	7027	6909	6803	6709	0.111		
	7	11672	10706	9980	9416	8965	8596	8288	8028	7805	7612	7442	7293	7160	7042	6935	0.097		
	8	12427	11352	10546	9919	9418	9007	8665	8376	8128	7913	7725	7559	7412	7280	7161	0.086		
	9	13181	11998	11112	10422	9870	9419	9042	8724	8451	8215	8008	7825	7663	7518	7387	0.078		
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	6245	6053	5910	5798	5709	---	---	---	---	---	---	---	---	---	1.070			
	1	6999	6700	6475	6301	6161	6047	5952	---	---	---	---	---	---	---	0.450			
	2	7753	7346	7041	6803	6614	6458	6329	6219	6125	6044	5973	5910	5854	5804	5759	0.285		
	3	8507	7992	7606	7306	7066	6870	6706	6567	6448	6345	6255	6176	6105	6042	5985	0.208		
	4	9261	8639	8172	7809	7518	7281	7083	6915	6772	6647	6538	6442	6357	6280	6211	0.164		
	5	10015	9285	8738	8312	7971	7692	7460	7263	7095	6949	6821	6708	6608	6518	6438	0.135		
	6	10769	9932	9303	8814	8423	8103	7837	7611	7418	7250	7104	6974	6859	6756	6664	0.115		
	7	11524	10578	9869	9317	8876	8515	8214	7959	7741	7552	7387	7241	7111	6995	6890	0.100		
	8	12278	11224	10434	9820	9328	8926	8591	8307	8064	7854	7669	7507	7362	7233	7116	0.089		
	9	13032	11871	11000	10323	9781	9337	8968	8655	8387	8155	7952	7773	7613	7471	7343	0.080		
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	9351	8716	8239	7869	7572	---	---	---	---	---	---	---	---	---	0.410		
		1	10330	9555	8973	8521	8160	7864	7617	---	---	---	---	---	---	---	0.281		
		2	11309	10394	9708	9174	8747	8398	8106	7860	7649	7466	7306	7165	7039	6927	0.214		
		3	12287	11233	10442	9826	9334	8931	8596	8312	8068	7858	7673	7510	7365	7236	0.172		
		4	13266	12072	11176	10479	9921	9465	9085	8764	8488	8249	8040	7856	7692	7545	0.144		
		5	14245	12911	11910	11131	10509	9999	9575	9215	8907	8641	8407	8201	8018	7854	0.124		
		6	15224	13750	12644	11784	11096	10533	10064	9667	9327	9032	8774	8546	8344	8163	0.109		
		7	16202	14588	13378	12436	11683	11067	10553	10119	9746	9424	9141	8892	8670	8472	0.097		
		8	17181	15427	14112	13089	12270	11601	11043	10571	10166	9815	9508	9237	8997	8781	0.088		
		9	18160	16266	14846	13741	12858	12135	11532	11022	10585	10207	9875	9583	9323	9090	0.080		
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/7	0	7611	7224	6934	6709	6528	---	---	---	---	---	---	---	---	---	0.615			
	1	8590	8063	7668	7361	7116	6915	6747	---	---	---	---	---	---	---	0.364			
	2	9569	8902	8403	8014	7703	7448	7236	7057	6903	6770	6653	6551	6459	6377	0.259			
	3	10547	9741	9137	8666	8290	7982	7726	7509	7323	7162	7020	6896	6785	6686	0.200			
	4	11526	10580	9871	9319	8877	8516	8215	7961	7742	7553	7387	7241	7112	6995	0.164			
	5	12505	11419	10605	9971	9465	9050	8705	8412	8162	7945	7755	7587	7438	7304	0.138			
	6	13484	12258	11339	10624	10052	9584	9194	8864	8581	8336	8122	7932	7764	7614	0.120			
	7	14462	13097	12073	11276	10639	10118	9683	9316	9001	8728	8489	8278	8090	7923	0.106			
	8	15441	13936	12807	11929	11226	10652	10173	9767	9420	9119	8856	8623	8417	8232	0.094			
	9	16420	14775	13541	12581	11814	11186	10662	10219	9840	9511	9223	8969	8743	8541	0.085			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	7418	7059	6789	6580	6412	---	---	---	---	---	---	---	---	---	0.739			
	1	8396	7898	7523	7232	7000	6809	6650	---	---	---	---	---	---	---	0.404			
	2	9375	8737	8258	7885	7587	7343	7140	6968	6820	6693	6581	6482	6395	6316	0.278			
	3	10354	9575	8992	8537	8174	7877	7629	7420	7240	7084	6948	6828	6721	6625	0.212			
	4	11333	10414	9726	9190	8761	8411	8119	7871	7659	7476	7315	7173	7047	6934	0.171			
	5	12312	11253	10460	9842	9349	8945	8608	8323	8079	7867	7682	7519	7373	7243	0.144			
	6	13290	12092	11194	10495	9936	9479	9097	8775	8498	8259	8049	7864	7700	7553	0.124			
	7	14269	12931	11928	11148	10523	10012	9587	9227	8918	8650	8416	8210	8026	7862	0.109			
	8	15248	13770	12662	11800	11110	10546	10076	9678	9337	9042	8783	8555	8352	8171	0.097			
	9	16227	14609	13396	12453	11698	11080	10565	10130	9757	9433	9150	8900	8678	8480	0.087			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	6838	6561	6354	6193	6064	---	---	---	---	---	---	---	---	---	0.923			
	1	7816	7400	7088	6846	6652	6493	6360	---	---	---	---	---	---	---	0.454			
	2	8795	8239	7823	7498	7239	7027	6850	6700	6572	6461	6363	6278	6201	6133	0.301			
	3	9774	9078	8557	8151	7826	7561	7339	7152	6991	6852	6730	6623	6528	6442	0.225			
	4	10753	9917	9291	8803	8413	8094	7829	7604	7411	7244	7097	6968	6854	6751	0.180			
	5	11732	10756	10025	9456	9001	8628	8318	8055	7830	7635	7465	7314	7180	7060	0.150			
	6	12710	11595	10759	10108	9588	9162	8807	8507	8250	8027	7832	7659	7506	7369	0.128			
	7	13689	12434	11493	10761	10175	9696	9297	8959	8669	8418	8199	8005	7833	7678	0.112			
	8	14668	13273	12227	11413	10762	10230	9786	9411	9089	8810	8566	8350	8159	7988	0.099			
	9	15647	14112	12961	12066	11350	10764	10275	9862	9508	9201	8933	8696	8485	8297	0.090			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	6644	6396	6209	6064	5948	---	---	---	---	---	---	---	---	---	1.231			
	1	7623	7235	6943	6717	6536	6387	6264	---	---	---	---	---	---	---	0.517			
	2	8602	8074	7677	7369	7123	6921	6753	6611	6489	6383	6291	6209	6137	6072	0.327			
	3	9581	8913	8412	8022	7710	7455	7242	7063	6908	6775	6658	6555	6463	6381	0.239			
	4	10559	9752	9146	8674	8297	7989	7732	7514	7328	7166	7025	6900	6789	6690	0.189			
	5	11538	10591	9880	9327	8885	8523	8221	7966	7747	7558	7392	7246	7116	6999	0.156			
	6	12517	11429	10614	9979	9472	9057	8711	8418	8167	7949	7759	7591	7442	7308	0.133			
	7	13496	12268	11348	10632	10059	9591	9200	8870	8586	8341	8126	7937	7768	7617	0.115			
	8	14475	13107	12082	11284	10646	10124	9689	9321	9006	8732	8493	8282	8094	7926	0.102			
	9	15453	13946	12816	11937	11234	10658	10179	9773	9425	9124	8860	8627	8421	8236	0.092			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7758	7350	7044	6806	6616	---	---	---	---	---	---	---	---	---	0.324		
		1	7969	7531	7203	6947	6743	6576	6437	---	---	---	---	---	---	---	0.272		
		2	8180	7712	7361	7088	6870	6691	6542	6416	6308	6215	6133	6060	5996	5939	5887	0.234	
		3	8391	7893	7519	7229	6996	6806	6648	6514	6399	6299	6212	6135	6067	6005	5950	0.206	
		4	8602	8074	7678	7369	7123	6921	6753	6611	6489	6383	6291	6209	6137	6072	6014	0.183	
		5	8813	8255	7836	7510	7250	7036	6859	6708	6580	6468	6370	6284	6207	6139	6077	0.165	
		6	9024	8436	7994	7651	7376	7152	6964	6806	6670	6552	6449	6358	6278	6205	6140	0.151	
		7	9235	8617	8153	7792	7503	7267	7070	6903	6761	6637	6528	6433	6348	6272	6204	0.138	
		8	9447	8798	8311	7932	7630	7382	7175	7001	6851	6721	6608	6507	6418	6339	6267	0.128	
	9	9658	8979	8469	8073	7756	7497	7281	7098	6941	6806	6687	6582	6489	6405	6330	0.119		
			K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	6641	6393	6207	6062	5946	---	---	---	---	---	---	---	---	---	0.486		
		1	6852	6574	6365	6203	6073	5967	5878	---	---	---	---	---	---	---	0.377		
		2	7063	6755	6524	6344	6200	6082	5984	5901	5830	5768	5714	5666	5624	5586	5552	0.308	
		3	7274	6936	6682	6484	6326	6197	6089	5998	5920	5852	5793	5741	5694	5653	5615	0.261	
		4	7486	7117	6840	6625	6453	6312	6195	6096	6011	5937	5872	5815	5765	5719	5679	0.226	
		5	7697	7298	6999	6766	6580	6427	6301	6193	6101	6021	5951	5890	5835	5786	5742	0.199	
		6	7908	7479	7157	6907	6706	6543	6406	6291	6192	6106	6031	5964	5905	5853	5805	0.178	
7		8119	7660	7315	7047	6833	6658	6512	6388	6282	6190	6110	6039	5976	5919	5869	0.161		
8		8330	7841	7474	7188	6960	6773	6617	6485	6373	6275	6189	6113	6046	5986	5932	0.147		
9	8541	8022	7632	7329	7086	6888	6723	6583	6463	6359	6268	6188	6117	6053	5995	0.135			
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	6517	6287	6114	5979	5872	---	---	---	---	---	---	---	---	---	0.583			
	1	6728	6468	6272	6120	5999	5899	5816	---	---	---	---	---	---	---	0.433			
	2	6939	6649	6431	6261	6125	6014	5922	5844	5776	5718	5667	5623	5583	5547	5515	0.345		
	3	7150	6830	6589	6402	6252	6129	6027	5941	5867	5803	5747	5697	5653	5614	5578	0.286		
	4	7362	7011	6747	6542	6379	6245	6133	6038	5957	5887	5826	5772	5723	5680	5641	0.245		
	5	7573	7191	6906	6683	6505	6360	6238	6136	6048	5972	5905	5846	5794	5747	5705	0.214		
	6	7784	7372	7064	6824	6632	6475	6344	6233	6138	6056	5984	5921	5864	5814	5768	0.190		
	7	7995	7553	7222	6965	6759	6590	6450	6331	6229	6141	6063	5995	5935	5880	5831	0.171		
	8	8206	7734	7381	7105	6885	6705	6555	6428	6319	6225	6142	6070	6005	5947	5895	0.155		
9	8417	7915	7539	7246	7012	6820	6661	6526	6410	6309	6222	6144	6075	6014	5958	0.142			
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	6145	5968	5835	5731	5649	---	---	---	---	---	---	---	---	---	0.728			
	1	6356	6149	5993	5872	5775	5696	5630	---	---	---	---	---	---	---	0.509			
	2	6567	6330	6151	6013	5902	5811	5736	5672	5617	5569	5528	5491	5459	5429	5403	0.391		
	3	6778	6511	6310	6154	6029	5926	5841	5769	5707	5654	5607	5566	5529	5496	5466	0.318		
	4	6989	6692	6468	6294	6155	6042	5947	5867	5798	5738	5686	5640	5599	5563	5530	0.267		
	5	7200	6872	6626	6435	6282	6157	6052	5964	5888	5823	5765	5715	5670	5629	5593	0.231		
	6	7412	7053	6785	6576	6409	6272	6158	6062	5979	5907	5845	5789	5740	5696	5657	0.203		
	7	7623	7234	6943	6717	6535	6387	6264	6159	6069	5992	5924	5864	5810	5763	5720	0.181		
	8	7834	7415	7101	6857	6662	6502	6369	6256	6160	6076	6003	5938	5881	5829	5783	0.164		
9	8045	7596	7260	6998	6789	6617	6475	6354	6250	6161	6082	6013	5951	5896	5847	0.149			
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	6021	5861	5742	5649	5574	---	---	---	---	---	---	---	---	---	0.971			
	1	6232	6042	5900	5789	5701	5628	5568	---	---	---	---	---	---	---	0.617			
	2	6443	6223	6058	5930	5828	5744	5674	5615	5564	5520	5481	5447	5417	5390	5366	0.452		
	3	6654	6404	6217	6071	5954	5859	5779	5712	5654	5604	5561	5522	5488	5457	5429	0.356		
	4	6865	6585	6375	6212	6081	5974	5885	5809	5745	5689	5640	5596	5558	5524	5493	0.294		
	5	7076	6766	6533	6352	6208	6089	5990	5907	5835	5773	5719	5671	5628	5590	5556	0.251		
	6	7288	6947	6692	6493	6334	6204	6096	6004	5926	5858	5798	5745	5699	5657	5619	0.218		
	7	7499	7128	6850	6634	6461	6319	6202	6102	6016	5942	5877	5820	5769	5724	5683	0.193		
	8	7710	7309	7008	6775	6588	6435	6307	6199	6107	6027	5956	5894	5839	5790	5746	0.173		
9	7921	7490	7167	6915	6714	6550	6413	6297	6197	6111	6036	5969	5910	5857	5809	0.157			
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	8330	7841	7474	7188	6960	---	---	---	---	---	---	---	---	---	0.357		
		1	8587	8060	7666	7359	7114	6913	6745	---	---	---	---	---	---	---	0.299		
		2	8843	8280	7858	7530	7267	7053	6874	6722	6592	6480	6381	6294	6217	6148	6086	0.258	
		3	9099	8500	8050	7701	7421	7192	7002	6840	6702	6582	6477	6385	6303	6229	6163	0.226	
		4	9355	8719	8242	7872	7575	7332	7130	6959	6812	6685	6573	6475	6388	6310	6240	0.202	
		5	9611	8939	8435	8042	7729	7472	7258	7077	6922	6787	6669	6566	6473	6391	6316	0.182	
		6	9868	9159	8627	8213	7882	7612	7386	7195	7031	6890	6766	6656	6559	6472	6393	0.166	
		7	10124	9378	8819	8384	8036	7751	7514	7313	7141	6992	6862	6746	6644	6553	6470	0.152	
		8	10380	9598	9011	8555	8190	7891	7642	7432	7251	7095	6958	6837	6730	6633	6547	0.141	
	9	10636	9817	9203	8726	8343	8031	7770	7550	7361	7197	7054	6927	6815	6714	6624	0.131		
			K2 =	1056	K3 =		2377	K4B =		3.55	K4F =		3.41						
	36/7	0	6990	6692	6468	6295	6156	---	---	---	---	---	---	---	---	---	0.535		
		1	7246	6911	6661	6465	6309	6182	6075	---	---	---	---	---	---	---	0.415		
		2	7502	7131	6853	6636	6463	6321	6203	6103	6018	5943	5878	5821	5770	5725	5684	0.340	
		3	7758	7351	7045	6807	6617	6461	6331	6222	6127	6046	5975	5912	5856	5806	5761	0.287	
		4	8015	7570	7237	6978	6770	6601	6459	6340	6237	6148	6071	6002	5941	5886	5837	0.249	
		5	8271	7790	7429	7149	6924	6741	6588	6458	6347	6251	6167	6092	6026	5967	5914	0.219	
		6	8527	8009	7621	7319	7078	6880	6716	6576	6457	6353	6263	6183	6112	6048	5991	0.196	
7		8783	8229	7813	7490	7232	7020	6844	6695	6567	6456	6359	6273	6197	6129	6068	0.178		
8		9039	8449	8006	7661	7385	7160	6972	6813	6676	6558	6455	6364	6283	6210	6145	0.162		
9	9296	8668	8198	7832	7539	7300	7100	6931	6786	6661	6551	6454	6368	6291	6222	0.149			
		K2 =	1056	K3 =		2377	K4B =		3.55	K4F =		3.41							
36/5	0	6841	6564	6357	6195	6066	---	---	---	---	---	---	---	---	---	0.642			
	1	7097	6784	6549	6366	6220	6100	6001	---	---	---	---	---	---	---	0.477			
	2	7353	7003	6741	6537	6374	6240	6129	6035	5954	5884	5823	5769	5721	5678	5639	0.380		
	3	7609	7223	6933	6708	6527	6380	6257	6153	6064	5986	5919	5859	5806	5759	5716	0.315		
	4	7866	7443	7125	6878	6681	6520	6385	6271	6173	6089	6015	5949	5891	5839	5793	0.270		
	5	8122	7662	7317	7049	6835	6659	6513	6389	6283	6191	6111	6040	5977	5920	5870	0.236		
	6	8378	7882	7510	7220	6989	6799	6641	6508	6393	6294	6207	6130	6062	6001	5946	0.209		
	7	8634	8101	7702	7391	7142	6939	6769	6626	6503	6396	6303	6221	6148	6082	6023	0.188		
	8	8890	8321	7894	7562	7296	7079	6897	6744	6613	6499	6399	6311	6233	6163	6100	0.171		
9	9147	8541	8086	7733	7450	7218	7025	6862	6722	6601	6495	6402	6318	6244	6177	0.156			
		K2 =	1056	K3 =		2377	K4B =		3.55	K4F =		3.41							
36/4	0	6394	6181	6021	5897	5798	---	---	---	---	---	---	---	---	---	0.802			
	1	6650	6401	6214	6068	5952	5857	5777	---	---	---	---	---	---	---	0.561			
	2	6906	6620	6406	6239	6106	5996	5905	5828	5762	5705	5655	5611	5572	5537	5505	0.431		
	3	7163	6840	6598	6410	6259	6136	6033	5947	5872	5808	5751	5701	5657	5617	5582	0.350		
	4	7419	7060	6790	6581	6413	6276	6162	6065	5982	5910	5847	5792	5742	5698	5659	0.294		
	5	7675	7279	6982	6751	6567	6416	6290	6183	6092	6013	5943	5882	5828	5779	5735	0.254		
	6	7931	7499	7174	6922	6720	6555	6418	6301	6202	6115	6039	5973	5913	5860	5812	0.224		
	7	8187	7718	7367	7093	6874	6695	6546	6420	6311	6218	6135	6063	5999	5941	5889	0.200		
	8	8444	7938	7559	7264	7028	6835	6674	6538	6421	6320	6232	6153	6084	6022	5966	0.180		
9	8700	8158	7751	7435	7182	6975	6802	6656	6531	6423	6328	6244	6169	6103	6043	0.164			
		K2 =	1056	K3 =		2377	K4B =		3.55	K4F =		3.41							
36/3	0	6245	6053	5910	5798	5709	---	---	---	---	---	---	---	---	---	1.070			
	1	6501	6273	6102	5969	5862	5775	5703	---	---	---	---	---	---	---	0.679			
	2	6757	6493	6294	6140	6016	5915	5831	5760	5698	5646	5599	5558	5522	5489	5460	0.498		
	3	7014	6712	6486	6310	6170	6055	5959	5878	5808	5748	5695	5649	5607	5570	5537	0.393		
	4	7270	6932	6678	6481	6324	6195	6087	5996	5918	5850	5791	5739	5693	5651	5614	0.324		
	5	7526	7151	6871	6652	6477	6334	6215	6114	6028	5953	5887	5830	5778	5732	5691	0.276		
	6	7782	7371	7063	6823	6631	6474	6343	6233	6138	6055	5984	5920	5864	5813	5768	0.240		
	7	8038	7591	7255	6994	6785	6614	6471	6351	6247	6158	6080	6010	5949	5894	5845	0.213		
	8	8295	7810	7447	7165	6939	6754	6599	6469	6357	6260	6176	6101	6034	5975	5921	0.191		
9	8551	8030	7639	7335	7092	6893	6728	6587	6467	6363	6272	6191	6120	6056	5998	0.173			
		K2 =	1056	K3 =		2377	K4B =		3.55	K4F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	9351	8716	8239	7869	7572	---	---	---	---	---	---	---	---	---	0.410		
		1	9690	9007	8494	8095	7776	7515	7297	---	---	---	---	---	---	---	0.344		
		2	10030	9297	8748	8321	7979	7700	7467	7270	7101	6954	6826	6713	6613	6523	0.297		
		3	10369	9588	9003	8547	8183	7885	7637	7426	7246	7090	6953	6833	6726	6630	0.261		
		4	10708	9879	9257	8773	8387	8070	7806	7583	7392	7226	7081	6953	6839	6737	0.232		
		5	11047	10170	9512	9000	8590	8255	7976	7740	7537	7361	7208	7072	6952	6844	0.210		
		6	11386	10460	9766	9226	8794	8440	8145	7896	7682	7497	7335	7192	7065	6951	0.191		
		7	11726	10751	10020	9452	8997	8625	8315	8053	7828	7633	7462	7312	7178	7058	0.175		
		8	12065	11042	10275	9678	9201	8810	8485	8209	7973	7769	7590	7432	7291	7166	0.162		
	9	12404	11333	10529	9904	9404	8995	8654	8366	8119	7904	7717	7551	7404	7273	0.151			
			K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41						
	36/7	0	7611	7224	6934	6709	6528	---	---	---	---	---	---	---	---	---	0.615		
		1	7950	7515	7189	6935	6732	6566	6427	---	---	---	---	---	---	---	0.478		
		2	8290	7806	7443	7161	6935	6751	6597	6467	6355	6258	6174	6099	6033	5973	0.391		
		3	8629	8097	7698	7387	7139	6936	6767	6623	6500	6394	6301	6219	6146	6080	0.330		
		4	8968	8387	7952	7613	7343	7121	6936	6780	6646	6530	6428	6339	6259	6188	0.286		
		5	9307	8678	8206	7840	7546	7306	7106	6936	6791	6665	6458	6372	6295	6225	0.253		
		6	9646	8969	8461	8066	7750	7491	7275	7093	6937	6801	6683	6578	6485	6402	0.226		
7		9986	9260	8715	8292	7953	7676	7445	7250	7082	6937	6810	6698	6598	6509	0.204			
8		10325	9551	8970	8518	8157	7861	7615	7406	7227	7073	6937	6817	6711	6616	0.187			
9	10664	9841	9224	8744	8360	8046	7784	7563	7373	7208	7064	6937	6824	6723	0.172				
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							
36/5	0	7418	7059	6789	6580	6412	---	---	---	---	---	---	---	---	---	0.739			
	1	7757	7349	7044	6806	6616	6460	6331	---	---	---	---	---	---	---	0.549			
	2	8096	7640	7298	7032	6819	6645	6500	6377	6272	6181	6101	6031	5968	5912	0.437			
	3	8435	7931	7553	7258	7023	6830	6670	6534	6418	6317	6228	6151	6081	6019	0.363			
	4	8775	8222	7807	7485	7227	7015	6839	6691	6563	6452	6356	6270	6194	6127	0.310			
	5	9114	8513	8061	7711	7430	7200	7009	6847	6708	6588	6483	6390	6307	6234	0.271			
	6	9453	8803	8316	7937	7634	7385	7179	7004	6854	6724	6610	6510	6421	6341	0.241			
	7	9792	9094	8570	8163	7837	7571	7348	7160	6999	6860	6737	6629	6534	6448	0.216			
	8	10132	9385	8825	8389	8041	7756	7518	7317	7145	6995	6865	6749	6647	6555	0.196			
9	10471	9676	9079	8615	8244	7941	7688	7473	7290	7131	6992	6869	6760	6662	0.180				
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							
36/4	0	6838	6561	6354	6193	6064	---	---	---	---	---	---	---	---	---	0.923			
	1	7177	6852	6609	6419	6268	6144	6041	---	---	---	---	---	---	---	0.645			
	2	7516	7143	6863	6646	6471	6329	6210	6110	6024	5949	5884	5826	5775	5729	0.496			
	3	7855	7434	7118	6872	6675	6514	6380	6266	6169	6085	6011	5946	5888	5836	0.403			
	4	8195	7725	7372	7098	6878	6699	6549	6423	6314	6220	6138	6066	6001	5943	0.339			
	5	8534	8015	7626	7324	7082	6884	6719	6579	6460	6356	6265	6185	6114	6050	0.293			
	6	8873	8306	7881	7550	7286	7069	6889	6736	6605	6492	6393	6305	6227	6158	0.257			
	7	9212	8597	8135	7776	7489	7254	7058	6893	6751	6628	6520	6425	6340	6265	0.230			
	8	9552	8888	8390	8002	7693	7439	7228	7049	6896	6763	6647	6545	6453	6372	0.207			
9	9891	9178	8644	8229	7896	7624	7398	7206	7041	6899	6774	6664	6566	6479	0.189				
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							
36/3	0	6644	6396	6209	6064	5948	---	---	---	---	---	---	---	---	---	1.231			
	1	6984	6687	6464	6290	6152	6038	5944	---	---	---	---	---	---	---	0.782			
	2	7323	6977	6718	6517	6355	6223	6114	6021	5941	5872	5811	5758	5710	5668	0.573			
	3	7662	7268	6973	6743	6559	6409	6283	6177	6086	6007	5938	5878	5824	5775	0.452			
	4	8001	7559	7227	6969	6762	6594	6453	6334	6232	6143	6066	5997	5937	5882	0.373			
	5	8341	7850	7481	7195	6966	6779	6622	6490	6377	6279	6193	6117	6050	5989	0.318			
	6	8680	8140	7736	7421	7170	6964	6792	6647	6522	6414	6320	6237	6163	6097	0.277			
	7	9019	8431	7990	7647	7373	7149	6962	6803	6668	6550	6447	6357	6276	6204	0.245			
	8	9358	8722	8245	7874	7577	7334	7131	6960	6813	6686	6575	6476	6389	6311	0.220			
9	9697	9013	8499	8100	7780	7519	7301	7117	6959	6822	6702	6596	6502	6418	0.199				
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: #12 screws
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF														
			SPAN, FT														
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6475	6251	6082	5951	5847	---	---	---	---	---	---	---	---	---	0.366
		1	6686	6432	6241	6092	5973	5876	5795	---	---	---	---	---	---	---	0.301
		2	6897	6612	6399	6233	6100	5991	5901	5824	5758	5701	5652	5608	5569	5534	0.255
		3	7108	6793	6557	6374	6227	6106	6006	5922	5849	5786	5731	5682	5639	5600	0.222
		4	7319	6974	6716	6514	6353	6222	6112	6019	5939	5870	5810	5757	5709	5667	0.196
		5	7531	7155	6874	6655	6480	6337	6217	6116	6030	5955	5889	5831	5780	5734	0.176
		6	7742	7336	7032	6796	6607	6452	6323	6214	6120	6039	5968	5906	5850	5800	0.159
		7	7953	7517	7191	6937	6733	6567	6429	6311	6211	6124	6047	5980	5920	5867	0.145
		8	8164	7698	7349	7077	6860	6682	6534	6409	6301	6208	6127	6055	5991	5934	0.134
	9	8375	7879	7507	7218	6987	6797	6640	6506	6392	6293	6206	6129	6061	6000	0.124	
			K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41							
	36/7	0	5860	5724	5621	5542	5478	---	---	---	---	---	---	---	---	---	0.549
		1	6071	5905	5780	5682	5605	5541	5488	---	---	---	---	---	---	---	0.414
		2	6283	6086	5938	5823	5731	5656	5593	5540	5495	5456	5421	5391	5364	5340	0.333
		3	6494	6267	6096	5964	5858	5771	5699	5638	5585	5540	5500	5465	5434	5406	0.278
		4	6705	6448	6255	6105	5985	5886	5805	5735	5676	5625	5580	5540	5504	5473	0.239
		5	6916	6629	6413	6245	6111	6002	5910	5833	5766	5709	5659	5614	5575	5540	0.209
		6	7127	6810	6571	6386	6238	6117	6016	5930	5857	5793	5738	5689	5645	5606	0.186
7		7338	6991	6730	6527	6365	6232	6121	6028	5947	5878	5817	5763	5716	5673	0.168	
8		7549	7171	6888	6668	6491	6347	6227	6125	6038	5962	5896	5838	5786	5740	0.152	
9	7760	7352	7046	6808	6618	6462	6332	6223	6128	6047	5975	5912	5856	5806	0.140		
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41								
36/5	0	5792	5665	5570	5496	5437	---	---	---	---	---	---	---	---	---	0.659	
	1	6003	5846	5728	5637	5564	5504	5454	---	---	---	---	---	---	---	0.474	
	2	6214	6027	5887	5778	5690	5619	5559	5509	5466	5428	5396	5367	5341	5318	0.370	
	3	6425	6208	6045	5918	5817	5734	5665	5606	5556	5513	5475	5441	5411	5385	0.304	
	4	6637	6389	6203	6059	5944	5849	5770	5704	5647	5597	5554	5516	5482	5451	0.257	
	5	6848	6570	6362	6200	6070	5964	5876	5801	5737	5682	5633	5590	5552	5518	0.223	
	6	7059	6751	6520	6341	6197	6079	5982	5899	5828	5766	5712	5665	5622	5585	0.197	
	7	7270	6932	6679	6481	6324	6195	6087	5996	5918	5851	5791	5739	5693	5651	0.177	
	8	7481	7113	6837	6622	6450	6310	6193	6094	6009	5935	5871	5814	5763	5718	0.160	
9	7692	7294	6995	6763	6577	6425	6298	6191	6099	6019	5950	5888	5834	5785	0.146		
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41								
36/4	0	5587	5490	5416	5360	5314	---	---	---	---	---	---	---	---	---	0.823	
	1	5798	5671	5575	5500	5441	5392	5351	---	---	---	---	---	---	---	0.554	
	2	6009	5852	5733	5641	5567	5507	5457	5414	5378	5346	5319	5294	5273	5253	0.417	
	3	6221	6033	5891	5782	5694	5622	5562	5512	5468	5431	5398	5369	5343	5320	0.334	
	4	6432	6213	6050	5923	5821	5737	5668	5609	5559	5515	5477	5443	5413	5387	0.279	
	5	6643	6394	6208	6063	5947	5853	5774	5707	5649	5600	5556	5518	5484	5453	0.240	
	6	6854	6575	6367	6204	6074	5968	5879	5804	5740	5684	5635	5592	5554	5520	0.210	
	7	7065	6756	6525	6345	6201	6083	5985	5902	5830	5769	5715	5667	5625	5587	0.187	
	8	7276	6937	6683	6486	6327	6198	6090	5999	5921	5853	5794	5741	5695	5653	0.168	
9	7487	7118	6842	6626	6454	6313	6196	6096	6011	5938	5873	5816	5765	5720	0.153		
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41								
36/3	0	5519	5431	5365	5314	5273	---	---	---	---	---	---	---	---	---	1.098	
	1	5730	5612	5524	5455	5400	5355	5317	---	---	---	---	---	---	---	0.665	
	2	5941	5793	5682	5596	5526	5470	5423	5383	5349	5319	5293	5270	5250	5232	0.477	
	3	6152	5974	5840	5736	5653	5585	5528	5480	5439	5403	5372	5345	5320	5298	0.372	
	4	6363	6155	5999	5877	5780	5700	5634	5578	5530	5488	5451	5419	5391	5365	0.305	
	5	6575	6336	6157	6018	5906	5815	5739	5675	5620	5572	5531	5494	5461	5432	0.258	
	6	6786	6517	6315	6159	6033	5930	5845	5773	5711	5657	5610	5568	5531	5498	0.224	
	7	6997	6698	6474	6299	6160	6046	5951	5870	5801	5741	5689	5643	5602	5565	0.198	
	8	7208	6879	6632	6440	6286	6161	6056	5968	5892	5826	5768	5717	5672	5632	0.177	
9	7419	7060	6790	6581	6413	6276	6162	6065	5982	5910	5847	5792	5743	5698	0.160		
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41								

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6810	6538	6334	6175	6048	---	---	---	---	---	---	---	---	---	0.403		
		1	7067	6758	6526	6346	6202	6084	5985	---	---	---	---	---	---	---	0.331		
		2	7323	6977	6718	6517	6355	6223	6114	6021	5941	5872	5811	5758	5710	5668	5630	0.281	
		3	7579	7197	6910	6687	6509	6363	6242	6139	6051	5974	5907	5848	5796	5749	5707	0.244	
		4	7835	7416	7102	6858	6663	6503	6370	6257	6160	6077	6003	5939	5881	5830	5784	0.216	
		5	8091	7636	7295	7029	6817	6643	6498	6375	6270	6179	6099	6029	5967	5911	5860	0.193	
		6	8348	7856	7487	7200	6970	6782	6626	6494	6380	6282	6196	6120	6052	5992	5937	0.175	
		7	8604	8075	7679	7371	7124	6922	6754	6612	6490	6384	6292	6210	6137	6073	6014	0.160	
		8	8860	8295	7871	7541	7278	7062	6882	6730	6600	6487	6388	6300	6223	6153	6091	0.147	
	9	9116	8515	8063	7712	7431	7202	7010	6848	6709	6589	6484	6391	6308	6234	6168	0.137		
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	6064	5899	5774	5678	5600	---	---	---	---	---	---	---	---	---	0.605		
		1	6321	6118	5967	5849	5754	5677	5613	---	---	---	---	---	---	---	0.456		
		2	6577	6338	6159	6019	5908	5817	5741	5676	5621	5573	5532	5495	5462	5433	5406	0.366	
		3	6833	6558	6351	6190	6062	5956	5869	5795	5731	5676	5628	5585	5547	5513	5483	0.306	
		4	7089	6777	6543	6361	6215	6096	5997	5913	5841	5778	5724	5676	5633	5594	5560	0.263	
		5	7346	6997	6735	6532	6369	6236	6125	6031	5951	5881	5820	5766	5718	5675	5637	0.230	
		6	7602	7216	6927	6703	6523	6376	6253	6149	6060	5983	5916	5856	5803	5756	5714	0.205	
7		7858	7436	7120	6873	6677	6515	6381	6268	6170	6086	6012	5947	5889	5837	5790	0.185		
8		8114	7656	7312	7044	6830	6655	6509	6386	6280	6188	6108	6037	5974	5918	5867	0.168		
9	8370	7875	7504	7215	6984	6795	6637	6504	6390	6291	6204	6128	6060	5999	5944	0.154			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	5982	5828	5712	5623	5551	---	---	---	---	---	---	---	---	---	0.726			
	1	6238	6047	5904	5793	5704	5632	5571	---	---	---	---	---	---	---	0.522			
	2	6494	6267	6097	5964	5858	5771	5699	5638	5586	5540	5500	5465	5434	5406	5381	0.408		
	3	6750	6487	6289	6135	6012	5911	5827	5756	5695	5643	5597	5556	5520	5487	5458	0.334		
	4	7006	6706	6481	6306	6166	6051	5955	5875	5805	5745	5693	5646	5605	5568	5535	0.283		
	5	7263	6926	6673	6477	6319	6191	6084	5993	5915	5848	5789	5737	5690	5649	5612	0.246		
	6	7519	7145	6865	6647	6473	6330	6212	6111	6025	5950	5885	5827	5776	5730	5689	0.217		
	7	7775	7365	7057	6818	6627	6470	6340	6229	6135	6053	5981	5918	5861	5811	5766	0.195		
	8	8031	7585	7250	6989	6781	6610	6468	6348	6244	6155	6077	6008	5947	5892	5842	0.176		
9	8288	7804	7442	7160	6934	6750	6596	6466	6354	6258	6173	6098	6032	5973	5919	0.161			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	5733	5615	5526	5457	5402	---	---	---	---	---	---	---	---	---	0.907			
	1	5989	5834	5718	5628	5555	5496	5447	---	---	---	---	---	---	---	0.610			
	2	6245	6054	5910	5798	5709	5636	5575	5523	5479	5441	5407	5378	5351	5328	5307	0.459		
	3	6502	6273	6102	5969	5863	5776	5703	5642	5589	5543	5503	5468	5437	5409	5384	0.368		
	4	6758	6493	6294	6140	6016	5915	5831	5760	5699	5646	5599	5559	5522	5490	5460	0.307		
	5	7014	6713	6487	6311	6170	6055	5959	5878	5809	5748	5695	5649	5608	5571	5537	0.264		
	6	7270	6932	6679	6482	6324	6195	6087	5996	5918	5851	5792	5739	5693	5651	5614	0.231		
	7	7527	7152	6871	6652	6478	6335	6215	6115	6028	5953	5888	5830	5778	5732	5691	0.206		
	8	7783	7372	7063	6823	6631	6474	6344	6233	6138	6056	5984	5920	5864	5813	5768	0.185		
9	8039	7591	7255	6994	6785	6614	6472	6351	6248	6158	6080	6011	5949	5894	5845	0.168			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	5650	5544	5464	5402	5352	---	---	---	---	---	---	---	---	---	1.209			
	1	5906	5763	5656	5572	5506	5451	5405	---	---	---	---	---	---	---	0.733			
	2	6163	5983	5848	5743	5659	5591	5533	5485	5444	5408	5376	5348	5324	5302	5282	0.526		
	3	6419	6202	6040	5914	5813	5730	5662	5603	5553	5510	5472	5439	5409	5383	5359	0.410		
	4	6675	6422	6232	6085	5967	5870	5790	5722	5663	5613	5568	5529	5495	5463	5436	0.336		
	5	6931	6642	6424	6256	6120	6010	5918	5840	5773	5715	5664	5620	5580	5544	5512	0.285		
	6	7187	6861	6617	6426	6274	6150	6046	5958	5883	5818	5760	5710	5665	5625	5589	0.247		
	7	7444	7081	6809	6597	6428	6289	6174	6076	5993	5920	5857	5801	5751	5706	5666	0.218		
	8	7700	7300	7001	6768	6582	6429	6302	6195	6102	6023	5953	5891	5836	5787	5743	0.195		
9	7956	7520	7193	6939	6735	6569	6430	6313	6212	6125	6049	5981	5922	5868	5820	0.177			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
2 1/2" NORMAL WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7428	7067	6797	6587	6418	---	---	---	---	---	---	---	---	---	0.464	
		1	7767	7358	7051	6813	6622	6466	6336	---	---	---	---	---	---	---	0.381	
		2	8106	7649	7306	7039	6826	6651	6505	6382	6277	6185	6105	6034	5972	5915	5865	0.324
		3	8446	7940	7560	7265	7029	6836	6675	6539	6422	6321	6232	6154	6085	6023	5967	0.281
		4	8785	8230	7815	7491	7233	7021	6845	6695	6567	6457	6360	6274	6198	6130	6068	0.248
		5	9124	8521	8069	7717	7436	7206	7014	6852	6713	6592	6487	6394	6311	6237	6170	0.223
		6	9463	8812	8324	7944	7640	7391	7184	7008	6858	6728	6614	6513	6424	6344	6272	0.202
		7	9803	9103	8578	8170	7843	7576	7353	7165	7004	6864	6741	6633	6537	6451	6374	0.184
		8	10142	9394	8832	8396	8047	7761	7523	7322	7149	6999	6868	6753	6650	6558	6476	0.170
	9	10481	9684	9087	8622	8250	7946	7693	7478	7294	7135	6996	6873	6763	6665	6577	0.157	
			K2 =	1398	K3		2377	K4_B =		3.55	K4_F =		3.41					
	36/7	0	6440	6221	6056	5928	5826	---	---	---	---	---	---	---	---	---	0.696	
		1	6780	6512	6311	6155	6030	5927	5842	---	---	---	---	---	---	---	0.525	
		2	7119	6803	6565	6381	6233	6112	6012	5926	5853	5790	5735	5686	5643	5604	5569	0.422
		3	7458	7093	6820	6607	6437	6297	6181	6083	5999	5926	5862	5806	5756	5711	5670	0.352
		4	7797	7384	7074	6833	6640	6482	6351	6240	6144	6062	5989	5925	5869	5818	5772	0.303
		5	8137	7675	7329	7059	6844	6667	6520	6396	6290	6197	6116	6045	5982	5925	5874	0.265
		6	8476	7966	7583	7285	7047	6852	6690	6553	6435	6333	6244	6165	6095	6032	5976	0.236
7		8815	8256	7837	7511	7251	7037	6860	6709	6580	6469	6371	6285	6208	6139	6078	0.212	
8		9154	8547	8092	7738	7454	7222	7029	6866	6726	6604	6498	6404	6321	6246	6179	0.193	
9	9494	8838	8346	7964	7658	7408	7199	7022	6871	6740	6625	6524	6434	6354	6281	0.177		
		K2 =	1398	K3		2377	K4_B =		3.55	K4_F =		3.41						
36/5	0	6331	6127	5974	5855	5760	---	---	---	---	---	---	---	---	---	0.835		
	1	6670	6418	6229	6081	5964	5867	5787	---	---	---	---	---	---	---	0.601		
	2	7009	6708	6483	6308	6167	6052	5957	5876	5806	5746	5694	5647	5606	5569	5536	0.469	
	3	7348	6999	6737	6534	6371	6237	6126	6032	5952	5882	5821	5767	5719	5676	5638	0.385	
	4	7688	7290	6992	6760	6574	6422	6296	6189	6097	6018	5948	5887	5832	5783	5739	0.326	
	5	8027	7581	7246	6986	6778	6608	6466	6345	6243	6153	6075	6006	5945	5890	5841	0.283	
	6	8366	7872	7501	7212	6981	6793	6635	6502	6388	6289	6202	6126	6058	5998	5943	0.250	
	7	8705	8162	7755	7438	7185	6978	6805	6659	6533	6425	6330	6246	6171	6105	6045	0.224	
	8	9045	8453	8010	7664	7388	7163	6974	6815	6679	6560	6457	6366	6284	6212	6146	0.203	
9	9384	8744	8264	7891	7592	7348	7144	6972	6824	6696	6584	6485	6397	6319	6248	0.185		
		K2 =	1398	K3		2377	K4_B =		3.55	K4_F =		3.41						
36/4	0	6002	5845	5727	5636	5563	---	---	---	---	---	---	---	---	---	1.044		
	1	6341	6136	5982	5862	5766	5688	5623	---	---	---	---	---	---	---	0.702		
	2	6680	6426	6236	6088	5970	5873	5792	5724	5665	5615	5570	5531	5496	5465	5437	0.528	
	3	7019	6717	6491	6314	6173	6058	5962	5880	5811	5750	5697	5651	5609	5572	5539	0.424	
	4	7358	7008	6745	6540	6377	6243	6131	6037	5956	5886	5825	5770	5722	5679	5641	0.354	
	5	7698	7299	6999	6767	6580	6428	6301	6194	6101	6022	5952	5890	5835	5786	5742	0.304	
	6	8037	7589	7254	6993	6784	6613	6471	6350	6247	6157	6079	6010	5949	5894	5844	0.266	
	7	8376	7880	7508	7219	6987	6798	6640	6507	6392	6293	6206	6130	6062	6001	5946	0.237	
	8	8715	8171	7763	7445	7191	6983	6810	6663	6538	6429	6333	6249	6175	6108	6048	0.213	
9	9055	8462	8017	7671	7395	7168	6979	6820	6683	6564	6461	6369	6288	6215	6149	0.194		
		K2 =	1398	K3		2377	K4_B =		3.55	K4_F =		3.41						
36/3	0	5892	5751	5645	5563	5497	---	---	---	---	---	---	---	---	---	1.392		
	1	6231	6042	5899	5789	5700	5628	5568	---	---	---	---	---	---	---	0.843		
	2	6570	6332	6154	6015	5904	5813	5737	5673	5618	5571	5529	5492	5460	5430	5404	0.605	
	3	6910	6623	6408	6241	6107	5998	5907	5830	5764	5706	5656	5612	5573	5538	5506	0.472	
	4	7249	6914	6663	6467	6311	6183	6077	5986	5909	5842	5783	5732	5686	5645	5608	0.387	
	5	7588	7205	6917	6693	6515	6368	6246	6143	6054	5978	5911	5851	5799	5752	5709	0.327	
	6	7927	7495	7171	6920	6718	6553	6416	6299	6200	6113	6038	5971	5912	5859	5811	0.284	
	7	8266	7786	7426	7146	6922	6738	6585	6456	6345	6249	6165	6091	6025	5966	5913	0.251	
	8	8606	8077	7680	7372	7125	6923	6755	6613	6491	6385	6292	6211	6138	6073	6015	0.224	
9	8945	8368	7935	7598	7329	7108	6925	6769	6636	6521	6420	6330	6251	6180	6116	0.203		
		K2 =	1398	K3		2377	K4_B =		3.55	K4_F =		3.41						

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE:	1.5 B,F	Φ (EQ): 0.50	Ω (EQ): 3.25
DECK GAGE:	22 (t = 0.0295 ")	Φ (WIND): 0.50	Ω (WIND): 3.25
SUPPORT FASTENERS:	3/4 " puddle weld or equivalent	Φ (OTHER): 0.50	Ω (OTHER): 3.25
SIDLAP FASTENERS:	5/8 " puddle weld or 1 1/2" long fillet weld		

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6693	6200	5830	5542	5312	---	---	---	---	---	---	---	---	---	0.324		
		1	7321	6738	6301	5961	5689	5466	5281	---	---	---	---	---	---	---	0.222		
		2	7949	7276	6772	6379	6065	5809	5595	5414	5258	5124	5006	4902	4810	4727	4653	0.169	
		3	8577	7814	7243	6798	6442	6151	5909	5703	5527	5375	5242	5124	5019	4926	4841	0.136	
		4	9205	8353	7714	7217	6819	6494	6223	5993	5797	5626	5477	5346	5229	5124	5030	0.114	
		5	9833	8891	8185	7635	7196	6836	6537	6283	6066	5877	5713	5567	5438	5322	5218	0.098	
		6	10461	9429	8656	8054	7573	7179	6851	6573	6335	6129	5948	5789	5647	5521	5407	0.086	
		7	11089	9968	9127	8473	7950	7521	7165	6863	6604	6380	6184	6011	5857	5719	5595	0.077	
		8	11717	10506	9598	8891	8326	7864	7479	7153	6873	6631	6419	6232	6066	5917	5783	0.069	
	9	12345	11044	10069	9310	8703	8207	7793	7443	7142	6882	6655	6454	6275	6116	5972	0.063		
			K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	5342	5042	4817	4641	4501	---	---	---	---	---	---	---	---	---	0.486		
		1	5970	5580	5288	5060	4878	4729	4605	---	---	---	---	---	---	---	0.287		
		2	6598	6118	5759	5479	5255	5072	4919	4790	4679	4583	4500	4425	4360	4301	4248	0.204	
		3	7226	6657	6230	5897	5632	5414	5233	5080	4949	4835	4735	4647	4569	4499	4436	0.158	
		4	7854	7195	6701	6316	6009	5757	5547	5370	5218	5086	4971	4869	4778	4697	4625	0.129	
		5	8482	7733	7172	6735	6385	6100	5861	5660	5487	5337	5206	5090	4988	4896	4813	0.109	
		6	9110	8272	7643	7154	6762	6442	6175	5950	5756	5588	5442	5312	5197	5094	5001	0.094	
7		9738	8810	8114	7572	7139	6785	6489	6239	6025	5840	5677	5534	5406	5292	5190	0.083		
8		10366	9348	8585	7991	7516	7127	6803	6529	6294	6091	5913	5755	5616	5491	5378	0.074		
9	10994	9886	9056	8410	7893	7470	7117	6819	6563	6342	6148	5977	5825	5689	5567	0.067			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	5192	4913	4704	4541	4411	---	---	---	---	---	---	---	---	---	0.583			
	1	5820	5451	5175	4960	4788	4647	4530	---	---	---	---	---	---	---	0.319			
	2	6448	5990	5646	5379	5165	4990	4844	4721	4615	4523	4443	4373	4310	4253	4203	0.219		
	3	7076	6528	6117	5797	5542	5333	5158	5011	4884	4775	4679	4594	4519	4452	4391	0.167		
	4	7704	7066	6588	6216	5919	5675	5472	5301	5153	5026	4914	4816	4728	4650	4580	0.135		
	5	8332	7605	7059	6635	6295	6018	5786	5590	5423	5277	5150	5037	4938	4848	4768	0.113		
	6	8960	8143	7530	7053	6672	6360	6100	5880	5692	5528	5385	5259	5147	5047	4956	0.098		
	7	9588	8681	8001	7472	7049	6703	6414	6170	5961	5779	5621	5481	5356	5245	5145	0.086		
	8	10216	9219	8472	7891	7426	7045	6728	6460	6230	6031	5856	5702	5566	5443	5333	0.076		
9	10844	9758	8943	8310	7803	7388	7042	6750	6499	6282	6092	5924	5775	5642	5522	0.069			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	4741	4527	4366	4241	4141	---	---	---	---	---	---	---	---	---	0.728			
	1	5370	5065	4837	4660	4518	4402	4305	---	---	---	---	---	---	---	0.358			
	2	5998	5604	5308	5079	4895	4744	4619	4513	4422	4343	4274	4214	4160	4111	4068	0.237		
	3	6626	6142	5779	5497	5272	5087	4933	4803	4691	4595	4510	4435	4369	4309	4256	0.177		
	4	7254	6680	6250	5916	5648	5429	5247	5093	4960	4846	4745	4657	4578	4508	4444	0.142		
	5	7882	7219	6721	6335	6025	5772	5561	5383	5230	5097	4981	4879	4788	4706	4633	0.118		
	6	8510	7757	7192	6753	6402	6115	5875	5672	5499	5348	5216	5100	4997	4904	4821	0.101		
	7	9138	8295	7663	7172	6779	6457	6189	5962	5768	5599	5452	5322	5206	5103	5010	0.088		
	8	9766	8834	8134	7591	7156	6800	6503	6252	6037	5851	5687	5544	5416	5301	5198	0.078		
9	10394	9372	8605	8009	7532	7142	6817	6542	6306	6102	5923	5765	5625	5499	5386	0.071			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	4591	4398	4254	4141	4051	---	---	---	---	---	---	---	---	---	0.971			
	1	5219	4937	4725	4560	4428	4320	4230	---	---	---	---	---	---	---	0.408			
	2	5847	5475	5196	4978	4805	4662	4544	4444	4358	4283	4218	4161	4109	4064	4023	0.258		
	3	6475	6013	5667	5397	5181	5005	4858	4734	4627	4535	4454	4382	4319	4262	4211	0.189		
	4	7103	6552	6138	5816	5558	5348	5172	5023	4896	4786	4689	4604	4528	4460	4399	0.149		
	5	7732	7090	6609	6235	5935	5690	5486	5313	5165	5037	4925	4826	4738	4659	4588	0.123		
	6	8360	7628	7080	6653	6312	6033	5800	5603	5434	5288	5160	5047	4947	4857	4776	0.105		
	7	8988	8167	7551	7072	6689	6375	6114	5893	5704	5539	5396	5269	5156	5055	4965	0.091		
	8	9616	8705	8022	7491	7066	6718	6428	6183	5973	5791	5631	5491	5366	5254	5153	0.081		
9	10244	9243	8493	7909	7442	7060	6742	6473	6242	6042	5867	5712	5575	5452	5341	0.072			
		K2 =	870	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7393	6800	6355	6009	5732	---	---	---	---	---	---	---	---	---	0.357		
		1	8147	7446	6921	6512	6185	5917	5694	---	---	---	---	---	---	---	0.244		
		2	8902	8093	7486	7015	6637	6328	6071	5853	5667	5505	5363	5239	5128	5028	4939	0.186	
		3	9656	8739	8052	7517	7090	6740	6448	6201	5990	5807	5646	5505	5379	5266	5165	0.150	
		4	10410	9386	8617	8020	7542	7151	6825	6549	6313	6108	5929	5771	5630	5504	5391	0.126	
		5	11164	10032	9183	8523	7994	7562	7202	6897	6636	6410	6212	6037	5882	5743	5617	0.108	
		6	11918	10678	9749	9025	8447	7974	7579	7245	6959	6711	6495	6303	6133	5981	5844	0.095	
		7	12672	11325	10314	9528	8899	8385	7956	7593	7283	7013	6777	6569	6384	6219	6070	0.085	
		8	13426	11971	10880	10031	9352	8796	8333	7942	7606	7315	7060	6835	6636	6457	6296	0.076	
		9	14180	12617	11445	10534	9804	9208	8710	8290	7929	7616	7343	7102	6887	6695	6522	0.069	
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	5768	5407	5136	4926	4757	---	---	---	---	---	---	---	---	---	0.535		
		1	6522	6054	5702	5428	5210	5031	4881	---	---	---	---	---	---	---	0.317		
		2	7276	6700	6268	5931	5662	5442	5259	5103	4970	4855	4754	4665	4586	4515	4451	0.225	
		3	8031	7346	6833	6434	6115	5853	5636	5451	5293	5157	5037	4931	4837	4753	4678	0.174	
		4	8785	7993	7399	6937	6567	6265	6013	5799	5617	5458	5320	5197	5089	4991	4904	0.142	
		5	9539	8639	7964	7439	7019	6676	6390	6147	5940	5760	5602	5463	5340	5229	5130	0.120	
		6	10293	9285	8530	7942	7472	7087	6767	6495	6263	6061	5885	5730	5591	5468	5356	0.104	
		7	11047	9932	9095	8445	7924	7499	7144	6843	6586	6363	6168	5996	5843	5706	5582	0.092	
		8	11801	10578	9661	8948	8377	7910	7521	7192	6909	6665	6451	6262	6094	5944	5809	0.082	
		9	12555	11224	10226	9450	8829	8321	7898	7540	7232	6966	6733	6528	6345	6182	6035	0.074	
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/5	0	5588	5252	5001	4805	4649	---	---	---	---	---	---	---	---	---	0.642		
		1	6342	5899	5567	5308	5101	4932	4791	---	---	---	---	---	---	---	0.351		
		2	7096	6545	6132	5811	5554	5343	5168	5020	4893	4783	4686	4601	4526	4458	4397	0.242	
		3	7850	7192	6698	6314	6006	5755	5545	5368	5216	5084	4969	4867	4777	4696	4623	0.184	
		4	8604	7838	7263	6816	6459	6166	5922	5716	5539	5386	5252	5134	5028	4934	4850	0.149	
		5	9358	8484	7829	7319	6911	6577	6299	6064	5862	5688	5535	5400	5280	5172	5076	0.125	
		6	10112	9131	8394	7822	7364	6989	6676	6412	6186	5989	5817	5666	5531	5411	5302	0.108	
		7	10866	9777	8960	8324	7816	7400	7053	6760	6509	6291	6100	5932	5782	5649	5528	0.094	
		8	11620	10423	9525	8827	8268	7811	7430	7108	6832	6592	6383	6198	6034	5887	5755	0.084	
		9	12375	11070	10091	9330	8721	8223	7808	7456	7155	6894	6666	6464	6285	6125	5981	0.076	
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/4	0	5046	4788	4595	4444	4324	---	---	---	---	---	---	---	---	---	0.802		
		1	5800	5435	5160	4947	4776	4637	4520	---	---	---	---	---	---	---	0.394		
		2	6554	6081	5726	5450	5229	5048	4897	4770	4661	4566	4483	4410	4345	4287	4235	0.261	
		3	7308	6727	6291	5952	5681	5459	5274	5118	4984	4868	4766	4676	4596	4525	4461	0.195	
		4	8062	7374	6857	6455	6134	5871	5651	5466	5307	5169	5049	4942	4848	4763	4687	0.156	
		5	8817	8020	7423	6958	6586	6282	6029	5814	5630	5471	5332	5209	5099	5001	4913	0.130	
		6	9571	8666	7988	7461	7039	6693	6406	6162	5953	5773	5614	5475	5351	5239	5140	0.111	
		7	10325	9313	8554	7963	7491	7105	6783	6510	6277	6074	5897	5741	5602	5478	5366	0.097	
		8	11079	9959	9119	8466	7943	7516	7160	6858	6600	6376	6180	6007	5853	5716	5592	0.086	
		9	11833	10605	9685	8969	8396	7927	7537	7206	6923	6677	6463	6273	6105	5954	5818	0.078	
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/3	0	4866	4633	4459	4324	4216	---	---	---	---	---	---	---	---	---	1.070		
		1	5620	5280	5025	4827	4668	4538	4430	---	---	---	---	---	---	---	0.450		
		2	6374	5926	5590	5329	5120	4950	4807	4687	4583	4494	4415	4346	4285	4230	4180	0.285	
		3	7128	6572	6156	5832	5573	5361	5184	5035	4906	4795	4698	4613	4536	4468	4407	0.208	
		4	7882	7219	6722	6335	6025	5772	5561	5383	5230	5097	4981	4879	4788	4706	4633	0.164	
		5	8636	7865	7287	6837	6478	6183	5938	5731	5553	5399	5264	5145	5039	4944	4859	0.135	
		6	9390	8512	7853	7340	6930	6595	6315	6079	5876	5700	5547	5411	5290	5182	5085	0.115	
		7	10144	9158	8418	7843	7383	7006	6692	6427	6199	6002	5829	5677	5542	5421	5312	0.100	
		8	10898	9804	8984	8346	7835	7417	7069	6775	6522	6304	6112	5943	5793	5659	5538	0.089	
		9	11652	10451	9549	8848	8288	7829	7446	7123	6846	6605	6395	6209	6044	5897	5764	0.080	
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	8650	7877	7297	6847	6486	---	---	---	---	---	---	---	---	---	0.410		
		1	9628	8716	8031	7499	7073	6725	6434	---	---	---	---	---	---	---	0.281		
		2	10607	9555	8766	8152	7661	7259	6924	6641	6398	6187	6003	5841	5696	5567	0.214		
		3	11586	10394	9500	8804	8248	7793	7413	7092	6817	6579	6370	6186	6022	5876	5744	0.172	
		4	12565	11233	10234	9457	8835	8326	7903	7544	7237	6970	6737	6531	6349	6185	6038	0.144	
		5	13543	12072	10968	10109	9422	8860	8392	7996	7656	7362	7104	6877	6675	6494	6331	0.124	
		6	14522	12911	11702	10762	10010	9394	8881	8447	8076	7753	7471	7222	7001	6803	6625	0.109	
		7	15501	13750	12436	11414	10597	9928	9371	8899	8495	8145	7838	7568	7327	7112	6919	0.097	
		8	16480	14588	13170	12067	11184	10462	9860	9351	8914	8536	8205	7913	7654	7421	7212	0.088	
	9	17459	15427	13904	12719	11771	10996	10350	9803	9334	8928	8572	8259	7980	7730	7506	0.080		
			K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	6533	6063	5710	5436	5216	---	---	---	---	---	---	---	---	---	0.615		
		1	7512	6902	6444	6088	5803	5570	5376	---	---	---	---	---	---	---	0.364		
		2	8491	7741	7178	6741	6391	6104	5866	5664	5491	5341	5209	5093	4991	4898	0.259		
		3	9469	8580	7912	7393	6978	6638	6355	6115	5910	5732	5576	5439	5317	5208	5109	0.200	
		4	10448	9418	8646	8046	7565	7172	6844	6567	6329	6124	5943	5784	5643	5517	5403	0.164	
		5	11427	10257	9380	8698	8152	7706	7334	7019	6749	6515	6310	6130	5969	5826	5696	0.138	
		6	12406	11096	10114	9351	8740	8240	7823	7471	7168	6907	6677	6475	6296	6135	5990	0.120	
7		13384	11935	10848	10003	9327	8774	8312	7922	7588	7298	7044	6821	6622	6444	6284	0.106		
8		14363	12774	11583	10656	9914	9307	8802	8374	8007	7690	7412	7166	6948	6753	6577	0.094		
9	15342	13613	12317	11308	10501	9841	9291	8826	8427	8081	7779	7512	7274	7062	6871	0.085			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	6298	5861	5534	5279	5075	---	---	---	---	---	---	---	---	---	0.739			
	1	7277	6700	6268	5931	5662	5442	5259	---	---	---	---	---	---	---	0.404			
	2	8255	7539	7002	6584	6249	5976	5748	5555	5390	5246	5121	5010	4912	4824	0.278			
	3	9234	8378	7736	7236	6837	6510	6237	6007	5809	5638	5488	5356	5238	5133	5039	0.212		
	4	10213	9217	8470	7889	7424	7044	6727	6459	6229	6029	5855	5701	5565	5442	5332	0.171		
	5	11192	10056	9204	8541	8011	7578	7216	6910	6648	6421	6222	6047	5891	5751	5626	0.144		
	6	12170	10895	9938	9194	8598	8111	7705	7362	7068	6813	6589	6392	6217	6061	5920	0.124		
	7	13149	11734	10672	9846	9186	8645	8195	7814	7487	7204	6956	6738	6543	6370	6213	0.109		
	8	14128	12573	11406	10499	9773	9179	8684	8266	7907	7596	7323	7083	6870	6679	6507	0.097		
9	15107	13412	12140	11151	10360	9713	9174	8717	8326	7987	7690	7429	7196	6988	6800	0.087			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	5592	5256	5004	4808	4652	---	---	---	---	---	---	---	---	---	0.923			
	1	6571	6095	5738	5461	5239	5057	4906	---	---	---	---	---	---	---	0.454			
	2	7550	6934	6473	6113	5826	5591	5395	5229	5087	4964	4857	4761	4677	4601	0.301			
	3	8529	7773	7207	6766	6413	6125	5885	5681	5507	5356	5224	5107	5003	4910	4827	0.225		
	4	9507	8612	7941	7418	7001	6659	6374	6133	5926	5747	5591	5452	5329	5220	5121	0.180		
	5	10486	9451	8675	8071	7588	7193	6863	6585	6346	6139	5958	5798	5656	5529	5414	0.150		
	6	11465	10290	9409	8723	8175	7727	7353	7036	6765	6530	6325	6143	5982	5838	5708	0.128		
	7	12444	11129	10143	9376	8762	8260	7842	7488	7185	6922	6692	6489	6308	6147	6001	0.112		
	8	13422	11968	10877	10028	9350	8794	8332	7940	7604	7313	7059	6834	6635	6456	6295	0.099		
9	14401	12807	11611	10681	9937	9328	8821	8392	8024	7705	7426	7180	6961	6765	6589	0.090			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	5357	5055	4828	4652	4510	---	---	---	---	---	---	---	---	---	1.231			
	1	6336	5894	5562	5304	5098	4929	4788	---	---	---	---	---	---	---	0.517			
	2	7315	6733	6296	5957	5685	5463	5278	5121	4987	4870	4768	4678	4599	4527	0.327			
	3	8293	7572	7030	6609	6272	5997	5767	5573	5406	5262	5135	5024	4925	4836	4756	0.239		
	4	9272	8411	7764	7262	6860	6531	6256	6024	5826	5653	5502	5369	5251	5145	5050	0.189		
	5	10251	9249	8498	7914	7447	7064	6746	6476	6245	6045	5869	5715	5577	5454	5344	0.156		
	6	11230	10088	9232	8567	8034	7598	7235	6928	6664	6436	6236	6060	5904	5763	5637	0.133		
	7	12209	10927	9967	9219	8621	8132	7725	7380	7084	6828	6604	6406	6230	6073	5931	0.115		
	8	13187	11766	10701	9872	9209	8666	8214	7831	7503	7219	6971	6751	6556	6382	6225	0.102		
9	14166	12605	11435	10524	9796	9200	8703	8283	7923	7611	7338	7097	6882	6691	6518	0.092			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE: 1.5 B,F
 DECK GAGE: 22 (t = 0.0295 ")
 SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
 SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6094	5686	5380	5143	4952	---	---	---	---	---	---	---	---	---	0.324		
		1	6722	6224	5851	5561	5329	5139	4981	---	---	---	---	---	---	---	0.222		
		2	7350	6763	6323	5980	5706	5482	5295	5137	5002	4884	4782	4691	4610	4538	4473	0.169	
		3	7978	7301	6794	6399	6083	5825	5609	5427	5271	5135	5017	4913	4820	4737	4662	0.136	
		4	8606	7839	7265	6817	6460	6167	5923	5717	5540	5387	5253	5134	5029	4935	4850	0.114	
		5	9234	8378	7736	7236	6837	6510	6237	6007	5809	5638	5488	5356	5238	5133	5039	0.098	
		6	9862	8916	8207	7655	7213	6852	6551	6297	6078	5889	5724	5578	5448	5332	5227	0.086	
		7	10490	9454	8678	8074	7590	7195	6865	6586	6347	6140	5959	5799	5657	5530	5415	0.077	
		8	11118	9993	9149	8492	7967	7537	7179	6876	6617	6392	6195	6021	5866	5728	5604	0.069	
		9	11746	10531	9620	8911	8344	7880	7493	7166	6886	6643	6430	6242	6076	5926	5792	0.063	
			K2 =	870	K3			2377	K4_B =			3.55	K4_F =				3.41		
	36/7	0	4977	4729	4543	4398	4283	---	---	---	---	---	---	---	---	---	0.486		
		1	5605	5267	5014	4817	4659	4530	4423	---	---	---	---	---	---	---	0.287		
		2	6233	5806	5485	5236	5036	4873	4737	4622	4523	4438	4363	4297	4238	4186	4138	0.204	
		3	6861	6344	5956	5654	5413	5216	5051	4912	4792	4689	4598	4518	4447	4384	4327	0.158	
		4	7489	6882	6427	6073	5790	5558	5365	5202	5061	4940	4834	4740	4657	4582	4515	0.129	
		5	8117	7421	6898	6492	6167	5901	5679	5491	5331	5191	5069	4962	4866	4781	4704	0.109	
		6	8745	7959	7369	6910	6543	6243	5993	5781	5600	5443	5305	5183	5076	4979	4892	0.094	
		7	9373	8497	7840	7329	6920	6586	6307	6071	5869	5694	5540	5405	5285	5177	5080	0.083	
		8	10002	9036	8311	7748	7297	6928	6621	6361	6138	5945	5776	5627	5494	5376	5269	0.074	
9		10630	9574	8782	8167	7674	7271	6935	6651	6407	6196	6011	5848	5704	5574	5457	0.067		
		K2 =	870	K3			2377	K4_B =			3.55	K4_F =				3.41			
36/5	0	4853	4623	4450	4316	4208	---	---	---	---	---	---	---	---	---	0.583			
	1	5481	5161	4921	4734	4585	4463	4361	---	---	---	---	---	---	---	0.319			
	2	6109	5699	5392	5153	4962	4805	4675	4565	4470	4388	4316	4253	4197	4146	4101	0.219		
	3	6737	6238	5863	5572	5339	5148	4989	4854	4739	4639	4552	4475	4406	4345	4290	0.167		
	4	7365	6776	6334	5990	5715	5490	5303	5144	5008	4890	4787	4696	4615	4543	4478	0.135		
	5	7993	7314	6805	6409	6092	5833	5617	5434	5277	5142	5023	4918	4825	4741	4666	0.113		
	6	8621	7853	7276	6828	6469	6176	5931	5724	5547	5393	5258	5140	5034	4940	4855	0.098		
	7	9249	8391	7747	7246	6846	6518	6245	6014	5816	5644	5494	5361	5243	5138	5043	0.086		
	8	9877	8929	8218	7665	7223	6861	6559	6304	6085	5895	5729	5583	5453	5336	5232	0.076		
	9	10506	9468	8689	8084	7600	7203	6873	6594	6354	6147	5965	5805	5662	5535	5420	0.069		
		K2 =	870	K3			2377	K4_B =			3.55	K4_F =				3.41			
36/4	0	4481	4304	4171	4068	3985	---	---	---	---	---	---	---	---	---	0.728			
	1	5109	4842	4642	4486	4362	4260	4175	---	---	---	---	---	---	---	0.358			
	2	5737	5380	5113	4905	4738	4602	4489	4393	4310	4239	4177	4122	4073	4029	3990	0.237		
	3	6365	5919	5584	5324	5115	4945	4803	4683	4580	4490	4412	4343	4282	4227	4178	0.177		
	4	6993	6457	6055	5742	5492	5287	5117	4973	4849	4742	4648	4565	4491	4426	4366	0.142		
	5	7621	6995	6526	6161	5869	5630	5431	5262	5118	4993	4883	4787	4701	4624	4555	0.118		
	6	8249	7534	6997	6580	6246	5973	5745	5552	5387	5244	5119	5008	4910	4822	4743	0.101		
	7	8877	8072	7468	6998	6623	6315	6059	5842	5656	5495	5354	5230	5119	5021	4932	0.088		
	8	9505	8610	7939	7417	6999	6658	6373	6132	5925	5746	5590	5452	5329	5219	5120	0.078		
	9	10133	9149	8410	7836	7376	7000	6687	6422	6195	5998	5825	5673	5538	5417	5308	0.071		
		K2 =	870	K3			2377	K4_B =			3.55	K4_F =				3.41			
36/3	0	4357	4198	4078	3985	3910	---	---	---	---	---	---	---	---	---	0.971			
	1	4985	4736	4549	4404	4287	4192	4113	---	---	---	---	---	---	---	0.408			
	2	5613	5274	5020	4822	4664	4535	4427	4336	4257	4190	4130	4078	4031	3990	3952	0.258		
	3	6241	5812	5491	5241	5041	4877	4741	4625	4526	4441	4366	4300	4241	4188	4141	0.189		
	4	6869	6351	5962	5660	5418	5220	5055	4915	4796	4692	4601	4521	4450	4386	4329	0.149		
	5	7497	6889	6433	6078	5795	5562	5369	5205	5065	4943	4837	4743	4659	4585	4518	0.123		
	6	8125	7427	6904	6497	6171	5905	5683	5495	5334	5194	5072	4965	4869	4783	4706	0.105		
	7	8753	7966	7375	6916	6548	6247	5997	5785	5603	5446	5308	5186	5078	4981	4894	0.091		
	8	9381	8504	7846	7334	6925	6590	6311	6075	5872	5697	5543	5408	5287	5180	5083	0.081		
	9	10009	9042	8317	7753	7302	6933	6625	6365	6141	5948	5779	5629	5497	5378	5271	0.072		
		K2 =	870	K3			2377	K4_B =			3.55	K4_F =				3.41			

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6667	6177	5810	5525	5296	---	---	---	---	---	---	---	---	---	0.357		
		1	7421	6823	6376	6027	5749	5521	5331	---	---	---	---	---	---	---	0.244		
		2	8175	7470	6941	6530	6201	5932	5708	5518	5355	5214	5091	4982	4885	4799	4721	0.186	
		3	8929	8116	7507	7033	6653	6343	6085	5866	5678	5516	5374	5248	5137	5037	4947	0.150	
		4	9683	8763	8072	7535	7106	6755	6462	6214	6002	5817	5656	5514	5388	5275	5173	0.126	
		5	10437	9409	8638	8038	7558	7166	6839	6562	6325	6119	5939	5780	5639	5513	5399	0.108	
		6	11191	10055	9203	8541	8011	7577	7216	6910	6648	6421	6222	6047	5891	5751	5626	0.095	
		7	11945	10702	9769	9044	8463	7988	7593	7258	6971	6722	6505	6313	6142	5989	5852	0.085	
		8	12699	11348	10335	9546	8916	8400	7970	7606	7294	7024	6788	6579	6393	6227	6078	0.076	
	9	13453	11994	10900	10049	9368	8811	8347	7954	7617	7326	7070	6845	6645	6466	6304	0.069		
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	5326	5028	4805	4631	4492	---	---	---	---	---	---	---	---	---	0.535		
		1	6080	5674	5370	5133	4944	4789	4660	---	---	---	---	---	---	---	0.317		
		2	6834	6321	5936	5636	5397	5201	5037	4899	4781	4678	4588	4509	4438	4375	4319	0.225	
		3	7588	6967	6501	6139	5849	5612	5414	5247	5104	4980	4871	4775	4690	4613	4545	0.174	
		4	8342	7613	7067	6642	6302	6023	5791	5595	5427	5281	5154	5041	4941	4852	4771	0.142	
		5	9096	8260	7632	7144	6754	6435	6168	5943	5750	5583	5436	5307	5192	5090	4997	0.120	
		6	9850	8906	8198	7647	7206	6846	6545	6291	6073	5884	5719	5573	5444	5328	5223	0.104	
7		10605	9553	8764	8150	7659	7257	6923	6639	6397	6186	6002	5840	5695	5566	5450	0.092		
8		11359	10199	9329	8653	8111	7669	7300	6987	6720	6488	6285	6106	5947	5804	5676	0.082		
9	12113	10845	9895	9155	8564	8080	7677	7335	7043	6789	6568	6372	6198	6042	5902	0.074			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	5177	4900	4693	4531	4402	---	---	---	---	---	---	---	---	---	0.642			
	1	5931	5547	5258	5034	4855	4708	4586	---	---	---	---	---	---	---	0.351			
	2	6685	6193	5824	5537	5307	5119	4963	4830	4717	4618	4532	4456	4389	4328	4274	0.242		
	3	7439	6839	6390	6040	5760	5531	5340	5178	5040	4920	4815	4722	4640	4566	4500	0.184		
	4	8193	7486	6955	6542	6212	5942	5717	5526	5363	5222	5098	4989	4891	4805	4726	0.149		
	5	8947	8132	7521	7045	6665	6353	6094	5874	5686	5523	5381	5255	5143	5043	4953	0.125		
	6	9701	8778	8086	7548	7117	6765	6471	6222	6010	5825	5663	5521	5394	5281	5179	0.108		
	7	10456	9425	8652	8051	7570	7176	6848	6571	6333	6127	5946	5787	5646	5519	5405	0.094		
	8	11210	10071	9217	8553	8022	7587	7225	6919	6656	6428	6229	6053	5897	5757	5631	0.084		
9	11964	10718	9783	9056	8474	7999	7602	7267	6979	6730	6512	6319	6148	5995	5857	0.076			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	4730	4517	4358	4234	4134	---	---	---	---	---	---	---	---	---	0.802			
	1	5484	5164	4923	4736	4587	4464	4362	---	---	---	---	---	---	---	0.394			
	2	6238	5810	5489	5239	5039	4876	4739	4624	4525	4440	4365	4299	4240	4187	4140	0.261		
	3	6992	6456	6054	5742	5492	5287	5116	4972	4848	4741	4647	4565	4491	4425	4366	0.195		
	4	7746	7103	6620	6244	5944	5698	5493	5320	5172	5043	4930	4831	4742	4663	4592	0.156		
	5	8501	7749	7186	6747	6397	6110	5871	5668	5495	5345	5213	5097	4994	4902	4819	0.130		
	6	9255	8395	7751	7250	6849	6521	6248	6016	5818	5646	5496	5363	5245	5140	5045	0.111		
	7	10009	9042	8317	7753	7301	6932	6625	6364	6141	5948	5779	5629	5497	5378	5271	0.097		
	8	10763	9688	8882	8255	7754	7344	7002	6712	6464	6249	6061	5895	5748	5616	5497	0.086		
9	11517	10335	9448	8758	8206	7755	7379	7060	6788	6551	6344	6162	5999	5854	5723	0.078			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	4581	4390	4246	4134	4045	---	---	---	---	---	---	---	---	---	1.070			
	1	5335	5036	4812	4637	4497	4383	4288	---	---	---	---	---	---	---	0.450			
	2	6089	5682	5377	5140	4950	4794	4665	4555	4461	4380	4309	4246	4190	4140	4095	0.285		
	3	6843	6329	5943	5642	5402	5206	5042	4903	4785	4682	4592	4512	4441	4378	4321	0.208		
	4	7597	6975	6508	6145	5855	5617	5419	5251	5108	4983	4874	4778	4693	4616	4548	0.164		
	5	8352	7621	7074	6648	6307	6028	5796	5599	5431	5285	5157	5044	4944	4855	4774	0.135		
	6	9106	8268	7639	7151	6760	6440	6173	5948	5754	5587	5440	5311	5196	5093	5000	0.115		
	7	9860	8914	8205	7653	7212	6851	6550	6296	6077	5888	5723	5577	5447	5331	5226	0.100		
	8	10614	9560	8770	8156	7665	7262	6927	6644	6401	6190	6006	5843	5698	5569	5453	0.089		
9	11368	10207	9336	8659	8117	7674	7304	6992	6724	6491	6288	6109	5950	5807	5679	0.080			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7687	7052	6576	6205	5909	---	---	---	---	---	---	---	---	---	0.410		
		1	8666	7891	7310	6858	6496	6200	5953	---	---	---	---	---	---	---	0.281		
		2	9645	8730	8044	7510	7083	6734	6443	6196	5985	5802	5642	5501	5375	5263	0.214		
		3	10624	9569	8778	8163	7670	7268	6932	6648	6405	6194	6009	5846	5702	5572	0.172		
		4	11602	10408	9512	8815	8258	7802	7421	7100	6824	6585	6376	6192	6028	5881	0.144		
		5	12581	11247	10246	9468	8845	8335	7911	7552	7244	6977	6743	6537	6354	6190	0.124		
		6	13560	12086	10980	10120	9432	8869	8400	8003	7663	7368	7110	6883	6680	6499	0.109		
		7	14539	12925	11714	10773	10019	9403	8890	8455	8083	7760	7477	7228	7007	6808	0.097		
		8	15517	13764	12448	11425	10607	9937	9379	8907	8502	8151	7844	7574	7333	7117	0.088		
	9	16496	14603	13182	12078	11194	10471	9868	9359	8922	8543	8211	7919	7659	7427	0.080			
			K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	5947	5561	5271	5045	4865	---	---	---	---	---	---	---	---	---	0.615		
		1	6926	6400	6005	5698	5452	5251	5083	---	---	---	---	---	---	---	0.364		
		2	7905	7238	6739	6350	6039	5785	5573	5393	5239	5106	4990	4887	4795	4713	0.259		
		3	8884	8077	7473	7003	6626	6319	6062	5845	5659	5498	5357	5232	5122	5023	0.200		
		4	9862	8916	8207	7655	7214	6852	6551	6297	6078	5889	5724	5578	5448	5332	0.164		
		5	10841	9755	8941	8308	7801	7386	7041	6748	6498	6281	6091	5923	5774	5641	0.138		
		6	11820	10594	9675	8960	8388	7920	7530	7200	6917	6672	6458	6269	6100	5950	0.120		
7		12799	11433	10409	9613	8975	8454	8020	7652	7337	7064	6825	6614	6427	6259	0.106			
8		13777	12272	11143	10265	9563	8988	8509	8104	7756	7455	7192	6959	6753	6568	0.094			
9	14756	13111	11877	10918	10150	9522	8998	8555	8176	7847	7559	7305	7079	6877	0.085				
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	5754	5395	5126	4916	4749	---	---	---	---	---	---	---	---	---	0.739			
	1	6733	6234	5860	5569	5336	5145	4987	---	---	---	---	---	---	---	0.404			
	2	7711	7073	6594	6221	5923	5679	5476	5304	5157	5029	4917	4818	4731	4652	0.278			
	3	8690	7912	7328	6874	6510	6213	5965	5756	5576	5420	5284	5164	5057	4961	0.212			
	4	9669	8751	8062	7526	7098	6747	6455	6208	5996	5812	5651	5509	5383	5271	0.171			
	5	10648	9590	8796	8179	7685	7281	6944	6659	6415	6203	6018	5855	5710	5580	0.144			
	6	11627	10429	9530	8831	8272	7815	7434	7111	6835	6595	6385	6200	6036	5889	0.124			
	7	12605	11267	10264	9484	8859	8349	7923	7563	7254	6986	6752	6546	6362	6198	0.109			
	8	13584	12106	10998	10136	9447	8882	8412	8014	7673	7378	7119	6891	6688	6507	0.097			
9	14563	12945	11732	10789	10034	9416	8902	8466	8093	7769	7486	7237	7015	6816	0.087				
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	5174	4898	4691	4529	4401	---	---	---	---	---	---	---	---	---	0.923			
	1	6153	5737	5425	5182	4988	4829	4697	---	---	---	---	---	---	---	0.454			
	2	7131	6576	6159	5834	5575	5363	5186	5036	4908	4797	4700	4614	4537	4469	0.301			
	3	8110	7415	6893	6487	6162	5897	5675	5488	5328	5188	5067	4959	4864	4778	0.225			
	4	9089	8253	7627	7139	6750	6431	6165	5940	5747	5580	5434	5305	5190	5087	0.180			
	5	10068	9092	8361	7792	7337	6964	6654	6392	6166	5971	5801	5650	5516	5396	0.150			
	6	11047	9931	9095	8445	7924	7498	7144	6843	6586	6363	6168	5996	5843	5706	0.128			
	7	12025	10770	9829	9097	8511	8032	7633	7295	7005	6754	6535	6341	6169	6015	0.112			
	8	13004	11609	10563	9750	9099	8566	8122	7747	7425	7146	6902	6686	6495	6324	0.099			
9	13983	12448	11297	10402	9686	9100	8612	8199	7844	7537	7269	7032	6821	6633	0.090				
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	4981	4732	4546	4401	4285	---	---	---	---	---	---	---	---	---	1.231			
	1	5959	5571	5280	5053	4872	4724	4600	---	---	---	---	---	---	---	0.517			
	2	6938	6410	6014	5706	5459	5257	5089	4947	4825	4720	4627	4546	4473	4408	0.327			
	3	7917	7249	6748	6358	6046	5791	5579	5399	5245	5111	4994	4891	4799	4717	0.239			
	4	8896	8088	7482	7011	6634	6325	6068	5851	5664	5503	5361	5236	5126	5026	0.189			
	5	9874	8927	8216	7663	7221	6859	6557	6302	6084	5894	5728	5582	5452	5335	0.156			
	6	10853	9766	8950	8316	7808	7393	7047	6754	6503	6286	6095	5927	5778	5645	0.133			
	7	11832	10605	9684	8968	8395	7927	7536	7206	6923	6677	6462	6273	6104	5954	0.115			
	8	12811	11444	10418	9621	8983	8461	8026	7658	7342	7069	6829	6618	6431	6263	0.102			
9	13790	12283	11152	10273	9570	8995	8515	8109	7762	7460	7196	6964	6757	6572	0.092				
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6094	5686	5380	5143	4952	---	---	---	---	---	---	---	---	---	0.324	
		1	6305	5867	5539	5283	5079	4912	4773	---	---	---	---	---	---	---	0.272	
		2	6516	6048	5697	5424	5206	5027	4878	4752	4644	4551	4469	4397	4332	4275	4223	0.234
		3	6727	6229	5856	5565	5333	5142	4984	4850	4735	4635	4548	4471	4403	4342	4287	0.206
		4	6938	6410	6014	5706	5459	5257	5089	4947	4825	4720	4627	4546	4473	4408	4350	0.183
		5	7149	6591	6172	5846	5586	5373	5195	5045	4916	4804	4706	4620	4543	4475	4413	0.165
		6	7361	6772	6331	5987	5713	5488	5301	5142	5006	4889	4786	4695	4614	4542	4477	0.151
		7	7572	6953	6489	6128	5839	5603	5406	5240	5097	4973	4865	4769	4684	4608	4540	0.138
		8	7783	7134	6647	6269	5966	5718	5512	5337	5187	5057	4944	4844	4755	4675	4603	0.128
		9	7994	7315	6806	6409	6093	5833	5617	5434	5278	5142	5023	4918	4825	4742	4667	0.119
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	4977	4729	4543	4398	4283	---	---	---	---	---	---	---	---	---	0.486	
		1	5188	4910	4701	4539	4409	4303	4214	---	---	---	---	---	---	---	0.377	
		2	5400	5091	4860	4680	4536	4418	4320	4237	4166	4104	4050	4003	3960	3922	3888	0.308
		3	5611	5272	5018	4821	4663	4533	4426	4334	4256	4189	4129	4077	4031	3989	3952	0.261
		4	5822	5453	5176	4961	4789	4648	4531	4432	4347	4273	4209	4152	4101	4056	4015	0.226
		5	6033	5634	5335	5102	4916	4764	4637	4529	4437	4357	4288	4226	4171	4122	4078	0.199
		6	6244	5815	5493	5243	5043	4879	4742	4627	4528	4442	4367	4301	4242	4189	4142	0.178
		7	6455	5996	5652	5384	5169	4994	4848	4724	4618	4526	4446	4375	4312	4256	4205	0.161
		8	6666	6177	5810	5524	5296	5109	4953	4822	4709	4611	4525	4450	4382	4322	4268	0.147
		9	6877	6358	5968	5665	5423	5224	5059	4919	4799	4695	4604	4524	4453	4389	4332	0.135
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
	36/5	0	4853	4623	4450	4316	4208	---	---	---	---	---	---	---	---	---	0.583	
		1	5064	4804	4608	4456	4335	4235	4152	---	---	---	---	---	---	---	0.433	
		2	5275	4985	4767	4597	4462	4351	4258	4180	4113	4055	4004	3959	3919	3883	3851	0.345
		3	5487	5166	4925	4738	4588	4466	4364	4277	4203	4139	4083	4033	3989	3950	3914	0.286
		4	5698	5347	5083	4879	4715	4581	4469	4375	4294	4223	4162	4108	4060	4016	3978	0.245
		5	5909	5528	5242	5019	4842	4696	4575	4472	4384	4308	4241	4182	4130	4083	4041	0.214
		6	6120	5709	5400	5160	4968	4811	4680	4570	4475	4392	4320	4257	4200	4150	4104	0.190
		7	6331	5890	5558	5301	5095	4926	4786	4667	4565	4477	4399	4331	4271	4217	4168	0.171
		8	6542	6071	5717	5442	5222	5041	4891	4764	4656	4561	4479	4406	4341	4283	4231	0.155
		9	6753	6252	5875	5582	5348	5157	4997	4862	4746	4646	4558	4480	4411	4350	4294	0.142
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
	36/4	0	4481	4304	4171	4068	3985	---	---	---	---	---	---	---	---	---	0.728	
		1	4692	4485	4329	4208	4112	4032	3966	---	---	---	---	---	---	---	0.509	
		2	4903	4666	4488	4349	4238	4148	4072	4008	3953	3906	3864	3827	3795	3766	3739	0.391
		3	5114	4847	4646	4490	4365	4263	4177	4105	4044	3990	3943	3902	3865	3832	3803	0.318
		4	5326	5028	4804	4631	4492	4378	4283	4203	4134	4075	4022	3976	3936	3899	3866	0.267
		5	5537	5209	4963	4771	4618	4493	4389	4300	4225	4159	4102	4051	4006	3966	3929	0.231
		6	5748	5390	5121	4912	4745	4608	4494	4398	4315	4243	4181	4125	4076	4032	3993	0.203
		7	5959	5571	5279	5053	4872	4723	4600	4495	4406	4328	4260	4200	4147	4099	4056	0.181
		8	6170	5752	5438	5194	4998	4838	4705	4593	4496	4412	4339	4274	4217	4166	4119	0.164
		9	6381	5933	5596	5334	5125	4954	4811	4690	4587	4497	4418	4349	4287	4232	4183	0.149
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
	36/3	0	4357	4198	4078	3985	3910	---	---	---	---	---	---	---	---	---	0.971	
		1	4568	4378	4236	4126	4037	3965	3904	---	---	---	---	---	---	---	0.617	
		2	4779	4559	4395	4266	4164	4080	4010	3951	3900	3856	3818	3784	3753	3726	3702	0.452
		3	4990	4740	4553	4407	4290	4195	4115	4048	3990	3940	3897	3858	3824	3793	3765	0.356
		4	5202	4921	4711	4548	4417	4310	4221	4146	4081	4025	3976	3933	3894	3860	3829	0.294
		5	5413	5102	4870	4689	4544	4425	4327	4243	4171	4109	4055	4007	3965	3926	3892	0.251
		6	5624	5283	5028	4829	4670	4540	4432	4340	4262	4194	4134	4082	4035	3993	3955	0.218
		7	5835	5464	5186	4970	4797	4656	4538	4438	4352	4278	4213	4156	4105	4060	4019	0.193
		8	6046	5645	5345	5111	4924	4771	4643	4535	4443	4363	4293	4231	4176	4126	4082	0.173
		9	6257	5826	5503	5252	5051	4886	4749	4633	4533	4447	4372	4305	4246	4193	4146	0.157
		K2 =	870	K3 =	2377	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	6667	6177	5810	5525	5296	---	---	---	---	---	---	---	---	---	0.357	
		1	6923	6397	6002	5695	5450	5249	5082	---	---	---	---	---	---	---	0.299	
		2	7179	6616	6194	5866	5604	5389	5210	5058	4928	4816	4717	4631	4553	4484	4422	0.258
		3	7435	6836	6386	6037	5757	5528	5338	5177	5038	4918	4814	4721	4639	4565	4499	0.226
		4	7691	7056	6579	6208	5911	5668	5466	5295	5148	5021	4910	4811	4724	4646	4576	0.202
		5	7948	7275	6771	6379	6065	5808	5594	5413	5258	5123	5006	4902	4810	4727	4653	0.182
		6	8204	7495	6963	6549	6218	5948	5722	5531	5368	5226	5102	4992	4895	4808	4730	0.166
		7	8460	7714	7155	6720	6372	6088	5850	5650	5477	5328	5198	5083	4980	4889	4806	0.152
		8	8716	7934	7347	6891	6526	6227	5978	5768	5587	5431	5294	5173	5066	4970	4883	0.141
	9	8972	8154	7539	7062	6680	6367	6106	5886	5697	5533	5390	5264	5151	5051	4960	0.131	
			K2 =	1056	K3 =	2377	K4_B =	3.55	K4_F =	3.41								
	36/7	0	5326	5028	4805	4631	4492	---	---	---	---	---	---	---	---	---	0.535	
		1	5582	5248	4997	4802	4645	4518	4411	---	---	---	---	---	---	---	0.415	
		2	5838	5467	5189	4972	4799	4658	4539	4440	4354	4280	4215	4157	4106	4061	4020	0.340
		3	6095	5687	5381	5143	4953	4797	4668	4558	4464	4382	4311	4248	4192	4142	4097	0.287
		4	6351	5906	5573	5314	5107	4937	4796	4676	4573	4485	4407	4338	4277	4223	4174	0.249
		5	6607	6126	5765	5485	5260	5077	4924	4794	4683	4587	4503	4429	4363	4304	4250	0.219
		6	6863	6346	5958	5656	5414	5217	5052	4913	4793	4690	4599	4519	4448	4385	4327	0.196
7		7119	6565	6150	5826	5568	5356	5180	5031	4903	4792	4695	4610	4533	4465	4404	0.178	
8		7376	6785	6342	5997	5722	5496	5308	5149	5013	4895	4791	4700	4619	4546	4481	0.162	
9	7632	7005	6534	6168	5875	5636	5436	5267	5123	4997	4887	4790	4704	4627	4558	0.149		
		K2 =	1056	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
36/5	0	5177	4900	4693	4531	4402	---	---	---	---	---	---	---	---	---	0.642		
	1	5433	5120	4885	4702	4556	4437	4337	---	---	---	---	---	---	---	0.477		
	2	5689	5340	5077	4873	4710	4576	4465	4371	4290	4220	4159	4105	4057	4014	3975	0.380	
	3	5946	5559	5269	5044	4864	4716	4593	4489	4400	4323	4255	4195	4142	4095	4052	0.315	
	4	6202	5779	5461	5215	5017	4856	4721	4607	4510	4425	4351	4286	4228	4176	4129	0.270	
	5	6458	5998	5654	5386	5171	4996	4849	4726	4619	4528	4447	4376	4313	4257	4206	0.236	
	6	6714	6218	5846	5556	5325	5135	4977	4844	4729	4630	4543	4467	4398	4337	4283	0.209	
	7	6970	6438	6038	5727	5478	5275	5105	4962	4839	4732	4639	4557	4484	4418	4360	0.188	
	8	7227	6657	6230	5898	5632	5415	5234	5080	4949	4835	4735	4647	4569	4499	4436	0.171	
9	7483	6877	6422	6069	5786	5555	5362	5199	5059	4937	4831	4738	4655	4580	4513	0.156		
		K2 =	1056	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
36/4	0	4730	4517	4358	4234	4134	---	---	---	---	---	---	---	---	---	0.802		
	1	4986	4737	4550	4404	4288	4193	4113	---	---	---	---	---	---	---	0.561		
	2	5243	4957	4742	4575	4442	4333	4242	4165	4099	4041	3991	3947	3908	3873	3841	0.431	
	3	5499	5176	4934	4746	4595	4472	4370	4283	4208	4144	4087	4038	3993	3954	3918	0.350	
	4	5755	5396	5126	4917	4749	4612	4498	4401	4318	4246	4183	4128	4079	4035	3995	0.294	
	5	6011	5615	5318	5088	4903	4752	4626	4519	4428	4349	4280	4218	4164	4115	4072	0.254	
	6	6267	5835	5511	5258	5057	4892	4754	4638	4538	4451	4376	4309	4249	4196	4149	0.224	
	7	6524	6055	5703	5429	5210	5031	4882	4756	4648	4554	4472	4399	4335	4277	4225	0.200	
	8	6780	6274	5895	5600	5364	5171	5010	4874	4757	4656	4568	4490	4420	4358	4302	0.180	
9	7036	6494	6087	5771	5518	5311	5138	4992	4867	4759	4664	4580	4506	4439	4379	0.164		
		K2 =	1056	K3 =	2377	K4_B =	3.55	K4_F =	3.41									
36/3	0	4581	4390	4246	4134	4045	---	---	---	---	---	---	---	---	---	1.070		
	1	4837	4609	4438	4305	4199	4112	4039	---	---	---	---	---	---	---	0.679		
	2	5094	4829	4630	4476	4352	4251	4167	4096	4035	3982	3935	3895	3858	3826	3796	0.498	
	3	5350	5048	4822	4647	4506	4391	4295	4214	4144	4084	4031	3985	3944	3907	3873	0.393	
	4	5606	5268	5015	4817	4660	4531	4423	4332	4254	4187	4128	4075	4029	3988	3950	0.324	
	5	5862	5488	5207	4988	4814	4671	4551	4451	4364	4289	4224	4166	4114	4068	4027	0.276	
	6	6118	5707	5399	5159	4967	4810	4679	4569	4474	4392	4320	4256	4200	4149	4104	0.240	
	7	6375	5927	5591	5330	5121	4950	4808	4687	4584	4494	4416	4347	4285	4230	4181	0.213	
	8	6631	6147	5783	5501	5275	5090	4936	4805	4694	4597	4512	4437	4371	4311	4258	0.191	
9	6887	6366	5975	5672	5428	5230	5064	4924	4803	4699	4608	4528	4456	4392	4334	0.173		
		K2 =	1056	K3 =	2377	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	7687	7052	6576	6205	5909	---	---	---	---	---	---	---	---	---	0.410		
		1	8027	7343	6830	6431	6112	5851	5634	---	---	---	---	---	---	---	0.344		
		2	8366	7634	7084	6657	6316	6036	5803	5606	5437	5291	5162	5049	4949	4859	4778	0.297	
		3	8705	7924	7339	6884	6519	6221	5973	5763	5582	5426	5290	5169	5062	4966	4880	0.261	
		4	9044	8215	7593	7110	6723	6406	6142	5919	5728	5562	5417	5289	5175	5073	4982	0.232	
		5	9383	8506	7848	7336	6926	6591	6312	6076	5873	5698	5544	5409	5288	5180	5083	0.210	
		6	9723	8797	8102	7562	7130	6776	6482	6232	6019	5833	5671	5528	5401	5288	5185	0.191	
		7	10062	9087	8357	7788	7333	6961	6651	6389	6164	5969	5799	5648	5514	5395	5287	0.175	
		8	10401	9378	8611	8014	7537	7146	6821	6545	6309	6105	5926	5768	5627	5502	5389	0.162	
		9	10740	9669	8865	8240	7740	7331	6990	6702	6455	6240	6053	5888	5740	5609	5490	0.151	
			K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41						
	36/7	0	5947	5561	5271	5045	4865	---	---	---	---	---	---	---	---	---	0.615		
		1	6286	5851	5525	5271	5068	4902	4764	---	---	---	---	---	---	---	0.478		
		2	6626	6142	5779	5497	5272	5087	4933	4803	4691	4595	4510	4435	4369	4310	4256	0.391	
		3	6965	6433	6034	5723	5475	5272	5103	4959	4837	4730	4637	4555	4482	4417	4358	0.330	
		4	7304	6724	6288	5950	5679	5457	5272	5116	4982	4866	4764	4675	4595	4524	4460	0.286	
		5	7643	7014	6543	6176	5882	5642	5442	5273	5127	5002	4892	4794	4708	4631	4561	0.253	
		6	7983	7305	6797	6402	6086	5827	5612	5429	5273	5137	5019	4914	4821	4738	4663	0.226	
		7	8322	7596	7052	6628	6289	6012	5781	5586	5418	5273	5146	5034	4934	4845	4765	0.204	
		8	8661	7887	7306	6854	6493	6197	5951	5742	5564	5409	5273	5154	5047	4952	4867	0.187	
		9	9000	8178	7560	7080	6696	6382	6120	5899	5709	5544	5400	5273	5160	5059	4968	0.172	
			K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41						
	36/5	0	5754	5395	5126	4916	4749	---	---	---	---	---	---	---	---	---	0.739		
		1	6093	5686	5380	5142	4952	4796	4667	---	---	---	---	---	---	---	0.549		
		2	6432	5976	5634	5368	5156	4982	4836	4714	4608	4517	4437	4367	4304	4248	4198	0.437	
		3	6772	6267	5889	5595	5359	5167	5006	4870	4754	4653	4565	4487	4418	4356	4300	0.363	
		4	7111	6558	6143	5821	5563	5352	5176	5027	4899	4789	4692	4607	4531	4463	4402	0.310	
		5	7450	6849	6398	6047	5766	5537	5345	5183	5045	4924	4819	4726	4644	4570	4503	0.271	
6		7789	7139	6652	6273	5970	5722	5515	5340	5190	5060	4946	4846	4757	4677	4605	0.241		
7		8129	7430	6907	6499	6173	5907	5685	5497	5335	5196	5074	4966	4870	4784	4707	0.216		
8		8468	7721	7161	6725	6377	6092	5854	5653	5481	5331	5201	5085	4983	4891	4809	0.196		
9		8807	8012	7415	6952	6580	6277	6024	5810	5626	5467	5328	5205	5096	4998	4910	0.180		
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							
36/4	0	5174	4898	4691	4529	4401	---	---	---	---	---	---	---	---	---	0.923			
	1	5513	5188	4945	4756	4604	4480	4377	---	---	---	---	---	---	---	0.645			
	2	5852	5479	5199	4982	4808	4665	4546	4446	4360	4285	4220	4162	4111	4065	4024	0.496		
	3	6192	5770	5454	5208	5011	4850	4716	4603	4505	4421	4347	4282	4224	4172	4126	0.403		
	4	6531	6061	5708	5434	5215	5035	4886	4759	4651	4557	4474	4402	4337	4280	4228	0.339		
	5	6870	6352	5963	5660	5418	5220	5055	4916	4796	4692	4602	4522	4450	4387	4329	0.293		
	6	7209	6642	6217	5886	5622	5405	5225	5072	4941	4828	4729	4641	4563	4494	4431	0.257		
	7	7549	6933	6472	6113	5825	5590	5395	5229	5087	4964	4856	4761	4677	4601	4533	0.230		
	8	7888	7224	6726	6339	6029	5775	5564	5385	5232	5099	4983	4881	4790	4708	4635	0.207		
	9	8227	7515	6980	6565	6232	5960	5734	5542	5378	5235	5110	5000	4903	4815	4736	0.189		
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							
36/3	0	4981	4732	4546	4401	4285	---	---	---	---	---	---	---	---	---	1.231			
	1	5320	5023	4800	4627	4488	4375	4280	---	---	---	---	---	---	---	0.782			
	2	5659	5314	5054	4853	4692	4560	4450	4357	4277	4208	4147	4094	4047	4004	3966	0.573		
	3	5998	5604	5309	5079	4895	4745	4619	4513	4422	4344	4275	4214	4160	4111	4068	0.452		
	4	6337	5895	5563	5305	5099	4930	4789	4670	4568	4479	4402	4334	4273	4219	4170	0.373		
	5	6677	6186	5818	5531	5302	5115	4959	4826	4713	4615	4529	4453	4386	4326	4271	0.318		
	6	7016	6477	6072	5757	5506	5300	5128	4983	4859	4751	4656	4573	4499	4433	4373	0.277		
	7	7355	6767	6327	5984	5709	5485	5298	5140	5004	4886	4784	4693	4612	4540	4475	0.245		
	8	7694	7058	6581	6210	5913	5670	5467	5296	5149	5022	4911	4812	4725	4647	4577	0.220		
	9	8034	7349	6835	6436	6116	5855	5637	5453	5295	5158	5038	4932	4838	4754	4678	0.199		
		K2 =	1398	K3 =		2377	K4_B =		3.55	K4_F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	4811	4587	4418	4288	4183	---	---	---	---	---	---	---	---	---	0.366		
		1	5022	4768	4577	4428	4310	4212	4131	---	---	---	---	---	---	---	0.301		
		2	5233	4949	4735	4569	4436	4328	4237	4160	4095	4038	3988	3944	3905	3870	0.255		
		3	5445	5130	4894	4710	4563	4443	4343	4258	4185	4122	4067	4018	3975	3937	0.222		
		4	5656	5311	5052	4851	4690	4558	4448	4355	4276	4207	4146	4093	4046	4003	0.196		
		5	5867	5492	5210	4991	4816	4673	4554	4453	4366	4291	4225	4167	4116	4070	0.176		
		6	6078	5673	5369	5132	4943	4788	4659	4550	4457	4375	4305	4242	4186	4137	0.159		
		7	6289	5854	5527	5273	5070	4903	4765	4648	4547	4460	4384	4316	4257	4203	0.145		
		8	6500	6034	5685	5414	5196	5018	4870	4745	4638	4544	4463	4391	4327	4270	0.134		
		9	6711	6215	5844	5554	5323	5134	4976	4842	4728	4629	4542	4465	4397	4337	0.124		
			K2 =	870	K3		2377	K4_B =		3.55	K4_F =		3.41						
	36/7	0	4197	4060	3958	3878	3814	---	---	---	---	---	---	---	---	---	0.549		
		1	4408	4241	4116	4019	3941	3877	---	---	---	---	---	---	---	---	0.414		
		2	4619	4422	4274	4159	4067	3992	3930	3877	3831	3792	3757	3727	3700	3676	0.333		
		3	4830	4603	4433	4300	4194	4107	4035	3974	3922	3876	3837	3801	3770	3742	0.278		
		4	5041	4784	4591	4441	4321	4223	4141	4072	4012	3961	3916	3876	3841	3809	0.239		
		5	5252	4965	4749	4582	4448	4338	4246	4169	4103	4045	3995	3951	3911	3876	0.209		
		6	5463	5146	4908	4722	4574	4453	4352	4266	4193	4130	4074	4025	3981	3942	0.186		
		7	5674	5327	5066	4863	4701	4568	4457	4364	4284	4214	4153	4100	4052	4009	0.168		
		8	5886	5508	5224	5004	4828	4683	4563	4461	4374	4299	4232	4174	4122	4076	0.152		
9		6097	5689	5383	5145	4954	4798	4669	4559	4465	4383	4312	4249	4193	4142	0.140			
		K2 =	870	K3		2377	K4_B =		3.55	K4_F =		3.41							
36/5	0	4128	4001	3906	3832	3773	---	---	---	---	---	---	---	---	---	0.659			
	1	4339	4182	4065	3973	3900	3840	3790	---	---	---	---	---	---	---	0.474			
	2	4551	4363	4223	4114	4027	3955	3896	3845	3802	3765	3732	3703	3677	3654	0.370			
	3	4762	4544	4381	4255	4153	4070	4001	3943	3892	3849	3811	3777	3748	3721	0.304			
	4	4973	4725	4540	4395	4280	4185	4107	4040	3983	3933	3890	3852	3818	3788	0.257			
	5	5184	4906	4698	4536	4407	4301	4212	4137	4073	4018	3969	3926	3888	3854	0.223			
	6	5395	5087	4856	4677	4533	4416	4318	4235	4164	4102	4048	4001	3959	3921	0.197			
	7	5606	5268	5015	4818	4660	4531	4423	4332	4254	4187	4128	4075	4029	3988	0.177			
	8	5817	5449	5173	4958	4787	4646	4529	4430	4345	4271	4207	4150	4099	4054	0.160			
	9	6028	5630	5331	5099	4913	4761	4634	4527	4435	4356	4286	4224	4170	4121	0.146			
		K2 =	870	K3		2377	K4_B =		3.55	K4_F =		3.41							
36/4	0	3923	3826	3753	3696	3650	---	---	---	---	---	---	---	---	---	0.823			
	1	4135	4007	3911	3837	3777	3728	3688	---	---	---	---	---	---	---	0.554			
	2	4346	4188	4069	3977	3904	3843	3793	3751	3714	3683	3655	3631	3609	3590	0.417			
	3	4557	4369	4228	4118	4030	3958	3899	3848	3805	3767	3734	3705	3679	3656	0.334			
	4	4768	4550	4386	4259	4157	4074	4004	3945	3895	3851	3813	3780	3750	3723	0.279			
	5	4979	4731	4544	4400	4284	4189	4110	4043	3986	3936	3892	3854	3820	3790	0.240			
	6	5190	4912	4703	4540	4410	4304	4215	4140	4076	4020	3972	3929	3890	3856	0.210			
	7	5401	5093	4861	4681	4537	4419	4321	4238	4167	4105	4051	4003	3961	3923	0.187			
	8	5612	5274	5019	4822	4664	4534	4426	4335	4257	4189	4130	4078	4031	3990	0.168			
	9	5824	5455	5178	4963	4790	4649	4532	4433	4348	4274	4209	4152	4102	4056	0.153			
		K2 =	870	K3		2377	K4_B =		3.55	K4_F =		3.41							
36/3	0	3855	3767	3701	3650	3609	---	---	---	---	---	---	---	---	---	1.098			
	1	4066	3948	3860	3791	3736	3691	3653	---	---	---	---	---	---	---	0.665			
	2	4277	4129	4018	3932	3863	3806	3759	3719	3685	3655	3629	3606	3586	3568	0.477			
	3	4488	4310	4176	4072	3989	3921	3865	3817	3775	3740	3709	3681	3657	3635	0.372			
	4	4700	4491	4335	4213	4116	4036	3970	3914	3866	3824	3788	3755	3727	3701	0.305			
	5	4911	4672	4493	4354	4243	4152	4076	4011	3956	3909	3867	3830	3797	3768	0.258			
	6	5122	4853	4652	4495	4369	4267	4181	4109	4047	3993	3946	3905	3868	3835	0.224			
	7	5333	5034	4810	4636	4496	4382	4287	4206	4137	4078	4025	3979	3938	3901	0.198			
	8	5544	5215	4968	4776	4623	4497	4392	4304	4228	4162	4104	4054	4008	3968	0.177			
	9	5755	5396	5127	4917	4749	4612	4498	4401	4318	4246	4184	4128	4079	4035	0.160			
		K2 =	870	K3		2377	K4_B =		3.55	K4_F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	5147	4874	4670	4511	4384	---	---	---	---	---	---	---	---	---	0.403		
		1	5403	5094	4862	4682	4538	4420	4322	---	---	---	---	---	---	---	0.331		
		2	5659	5313	5054	4853	4692	4560	4450	4357	4277	4208	4147	4094	4047	4004	3966	0.281	
		3	5915	5533	5247	5024	4845	4699	4578	4475	4387	4310	4244	4185	4132	4085	4043	0.244	
		4	6171	5753	5439	5194	4999	4839	4706	4593	4497	4413	4340	4275	4217	4166	4120	0.216	
		5	6428	5972	5631	5365	5153	4979	4834	4711	4606	4515	4436	4365	4303	4247	4197	0.193	
		6	6684	6192	5823	5536	5307	5119	4962	4830	4716	4618	4532	4456	4388	4328	4274	0.175	
		7	6940	6412	6015	5707	5460	5258	5090	4948	4826	4720	4628	4546	4474	4409	4350	0.160	
		8	7196	6631	6207	5878	5614	5398	5218	5066	4936	4823	4724	4637	4559	4490	4427	0.147	
	9	7452	6851	6399	6048	5768	5538	5346	5184	5046	4925	4820	4727	4645	4571	4504	0.137		
			K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	4401	4235	4111	4014	3937	---	---	---	---	---	---	---	---	---	0.605		
		1	4657	4455	4303	4185	4090	4013	3949	---	---	---	---	---	---	---	0.456		
		2	4913	4674	4495	4356	4244	4153	4077	4012	3957	3910	3868	3831	3798	3769	3742	0.366	
		3	5169	4894	4687	4526	4398	4293	4205	4131	4067	4012	3964	3921	3883	3850	3819	0.306	
		4	5426	5113	4879	4697	4552	4432	4333	4249	4177	4115	4060	4012	3969	3931	3896	0.263	
		5	5682	5333	5071	4868	4705	4572	4461	4367	4287	4217	4156	4102	4054	4011	3973	0.230	
		6	5938	5553	5264	5039	4859	4712	4589	4486	4397	4320	4252	4193	4140	4092	4050	0.205	
7		6194	5772	5456	5210	5013	4852	4717	4604	4506	4422	4348	4283	4225	4173	4127	0.185		
8		6450	5992	5648	5380	5166	4991	4845	4722	4616	4524	4444	4373	4310	4254	4203	0.168		
9	6707	6211	5840	5551	5320	5131	4974	4840	4726	4627	4540	4464	4396	4335	4280	0.154			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	4318	4164	4049	3959	3887	---	---	---	---	---	---	---	---	---	0.726			
	1	4574	4384	4241	4130	4041	3968	3907	---	---	---	---	---	---	---	0.522			
	2	4830	4603	4433	4300	4194	4108	4035	3974	3922	3876	3837	3802	3770	3743	3717	0.408		
	3	5086	4823	4625	4471	4348	4247	4164	4093	4032	3979	3933	3892	3856	3823	3794	0.334		
	4	5343	5042	4817	4642	4502	4387	4292	4211	4141	4081	4029	3982	3941	3904	3871	0.283		
	5	5599	5262	5009	4813	4656	4527	4420	4329	4251	4184	4125	4073	4027	3985	3948	0.246		
	6	5855	5482	5201	4984	4809	4667	4548	4447	4361	4286	4221	4163	4112	4066	4025	0.217		
	7	6111	5701	5394	5154	4963	4806	4676	4566	4471	4389	4317	4254	4197	4147	4102	0.195		
	8	6368	5921	5586	5325	5117	4946	4804	4684	4581	4491	4413	4344	4283	4228	4179	0.176		
9	6624	6140	5778	5496	5270	5086	4932	4802	4690	4594	4509	4435	4368	4309	4255	0.161			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	4069	3951	3862	3793	3738	---	---	---	---	---	---	---	---	---	0.907			
	1	4325	4170	4054	3964	3891	3832	3783	---	---	---	---	---	---	---	0.610			
	2	4582	4390	4246	4135	4045	3972	3911	3860	3815	3777	3743	3714	3688	3664	3643	0.459		
	3	4838	4610	4439	4305	4199	4112	4039	3978	3925	3879	3840	3804	3773	3745	3720	0.368		
	4	5094	4829	4631	4476	4353	4252	4167	4096	4035	3982	3936	3895	3858	3826	3797	0.307		
	5	5350	5049	4823	4647	4506	4391	4295	4214	4145	4084	4032	3985	3944	3907	3873	0.264		
	6	5607	5269	5015	4818	4660	4531	4424	4333	4255	4187	4128	4076	4029	3988	3950	0.231		
	7	5863	5488	5207	4989	4814	4671	4552	4451	4364	4289	4224	4166	4115	4069	4027	0.206		
	8	6119	5708	5399	5159	4968	4811	4680	4569	4474	4392	4320	4256	4200	4149	4104	0.185		
9	6375	5927	5591	5330	5121	4950	4808	4687	4584	4494	4416	4347	4285	4230	4181	0.168			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	3986	3880	3800	3738	3688	---	---	---	---	---	---	---	---	---	1.209			
	1	4243	4099	3992	3909	3842	3787	3742	---	---	---	---	---	---	---	0.733			
	2	4499	4319	4184	4079	3995	3927	3870	3821	3780	3744	3712	3685	3660	3638	3618	0.526		
	3	4755	4539	4376	4250	4149	4067	3998	3940	3890	3846	3808	3775	3745	3719	3695	0.410		
	4	5011	4758	4569	4421	4303	4206	4126	4058	3999	3949	3905	3865	3831	3800	3772	0.336		
	5	5267	4978	4761	4592	4457	4346	4254	4176	4109	4051	4001	3956	3916	3881	3849	0.285		
	6	5524	5197	4953	4763	4610	4486	4382	4294	4219	4154	4097	4046	4002	3962	3925	0.247		
	7	5780	5417	5145	4933	4764	4626	4510	4413	4329	4256	4193	4137	4087	4042	4002	0.218		
	8	6036	5637	5337	5104	4918	4765	4638	4531	4439	4359	4289	4227	4172	4123	4079	0.195		
9	6292	5856	5529	5275	5072	4905	4766	4649	4548	4461	4385	4318	4258	4204	4156	0.177			
		K2 =	1056	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
2 1/2" LIGHT WEIGHT CONCRETE (ABOVE DECK)	36/9	0	5764	5404	5133	4923	4755	---	---	---	---	---	---	---	---	---	0.464		
		1	6103	5694	5388	5149	4958	4802	4672	---	---	---	---	---	---	---	0.381		
		2	6443	5985	5642	5375	5162	4987	4842	4718	4613	4521	4441	4371	4308	4252	4201	0.324	
		3	6782	6276	5897	5601	5365	5172	5011	4875	4758	4657	4569	4490	4421	4359	4303	0.281	
		4	7121	6567	6151	5828	5569	5357	5181	5032	4904	4793	4696	4610	4534	4466	4405	0.248	
		5	7460	6857	6405	6054	5772	5542	5350	5188	5049	4928	4823	4730	4647	4573	4506	0.223	
		6	7800	7148	6660	6280	5976	5727	5520	5345	5194	5064	4950	4850	4760	4680	4608	0.202	
		7	8139	7439	6914	6506	6179	5912	5690	5501	5340	5200	5077	4969	4873	4787	4710	0.184	
		8	8478	7730	7169	6732	6383	6097	5859	5658	5485	5336	5205	5089	4986	4894	4812	0.170	
	9	8817	8021	7423	6958	6587	6282	6029	5814	5631	5471	5332	5209	5099	5002	4914	0.157		
			K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41									
	36/7	0	4777	4557	4393	4265	4162	---	---	---	---	---	---	---	---	---	0.696		
		1	5116	4848	4647	4491	4366	4263	4178	---	---	---	---	---	---	---	0.525		
		2	5455	5139	4901	4717	4569	4448	4348	4263	4190	4126	4071	4022	3979	3940	3905	0.422	
		3	5794	5430	5156	4943	4773	4634	4517	4419	4335	4262	4198	4142	4092	4047	4007	0.352	
		4	6134	5720	5410	5169	4976	4819	4687	4576	4480	4398	4325	4262	4205	4154	4108	0.303	
		5	6473	6011	5665	5395	5180	5004	4857	4732	4626	4533	4453	4381	4318	4261	4210	0.265	
		6	6812	6302	5919	5622	5383	5189	5026	4889	4771	4669	4580	4501	4431	4368	4312	0.236	
7		7151	6593	6174	5848	5587	5374	5196	5045	4917	4805	4707	4621	4544	4475	4414	0.212		
8		7491	6883	6428	6074	5791	5559	5366	5202	5062	4941	4834	4741	4657	4583	4516	0.193		
9	7830	7174	6682	6300	5994	5744	5535	5359	5207	5076	4961	4860	4770	4690	4617	0.177			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/5	0	4667	4463	4310	4191	4096	---	---	---	---	---	---	---	---	---	0.835			
	1	5006	4754	4565	4418	4300	4204	4123	---	---	---	---	---	---	---	0.601			
	2	5345	5045	4819	4644	4503	4389	4293	4212	4143	4082	4030	3983	3942	3905	3872	0.469		
	3	5685	5335	5074	4870	4707	4574	4463	4369	4288	4218	4157	4103	4055	4012	3974	0.385		
	4	6024	5626	5328	5096	4911	4759	4632	4525	4433	4354	4284	4223	4168	4119	4076	0.326		
	5	6363	5917	5582	5322	5114	4944	4802	4682	4579	4490	4411	4343	4281	4227	4177	0.283		
	6	6702	6208	5837	5548	5318	5129	4971	4838	4724	4625	4539	4462	4394	4334	4279	0.250		
	7	7042	6499	6091	5775	5521	5314	5141	4995	4870	4761	4666	4582	4508	4441	4381	0.224		
	8	7381	6789	6346	6001	5725	5499	5311	5151	5015	4897	4793	4702	4621	4548	4483	0.203		
9	7720	7080	6600	6227	5928	5684	5480	5308	5160	5032	4920	4822	4734	4655	4584	0.185			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/4	0	4338	4181	4063	3972	3899	---	---	---	---	---	---	---	---	---	1.044			
	1	4677	4472	4318	4198	4102	4024	3959	---	---	---	---	---	---	---	0.702			
	2	5016	4763	4572	4424	4306	4209	4128	4060	4002	3951	3906	3867	3832	3801	3773	0.528		
	3	5355	5053	4827	4650	4509	4394	4298	4217	4147	4086	4034	3987	3945	3908	3875	0.424		
	4	5695	5344	5081	4877	4713	4579	4468	4373	4292	4222	4161	4107	4059	4016	3977	0.354		
	5	6034	5635	5336	5103	4917	4764	4637	4530	4438	4358	4288	4226	4172	4123	4079	0.304		
	6	6373	5926	5590	5329	5120	4949	4807	4686	4583	4494	4415	4346	4285	4230	4180	0.266		
	7	6712	6216	5844	5555	5324	5134	4976	4843	4728	4629	4542	4466	4398	4337	4282	0.237		
	8	7052	6507	6099	5781	5527	5319	5146	4999	4874	4765	4670	4586	4511	4444	4384	0.213		
9	7391	6798	6353	6007	5731	5504	5316	5156	5019	4901	4797	4705	4624	4551	4486	0.194			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										
36/3	0	4228	4087	3981	3899	3833	---	---	---	---	---	---	---	---	---	1.392			
	1	4567	4378	4236	4125	4037	3964	3904	---	---	---	---	---	---	---	0.843			
	2	4906	4668	4490	4351	4240	4149	4074	4009	3955	3907	3865	3829	3796	3767	3740	0.605		
	3	5246	4959	4744	4577	4444	4334	4243	4166	4100	4043	3992	3948	3909	3874	3842	0.472		
	4	5585	5250	4999	4803	4647	4519	4413	4323	4245	4178	4120	4068	4022	3981	3944	0.387		
	5	5924	5541	5253	5030	4851	4704	4582	4479	4391	4314	4247	4188	4135	4088	4046	0.327		
	6	6263	5832	5508	5256	5054	4889	4752	4636	4536	4450	4374	4307	4248	4195	4147	0.284		
	7	6603	6122	5762	5482	5258	5074	4922	4792	4681	4585	4501	4427	4361	4302	4249	0.251		
	8	6942	6413	6017	5708	5461	5259	5091	4949	4827	4721	4629	4547	4474	4409	4351	0.224		
9	7281	6704	6271	5934	5665	5444	5261	5105	4972	4857	4756	4667	4587	4517	4453	0.203			
		K2 =	1398	K3	2377	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE:	1.5 B,F	Φ (EQ): 0.50	Ω (EQ): 3.25
DECK GAGE:	22 (t = 0.0295 ")	Φ (WIND): 0.50	Ω (WIND): 3.25
SUPPORT FASTENERS:	3/4 " puddle weld or equivalent	Φ (OTHER): 0.50	Ω (OTHER): 3.25
SIDLAP FASTENERS:	5/8 " puddle weld or 1 1/2" long fillet weld		

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	3899	3406	3036	2749	2519	---	---	---	---	---	---	---	---	---	0.324		
		1	4527	3945	3507	3167	2895	2673	2487	---	---	---	---	---	---	---	0.222		
		2	5155	4483	3978	3586	3272	3015	2801	2620	2465	2331	2213	2109	2017	1934	1860	0.169	
		3	5783	5021	4449	4005	3649	3358	3115	2910	2734	2582	2448	2331	2226	2132	2048	0.136	
		4	6412	5559	4920	4423	4026	3700	3429	3200	3003	2833	2684	2552	2435	2331	2237	0.114	
		5	7040	6098	5391	4842	4403	4043	3743	3490	3273	3084	2919	2774	2645	2529	2425	0.098	
		6	7668	6636	5862	5261	4779	4386	4057	3780	3542	3335	3155	2996	2854	2727	2613	0.086	
		7	8296	7174	6334	5679	5156	4728	4371	4070	3811	3587	3390	3217	3063	2926	2802	0.077	
		8	8924	7713	6805	6098	5533	5071	4685	4359	4080	3838	3626	3439	3273	3124	2990	0.069	
		9	9552	8251	7276	6517	5910	5413	4999	4649	4349	4089	3861	3661	3482	3322	3179	0.063	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/7	0	2549	2248	2023	1848	1708	---	---	---	---	---	---	---	---	---	0.486		
		1	3177	2787	2494	2267	2085	1936	1812	---	---	---	---	---	---	---	0.287		
		2	3805	3325	2965	2685	2462	2279	2126	1997	1886	1790	1706	1632	1566	1507	1454	0.204	
		3	4433	3863	3436	3104	2838	2621	2440	2287	2155	2041	1942	1854	1776	1706	1643	0.158	
		4	5061	4402	3907	3523	3215	2964	2754	2576	2424	2293	2177	2075	1985	1904	1831	0.129	
		5	5689	4940	4378	3942	3592	3306	3068	2866	2694	2544	2413	2297	2194	2102	2020	0.109	
		6	6317	5478	4849	4360	3969	3649	3382	3156	2963	2795	2648	2519	2404	2301	2208	0.094	
		7	6945	6017	5320	4779	4346	3991	3696	3446	3232	3046	2884	2740	2613	2499	2396	0.083	
		8	7573	6555	5791	5198	4723	4334	4010	3736	3501	3297	3119	2962	2822	2697	2585	0.074	
		9	8201	7093	6262	5616	5099	4676	4324	4026	3770	3549	3355	3184	3032	2896	2773	0.067	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/5	0	2398	2120	1911	1748	1618	---	---	---	---	---	---	---	---	---	0.583		
		1	3026	2658	2382	2167	1995	1854	1737	---	---	---	---	---	---	---	0.319		
		2	3655	3196	2853	2585	2372	2197	2051	1928	1822	1730	1650	1579	1516	1460	1409	0.219	
		3	4283	3735	3324	3004	2748	2539	2365	2217	2091	1981	1885	1801	1726	1658	1598	0.167	
		4	4911	4273	3795	3423	3125	2882	2679	2507	2360	2233	2121	2023	1935	1857	1786	0.135	
		5	5539	4811	4266	3841	3502	3224	2993	2797	2629	2484	2356	2244	2144	2055	1975	0.113	
		6	6167	5350	4737	4260	3879	3567	3307	3087	2898	2735	2592	2466	2354	2253	2163	0.098	
		7	6795	5888	5208	4679	4256	3909	3621	3377	3168	2986	2828	2687	2563	2452	2351	0.086	
		8	7423	6426	5679	5098	4632	4252	3935	3667	3437	3237	3063	2909	2772	2650	2540	0.076	
		9	8051	6965	6150	5516	5009	4595	4249	3957	3706	3489	3299	3131	2982	2848	2728	0.069	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/4	0	1948	1734	1573	1448	1348	---	---	---	---	---	---	---	---	---	0.728		
		1	2576	2272	2044	1867	1725	1608	1512	---	---	---	---	---	---	---	0.358		
		2	3204	2810	2515	2285	2101	1951	1826	1720	1629	1550	1481	1420	1366	1318	1274	0.237	
		3	3832	3349	2986	2704	2478	2294	2140	2010	1898	1801	1717	1642	1576	1516	1463	0.177	
		4	4460	3887	3457	3123	2855	2636	2454	2299	2167	2052	1952	1864	1785	1714	1651	0.142	
		5	5088	4425	3928	3541	3232	2979	2768	2589	2436	2304	2188	2085	1994	1913	1840	0.118	
		6	5716	4964	4399	3960	3609	3321	3082	2879	2705	2555	2423	2307	2204	2111	2028	0.101	
		7	6344	5502	4870	4379	3986	3664	3396	3169	2975	2806	2659	2529	2413	2309	2216	0.088	
		8	6972	6040	5341	4797	4362	4006	3710	3459	3244	3057	2894	2750	2622	2508	2405	0.078	
		9	7600	6579	5812	5216	4739	4349	4024	3749	3513	3308	3130	2972	2832	2706	2593	0.071	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/3	0	1798	1605	1460	1348	1258	---	---	---	---	---	---	---	---	---	0.971		
		1	2426	2143	1931	1766	1635	1527	1437	---	---	---	---	---	---	---	0.408		
		2	3054	2682	2402	2185	2011	1869	1751	1650	1564	1490	1425	1367	1316	1270	1229	0.258	
		3	3682	3220	2873	2604	2388	2212	2065	1940	1834	1741	1660	1589	1526	1469	1418	0.189	
		4	4310	3758	3344	3023	2765	2554	2379	2230	2103	1992	1896	1811	1735	1667	1606	0.149	
		5	4938	4297	3815	3441	3142	2897	2693	2520	2372	2244	2131	2032	1944	1865	1795	0.123	
		6	5566	4835	4286	3860	3519	3239	3007	2810	2641	2495	2367	2254	2154	2064	1983	0.105	
		7	6194	5373	4758	4279	3895	3582	3321	3100	2910	2746	2602	2476	2363	2262	2171	0.091	
		8	6822	5912	5229	4697	4272	3925	3635	3390	3179	2997	2838	2697	2572	2460	2360	0.081	
		9	7450	6450	5700	5116	4649	4267	3949	3679	3449	3248	3073	2919	2782	2659	2548	0.072	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	4600	4007	3562	3216	2939	---	---	---	---	---	---	---	---	---	0.357		
		1	5354	4653	4127	3718	3391	3124	2901	---	---	---	---	---	---	---	0.244		
		2	6108	5299	4693	4221	3844	3535	3278	3060	2873	2712	2570	2445	2334	2235	2146	0.186	
		3	6862	5946	5259	4724	4296	3946	3655	3408	3197	3013	2853	2711	2586	2473	2372	0.150	
		4	7616	6592	5824	5227	4749	4358	4032	3756	3520	3315	3136	2978	2837	2711	2598	0.126	
		5	8370	7239	6390	5729	5201	4769	4409	4104	3843	3617	3418	3244	3088	2949	2824	0.108	
		6	9125	7885	6955	6232	5654	5180	4786	4452	4166	3918	3701	3510	3340	3187	3050	0.095	
		7	9879	8531	7521	6735	6106	5592	5163	4800	4489	4220	3984	3776	3591	3426	3277	0.085	
		8	10633	9178	8086	7238	6559	6003	5540	5148	4812	4521	4267	4042	3842	3664	3503	0.076	
		9	11387	9824	8652	7740	7011	6414	5917	5496	5136	4823	4550	4308	4094	3902	3729	0.069	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/7	0	2975	2614	2343	2132	1964	---	---	---	---	---	---	---	---	---	0.535			
	1	3729	3260	2909	2635	2416	2237	2088	---	---	---	---	---	---	---	0.317			
	2	4483	3907	3474	3138	2869	2649	2465	2310	2177	2062	1961	1872	1793	1722	1658	0.225		
	3	5237	4553	4040	3641	3321	3060	2842	2658	2500	2363	2243	2138	2044	1960	1884	0.174		
	4	5991	5199	4605	4143	3774	3471	3219	3006	2823	2665	2526	2404	2295	2198	2110	0.142		
	5	6745	5846	5171	4646	4226	3883	3596	3354	3146	2967	2809	2670	2547	2436	2337	0.120		
	6	7500	6492	5736	5149	4679	4294	3973	3702	3470	3268	3092	2936	2798	2674	2563	0.104		
	7	8254	7138	6302	5651	5131	4705	4350	4050	3793	3570	3375	3202	3049	2912	2789	0.092		
	8	9008	7785	6868	6154	5584	5117	4727	4398	4116	3871	3657	3469	3301	3151	3015	0.082		
	9	9762	8431	7433	6657	6036	5528	5105	4746	4439	4173	3940	3735	3552	3389	3242	0.074		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/5	0	2794	2459	2208	2012	1856	---	---	---	---	---	---	---	---	---	0.642			
	1	3549	3105	2773	2515	2308	2139	1998	---	---	---	---	---	---	---	0.351			
	2	4303	3752	3339	3017	2760	2550	2375	2227	2100	1989	1893	1808	1732	1665	1604	0.242		
	3	5057	4398	3904	3520	3213	2961	2752	2575	2423	2291	2176	2074	1984	1903	1830	0.184		
	4	5811	5045	4470	4023	3665	3373	3129	2923	2746	2593	2459	2340	2235	2141	2056	0.149		
	5	6565	5691	5035	4526	4118	3784	3506	3271	3069	2894	2741	2606	2486	2379	2283	0.125		
	6	7319	6337	5601	5028	4570	4195	3883	3619	3392	3196	3024	2873	2738	2617	2509	0.108		
	7	8073	6984	6167	5531	5023	4607	4260	3967	3715	3498	3307	3139	2989	2855	2735	0.094		
	8	8827	7630	6732	6034	5475	5018	4637	4315	4039	3799	3590	3405	3241	3094	2961	0.084		
	9	9581	8276	7298	6537	5928	5429	5014	4663	4362	4101	3872	3671	3492	3332	3187	0.076		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/4	0	2253	1995	1801	1651	1531	---	---	---	---	---	---	---	---	---	0.802			
	1	3007	2641	2367	2154	1983	1843	1727	---	---	---	---	---	---	---	0.394			
	2	3761	3288	2933	2656	2435	2255	2104	1977	1867	1773	1690	1617	1552	1494	1441	0.261		
	3	4515	3934	3498	3159	2888	2666	2481	2325	2191	2074	1973	1883	1803	1732	1668	0.195		
	4	5269	4580	4064	3662	3340	3077	2858	2673	2514	2376	2255	2149	2055	1970	1894	0.156		
	5	6023	5227	4629	4165	3793	3489	3235	3021	2837	2678	2538	2415	2306	2208	2120	0.130		
	6	6777	5873	5195	4667	4245	3900	3612	3369	3160	2979	2821	2681	2557	2446	2346	0.111		
	7	7531	6519	5760	5170	4698	4311	3989	3717	3483	3281	3104	2948	2809	2684	2572	0.097		
	8	8285	7166	6326	5673	5150	4723	4366	4065	3806	3583	3387	3214	3060	2922	2799	0.086		
	9	9040	7812	6891	6175	5603	5134	4743	4413	4130	3884	3669	3480	3311	3161	3025	0.078		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/3	0	2072	1840	1666	1531	1422	---	---	---	---	---	---	---	---	---	1.070			
	1	2826	2486	2232	2033	1875	1745	1637	---	---	---	---	---	---	---	0.450			
	2	3580	3133	2797	2536	2327	2156	2014	1893	1790	1700	1622	1553	1492	1437	1387	0.285		
	3	4334	3779	3363	3039	2780	2568	2391	2241	2113	2002	1905	1819	1743	1675	1613	0.208		
	4	5089	4426	3928	3541	3232	2979	2768	2589	2436	2304	2188	2085	1994	1913	1840	0.164		
	5	5843	5072	4494	4044	3684	3390	3145	2937	2760	2605	2471	2351	2246	2151	2066	0.135		
	6	6597	5718	5059	4547	4137	3802	3522	3285	3083	2907	2753	2618	2497	2389	2292	0.115		
	7	7351	6365	5625	5050	4589	4213	3899	3634	3406	3209	3036	2884	2748	2627	2518	0.100		
	8	8105	7011	6190	5552	5042	4624	4276	3982	3729	3510	3319	3150	3000	2865	2745	0.089		
	9	8859	7657	6756	6055	5494	5035	4653	4330	4052	3812	3602	3416	3251	3104	2971	0.080		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	5856	5084	4504	4053	3693	---	---	---	---	---	---	---	---	---	0.410		
		1	6835	5923	5238	4706	4280	3932	3641	---	---	---	---	---	---	---	0.281		
		2	7814	6761	5972	5358	4867	4465	4131	3847	3604	3394	3210	3047	2903	2774	0.214		
		3	8793	7600	6706	6011	5454	4999	4620	4299	4024	3785	3577	3393	3229	3083	2951	0.172	
		4	9771	8439	7440	6663	6042	5533	5109	4751	4443	4177	3944	3738	3555	3392	3244	0.144	
		5	10750	9278	8174	7316	6629	6067	5599	5202	4863	4568	4311	4084	3882	3701	3538	0.124	
		6	11729	10117	8909	7968	7216	6601	6088	5654	5282	4960	4678	4429	4208	4010	3832	0.109	
		7	12708	10956	9643	8621	7804	7135	6577	6106	5702	5351	5045	4774	4534	4319	4125	0.097	
		8	13686	11795	10377	9273	8391	7669	7067	6558	6121	5743	5412	5120	4860	4628	4419	0.088	
		9	14665	12634	11111	9926	8978	8203	7556	7009	6541	6134	5779	5465	5187	4937	4713	0.080	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/7	0	3740	3269	2917	2642	2423	---	---	---	---	---	---	---	---	---	0.615		
		1	4718	4108	3651	3295	3010	2777	2583	---	---	---	---	---	---	---	0.364		
		2	5697	4947	4385	3947	3597	3311	3072	2870	2697	2547	2416	2300	2197	2105	0.259		
		3	6676	5786	5119	4600	4185	3845	3562	3322	3117	2939	2783	2646	2523	2414	2316	0.200	
		4	7655	6625	5853	5252	4772	4379	4051	3774	3536	3330	3150	2991	2850	2723	2609	0.164	
		5	8634	7464	6587	5905	5359	4913	4540	4226	3956	3722	3517	3337	3176	3032	2903	0.138	
		6	9612	8303	7321	6557	5946	5446	5030	4677	4375	4113	3884	3682	3502	3341	3197	0.120	
		7	10591	9142	8055	7210	6534	5980	5519	5129	4795	4505	4251	4027	3829	3651	3490	0.106	
		8	11570	9981	8789	7862	7121	6514	6009	5581	5214	4896	4618	4373	4155	3960	3784	0.094	
		9	12549	10820	9523	8515	7708	7048	6498	6032	5634	5288	4985	4718	4481	4269	4078	0.085	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/5	0	3505	3068	2740	2485	2282	---	---	---	---	---	---	---	---	---	0.739		
		1	4483	3907	3474	3138	2869	2649	2465	---	---	---	---	---	---	---	0.404		
		2	5462	4746	4208	3790	3456	3183	2955	2762	2596	2453	2328	2217	2119	2031	0.278		
		3	6441	5585	4942	4443	4043	3716	3444	3214	3016	2845	2695	2563	2445	2340	2245	0.212	
		4	7420	6424	5677	5095	4631	4250	3933	3665	3435	3236	3062	2908	2771	2649	2539	0.171	
		5	8398	7263	6411	5748	5218	4784	4423	4117	3855	3628	3429	3254	3098	2958	2833	0.144	
		6	9377	8101	7145	6401	5805	5318	4912	4569	4274	4019	3796	3599	3424	3267	3126	0.124	
		7	10356	8940	7879	7053	6392	5852	5402	5020	4694	4411	4163	3944	3750	3576	3420	0.109	
		8	11335	9779	8613	7706	6980	6386	5891	5472	5113	4802	4530	4290	4076	3885	3713	0.097	
		9	12313	10618	9347	8358	7567	6920	6380	5924	5533	5194	4897	4635	4403	4194	4007	0.087	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/4	0	2799	2463	2211	2015	1858	---	---	---	---	---	---	---	---	---	0.923		
		1	3778	3302	2945	2668	2446	2264	2112	---	---	---	---	---	---	---	0.454		
		2	4757	4141	3679	3320	3033	2798	2602	2436	2294	2171	2063	1968	1884	1808	0.301		
		3	5735	4980	4413	3973	3620	3332	3091	2888	2714	2562	2430	2314	2210	2117	2034	0.225	
		4	6714	5819	5147	4625	4207	3866	3581	3340	3133	2954	2797	2659	2536	2426	2327	0.180	
		5	7693	6658	5881	5278	4795	4399	4070	3791	3552	3345	3164	3004	2862	2735	2621	0.150	
		6	8672	7497	6616	5930	5382	4933	4559	4243	3972	3737	3531	3350	3189	3044	2915	0.128	
		7	9650	8336	7350	6583	5969	5467	5049	4695	4391	4128	3898	3695	3515	3353	3208	0.112	
		8	10629	9175	8084	7235	6556	6001	5538	5147	4811	4520	4265	4041	3841	3663	3502	0.099	
		9	11608	10014	8818	7888	7144	6535	6028	5598	5230	4912	4632	4386	4167	3972	3795	0.090	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/3	0	2564	2261	2035	1858	1717	---	---	---	---	---	---	---	---	---	1.231		
		1	3543	3100	2769	2511	2304	2136	1995	---	---	---	---	---	---	---	0.517		
		2	4521	3939	3503	3163	2892	2669	2484	2328	2193	2077	1975	1885	1805	1734	0.327		
		3	5500	4778	4237	3816	3479	3203	2974	2779	2613	2468	2342	2231	2132	2043	1963	0.239	
		4	6479	5617	4971	4468	4066	3737	3463	3231	3032	2860	2709	2576	2458	2352	2257	0.189	
		5	7458	6456	5705	5121	4653	4271	3952	3683	3452	3251	3076	2921	2784	2661	2550	0.156	
		6	8436	7295	6439	5773	5241	4805	4442	4135	3871	3643	3443	3267	3110	2970	2844	0.133	
		7	9415	8134	7173	6426	5828	5339	4931	4586	4291	4034	3810	3612	3437	3279	3138	0.115	
		8	10394	8973	7907	7078	6415	5873	5421	5038	4710	4426	4177	3958	3763	3588	3431	0.102	
		9	11373	9812	8641	7731	7003	6407	5910	5490	5130	4817	4544	4303	4089	3897	3725	0.092	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE: 1.5 B,F
 DECK GAGE: 22 (t = 0.0295 ")
 SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
 SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	3300	2893	2587	2349	2159	---	---	---	---	---	---	---	---	---	0.324		
		1	3929	3431	3058	2768	2536	2346	2188	---	---	---	---	---	---	---	0.222		
		2	4557	3969	3529	3187	2913	2689	2502	2344	2208	2091	1988	1898	1817	1745	1680	0.169	
		3	5185	4508	4000	3605	3290	3031	2816	2634	2478	2342	2224	2119	2026	1943	1868	0.136	
		4	5813	5046	4471	4024	3666	3374	3130	2924	2747	2593	2459	2341	2236	2142	2057	0.114	
		5	6441	5584	4942	4443	4043	3716	3444	3213	3016	2845	2695	2563	2445	2340	2245	0.098	
		6	7069	6123	5413	4862	4420	4059	3758	3503	3285	3096	2930	2784	2654	2538	2434	0.086	
		7	7697	6661	5884	5280	4797	4401	4072	3793	3554	3347	3166	3006	2864	2737	2622	0.077	
		8	8325	7199	6355	5699	5174	4744	4386	4083	3823	3598	3401	3228	3073	2935	2810	0.069	
	9	8953	7738	6826	6118	5551	5087	4700	4373	4092	3849	3637	3449	3282	3133	2999	0.063		
			K2 =	870	K3			257	K4 _B =			3.55	K4 _F =				3.41		
	36/7	0	2184	1936	1750	1605	1489	---	---	---	---	---	---	---	---	---	0.486		
		1	2812	2474	2221	2024	1866	1737	1630	---	---	---	---	---	---	---	0.287		
		2	3440	3012	2692	2442	2243	2080	1944	1829	1730	1644	1570	1504	1445	1392	1345	0.204	
		3	4068	3551	3163	2861	2620	2422	2258	2118	1999	1896	1805	1725	1654	1591	1533	0.158	
		4	4696	4089	3634	3280	2997	2765	2572	2408	2268	2147	2041	1947	1864	1789	1722	0.129	
		5	5324	4627	4105	3698	3373	3107	2886	2698	2537	2398	2276	2168	2073	1987	1910	0.109	
		6	5952	5166	4576	4117	3750	3450	3200	2988	2806	2649	2512	2390	2282	2186	2099	0.094	
7		6580	5704	5047	4536	4127	3792	3514	3278	3076	2900	2747	2612	2492	2384	2287	0.083		
8		7208	6242	5518	4955	4504	4135	3828	3568	3345	3152	2983	2833	2701	2582	2476	0.074		
9	7836	6781	5989	5373	4881	4478	4142	3858	3614	3403	3218	3055	2910	2781	2664	0.067			
		K2 =	870	K3			257	K4 _B =			3.55	K4 _F =				3.41			
36/5	0	2060	1830	1657	1522	1415	---	---	---	---	---	---	---	---	---	0.583			
	1	2688	2368	2128	1941	1792	1669	1568	---	---	---	---	---	---	---	0.319			
	2	3316	2906	2599	2360	2168	2012	1882	1771	1677	1595	1523	1460	1403	1353	1308	0.219		
	3	3944	3444	3070	2778	2545	2355	2196	2061	1946	1846	1759	1681	1613	1551	1496	0.167		
	4	4572	3983	3541	3197	2922	2697	2510	2351	2215	2097	1994	1903	1822	1750	1685	0.135		
	5	5200	4521	4012	3616	3299	3040	2824	2641	2484	2348	2230	2125	2032	1948	1873	0.113		
	6	5828	5059	4483	4034	3676	3382	3138	2931	2753	2600	2465	2346	2241	2146	2061	0.098		
	7	6456	5598	4954	4453	4053	3725	3452	3221	3022	2851	2701	2568	2450	2345	2250	0.086		
	8	7084	6136	5425	4872	4429	4067	3766	3510	3292	3102	2936	2790	2660	2543	2438	0.076		
9	7712	6674	5896	5291	4806	4410	4080	3800	3561	3353	3172	3011	2869	2741	2627	0.069			
		K2 =	870	K3			257	K4 _B =			3.55	K4 _F =				3.41			
36/4	0	1688	1511	1378	1274	1192	---	---	---	---	---	---	---	---	---	0.728			
	1	2316	2049	1849	1693	1568	1466	1382	---	---	---	---	---	---	---	0.358			
	2	2944	2587	2320	2112	1945	1809	1696	1599	1517	1446	1383	1328	1279	1236	1196	0.237		
	3	3572	3125	2791	2530	2322	2152	2010	1889	1786	1697	1619	1550	1489	1434	1385	0.177		
	4	4200	3664	3262	2949	2699	2494	2324	2179	2055	1948	1854	1772	1698	1632	1573	0.142		
	5	4828	4202	3733	3368	3076	2837	2638	2469	2325	2199	2090	1993	1907	1831	1761	0.118		
	6	5456	4740	4204	3786	3452	3179	2952	2759	2594	2451	2325	2215	2117	2029	1950	0.101		
	7	6084	5279	4675	4205	3829	3522	3266	3049	2863	2702	2561	2437	2326	2227	2138	0.088		
	8	6712	5817	5146	4624	4206	3864	3580	3339	3132	2953	2797	2658	2535	2426	2327	0.078		
9	7340	6355	5617	5042	4583	4207	3894	3629	3401	3204	3032	2880	2745	2624	2515	0.071			
		K2 =	870	K3			257	K4 _B =			3.55	K4 _F =				3.41			
36/3	0	1564	1404	1285	1192	1117	---	---	---	---	---	---	---	---	---	0.971			
	1	2192	1943	1756	1610	1494	1399	1319	---	---	---	---	---	---	---	0.408			
	2	2820	2481	2227	2029	1871	1741	1633	1542	1464	1396	1337	1285	1238	1196	1159	0.258		
	3	3448	3019	2698	2448	2248	2084	1948	1832	1733	1647	1572	1506	1447	1395	1347	0.189		
	4	4076	3557	3169	2866	2624	2426	2262	2122	2002	1899	1808	1728	1657	1593	1536	0.149		
	5	4704	4096	3640	3285	3001	2769	2576	2412	2271	2150	2043	1950	1866	1791	1724	0.123		
	6	5332	4634	4111	3704	3378	3112	2890	2702	2541	2401	2279	2171	2075	1990	1913	0.105		
	7	5960	5172	4582	4122	3755	3454	3204	2992	2810	2652	2514	2393	2285	2188	2101	0.091		
	8	6588	5711	5053	4541	4132	3797	3518	3281	3079	2904	2750	2615	2494	2386	2289	0.081		
9	7216	6249	5524	4960	4508	4139	3832	3571	3348	3155	2985	2836	2703	2585	2478	0.072			
		K2 =	870	K3			257	K4 _B =			3.55	K4 _F =				3.41			

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
TYPE I INSULATING FILL	36/9	0	3873	3384	3017	2731	2503	---	---	---	---	---	---	---	---	---	0.357	
		1	4627	4030	3582	3234	2955	2727	2537	---	---	---	---	---	---	---	0.244	
		2	5381	4676	4148	3737	3408	3139	2914	2725	2562	2421	2298	2189	2092	2005	1927	0.186
		3	6135	5323	4713	4239	3860	3550	3291	3073	2885	2723	2580	2455	2343	2244	2154	0.150
		4	6890	5969	5279	4742	4313	3961	3668	3421	3208	3024	2863	2721	2595	2482	2380	0.126
		5	7644	6616	5845	5245	4765	4373	4045	3769	3531	3326	3146	2987	2846	2720	2606	0.108
		6	8398	7262	6410	5748	5218	4784	4422	4117	3855	3627	3429	3253	3097	2958	2832	0.095
		7	9152	7908	6976	6250	5670	5195	4800	4465	4178	3929	3711	3519	3349	3196	3059	0.085
		8	9906	8555	7541	6753	6122	5606	5177	4813	4501	4231	3994	3786	3600	3434	3285	0.076
		9	10660	9201	8107	7256	6575	6018	5554	5161	4824	4532	4277	4052	3851	3672	3511	0.069
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									
TYPE I INSULATING FILL	36/7	0	2533	2235	2011	1837	1698	---	---	---	---	---	---	---	---	---	0.535	
		1	3287	2881	2577	2340	2151	1996	1867	---	---	---	---	---	---	---	0.317	
		2	4041	3527	3142	2843	2603	2407	2244	2106	1987	1885	1795	1716	1645	1582	1525	0.225
		3	4795	4174	3708	3346	3056	2819	2621	2454	2310	2186	2078	1982	1896	1820	1752	0.174
		4	5549	4820	4274	3848	3508	3230	2998	2802	2634	2488	2360	2248	2148	2058	1978	0.142
		5	6303	5466	4839	4351	3961	3641	3375	3150	2957	2790	2643	2514	2399	2296	2204	0.120
		6	7057	6113	5405	4854	4413	4053	3752	3498	3280	3091	2926	2780	2651	2535	2430	0.104
		7	7811	6759	5970	5357	4866	4464	4129	3846	3603	3393	3209	3046	2902	2773	2656	0.092
		8	8565	7406	6536	5859	5318	4875	4506	4194	3926	3694	3491	3312	3153	3011	2883	0.082
		9	9319	8052	7101	6362	5771	5287	4883	4542	4250	3996	3774	3579	3405	3249	3109	0.074
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									
TYPE I INSULATING FILL	36/5	0	2384	2107	1900	1738	1609	---	---	---	---	---	---	---	---	---	0.642	
		1	3138	2753	2465	2241	2062	1915	1792	---	---	---	---	---	---	---	0.351	
		2	3892	3400	3031	2744	2514	2326	2170	2037	1923	1825	1739	1663	1595	1535	1481	0.242
		3	4646	4046	3596	3246	2966	2737	2547	2385	2247	2127	2022	1929	1847	1773	1707	0.184
		4	5400	4692	4162	3749	3419	3149	2924	2733	2570	2428	2305	2195	2098	2011	1933	0.149
		5	6154	5339	4727	4252	3871	3560	3301	3081	2893	2730	2587	2461	2350	2249	2159	0.125
		6	6908	5985	5293	4755	4324	3971	3678	3429	3216	3032	2870	2728	2601	2488	2385	0.108
		7	7662	6632	5858	5257	4776	4383	4055	3777	3539	3333	3153	2994	2852	2726	2612	0.094
		8	8416	7278	6424	5760	5229	4794	4432	4125	3863	3635	3436	3260	3104	2964	2838	0.084
		9	9170	7924	6990	6263	5681	5205	4809	4473	4186	3936	3718	3526	3355	3202	3064	0.076
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									
TYPE I INSULATING FILL	36/4	0	1937	1724	1564	1440	1341	---	---	---	---	---	---	---	---	---	0.802	
		1	2691	2370	2130	1943	1793	1671	1569	---	---	---	---	---	---	---	0.394	
		2	3445	3017	2696	2446	2246	2082	1946	1831	1732	1646	1571	1505	1446	1394	1347	0.261
		3	4199	3663	3261	2948	2698	2494	2323	2179	2055	1948	1854	1771	1698	1632	1573	0.195
		4	4953	4309	3827	3451	3151	2905	2700	2527	2378	2250	2137	2038	1949	1870	1799	0.156
		5	5707	4956	4392	3954	3603	3316	3077	2875	2701	2551	2420	2304	2201	2108	2025	0.130
		6	6461	5602	4958	4457	4056	3728	3454	3223	3025	2853	2702	2570	2452	2346	2251	0.111
		7	7215	6249	5523	4959	4508	4139	3831	3571	3348	3154	2985	2836	2703	2585	2478	0.097
		8	7969	6895	6089	5462	4961	4550	4208	3919	3671	3456	3268	3102	2955	2823	2704	0.086
		9	8724	7541	6654	5965	5413	4962	4585	4267	3994	3758	3551	3368	3206	3061	2930	0.078
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									
TYPE I INSULATING FILL	36/3	0	1788	1596	1453	1341	1252	---	---	---	---	---	---	---	---	---	1.070	
		1	2542	2243	2018	1844	1704	1590	1495	---	---	---	---	---	---	---	0.450	
		2	3296	2889	2584	2346	2156	2001	1872	1762	1668	1587	1516	1453	1397	1347	1302	0.285
		3	4050	3535	3149	2849	2609	2412	2249	2110	1991	1888	1798	1719	1648	1585	1528	0.208
		4	4804	4182	3715	3352	3061	2824	2626	2458	2314	2190	2081	1985	1900	1823	1754	0.164
		5	5558	4828	4280	3855	3514	3235	3003	2806	2638	2492	2364	2251	2151	2061	1981	0.135
		6	6312	5474	4846	4357	3966	3646	3380	3154	2961	2793	2647	2517	2402	2299	2207	0.115
		7	7066	6121	5412	4860	4419	4058	3757	3502	3284	3095	2929	2783	2654	2537	2433	0.100
		8	7821	6767	5977	5363	4871	4469	4134	3850	3607	3397	3212	3050	2905	2776	2659	0.089
		9	8575	7414	6543	5865	5324	4880	4511	4198	3930	3698	3495	3316	3156	3014	2885	0.080
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	4894	4259	3782	3412	3115	---	---	---	---	---	---	---	---	---	0.410		
		1	5873	5098	4516	4064	3703	3407	3160	---	---	---	---	---	---	---	0.281		
		2	6852	5937	5250	4717	4290	3940	3649	3403	3192	3009	2849	2708	2582	2470	2369	0.214	
		3	7830	6776	5985	5369	4877	4474	4139	3855	3611	3400	3216	3053	2908	2779	2662	0.172	
		4	8809	7615	6719	6022	5464	5008	4628	4307	4031	3792	3583	3398	3234	3088	2956	0.144	
		5	9788	8453	7453	6674	6052	5542	5118	4758	4450	4183	3950	3744	3561	3397	3249	0.124	
		6	10767	9292	8187	7327	6639	6076	5607	5210	4870	4575	4317	4089	3887	3706	3543	0.109	
		7	11745	10131	8921	7979	7226	6610	6096	5662	5289	4966	4684	4435	4213	4015	3837	0.097	
		8	12724	10970	9655	8632	7813	7144	6586	6113	5709	5358	5051	4780	4540	4324	4130	0.088	
		9	13703	11809	10389	9284	8401	7678	7075	6565	6128	5749	5418	5126	4866	4633	4424	0.080	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/7	0	3154	2767	2477	2252	2071	---	---	---	---	---	---	---	---	---	0.615		
		1	4133	3606	3211	2904	2659	2457	2290	---	---	---	---	---	---	---	0.364		
		2	5111	4445	3945	3557	3246	2991	2779	2600	2446	2313	2196	2093	2002	1920	1846	0.259	
		3	6090	5284	4679	4209	3833	3525	3269	3052	2866	2704	2563	2439	2328	2229	2140	0.200	
		4	7069	6123	5414	4862	4420	4059	3758	3503	3285	3096	2930	2784	2654	2538	2434	0.164	
		5	8048	6962	6148	5514	5008	4593	4248	3955	3705	3487	3297	3130	2981	2847	2727	0.138	
		6	9027	7801	6882	6167	5595	5127	4737	4407	4124	3879	3664	3475	3307	3156	3021	0.120	
		7	10005	8640	7616	6819	6182	5661	5226	4859	4544	4270	4032	3821	3633	3466	3315	0.106	
		8	10984	9479	8350	7472	6769	6195	5716	5310	4963	4662	4399	4166	3960	3775	3608	0.094	
		9	11963	10318	9084	8124	7357	6728	6205	5762	5383	5053	4766	4512	4286	4084	3902	0.085	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/5	0	2961	2602	2332	2123	1955	---	---	---	---	---	---	---	---	---	0.739		
		1	3939	3440	3066	2775	2543	2352	2193	---	---	---	---	---	---	---	0.404		
		2	4918	4279	3800	3428	3130	2886	2683	2511	2363	2236	2124	2025	1938	1859	1788	0.278	
		3	5897	5118	4534	4080	3717	3420	3172	2962	2783	2627	2491	2371	2264	2168	2082	0.212	
		4	6876	5957	5269	4733	4304	3954	3661	3414	3202	3019	2858	2716	2590	2477	2376	0.171	
		5	7854	6796	6003	5385	4892	4488	4151	3866	3622	3410	3225	3062	2916	2786	2669	0.144	
		6	8833	7635	6737	6038	5479	5021	4640	4318	4041	3802	3592	3407	3243	3095	2963	0.124	
		7	9812	8474	7471	6690	6066	5555	5130	4769	4461	4193	3959	3752	3569	3405	3257	0.109	
		8	10791	9313	8205	7343	6653	6089	5619	5221	4880	4585	4326	4098	3895	3714	3550	0.097	
		9	11770	10152	8939	7995	7241	6623	6108	5673	5300	4976	4693	4443	4221	4023	3844	0.087	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/4	0	2381	2104	1897	1736	1607	---	---	---	---	---	---	---	---	---	0.923		
		1	3359	2943	2631	2389	2195	2036	1903	---	---	---	---	---	---	---	0.454		
		2	4338	3782	3365	3041	2782	2570	2393	2243	2115	2004	1906	1820	1744	1676	1614	0.301	
		3	5317	4621	4099	3694	3369	3103	2882	2695	2534	2395	2273	2166	2070	1985	1908	0.225	
		4	6296	5460	4834	4346	3956	3637	3371	3147	2954	2787	2640	2511	2397	2294	2202	0.180	
		5	7274	6299	5568	4999	4544	4171	3861	3598	3373	3178	3007	2857	2723	2603	2495	0.150	
		6	8253	7138	6302	5651	5131	4705	4350	4050	3793	3570	3374	3202	3049	2912	2789	0.128	
		7	9232	7977	7036	6304	5718	5239	4840	4502	4212	3961	3742	3548	3375	3221	3083	0.112	
		8	10211	8816	7770	6956	6305	5773	5329	4953	4632	4353	4109	3893	3702	3530	3376	0.099	
		9	11190	9655	8504	7609	6893	6307	5818	5405	5051	4744	4476	4239	4028	3840	3670	0.090	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/3	0	2187	1939	1752	1607	1491	---	---	---	---	---	---	---	---	---	1.231		
		1	3166	2778	2486	2260	2079	1930	1807	---	---	---	---	---	---	---	0.517		
		2	4145	3617	3220	2912	2666	2464	2296	2154	2032	1926	1834	1752	1680	1615	1556	0.327	
		3	5124	4456	3954	3565	3253	2998	2785	2606	2451	2318	2201	2098	2006	1924	1850	0.239	
		4	6102	5294	4689	4217	3840	3532	3275	3057	2871	2709	2568	2443	2332	2233	2144	0.189	
		5	7081	6133	5423	4870	4428	4066	3764	3509	3290	3101	2935	2789	2659	2542	2437	0.156	
		6	8060	6972	6157	5522	5015	4600	4254	3961	3710	3492	3302	3134	2985	2851	2731	0.133	
		7	9039	7811	6891	6175	5602	5133	4743	4412	4129	3884	3669	3479	3311	3160	3025	0.115	
		8	10017	8650	7625	6827	6189	5667	5232	4864	4549	4275	4036	3825	3637	3469	3318	0.102	
		9	10996	9489	8359	7480	6777	6201	5722	5316	4968	4667	4403	4170	3964	3778	3612	0.092	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	3300	2893	2587	2349	2159	---	---	---	---	---	---	---	---	---	0.324		
		1	3512	3074	2746	2490	2286	2119	1979	---	---	---	---	---	---	---	0.272		
		2	3723	3255	2904	2631	2413	2234	2085	1959	1851	1757	1676	1603	1539	1482	1430	0.234	
		3	3934	3436	3062	2772	2539	2349	2191	2056	1941	1842	1755	1678	1609	1548	1493	0.206	
		4	4145	3617	3221	2912	2666	2464	2296	2154	2032	1926	1834	1752	1680	1615	1557	0.183	
		5	4356	3798	3379	3053	2793	2579	2402	2251	2122	2011	1913	1827	1750	1682	1620	0.165	
		6	4567	3979	3537	3194	2919	2695	2507	2349	2213	2095	1992	1901	1821	1748	1683	0.151	
		7	4778	4160	3696	3335	3046	2810	2613	2446	2303	2180	2071	1976	1891	1815	1747	0.138	
		8	4989	4341	3854	3475	3173	2925	2718	2544	2394	2264	2151	2050	1961	1882	1810	0.128	
		9	5201	4522	4012	3616	3299	3040	2824	2641	2484	2349	2230	2125	2032	1948	1873	0.119	
			K2 =	870	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/7	0	2184	1936	1750	1605	1489	---	---	---	---	---	---	---	---	---	0.486			
	1	2395	2117	1908	1746	1616	1510	1421	---	---	---	---	---	---	---	0.377			
	2	2606	2298	2066	1887	1743	1625	1527	1444	1373	1311	1257	1209	1167	1129	1095	0.308		
	3	2817	2479	2225	2027	1869	1740	1632	1541	1463	1395	1336	1284	1237	1196	1158	0.261		
	4	3028	2660	2383	2168	1996	1855	1738	1639	1553	1480	1415	1358	1308	1262	1222	0.226		
	5	3240	2841	2542	2309	2123	1970	1843	1736	1644	1564	1494	1433	1378	1329	1285	0.199		
	6	3451	3022	2700	2450	2249	2086	1949	1833	1734	1649	1574	1507	1448	1396	1348	0.178		
	7	3662	3203	2858	2590	2376	2201	2055	1931	1825	1733	1653	1582	1519	1462	1412	0.161		
	8	3873	3384	3017	2731	2503	2316	2160	2028	1915	1818	1732	1656	1589	1529	1475	0.147		
	9	4084	3565	3175	2872	2629	2431	2266	2126	2006	1902	1811	1731	1660	1596	1538	0.135		
			K2 =	870	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/5	0	2060	1830	1657	1522	1415	---	---	---	---	---	---	---	---	---	0.583			
	1	2271	2011	1815	1663	1542	1442	1359	---	---	---	---	---	---	---	0.433			
	2	2482	2191	1973	1804	1668	1557	1465	1386	1319	1261	1210	1165	1126	1090	1058	0.345		
	3	2693	2372	2132	1945	1795	1672	1570	1484	1410	1346	1289	1240	1196	1157	1121	0.286		
	4	2904	2553	2290	2085	1922	1788	1676	1581	1500	1430	1369	1314	1266	1223	1184	0.245		
	5	3116	2734	2448	2226	2048	1903	1781	1679	1591	1515	1448	1389	1337	1290	1248	0.214		
	6	3327	2915	2607	2367	2175	2018	1887	1776	1681	1599	1527	1463	1407	1357	1311	0.190		
	7	3538	3096	2765	2508	2302	2133	1993	1874	1772	1683	1606	1538	1477	1423	1374	0.171		
	8	3749	3277	2924	2648	2428	2248	2098	1971	1862	1768	1685	1613	1548	1490	1438	0.155		
	9	3960	3458	3082	2789	2555	2363	2204	2069	1953	1852	1765	1687	1618	1557	1501	0.142		
			K2 =	870	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/4	0	1688	1511	1378	1274	1192	---	---	---	---	---	---	---	---	---	0.728			
	1	1899	1692	1536	1415	1318	1239	1173	---	---	---	---	---	---	---	0.509			
	2	2110	1872	1694	1556	1445	1354	1279	1215	1160	1112	1071	1034	1001	972	946	0.391		
	3	2321	2053	1853	1697	1572	1469	1384	1312	1250	1197	1150	1109	1072	1039	1009	0.318		
	4	2532	2234	2011	1837	1698	1585	1490	1410	1341	1281	1229	1183	1142	1106	1073	0.267		
	5	2743	2415	2169	1978	1825	1700	1595	1507	1431	1366	1308	1258	1213	1172	1136	0.231		
	6	2955	2596	2328	2119	1952	1815	1701	1604	1522	1450	1387	1332	1283	1239	1199	0.203		
	7	3166	2777	2486	2260	2078	1930	1806	1702	1612	1535	1467	1407	1353	1306	1263	0.181		
	8	3377	2958	2644	2400	2205	2045	1912	1799	1703	1619	1546	1481	1424	1372	1326	0.164		
	9	3588	3139	2803	2541	2332	2160	2018	1897	1793	1703	1625	1556	1494	1439	1389	0.149		
			K2 =	870	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/3	0	1564	1404	1285	1192	1117	---	---	---	---	---	---	---	---	---	0.971			
	1	1775	1585	1443	1332	1244	1171	1111	---	---	---	---	---	---	---	0.617			
	2	1986	1766	1601	1473	1370	1287	1217	1157	1107	1063	1024	990	960	933	909	0.452		
	3	2197	1947	1760	1614	1497	1402	1322	1255	1197	1147	1103	1065	1031	1000	972	0.356		
	4	2408	2128	1918	1755	1624	1517	1428	1352	1288	1232	1183	1139	1101	1066	1036	0.294		
	5	2619	2309	2076	1895	1750	1632	1533	1450	1378	1316	1262	1214	1171	1133	1099	0.251		
	6	2830	2490	2235	2036	1877	1747	1639	1547	1469	1401	1341	1288	1242	1200	1162	0.218		
	7	3042	2671	2393	2177	2004	1862	1744	1645	1559	1485	1420	1363	1312	1266	1226	0.193		
	8	3253	2852	2551	2318	2131	1977	1850	1742	1650	1569	1499	1437	1382	1333	1289	0.173		
	9	3464	3033	2710	2458	2257	2093	1956	1840	1740	1654	1578	1512	1453	1400	1352	0.157		
			K2 =	870	K3 =	257	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	3873	3384	3017	2731	2503	---	---	---	---	---	---	---	---	---	0.357		
		1	4129	3603	3209	2902	2657	2456	2288	---	---	---	---	---	---	---	0.299		
		2	4386	3823	3401	3073	2810	2595	2416	2265	2135	2023	1924	1837	1760	1691	1629	0.258	
		3	4642	4043	3593	3244	2964	2735	2545	2383	2245	2125	2020	1928	1845	1772	1706	0.226	
		4	4898	4262	3785	3414	3118	2875	2673	2501	2355	2228	2116	2018	1931	1853	1782	0.202	
		5	5154	4482	3978	3585	3271	3015	2801	2620	2465	2330	2212	2109	2016	1934	1859	0.182	
		6	5410	4701	4170	3756	3425	3154	2929	2738	2574	2433	2308	2199	2102	2015	1936	0.166	
		7	5667	4921	4362	3927	3579	3294	3057	2856	2684	2535	2405	2289	2187	2095	2013	0.152	
		8	5923	5141	4554	4098	3733	3434	3185	2974	2794	2637	2501	2380	2272	2176	2090	0.141	
		9	6179	5360	4746	4268	3886	3574	3313	3093	2904	2740	2597	2470	2358	2257	2167	0.131	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/7	0	2533	2235	2011	1837	1698	---	---	---	---	---	---	---	---	---	0.535		
		1	2789	2454	2203	2008	1852	1724	1618	---	---	---	---	---	---	---	0.415		
		2	3045	2674	2396	2179	2006	1864	1746	1646	1561	1486	1421	1364	1313	1268	1227	0.340	
		3	3301	2894	2588	2350	2160	2004	1874	1764	1670	1589	1517	1455	1399	1348	1303	0.287	
		4	3557	3113	2780	2521	2313	2144	2002	1883	1780	1691	1614	1545	1484	1429	1380	0.249	
		5	3814	3333	2972	2692	2467	2283	2130	2001	1890	1794	1710	1635	1569	1510	1457	0.219	
		6	4070	3552	3164	2862	2621	2423	2259	2119	2000	1896	1806	1726	1655	1591	1534	0.196	
		7	4326	3772	3356	3033	2775	2563	2387	2237	2110	1999	1902	1816	1740	1672	1611	0.178	
		8	4582	3992	3549	3204	2928	2703	2515	2356	2219	2101	1998	1907	1826	1753	1688	0.162	
		9	4839	4211	3741	3375	3082	2842	2643	2474	2329	2204	2094	1997	1911	1834	1765	0.149	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/5	0	2384	2107	1900	1738	1609	---	---	---	---	---	---	---	---	---	0.642		
		1	2640	2327	2092	1909	1763	1643	1544	---	---	---	---	---	---	---	0.477		
		2	2896	2546	2284	2080	1917	1783	1672	1577	1497	1427	1366	1312	1263	1221	1182	0.380	
		3	3152	2766	2476	2251	2070	1923	1800	1696	1607	1529	1462	1402	1349	1301	1259	0.315	
		4	3408	2985	2668	2421	2224	2062	1928	1814	1716	1632	1558	1492	1434	1382	1336	0.270	
		5	3665	3205	2860	2592	2378	2202	2056	1932	1826	1734	1654	1583	1520	1463	1412	0.236	
		6	3921	3425	3052	2763	2531	2342	2184	2050	1936	1837	1750	1673	1605	1544	1489	0.209	
		7	4177	3644	3245	2934	2685	2482	2312	2169	2046	1939	1846	1764	1691	1625	1566	0.188	
		8	4433	3864	3437	3105	2839	2621	2440	2287	2156	2042	1942	1854	1776	1706	1643	0.171	
		9	4690	4084	3629	3275	2993	2761	2568	2405	2265	2144	2038	1945	1861	1787	1720	0.156	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/4	0	1937	1724	1564	1440	1341	---	---	---	---	---	---	---	---	---	0.802		
		1	2193	1944	1757	1611	1495	1399	1320	---	---	---	---	---	---	---	0.561		
		2	2449	2163	1949	1782	1648	1539	1448	1371	1305	1248	1198	1154	1115	1079	1048	0.431	
		3	2705	2383	2141	1953	1802	1679	1576	1489	1415	1350	1294	1244	1200	1160	1125	0.350	
		4	2962	2602	2333	2123	1956	1819	1704	1608	1525	1453	1390	1335	1285	1241	1202	0.294	
		5	3218	2822	2525	2294	2110	1958	1833	1726	1635	1555	1486	1425	1371	1322	1278	0.254	
		6	3474	3042	2717	2465	2263	2098	1961	1844	1744	1658	1582	1516	1456	1403	1355	0.224	
		7	3730	3261	2910	2636	2417	2238	2089	1962	1854	1760	1678	1606	1542	1484	1432	0.200	
		8	3986	3481	3102	2807	2571	2378	2217	2081	1964	1863	1774	1696	1627	1565	1509	0.180	
		9	4243	3700	3294	2978	2725	2517	2345	2199	2074	1965	1871	1787	1712	1646	1586	0.164	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/3	0	1788	1596	1453	1341	1252	---	---	---	---	---	---	---	---	---	1.070		
		1	2044	1816	1645	1512	1405	1318	1246	---	---	---	---	---	---	---	0.679		
		2	2300	2036	1837	1683	1559	1458	1374	1302	1241	1188	1142	1101	1065	1032	1003	0.498	
		3	2556	2255	2029	1853	1713	1598	1502	1421	1351	1291	1238	1192	1150	1113	1080	0.393	
		4	2813	2475	2221	2024	1866	1737	1630	1539	1461	1393	1334	1282	1236	1194	1157	0.324	
		5	3069	2694	2413	2195	2020	1877	1758	1657	1571	1496	1430	1373	1321	1275	1234	0.276	
		6	3325	2914	2606	2366	2174	2017	1886	1775	1681	1598	1526	1463	1407	1356	1311	0.240	
		7	3581	3134	2798	2537	2328	2157	2014	1894	1790	1701	1623	1553	1492	1437	1387	0.213	
		8	3838	3353	2990	2707	2481	2296	2142	2012	1900	1803	1719	1644	1577	1518	1464	0.191	
		9	4094	3573	3182	2878	2635	2436	2270	2130	2010	1906	1815	1734	1663	1599	1541	0.173	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	4894	4259	3782	3412	3115	---	---	---	---	---	---	---	---	---	0.410		
		1	5233	4550	4037	3638	3319	3058	2840	---	---	---	---	---	---	---	0.344		
		2	5572	4840	4291	3864	3522	3243	3010	2813	2644	2497	2369	2256	2156	2066	1985	0.297	
		3	5912	5131	4546	4090	3726	3428	3179	2969	2789	2633	2496	2376	2269	2173	2087	0.261	
		4	6251	5422	4800	4316	3929	3613	3349	3126	2935	2769	2624	2496	2382	2280	2188	0.232	
		5	6590	5713	5054	4543	4133	3798	3519	3282	3080	2904	2751	2615	2495	2387	2290	0.210	
		6	6929	6003	5309	4769	4337	3983	3688	3439	3225	3040	2878	2735	2608	2494	2392	0.191	
		7	7269	6294	5563	4995	4540	4168	3858	3596	3371	3176	3005	2855	2721	2601	2494	0.175	
		8	7608	6585	5818	5221	4744	4353	4028	3752	3516	3311	3132	2974	2834	2708	2595	0.162	
		9	7947	6876	6072	5447	4947	4538	4197	3909	3661	3447	3260	3094	2947	2816	2697	0.151	
		K2 =	1398	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/7	0	3154	2767	2477	2252	2071	---	---	---	---	---	---	---	---	0.615			
		1	3493	3058	2732	2478	2275	2109	1970	---	---	---	---	---	---	---	0.478		
		2	3832	3349	2986	2704	2478	2294	2140	2010	1898	1801	1717	1642	1576	1516	1463	0.391	
		3	4172	3640	3241	2930	2682	2479	2309	2166	2043	1937	1844	1762	1689	1623	1565	0.330	
		4	4511	3930	3495	3156	2885	2664	2479	2323	2189	2073	1971	1881	1802	1730	1666	0.286	
		5	4850	4221	3749	3382	3089	2849	2649	2479	2334	2208	2098	2001	1915	1838	1768	0.253	
		6	5189	4512	4004	3609	3292	3034	2818	2636	2480	2344	2226	2121	2028	1945	1870	0.226	
		7	5529	4803	4258	3835	3496	3219	2988	2792	2625	2480	2353	2241	2141	2052	1972	0.204	
		8	5868	5093	4513	4061	3700	3404	3158	2949	2770	2615	2480	2360	2254	2159	2073	0.187	
		9	6207	5384	4767	4287	3903	3589	3327	3106	2916	2751	2607	2480	2367	2266	2175	0.172	
		K2 =	1398	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/5	0	2961	2602	2332	2123	1955	---	---	---	---	---	---	---	---	0.739			
		1	3300	2892	2587	2349	2159	2003	1874	---	---	---	---	---	---	---	0.549		
		2	3639	3183	2841	2575	2362	2188	2043	1920	1815	1724	1644	1574	1511	1455	1405	0.437	
		3	3978	3474	3096	2801	2566	2373	2213	2077	1961	1860	1771	1693	1624	1562	1507	0.363	
		4	4318	3765	3350	3027	2769	2558	2382	2234	2106	1995	1899	1813	1737	1669	1608	0.310	
		5	4657	4055	3604	3254	2973	2743	2552	2390	2251	2131	2026	1933	1850	1777	1710	0.271	
		6	4996	4346	3859	3480	3176	2928	2722	2547	2397	2267	2153	2053	1963	1884	1812	0.241	
		7	5335	4637	4113	3706	3380	3113	2891	2703	2542	2402	2280	2172	2077	1991	1914	0.216	
		8	5674	4928	4368	3932	3584	3298	3061	2860	2687	2538	2407	2292	2190	2098	2015	0.196	
		9	6014	5218	4622	4158	3787	3483	3230	3016	2833	2674	2535	2412	2303	2205	2117	0.180	
		K2 =	1398	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/4	0	2381	2104	1897	1736	1607	---	---	---	---	---	---	---	---	0.923			
		1	2720	2395	2152	1962	1811	1687	1584	---	---	---	---	---	---	---	0.645		
		2	3059	2686	2406	2188	2014	1872	1753	1653	1567	1492	1427	1369	1318	1272	1231	0.496	
		3	3398	2977	2661	2415	2218	2057	1923	1809	1712	1628	1554	1489	1431	1379	1333	0.403	
		4	3738	3267	2915	2641	2421	2242	2092	1966	1857	1763	1681	1609	1544	1486	1434	0.339	
		5	4077	3558	3169	2867	2625	2427	2262	2122	2003	1899	1808	1728	1657	1593	1536	0.293	
		6	4416	3849	3424	3093	2828	2612	2432	2279	2148	2035	1936	1848	1770	1701	1638	0.257	
		7	4755	4140	3678	3319	3032	2797	2601	2436	2294	2170	2063	1968	1883	1808	1740	0.230	
		8	5094	4431	3933	3545	3236	2982	2771	2592	2439	2306	2190	2087	1996	1915	1841	0.207	
		9	5434	4721	4187	3772	3439	3167	2940	2749	2584	2442	2317	2207	2109	2022	1943	0.189	
		K2 =	1398	K3 =	257	K4_B =	3.55	K4_F =	3.41										
TYPE I INSULATING FILL	36/3	0	2187	1939	1752	1607	1491	---	---	---	---	---	---	---	---	1.231			
		1	2526	2229	2007	1833	1695	1581	1487	---	---	---	---	---	---	---	0.782		
		2	2866	2520	2261	2060	1898	1766	1656	1563	1484	1415	1354	1301	1253	1211	1173	0.573	
		3	3205	2811	2516	2286	2102	1951	1826	1720	1629	1550	1481	1421	1366	1318	1275	0.452	
		4	3544	3102	2770	2512	2305	2136	1996	1877	1774	1686	1609	1540	1480	1425	1376	0.373	
		5	3883	3393	3024	2738	2509	2322	2165	2033	1920	1822	1736	1660	1593	1532	1478	0.318	
		6	4223	3683	3279	2964	2712	2507	2335	2190	2065	1957	1863	1780	1706	1639	1580	0.277	
		7	4562	3974	3533	3190	2916	2692	2505	2346	2211	2093	1990	1899	1819	1747	1682	0.245	
		8	4901	4265	3788	3416	3120	2877	2674	2503	2356	2229	2117	2019	1932	1854	1783	0.220	
		9	5240	4556	4042	3643	3323	3062	2844	2659	2501	2364	2245	2139	2045	1961	1885	0.199	
		K2 =	1398	K3 =	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	2018	1793	1625	1494	1390	---	---	---	---	---	---	---	---	---	0.366		
		1	2229	1974	1784	1635	1516	1419	1338	---	---	---	---	---	---	---	0.301		
		2	2440	2155	1942	1776	1643	1534	1444	1367	1301	1244	1195	1151	1111	1077	1045	0.255	
		3	2651	2336	2100	1917	1770	1649	1549	1464	1392	1329	1274	1225	1182	1143	1108	0.222	
		4	2862	2517	2259	2057	1896	1765	1655	1562	1482	1413	1353	1300	1252	1210	1172	0.196	
		5	3073	2698	2417	2198	2023	1880	1760	1659	1573	1498	1432	1374	1323	1277	1235	0.176	
		6	3285	2879	2575	2339	2150	1995	1866	1757	1663	1582	1511	1449	1393	1343	1298	0.159	
		7	3496	3060	2734	2480	2276	2110	1971	1854	1754	1667	1590	1523	1463	1410	1362	0.145	
		8	3707	3241	2892	2620	2403	2225	2077	1952	1844	1751	1670	1598	1534	1477	1425	0.134	
		9	3918	3422	3050	2761	2530	2340	2183	2049	1935	1836	1749	1672	1604	1543	1488	0.124	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/7	0	1403	1267	1164	1085	1021	---	---	---	---	---	---	---	---	---	0.549		
		1	1614	1448	1323	1225	1148	1084	1031	---	---	---	---	---	---	---	0.414		
		2	1825	1629	1481	1366	1274	1199	1136	1083	1038	999	964	934	907	882	861	0.333	
		3	2037	1810	1639	1507	1401	1314	1242	1181	1128	1083	1043	1008	977	949	924	0.278	
		4	2248	1991	1798	1648	1528	1429	1347	1278	1219	1167	1122	1083	1047	1016	987	0.239	
		5	2459	2171	1956	1788	1654	1544	1453	1376	1309	1252	1202	1157	1118	1082	1051	0.209	
		6	2670	2352	2114	1929	1781	1660	1559	1473	1400	1336	1281	1232	1188	1149	1114	0.186	
		7	2881	2533	2273	2070	1908	1775	1664	1571	1490	1421	1360	1306	1259	1216	1177	0.168	
		8	3092	2714	2431	2211	2034	1890	1770	1668	1581	1505	1439	1381	1329	1282	1241	0.152	
		9	3303	2895	2589	2351	2161	2005	1875	1765	1671	1590	1518	1455	1399	1349	1304	0.140	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/5	0	1335	1208	1113	1039	980	---	---	---	---	---	---	---	---	---	0.659		
		1	1546	1389	1271	1180	1107	1047	997	---	---	---	---	---	---	---	0.474		
		2	1757	1570	1430	1321	1233	1162	1102	1052	1009	971	938	910	884	861	840	0.370	
		3	1968	1751	1588	1461	1360	1277	1208	1149	1099	1056	1018	984	954	928	904	0.304	
		4	2179	1932	1746	1602	1487	1392	1313	1247	1190	1140	1097	1059	1025	994	967	0.257	
		5	2391	2113	1905	1743	1613	1507	1419	1344	1280	1225	1176	1133	1095	1061	1030	0.223	
		6	2602	2294	2063	1884	1740	1622	1524	1442	1371	1309	1255	1208	1165	1128	1094	0.197	
		7	2813	2475	2221	2024	1867	1738	1630	1539	1461	1393	1334	1282	1236	1194	1157	0.177	
		8	3024	2656	2380	2165	1993	1853	1736	1636	1552	1478	1413	1357	1306	1261	1220	0.160	
		9	3235	2837	2538	2306	2120	1968	1841	1734	1642	1562	1493	1431	1377	1328	1284	0.146	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/4	0	1130	1033	959	902	857	---	---	---	---	---	---	---	---	---	0.823		
		1	1341	1213	1118	1043	984	935	894	---	---	---	---	---	---	---	0.554		
		2	1552	1394	1276	1184	1110	1050	1000	957	921	889	862	837	816	796	779	0.417	
		3	1763	1575	1434	1325	1237	1165	1105	1055	1011	974	941	912	886	863	842	0.334	
		4	1975	1756	1593	1465	1364	1280	1211	1152	1102	1058	1020	986	956	930	905	0.279	
		5	2186	1937	1751	1606	1490	1395	1316	1250	1192	1143	1099	1061	1027	996	969	0.240	
		6	2397	2118	1909	1747	1617	1511	1422	1347	1283	1227	1178	1135	1097	1063	1032	0.210	
		7	2608	2299	2068	1888	1744	1626	1528	1444	1373	1312	1257	1210	1167	1130	1095	0.187	
		8	2819	2480	2226	2028	1870	1741	1633	1542	1464	1396	1337	1284	1238	1196	1159	0.168	
		9	3030	2661	2384	2169	1997	1856	1739	1639	1554	1480	1416	1359	1308	1263	1222	0.153	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/3	0	1062	974	908	857	816	---	---	---	---	---	---	---	---	---	1.098		
		1	1273	1155	1066	998	943	898	860	---	---	---	---	---	---	---	0.665		
		2	1484	1336	1225	1138	1069	1013	966	926	892	862	836	813	793	775	758	0.477	
		3	1695	1517	1383	1279	1196	1128	1071	1023	982	946	915	888	863	841	822	0.372	
		4	1906	1698	1542	1420	1323	1243	1177	1121	1073	1031	994	962	934	908	885	0.305	
		5	2117	1879	1700	1561	1449	1358	1282	1218	1163	1115	1074	1037	1004	975	948	0.258	
		6	2329	2060	1858	1701	1576	1473	1388	1316	1254	1200	1153	1111	1074	1041	1012	0.224	
		7	2540	2241	2017	1842	1703	1589	1493	1413	1344	1284	1232	1186	1145	1108	1075	0.198	
		8	2751	2422	2175	1983	1829	1704	1599	1510	1434	1369	1311	1260	1215	1175	1138	0.177	
		9	2962	2603	2333	2124	1956	1819	1705	1608	1525	1453	1390	1335	1285	1241	1202	0.160	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	2353	2081	1877	1718	1591	---	---	---	---	---	---	---	---	---	0.403		
		1	2609	2301	2069	1889	1745	1627	1528	---	---	---	---	---	---	---	0.331		
		2	2866	2520	2261	2060	1898	1766	1656	1563	1484	1415	1354	1301	1253	1211	1173	0.281	
		3	3122	2740	2453	2230	2052	1906	1785	1682	1593	1517	1450	1391	1339	1292	1250	0.244	
		4	3378	2959	2645	2401	2206	2046	1913	1800	1703	1620	1546	1482	1424	1373	1326	0.216	
		5	3634	3179	2838	2572	2359	2186	2041	1918	1813	1722	1642	1572	1510	1454	1403	0.193	
		6	3891	3399	3030	2743	2513	2325	2169	2036	1923	1825	1738	1662	1595	1535	1480	0.175	
		7	4147	3618	3222	2914	2667	2465	2297	2155	2033	1927	1835	1753	1680	1615	1557	0.160	
		8	4403	3838	3414	3084	2821	2605	2425	2273	2143	2030	1931	1843	1766	1696	1634	0.147	
	9	4659	4057	3606	3255	2974	2745	2553	2391	2252	2132	2027	1934	1851	1777	1711	0.137		
			K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41									
	36/7	0	1607	1442	1317	1221	1143	---	---	---	---	---	---	---	---	---	0.605		
		1	1864	1661	1510	1391	1297	1220	1155	---	---	---	---	---	---	---	0.456		
		2	2120	1881	1702	1562	1451	1360	1284	1219	1164	1116	1074	1038	1005	975	949	0.366	
		3	2376	2100	1894	1733	1605	1499	1412	1337	1274	1219	1171	1128	1090	1056	1026	0.306	
		4	2632	2320	2086	1904	1758	1639	1540	1456	1384	1321	1267	1218	1176	1137	1103	0.263	
		5	2888	2540	2278	2075	1912	1779	1668	1574	1493	1424	1363	1309	1261	1218	1180	0.230	
		6	3145	2759	2470	2246	2066	1919	1796	1692	1603	1526	1459	1399	1346	1299	1256	0.205	
7		3401	2979	2662	2416	2219	2058	1924	1810	1713	1629	1555	1490	1432	1380	1333	0.185		
8		3657	3199	2855	2587	2373	2198	2052	1929	1823	1731	1651	1580	1517	1461	1410	0.168		
9	3913	3418	3047	2758	2527	2338	2180	2047	1933	1834	1747	1671	1603	1542	1487	0.154			
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/5	0	1525	1371	1255	1165	1094	---	---	---	---	---	---	---	---	---	0.726			
	1	1781	1590	1447	1336	1247	1175	1114	---	---	---	---	---	---	---	0.522			
	2	2037	1810	1640	1507	1401	1314	1242	1181	1129	1083	1043	1008	977	949	924	0.408		
	3	2293	2029	1832	1678	1555	1454	1370	1299	1238	1186	1139	1099	1063	1030	1001	0.334		
	4	2549	2249	2024	1849	1709	1594	1498	1417	1348	1288	1236	1189	1148	1111	1078	0.283		
	5	2806	2469	2216	2019	1862	1734	1626	1536	1458	1391	1332	1280	1233	1192	1155	0.246		
	6	3062	2688	2408	2190	2016	1873	1755	1654	1568	1493	1428	1370	1319	1273	1232	0.217		
	7	3318	2908	2600	2361	2170	2013	1883	1772	1678	1596	1524	1460	1404	1354	1308	0.195		
	8	3574	3128	2792	2532	2323	2153	2011	1890	1787	1698	1620	1551	1490	1435	1385	0.176		
9	3830	3347	2985	2703	2477	2293	2139	2009	1897	1801	1716	1641	1575	1516	1462	0.161			
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/4	0	1276	1158	1069	1000	944	---	---	---	---	---	---	---	---	---	0.907			
	1	1532	1377	1261	1170	1098	1039	990	---	---	---	---	---	---	---	0.610			
	2	1788	1597	1453	1341	1252	1179	1118	1066	1022	984	950	921	894	871	850	0.459		
	3	2045	1816	1645	1512	1406	1318	1246	1184	1132	1086	1046	1011	980	952	926	0.368		
	4	2301	2036	1837	1683	1559	1458	1374	1303	1242	1189	1142	1101	1065	1033	1003	0.307		
	5	2557	2256	2030	1854	1713	1598	1502	1421	1351	1291	1238	1192	1150	1113	1080	0.264		
	6	2813	2475	2222	2025	1867	1738	1630	1539	1461	1394	1334	1282	1236	1194	1157	0.231		
	7	3069	2695	2414	2195	2021	1878	1758	1657	1571	1496	1431	1373	1321	1275	1234	0.206		
	8	3326	2914	2606	2366	2174	2017	1886	1776	1681	1599	1527	1463	1407	1356	1311	0.185		
9	3582	3134	2798	2537	2328	2157	2015	1894	1791	1701	1623	1554	1492	1437	1388	0.168			
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/3	0	1193	1086	1007	944	895	---	---	---	---	---	---	---	---	---	1.209			
	1	1449	1306	1199	1115	1048	994	948	---	---	---	---	---	---	---	0.733			
	2	1705	1526	1391	1286	1202	1134	1076	1028	986	951	919	891	867	845	825	0.526		
	3	1962	1745	1583	1457	1356	1273	1204	1146	1096	1053	1015	982	952	925	902	0.410		
	4	2218	1965	1775	1628	1510	1413	1333	1264	1206	1155	1111	1072	1037	1006	978	0.336		
	5	2474	2185	1967	1798	1663	1553	1461	1383	1316	1258	1207	1163	1123	1087	1055	0.285		
	6	2730	2404	2160	1969	1817	1693	1589	1501	1426	1360	1303	1253	1208	1168	1132	0.247		
	7	2987	2624	2352	2140	1971	1832	1717	1619	1536	1463	1399	1343	1294	1249	1209	0.218		
	8	3243	2843	2544	2311	2125	1972	1845	1737	1645	1565	1496	1434	1379	1330	1286	0.195		
9	3499	3063	2736	2482	2278	2112	1973	1856	1755	1668	1592	1524	1464	1411	1363	0.177			
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: #12 screws
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE I INSULATING FILL	36/9	0	2971	2610	2340	2130	1961	---	---	---	---	---	---	---	---	---	0.464		
		1	3310	2901	2594	2356	2165	2009	1879	---	---	---	---	---	---	---	0.381		
		2	3649	3192	2849	2582	2368	2194	2048	1925	1820	1728	1648	1577	1515	1458	1408	0.324	
		3	3989	3483	3103	2808	2572	2379	2218	2082	1965	1864	1775	1697	1628	1566	1510	0.281	
		4	4328	3773	3358	3034	2776	2564	2387	2238	2110	1999	1902	1817	1741	1673	1611	0.248	
		5	4667	4064	3612	3260	2979	2749	2557	2395	2256	2135	2030	1937	1854	1780	1713	0.223	
		6	5006	4355	3866	3487	3183	2934	2727	2551	2401	2271	2157	2056	1967	1887	1815	0.202	
		7	5345	4646	4121	3713	3386	3119	2896	2708	2546	2407	2284	2176	2080	1994	1917	0.184	
		8	5685	4936	4375	3939	3590	3304	3066	2865	2692	2542	2411	2296	2193	2101	2018	0.170	
		9	6024	5227	4630	4165	3793	3489	3236	3021	2837	2678	2538	2415	2306	2208	2120	0.157	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/7	0	1983	1764	1599	1471	1369	---	---	---	---	---	---	---	---	---	0.696		
		1	2323	2055	1854	1697	1572	1470	1385	---	---	---	---	---	---	---	0.525		
		2	2662	2345	2108	1924	1776	1655	1555	1469	1396	1333	1278	1229	1185	1147	1112	0.422	
		3	3001	2636	2363	2150	1980	1840	1724	1626	1542	1469	1405	1349	1298	1254	1213	0.352	
		4	3340	2927	2617	2376	2183	2025	1894	1782	1687	1604	1532	1468	1412	1361	1315	0.303	
		5	3679	3218	2871	2602	2387	2210	2063	1939	1832	1740	1659	1588	1525	1468	1417	0.265	
		6	4019	3509	3126	2828	2590	2395	2233	2096	1978	1876	1787	1708	1638	1575	1519	0.236	
		7	4358	3799	3380	3054	2794	2580	2403	2252	2123	2012	1914	1827	1751	1682	1620	0.212	
		8	4697	4090	3635	3281	2997	2765	2572	2409	2269	2147	2041	1947	1864	1789	1722	0.193	
		9	5036	4381	3889	3507	3201	2950	2742	2565	2414	2283	2168	2067	1977	1896	1824	0.177	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/5	0	1874	1670	1517	1398	1303	---	---	---	---	---	---	---	---	---	0.835		
		1	2213	1961	1771	1624	1507	1410	1330	---	---	---	---	---	---	---	0.601		
		2	2552	2251	2026	1850	1710	1595	1500	1419	1349	1289	1237	1190	1149	1112	1079	0.469	
		3	2891	2542	2280	2077	1914	1780	1669	1575	1495	1425	1364	1310	1262	1219	1180	0.385	
		4	3231	2833	2535	2303	2117	1965	1839	1732	1640	1561	1491	1430	1375	1326	1282	0.326	
		5	3570	3124	2789	2529	2321	2150	2008	1888	1785	1696	1618	1549	1488	1433	1384	0.283	
		6	3909	3414	3044	2755	2524	2335	2178	2045	1931	1832	1745	1669	1601	1540	1486	0.250	
		7	4248	3705	3298	2981	2728	2521	2348	2202	2076	1968	1873	1789	1714	1648	1588	0.224	
		8	4587	3996	3552	3207	2931	2706	2517	2358	2222	2103	2000	1908	1827	1755	1689	0.203	
		9	4927	4287	3807	3434	3135	2891	2687	2515	2367	2239	2127	2028	1940	1862	1791	0.185	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/4	0	1544	1388	1270	1179	1106	---	---	---	---	---	---	---	---	---	1.044		
		1	1884	1678	1525	1405	1309	1231	1165	---	---	---	---	---	---	---	0.702		
		2	2223	1969	1779	1631	1513	1416	1335	1267	1208	1157	1113	1074	1039	1008	980	0.528	
		3	2562	2260	2033	1857	1716	1601	1505	1423	1354	1293	1240	1194	1152	1115	1082	0.424	
		4	2901	2551	2288	2083	1920	1786	1674	1580	1499	1429	1368	1313	1265	1222	1183	0.354	
		5	3241	2842	2542	2309	2123	1971	1844	1736	1644	1565	1495	1433	1378	1329	1285	0.304	
		6	3580	3132	2797	2536	2327	2156	2014	1893	1790	1700	1622	1553	1491	1436	1387	0.266	
		7	3919	3423	3051	2762	2530	2341	2183	2050	1935	1836	1749	1673	1605	1544	1489	0.237	
		8	4258	3714	3306	2988	2734	2526	2353	2206	2081	1972	1876	1792	1718	1651	1591	0.213	
		9	4598	4005	3560	3214	2937	2711	2522	2363	2226	2107	2004	1912	1831	1758	1692	0.194	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/3	0	1435	1294	1188	1106	1040	---	---	---	---	---	---	---	---	---	1.392		
		1	1774	1584	1442	1332	1243	1171	1111	---	---	---	---	---	---	---	0.843		
		2	2113	1875	1697	1558	1447	1356	1280	1216	1161	1114	1072	1035	1003	973	947	0.605	
		3	2452	2166	1951	1784	1650	1541	1450	1373	1307	1249	1199	1155	1116	1080	1049	0.472	
		4	2792	2457	2206	2010	1854	1726	1619	1529	1452	1385	1326	1275	1229	1188	1151	0.387	
		5	3131	2748	2460	2236	2057	1911	1789	1686	1597	1521	1454	1394	1342	1295	1252	0.327	
		6	3470	3038	2714	2462	2261	2096	1959	1842	1743	1656	1581	1514	1455	1402	1354	0.284	
		7	3809	3329	2969	2689	2464	2281	2128	1999	1888	1792	1708	1634	1568	1509	1456	0.251	
		8	4149	3620	3223	2915	2668	2466	2298	2156	2034	1928	1835	1754	1681	1616	1558	0.224	
		9	4488	3911	3478	3141	2872	2651	2468	2312	2179	2063	1962	1873	1794	1723	1659	0.203	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE:	1.5 B,F	Φ (EQ): 0.50	Ω (EQ): 3.25
DECK GAGE:	22 (t = 0.0295 ")	Φ (WIND): 0.50	Ω (WIND): 3.25
SUPPORT FASTENERS:	3/4 " puddle weld or equivalent	Φ (OTHER): 0.50	Ω (OTHER): 3.25
SIDLAP FASTENERS:	5/8 " puddle weld or 1 1/2" long fillet weld		

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	4168	3675	3305	3017	2787	---	---	---	---	---	---	---	---	---	0.324		
		1	4796	4213	3776	3436	3164	2941	2756	---	---	---	---	---	---	---	0.222		
		2	5424	4751	4247	3854	3540	3284	3070	2889	2733	2599	2481	2377	2285	2202	2128	0.169	
		3	6052	5289	4718	4273	3917	3626	3384	3178	3003	2850	2717	2599	2494	2401	2316	0.136	
		4	6680	5828	5189	4692	4294	3969	3698	3468	3272	3101	2952	2821	2704	2599	2505	0.114	
		5	7308	6366	5660	5110	4671	4311	4012	3758	3541	3352	3188	3042	2913	2797	2693	0.098	
		6	7936	6904	6131	5529	5048	4654	4326	4048	3810	3604	3423	3264	3122	2996	2882	0.086	
		7	8564	7443	6602	5948	5425	4996	4640	4338	4079	3855	3659	3486	3332	3194	3070	0.077	
		8	9192	7981	7073	6366	5801	5339	4954	4628	4348	4106	3894	3707	3541	3392	3258	0.069	
		9	9820	8519	7544	6785	6178	5682	5268	4918	4617	4357	4130	3929	3750	3591	3447	0.063	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/7	0	2817	2517	2292	2116	1976	---	---	---	---	---	---	---	---	---	0.486		
		1	3445	3055	2763	2535	2353	2204	2080	---	---	---	---	---	---	---	0.287		
		2	4073	3593	3234	2954	2730	2547	2394	2265	2154	2058	1975	1901	1835	1776	1723	0.204	
		3	4701	4132	3705	3372	3107	2889	2708	2555	2424	2310	2210	2122	2044	1974	1911	0.158	
		4	5329	4670	4176	3791	3484	3232	3022	2845	2693	2561	2446	2344	2253	2172	2100	0.129	
		5	5957	5208	4647	4210	3860	3575	3336	3135	2962	2812	2681	2565	2463	2371	2288	0.109	
		6	6585	5747	5118	4629	4237	3917	3650	3425	3231	3063	2917	2787	2672	2569	2476	0.094	
		7	7213	6285	5589	5047	4614	4260	3964	3714	3500	3315	3152	3009	2881	2767	2665	0.083	
		8	7841	6823	6060	5466	4991	4602	4278	4004	3769	3566	3388	3230	3091	2966	2853	0.074	
		9	8469	7361	6531	5885	5368	4945	4592	4294	4039	3817	3623	3452	3300	3164	3042	0.067	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/5	0	2667	2388	2179	2016	1886	---	---	---	---	---	---	---	---	---	0.583		
		1	3295	2926	2650	2435	2263	2122	2005	---	---	---	---	---	---	---	0.319		
		2	3923	3465	3121	2854	2640	2465	2319	2196	2090	1998	1918	1848	1785	1728	1678	0.219	
		3	4551	4003	3592	3272	3017	2808	2633	2486	2359	2250	2154	2069	1994	1927	1866	0.167	
		4	5179	4541	4063	3691	3394	3150	2947	2776	2628	2501	2389	2291	2203	2125	2055	0.135	
		5	5807	5080	4534	4110	3770	3493	3261	3065	2898	2752	2625	2513	2413	2323	2243	0.113	
		6	6435	5618	5005	4528	4147	3835	3575	3355	3167	3003	2860	2734	2622	2522	2431	0.098	
		7	7063	6156	5476	4947	4524	4178	3889	3645	3436	3255	3096	2956	2831	2720	2620	0.086	
		8	7691	6695	5947	5366	4901	4520	4203	3935	3705	3506	3331	3177	3041	2918	2808	0.076	
		9	8319	7233	6418	5785	5278	4863	4517	4225	3974	3757	3567	3399	3250	3117	2997	0.069	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/4	0	2216	2002	1841	1716	1616	---	---	---	---	---	---	---	---	---	0.728		
		1	2845	2540	2312	2135	1993	1877	1780	---	---	---	---	---	---	---	0.358		
		2	3473	3079	2783	2554	2370	2219	2094	1988	1897	1818	1749	1689	1635	1586	1543	0.237	
		3	4101	3617	3254	2972	2747	2562	2408	2278	2166	2070	1985	1910	1844	1785	1731	0.177	
		4	4729	4155	3725	3391	3123	2904	2722	2568	2435	2321	2220	2132	2053	1983	1919	0.142	
		5	5357	4694	4196	3810	3500	3247	3036	2858	2705	2572	2456	2354	2263	2181	2108	0.118	
		6	5985	5232	4667	4228	3877	3590	3350	3147	2974	2823	2691	2575	2472	2379	2296	0.101	
		7	6613	5770	5138	4647	4254	3932	3664	3437	3243	3074	2927	2797	2681	2578	2485	0.088	
		8	7241	6309	5609	5066	4631	4275	3978	3727	3512	3326	3162	3019	2891	2776	2673	0.078	
		9	7869	6847	6080	5484	5007	4617	4292	4017	3781	3577	3398	3240	3100	2974	2862	0.071	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/3	0	2066	1873	1729	1616	1526	---	---	---	---	---	---	---	---	---	0.971		
		1	2694	2412	2200	2035	1903	1795	1705	---	---	---	---	---	---	---	0.408		
		2	3322	2950	2671	2453	2280	2137	2019	1919	1833	1758	1693	1636	1585	1539	1498	0.258	
		3	3950	3488	3142	2872	2657	2480	2333	2209	2102	2010	1929	1857	1794	1737	1686	0.189	
		4	4579	4027	3613	3291	3033	2823	2647	2498	2371	2261	2164	2079	2003	1935	1874	0.149	
		5	5207	4565	4084	3710	3410	3165	2961	2788	2640	2512	2400	2301	2213	2134	2063	0.123	
		6	5835	5103	4555	4128	3787	3508	3275	3078	2909	2763	2635	2522	2422	2332	2251	0.105	
		7	6463	5642	5026	4547	4164	3850	3589	3368	3179	3014	2871	2744	2631	2530	2440	0.091	
		8	7091	6180	5497	4966	4541	4193	3903	3658	3448	3266	3106	2966	2841	2729	2628	0.081	
		9	7719	6718	5968	5384	4917	4535	4217	3948	3717	3517	3342	3187	3050	2927	2816	0.072	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	4868	4275	3830	3484	3207	---	---	---	---	---	---	---	---	---	0.357		
		1	5622	4921	4396	3987	3660	3392	3169	---	---	---	---	---	---	---	0.244		
		2	6377	5568	4961	4490	4112	3803	3546	3328	3142	2980	2838	2714	2603	2503	2414	0.186	
		3	7131	6214	5527	4992	4565	4215	3923	3676	3465	3282	3121	2980	2854	2741	2640	0.150	
		4	7885	6861	6092	5495	5017	4626	4300	4024	3788	3583	3404	3246	3105	2979	2866	0.126	
		5	8639	7507	6658	5998	5469	5037	4677	4372	4111	3885	3687	3512	3357	3218	3093	0.108	
		6	9393	8153	7224	6500	5922	5449	5054	4720	4434	4186	3970	3778	3608	3456	3319	0.095	
		7	10147	8800	7789	7003	6374	5860	5431	5069	4758	4488	4252	4044	3859	3694	3545	0.085	
		8	10901	9446	8355	7506	6827	6271	5808	5417	5081	4790	4535	4310	4111	3932	3771	0.076	
		9	11655	10092	8920	8009	7279	6683	6185	5765	5404	5091	4818	4577	4362	4170	3997	0.069	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/7	0	3243	2882	2611	2401	2232	---	---	---	---	---	---	---	---	---	0.535		
		1	3997	3529	3177	2903	2685	2506	2356	---	---	---	---	---	---	---	0.317		
		2	4752	4175	3743	3406	3137	2917	2734	2578	2445	2330	2229	2140	2061	1990	1926	0.225	
		3	5506	4821	4308	3909	3590	3328	3111	2926	2768	2632	2512	2406	2312	2228	2153	0.174	
		4	6260	5468	4874	4412	4042	3740	3488	3274	3092	2933	2795	2672	2564	2466	2379	0.142	
		5	7014	6114	5439	4914	4494	4151	3865	3622	3415	3235	3077	2938	2815	2704	2605	0.120	
		6	7768	6760	6005	5417	4947	4562	4242	3970	3738	3536	3360	3205	3066	2943	2831	0.104	
		7	8522	7407	6570	5920	5399	4974	4619	4318	4061	3838	3643	3471	3318	3181	3057	0.092	
		8	9276	8053	7136	6423	5852	5385	4996	4667	4384	4140	3926	3737	3569	3419	3284	0.082	
		9	10030	8699	7701	6925	6304	5796	5373	5015	4708	4441	4209	4003	3820	3657	3510	0.074	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/5	0	3063	2727	2476	2280	2124	---	---	---	---	---	---	---	---	---	0.642		
		1	3817	3374	3042	2783	2576	2407	2266	---	---	---	---	---	---	---	0.351		
		2	4571	4020	3607	3286	3029	2818	2643	2495	2368	2258	2161	2076	2001	1933	1872	0.242	
		3	5325	4667	4173	3789	3481	3230	3020	2843	2691	2559	2444	2342	2252	2171	2098	0.184	
		4	6079	5313	4738	4291	3934	3641	3397	3191	3014	2861	2727	2609	2503	2409	2325	0.149	
		5	6833	5959	5304	4794	4386	4052	3774	3539	3337	3163	3010	2875	2755	2647	2551	0.125	
		6	7587	6606	5869	5297	4839	4464	4151	3887	3661	3464	3292	3141	3006	2886	2777	0.108	
		7	8341	7252	6435	5799	5291	4875	4528	4235	3984	3766	3575	3407	3257	3124	3003	0.094	
		8	9095	7898	7000	6302	5744	5286	4906	4583	4307	4068	3858	3673	3509	3362	3230	0.084	
		9	9850	8545	7566	6805	6196	5698	5283	4931	4630	4369	4141	3939	3760	3600	3456	0.076	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/4	0	2521	2263	2070	1919	1799	---	---	---	---	---	---	---	---	---	0.802		
		1	3275	2910	2635	2422	2251	2112	1995	---	---	---	---	---	---	---	0.394		
		2	4029	3556	3201	2925	2704	2523	2372	2245	2136	2041	1958	1885	1820	1762	1710	0.261	
		3	4783	4202	3766	3427	3156	2934	2749	2593	2459	2343	2241	2151	2071	2000	1936	0.195	
		4	5537	4849	4332	3930	3609	3346	3127	2941	2782	2644	2524	2417	2323	2238	2162	0.156	
		5	6292	5495	4898	4433	4061	3757	3504	3289	3105	2946	2807	2684	2574	2476	2388	0.130	
		6	7046	6141	5463	4936	4514	4168	3881	3637	3428	3248	3089	2950	2826	2715	2615	0.111	
		7	7800	6788	6029	5438	4966	4580	4258	3985	3752	3549	3372	3216	3077	2953	2841	0.097	
		8	8554	7434	6594	5941	5419	4991	4635	4333	4075	3851	3655	3482	3328	3191	3067	0.086	
		9	9308	8080	7160	6444	5871	5402	5012	4681	4398	4152	3938	3748	3580	3429	3293	0.078	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/3	0	2341	2108	1934	1799	1691	---	---	---	---	---	---	---	---	---	1.070		
		1	3095	2755	2500	2302	2143	2013	1905	---	---	---	---	---	---	---	0.450		
		2	3849	3401	3065	2804	2595	2425	2282	2162	2058	1969	1890	1821	1760	1705	1655	0.285	
		3	4603	4047	3631	3307	3048	2836	2659	2510	2382	2270	2173	2088	2011	1943	1882	0.208	
		4	5357	4694	4197	3810	3500	3247	3036	2858	2705	2572	2456	2354	2263	2181	2108	0.164	
		5	6111	5340	4762	4313	3953	3659	3413	3206	3028	2874	2739	2620	2514	2419	2334	0.135	
		6	6865	5987	5328	4815	4405	4070	3790	3554	3351	3175	3022	2886	2765	2658	2560	0.115	
		7	7619	6633	5893	5318	4858	4481	4167	3902	3674	3477	3304	3152	3017	2896	2787	0.100	
		8	8373	7279	6459	5821	5310	4892	4544	4250	3997	3779	3587	3418	3268	3134	3013	0.089	
		9	9127	7926	7024	6323	5763	5304	4921	4598	4321	4080	3870	3684	3519	3372	3239	0.080	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 3/4 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	6125	5352	4772	4322	3961	---	---	---	---	---	---	---	---	---	0.410		
		1	7103	6191	5506	4974	4548	4200	3909	---	---	---	---	---	---	---	0.281		
		2	8082	7030	6241	5627	5136	4734	4399	4116	3873	3662	3478	3316	3171	3042	2926	0.214	
		3	9061	7869	6975	6279	5723	5268	4888	4567	4292	4054	3845	3661	3497	3351	3219	0.172	
		4	10040	8708	7709	6932	6310	5801	5378	5019	4712	4445	4212	4006	3824	3660	3513	0.144	
		5	11019	9547	8443	7584	6897	6335	5867	5471	5131	4837	4579	4352	4150	3969	3806	0.124	
		6	11997	10386	9177	8237	7485	6869	6356	5922	5551	5228	4946	4697	4476	4278	4100	0.109	
		7	12976	11225	9911	8889	8072	7403	6846	6374	5970	5620	5313	5043	4802	4587	4394	0.097	
		8	13955	12063	10645	9542	8659	7937	7335	6826	6390	6011	5680	5388	5129	4896	4687	0.088	
		9	14934	12902	11379	10194	9246	8471	7825	7278	6809	6403	6047	5734	5455	5205	4981	0.080	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
36/7	0	4008	3538	3185	2911	2691	---	---	---	---	---	---	---	---	---	0.615			
	1	4987	4377	3919	3563	3278	3045	2851	---	---	---	---	---	---	---	0.364			
	2	5966	5216	4653	4216	3866	3579	3341	3139	2966	2816	2684	2568	2466	2373	2291	0.259		
	3	6944	6055	5387	4868	4453	4113	3830	3590	3385	3207	3051	2914	2792	2683	2584	0.200		
	4	7923	6893	6121	5521	5040	4647	4319	4042	3805	3599	3418	3259	3118	2992	2878	0.164		
	5	8902	7732	6855	6173	5627	5181	4809	4494	4224	3990	3785	3605	3444	3301	3171	0.138		
	6	9881	8571	7589	6826	6215	5715	5298	4946	4643	4382	4152	3950	3771	3610	3465	0.120		
	7	10859	9410	8323	7478	6802	6249	5787	5397	5063	4773	4520	4296	4097	3919	3759	0.106		
	8	11838	10249	9058	8131	7389	6782	6277	5849	5482	5165	4887	4641	4423	4228	4052	0.094		
	9	12817	11088	9792	8783	7976	7316	6766	6301	5902	5556	5254	4987	4749	4537	4346	0.085		
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
36/5	0	3773	3336	3009	2754	2550	---	---	---	---	---	---	---	---	---	0.739			
	1	4752	4175	3743	3406	3137	2917	2734	---	---	---	---	---	---	---	0.404			
	2	5730	5014	4477	4059	3724	3451	3223	3030	2865	2721	2596	2485	2387	2299	2220	0.278		
	3	6709	5853	5211	4711	4312	3985	3712	3482	3284	3113	2963	2831	2713	2608	2514	0.212		
	4	7688	6692	5945	5364	4899	4519	4202	3934	3704	3505	3330	3176	3040	2917	2807	0.171		
	5	8667	7531	6679	6016	5486	5053	4691	4385	4123	3896	3697	3522	3366	3226	3101	0.144		
	6	9645	8370	7413	6669	6074	5586	5181	4837	4543	4288	4064	3867	3692	3536	3395	0.124		
	7	10624	9209	8147	7321	6661	6120	5670	5289	4962	4679	4431	4213	4018	3845	3688	0.109		
	8	11603	10048	8881	7974	7248	6654	6159	5741	5382	5071	4798	4558	4345	4154	3982	0.097		
	9	12582	10887	9615	8626	7835	7188	6649	6192	5801	5462	5165	4904	4671	4463	4275	0.087		
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
36/4	0	3067	2731	2479	2283	2127	---	---	---	---	---	---	---	---	---	0.923			
	1	4046	3570	3213	2936	2714	2532	2381	---	---	---	---	---	---	---	0.454			
	2	5025	4409	3948	3588	3301	3066	2870	2704	2562	2439	2332	2236	2152	2076	2008	0.301		
	3	6004	5248	4682	4241	3888	3600	3360	3156	2982	2831	2699	2582	2478	2385	2302	0.225		
	4	6982	6087	5416	4893	4476	4134	3849	3608	3401	3222	3066	2927	2804	2695	2596	0.180		
	5	7961	6926	6150	5546	5063	4668	4338	4060	3821	3614	3433	3273	3131	3004	2889	0.150		
	6	8940	7765	6884	6198	5650	5202	4828	4511	4240	4005	3800	3618	3457	3313	3183	0.128		
	7	9919	8604	7618	6851	6237	5735	5317	4963	4660	4397	4167	3964	3783	3622	3476	0.112		
	8	10898	9443	8352	7504	6825	6269	5807	5415	5079	4788	4534	4309	4110	3931	3770	0.099		
	9	11876	10282	9086	8156	7412	6803	6296	5867	5499	5180	4901	4655	4436	4240	4064	0.090		
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
36/3	0	2832	2530	2303	2127	1986	---	---	---	---	---	---	---	---	---	1.231			
	1	3811	3369	3037	2779	2573	2404	2263	---	---	---	---	---	---	---	0.517			
	2	4790	4208	3771	3432	3160	2938	2753	2596	2462	2345	2243	2153	2074	2002	1938	0.327		
	3	5768	5047	4505	4084	3747	3472	3242	3048	2881	2737	2610	2499	2400	2311	2231	0.239		
	4	6747	5886	5239	4737	4335	4006	3731	3499	3301	3128	2977	2844	2726	2620	2525	0.189		
	5	7726	6725	5973	5389	4922	4539	4221	3951	3720	3520	3344	3190	3052	2929	2819	0.156		
	6	8705	7563	6707	6042	5509	5073	4710	4403	4140	3911	3712	3535	3379	3238	3112	0.133		
	7	9684	8402	7442	6694	6096	5607	5200	4855	4559	4303	4079	3881	3705	3548	3406	0.115		
	8	10662	9241	8176	7347	6684	6141	5689	5306	4978	4694	4446	4226	4031	3857	3700	0.102		
	9	11641	10080	8910	7999	7271	6675	6178	5758	5398	5086	4813	4572	4357	4166	3993	0.092		
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

THE SDI DOES NOT RECOMMEND WELDED SIDELAPS FOR 22 GA. DECK

DECK TYPE: 1.5 B,F
 DECK GAGE: 22 (t = 0.0295 ")
 SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
 SIDELAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	3569	3161	2855	2618	2428	---	---	---	---	---	---	---	---	---	0.324		
		1	4197	3700	3327	3036	2804	2614	2456	---	---	---	---	---	---	---	0.222		
		2	4825	4238	3798	3455	3181	2957	2770	2612	2477	2359	2257	2166	2085	2013	1948	0.169	
		3	5453	4776	4269	3874	3558	3300	3084	2902	2746	2610	2492	2388	2295	2212	2137	0.136	
		4	6081	5314	4740	4292	3935	3642	3398	3192	3015	2862	2728	2609	2504	2410	2325	0.114	
		5	6709	5853	5211	4711	4312	3985	3712	3482	3284	3113	2963	2831	2713	2608	2514	0.098	
		6	7337	6391	5682	5130	4688	4327	4026	3772	3553	3364	3199	3053	2923	2807	2702	0.086	
		7	7965	6929	6153	5549	5065	4670	4340	4061	3822	3615	3434	3274	3132	3005	2890	0.077	
		8	8593	7468	6624	5967	5442	5012	4654	4351	4092	3867	3670	3496	3341	3203	3079	0.069	
		9	9221	8006	7095	6386	5819	5355	4968	4641	4361	4118	3905	3717	3551	3401	3267	0.063	
		K2 =	870	K3	257	K4 _B =	3.55	K4 _F =	3.41										
TYPE II INSULATING FILL	36/7	0	2452	2204	2018	1873	1758	---	---	---	---	---	---	---	---	---	0.486		
		1	3080	2743	2489	2292	2134	2005	1898	---	---	---	---	---	---	---	0.287		
		2	3708	3281	2960	2711	2511	2348	2212	2097	1998	1913	1838	1772	1713	1661	1613	0.204	
		3	4336	3819	3431	3129	2888	2691	2526	2387	2267	2164	2073	1993	1922	1859	1802	0.158	
		4	4964	4357	3902	3548	3265	3033	2840	2677	2536	2415	2309	2215	2132	2057	1990	0.129	
		5	5592	4896	4373	3967	3642	3376	3154	2966	2806	2666	2544	2437	2341	2256	2179	0.109	
		6	6220	5434	4844	4386	4019	3718	3468	3256	3075	2918	2780	2658	2551	2454	2367	0.094	
		7	6849	5972	5315	4804	4395	4061	3782	3546	3344	3169	3015	2880	2760	2652	2555	0.083	
		8	7477	6511	5786	5223	4772	4403	4096	3836	3613	3420	3251	3102	2969	2851	2744	0.074	
		9	8105	7049	6257	5642	5149	4746	4410	4126	3882	3671	3486	3323	3179	3049	2932	0.067	
		K2 =	870	K3	257	K4 _B =	3.55	K4 _F =	3.41										
TYPE II INSULATING FILL	36/5	0	2328	2098	1925	1791	1683	---	---	---	---	---	---	---	---	---	0.583		
		1	2956	2636	2396	2209	2060	1938	1836	---	---	---	---	---	---	---	0.319		
		2	3584	3174	2867	2628	2437	2280	2150	2040	1945	1863	1791	1728	1672	1621	1576	0.219	
		3	4212	3713	3338	3047	2814	2623	2464	2329	2214	2114	2027	1950	1881	1820	1765	0.167	
		4	4840	4251	3809	3465	3190	2965	2778	2619	2483	2365	2262	2171	2090	2018	1953	0.135	
		5	5468	4789	4280	3884	3567	3308	3092	2909	2752	2617	2498	2393	2300	2216	2141	0.113	
		6	6096	5328	4751	4303	3944	3651	3406	3199	3022	2868	2733	2615	2509	2415	2330	0.098	
		7	6724	5866	5222	4721	4321	3993	3720	3489	3291	3119	2969	2836	2719	2613	2518	0.086	
		8	7352	6404	5693	5140	4698	4336	4034	3779	3560	3370	3204	3058	2928	2811	2707	0.076	
		9	7981	6943	6164	5559	5075	4678	4348	4069	3829	3622	3440	3280	3137	3010	2895	0.069	
		K2 =	870	K3	257	K4 _B =	3.55	K4 _F =	3.41										
TYPE II INSULATING FILL	36/4	0	1956	1779	1646	1543	1460	---	---	---	---	---	---	---	---	---	0.728		
		1	2584	2317	2117	1961	1837	1735	1650	---	---	---	---	---	---	---	0.358		
		2	3212	2855	2588	2380	2214	2077	1964	1868	1786	1714	1652	1597	1548	1504	1465	0.237	
		3	3840	3394	3059	2799	2590	2420	2278	2158	2055	1965	1887	1818	1757	1702	1653	0.177	
		4	4468	3932	3530	3217	2967	2762	2592	2448	2324	2217	2123	2040	1966	1901	1841	0.142	
		5	5096	4470	4001	3636	3344	3105	2906	2737	2593	2468	2358	2262	2176	2099	2030	0.118	
		6	5724	5009	4472	4055	3721	3448	3220	3027	2862	2719	2594	2483	2385	2297	2218	0.101	
		7	6352	5547	4943	4473	4098	3790	3534	3317	3131	2970	2829	2705	2594	2496	2407	0.088	
		8	6980	6085	5414	4892	4474	4133	3848	3607	3400	3221	3065	2927	2804	2694	2595	0.078	
		9	7608	6624	5885	5311	4851	4475	4162	3897	3670	3473	3300	3148	3013	2892	2783	0.071	
		K2 =	870	K3	257	K4 _B =	3.55	K4 _F =	3.41										
TYPE II INSULATING FILL	36/3	0	1832	1673	1553	1460	1385	---	---	---	---	---	---	---	---	---	0.971		
		1	2460	2211	2024	1879	1762	1667	1588	---	---	---	---	---	---	---	0.408		
		2	3088	2749	2495	2297	2139	2010	1902	1811	1732	1665	1605	1553	1506	1465	1427	0.258	
		3	3716	3287	2966	2716	2516	2352	2216	2100	2002	1916	1841	1775	1716	1663	1616	0.189	
		4	4344	3826	3437	3135	2893	2695	2530	2390	2271	2167	2076	1996	1925	1861	1804	0.149	
		5	4972	4364	3908	3553	3270	3037	2844	2680	2540	2418	2312	2218	2134	2060	1993	0.123	
		6	5600	4902	4379	3972	3646	3380	3158	2970	2809	2669	2547	2440	2344	2258	2181	0.105	
		7	6228	5441	4850	4391	4023	3722	3472	3260	3078	2921	2783	2661	2553	2456	2369	0.091	
		8	6856	5979	5321	4809	4400	4065	3786	3550	3347	3172	3018	2883	2762	2655	2558	0.081	
		9	7484	6517	5792	5228	4777	4408	4100	3840	3616	3423	3254	3105	2972	2853	2746	0.072	
		K2 =	870	K3	257	K4 _B =	3.55	K4 _F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	4142	3652	3285	3000	2771	---	---	---	---	---	---	---	---	---	0.357		
		1	4896	4298	3851	3502	3224	2996	2806	---	---	---	---	---	---	---	0.244		
		2	5650	4945	4416	4005	3676	3407	3183	2993	2830	2689	2566	2457	2360	2274	2196	0.186	
		3	6404	5591	4982	4508	4128	3818	3560	3341	3153	2991	2849	2723	2612	2512	2422	0.150	
		4	7158	6238	5547	5010	4581	4230	3937	3689	3477	3292	3131	2989	2863	2750	2648	0.126	
		5	7912	6884	6113	5513	5033	4641	4314	4037	3800	3594	3414	3255	3114	2988	2874	0.108	
		6	8666	7530	6678	6016	5486	5052	4691	4385	4123	3896	3697	3522	3366	3226	3101	0.095	
		7	9420	8177	7244	6519	5938	5464	5068	4733	4446	4197	3980	3788	3617	3464	3327	0.085	
		8	10174	8823	7810	7021	6391	5875	5445	5081	4769	4499	4263	4054	3868	3702	3553	0.076	
		9	10928	9469	8375	7524	6843	6286	5822	5429	5092	4801	4545	4320	4120	3941	3779	0.069	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/7	0	2801	2503	2280	2106	1967	---	---	---	---	---	---	---	---	---	0.535			
	1	3555	3149	2845	2609	2419	2264	2135	---	---	---	---	---	---	---	0.317			
	2	4309	3796	3411	3111	2872	2676	2512	2374	2256	2153	2063	1984	1913	1850	1794	0.225		
	3	5063	4442	3976	3614	3324	3087	2889	2722	2579	2455	2346	2250	2165	2088	2020	0.174		
	4	5817	5088	4542	4117	3777	3498	3266	3070	2902	2756	2629	2516	2416	2327	2246	0.142		
	5	6571	5735	5107	4619	4229	3910	3643	3418	3225	3058	2911	2782	2667	2565	2472	0.120		
	6	7325	6381	5673	5122	4681	4321	4020	3766	3548	3360	3194	3048	2919	2803	2699	0.104		
	7	8080	7028	6239	5625	5134	4732	4398	4114	3872	3661	3477	3315	3170	3041	2925	0.092		
	8	8834	7674	6804	6128	5586	5144	4775	4462	4195	3963	3760	3581	3422	3279	3151	0.082		
	9	9588	8320	7370	6630	6039	5555	5152	4810	4518	4264	4043	3847	3673	3517	3377	0.074		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/5	0	2652	2375	2168	2006	1877	---	---	---	---	---	---	---	---	---	0.642			
	1	3406	3022	2733	2509	2330	2183	2061	---	---	---	---	---	---	---	0.351			
	2	4160	3668	3299	3012	2782	2594	2438	2305	2192	2093	2007	1931	1864	1803	1749	0.242		
	3	4914	4314	3865	3515	3235	3006	2815	2653	2515	2395	2290	2197	2115	2041	1975	0.184		
	4	5668	4961	4430	4017	3687	3417	3192	3001	2838	2697	2573	2464	2366	2280	2201	0.149		
	5	6422	5607	4996	4520	4140	3828	3569	3349	3161	2998	2856	2730	2618	2518	2428	0.125		
	6	7176	6253	5561	5023	4592	4240	3946	3698	3485	3300	3138	2996	2869	2756	2654	0.108		
	7	7931	6900	6127	5526	5045	4651	4323	4046	3808	3602	3421	3262	3121	2994	2880	0.094		
	8	8685	7546	6692	6028	5497	5062	4700	4394	4131	3903	3704	3528	3372	3232	3106	0.084		
	9	9439	8193	7258	6531	5949	5474	5077	4742	4454	4205	3987	3794	3623	3470	3333	0.076		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/4	0	2205	1992	1833	1709	1609	---	---	---	---	---	---	---	---	---	0.802			
	1	2959	2639	2398	2211	2062	1939	1837	---	---	---	---	---	---	---	0.394			
	2	3713	3285	2964	2714	2514	2351	2214	2099	2000	1915	1840	1774	1715	1662	1615	0.261		
	3	4467	3931	3529	3217	2967	2762	2591	2447	2323	2216	2122	2040	1966	1900	1841	0.195		
	4	5221	4578	4095	3719	3419	3173	2968	2795	2647	2518	2405	2306	2218	2138	2067	0.156		
	5	5976	5224	4661	4222	3872	3585	3346	3143	2970	2820	2688	2572	2469	2377	2294	0.130		
	6	6730	5870	5226	4725	4324	3996	3723	3491	3293	3121	2971	2838	2720	2615	2520	0.111		
	7	7484	6517	5792	5228	4776	4407	4100	3839	3616	3423	3254	3104	2972	2853	2746	0.097		
	8	8238	7163	6357	5730	5229	4819	4477	4187	3939	3724	3536	3370	3223	3091	2972	0.086		
	9	8992	7810	6923	6233	5681	5230	4854	4535	4263	4026	3819	3637	3474	3329	3198	0.078		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
36/3	0	2056	1865	1721	1609	1520	---	---	---	---	---	---	---	---	---	1.070			
	1	2810	2511	2287	2112	1972	1858	1763	---	---	---	---	---	---	---	0.450			
	2	3564	3157	2852	2615	2425	2269	2140	2030	1936	1855	1784	1721	1665	1615	1570	0.285		
	3	4318	3804	3418	3117	2877	2681	2517	2378	2260	2157	2067	1987	1916	1853	1796	0.208		
	4	5072	4450	3983	3620	3330	3092	2894	2726	2583	2458	2349	2253	2168	2091	2023	0.164		
	5	5827	5096	4549	4123	3782	3503	3271	3074	2906	2760	2632	2519	2419	2330	2249	0.135		
	6	6581	5743	5114	4626	4235	3915	3648	3423	3229	3062	2915	2786	2671	2568	2475	0.115		
	7	7335	6389	5680	5128	4687	4326	4025	3771	3552	3363	3198	3052	2922	2806	2701	0.100		
	8	8089	7036	6246	5631	5140	4737	4402	4119	3876	3665	3481	3318	3173	3044	2928	0.089		
	9	8843	7682	6811	6134	5592	5149	4779	4467	4199	3966	3763	3584	3425	3282	3154	0.080		
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: 5/8 " puddle weld or 1 1/2" long fillet weld

Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	5162	4527	4051	3680	3384	---	---	---	---	---	---	---	---	---	0.410		
		1	6141	5366	4785	4333	3971	3675	3428	---	---	---	---	---	---	---	0.281		
		2	7120	6205	5519	4985	4558	4209	3918	3671	3460	3277	3117	2976	2850	2738	2637	0.214	
		3	8099	7044	6253	5638	5145	4743	4407	4123	3880	3669	3484	3321	3177	3047	2930	0.172	
		4	9077	7883	6987	6290	5733	5277	4896	4575	4299	4060	3851	3667	3503	3356	3224	0.144	
		5	10056	8722	7721	6943	6320	5810	5386	5027	4719	4452	4218	4012	3829	3665	3518	0.124	
		6	11035	9561	8455	7595	6907	6344	5875	5478	5138	4843	4585	4358	4155	3974	3811	0.109	
		7	12014	10400	9189	8248	7494	6878	6365	5930	5558	5235	4952	4703	4482	4283	4105	0.097	
		8	12992	11239	9923	8900	8082	7412	6854	6382	5977	5626	5319	5049	4808	4592	4399	0.088	
		9	13971	12078	10657	9553	8669	7946	7343	6834	6397	6018	5686	5394	5134	4902	4692	0.080	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/7	0	3422	3036	2746	2520	2340	---	---	---	---	---	---	---	---	---	0.615		
		1	4401	3875	3480	3173	2927	2726	2558	2428	2268	2175	2081	1996	1919	1848	1781	0.364	
		2	5380	4713	4214	3825	3514	3260	3048	2868	2715	2581	2465	2362	2270	2188	2115	0.259	
		3	6359	5552	4948	4478	4101	3794	3537	3320	3134	2973	2832	2707	2597	2498	2408	0.200	
		4	7337	6391	5682	5130	4689	4327	4026	3772	3553	3364	3199	3053	2923	2807	2702	0.164	
		5	8316	7230	6416	5783	5276	4861	4516	4224	3973	3756	3566	3398	3249	3116	2996	0.138	
		6	9295	8069	7150	6435	5863	5395	5005	4675	4392	4147	3933	3744	3575	3425	3289	0.120	
		7	10274	8908	7884	7088	6450	5929	5495	5127	4812	4539	4300	4089	3902	3734	3583	0.106	
		8	11252	9747	8618	7740	7038	6463	5984	5579	5231	4930	4667	4434	4228	4043	3877	0.094	
		9	12231	10586	9352	8393	7625	6997	6473	6030	5651	5322	5034	4780	4554	4352	4170	0.085	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/5	0	3229	2870	2601	2391	2224	---	---	---	---	---	---	---	---	---	0.739		
		1	4208	3709	3335	3044	2811	2620	2462	---	---	---	---	---	---	---	---	0.404	
		2	5186	4548	4069	3696	3398	3154	2951	2779	2632	2504	2392	2294	2206	2127	2057	0.278	
		3	6165	5387	4803	4349	3985	3688	3440	3231	3051	2895	2759	2639	2532	2437	2350	0.212	
		4	7144	6226	5537	5001	4573	4222	3930	3683	3471	3287	3126	2984	2858	2746	2644	0.171	
		5	8123	7065	6271	5654	5160	4756	4419	4134	3890	3678	3493	3330	3185	3055	2938	0.144	
		6	9102	7904	7005	6306	5747	5290	4909	4586	4310	4070	3860	3675	3511	3364	3231	0.124	
		7	10080	8743	7739	6959	6334	5824	5398	5038	4729	4461	4227	4021	3837	3673	3525	0.109	
		8	11059	9581	8473	7611	6922	6357	5887	5489	5148	4853	4594	4366	4163	3982	3819	0.097	
		9	12038	10420	9207	8264	7509	6891	6377	5941	5568	5244	4961	4712	4490	4291	4112	0.087	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/4	0	2649	2373	2166	2004	1876	---	---	---	---	---	---	---	---	---	0.923		
		1	3628	3212	2900	2657	2463	2304	2172	---	---	---	---	---	---	---	---	0.454	
		2	4606	4051	3634	3309	3050	2838	2661	2511	2383	2272	2175	2089	2013	1944	1883	0.301	
		3	5585	4890	4368	3962	3637	3372	3150	2963	2803	2663	2542	2434	2339	2253	2176	0.225	
		4	6564	5729	5102	4615	4225	3906	3640	3415	3222	3055	2909	2780	2665	2562	2470	0.180	
		5	7543	6567	5836	5267	4812	4439	4129	3867	3642	3446	3276	3125	2991	2872	2764	0.150	
		6	8522	7406	6570	5920	5399	4973	4619	4318	4061	3838	3643	3471	3318	3181	3057	0.128	
		7	9500	8245	7304	6572	5986	5507	5108	4770	4480	4229	4010	3816	3644	3490	3351	0.112	
		8	10479	9084	8038	7225	6574	6041	5597	5222	4900	4621	4377	4162	3970	3799	3645	0.099	
		9	11458	9923	8772	7877	7161	6575	6087	5674	5319	5012	4744	4507	4296	4108	3938	0.090	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/3	0	2456	2207	2021	1876	1760	---	---	---	---	---	---	---	---	---	1.231		
		1	3434	3046	2755	2528	2347	2199	2075	---	---	---	---	---	---	---	---	0.517	
		2	4413	3885	3489	3181	2934	2732	2564	2422	2300	2195	2102	2021	1948	1883	1825	0.327	
		3	5392	4724	4223	3833	3521	3266	3054	2874	2720	2586	2469	2366	2274	2192	2118	0.239	
		4	6371	5563	4957	4486	4109	3800	3543	3326	3139	2978	2836	2711	2601	2501	2412	0.189	
		5	7349	6402	5691	5138	4696	4334	4032	3777	3559	3369	3203	3057	2927	2810	2706	0.156	
		6	8328	7241	6425	5791	5283	4868	4522	4229	3978	3761	3570	3402	3253	3120	2999	0.133	
		7	9307	8080	7159	6443	5870	5402	5011	4681	4398	4152	3937	3748	3579	3429	3293	0.115	
		8	10286	8919	7893	7096	6458	5936	5501	5133	4817	4544	4304	4093	3906	3738	3587	0.102	
		9	11265	9758	8627	7748	7045	6470	5990	5584	5237	4935	4671	4439	4232	4047	3880	0.092	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDLAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	3569	3161	2855	2618	2428	---	---	---	---	---	---	---	---	---	0.324		
		1	3780	3342	3014	2758	2554	2387	2248	---	---	---	---	---	---	---	0.272		
		2	3991	3523	3172	2899	2681	2502	2353	2227	2119	2026	1944	1872	1807	1750	1698	0.234	
		3	4202	3704	3331	3040	2808	2617	2459	2325	2210	2110	2023	1946	1878	1817	1762	0.206	
		4	4413	3885	3489	3181	2934	2733	2564	2422	2300	2195	2102	2021	1948	1883	1825	0.183	
		5	4624	4066	3647	3321	3061	2848	2670	2520	2391	2279	2181	2095	2019	1950	1888	0.165	
		6	4836	4247	3806	3462	3188	2963	2776	2617	2481	2364	2261	2170	2089	2017	1952	0.151	
		7	5047	4428	3964	3603	3314	3078	2881	2715	2572	2448	2340	2244	2159	2083	2015	0.138	
		8	5258	4609	4122	3744	3441	3193	2987	2812	2662	2532	2419	2319	2230	2150	2078	0.128	
	9	5469	4790	4281	3884	3568	3308	3092	2909	2753	2617	2498	2393	2300	2217	2142	0.119		
			K2 =	870	K3 =		257	K4_B =		3.55	K4_F =		3.41						
	36/7	0	2452	2204	2018	1873	1758	---	---	---	---	---	---	---	---	---	0.486		
		1	2663	2385	2176	2014	1884	1778	1689	---	---	---	---	---	---	---	0.377		
		2	2875	2566	2335	2155	2011	1893	1795	1712	1641	1579	1525	1478	1435	1397	1363	0.308	
		3	3086	2747	2493	2296	2138	2008	1901	1809	1731	1664	1604	1552	1506	1464	1427	0.261	
		4	3297	2928	2652	2436	2264	2124	2006	1907	1822	1748	1684	1627	1576	1531	1490	0.226	
		5	3508	3109	2810	2577	2391	2239	2112	2004	1912	1833	1763	1701	1646	1597	1553	0.199	
6		3719	3290	2968	2718	2518	2354	2217	2102	2003	1917	1842	1776	1717	1664	1617	0.178		
7		3930	3471	3127	2859	2644	2469	2323	2199	2093	2001	1921	1850	1787	1731	1680	0.161		
8		4141	3652	3285	2999	2771	2584	2428	2297	2184	2086	2000	1925	1857	1797	1743	0.147		
9	4352	3833	3443	3140	2898	2699	2534	2394	2274	2170	2079	1999	1928	1864	1807	0.135			
		K2 =	870	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/5	0	2328	2098	1925	1791	1683	---	---	---	---	---	---	---	---	---	0.583			
	1	2539	2279	2083	1931	1810	1710	1627	---	---	---	---	---	---	---	0.433			
	2	2751	2460	2242	2072	1937	1826	1733	1655	1588	1530	1479	1434	1394	1358	1326	0.345		
	3	2962	2641	2400	2213	2063	1941	1839	1752	1678	1614	1558	1508	1464	1425	1389	0.286		
	4	3173	2822	2558	2354	2190	2056	1944	1850	1769	1698	1637	1583	1535	1492	1453	0.245		
	5	3384	3003	2717	2494	2317	2171	2050	1947	1859	1783	1716	1657	1605	1558	1516	0.214		
	6	3595	3184	2875	2635	2443	2286	2155	2045	1950	1867	1795	1732	1675	1625	1579	0.190		
	7	3806	3365	3033	2776	2570	2401	2261	2142	2040	1952	1875	1806	1746	1692	1643	0.171		
	8	4017	3546	3192	2917	2697	2516	2366	2239	2131	2036	1954	1881	1816	1758	1706	0.155		
9	4228	3727	3350	3057	2823	2632	2472	2337	2221	2121	2033	1955	1886	1825	1769	0.142			
		K2 =	870	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/4	0	1956	1779	1646	1543	1460	---	---	---	---	---	---	---	---	---	0.728			
	1	2167	1960	1804	1683	1587	1507	1441	---	---	---	---	---	---	---	0.509			
	2	2378	2141	1963	1824	1713	1623	1547	1483	1428	1381	1339	1302	1270	1241	1214	0.391		
	3	2589	2322	2121	1965	1840	1738	1653	1580	1519	1465	1418	1377	1340	1307	1278	0.318		
	4	2801	2503	2279	2106	1967	1853	1758	1678	1609	1550	1497	1451	1411	1374	1341	0.267		
	5	3012	2684	2438	2246	2093	1968	1864	1775	1700	1634	1577	1526	1481	1441	1404	0.231		
	6	3223	2865	2596	2387	2220	2083	1969	1873	1790	1718	1656	1600	1551	1507	1468	0.203		
	7	3434	3046	2754	2528	2347	2198	2075	1970	1881	1803	1735	1675	1622	1574	1531	0.181		
	8	3645	3227	2913	2669	2473	2313	2180	2068	1971	1887	1814	1750	1692	1641	1594	0.164		
9	3856	3408	3071	2809	2600	2429	2286	2165	2062	1972	1893	1824	1762	1707	1658	0.149			
		K2 =	870	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/3	0	1832	1673	1553	1460	1385	---	---	---	---	---	---	---	---	---	0.971			
	1	2043	1854	1711	1601	1512	1440	1379	---	---	---	---	---	---	---	0.617			
	2	2254	2034	1870	1741	1639	1555	1485	1426	1375	1331	1293	1259	1228	1201	1177	0.452		
	3	2465	2215	2028	1882	1765	1670	1590	1523	1465	1415	1372	1333	1299	1268	1241	0.356		
	4	2677	2396	2186	2023	1892	1785	1696	1621	1556	1500	1451	1408	1369	1335	1304	0.294		
	5	2888	2577	2345	2164	2019	1900	1802	1718	1646	1584	1530	1482	1440	1401	1367	0.251		
	6	3099	2758	2503	2304	2145	2015	1907	1816	1737	1669	1609	1557	1510	1468	1431	0.218		
	7	3310	2939	2661	2445	2272	2131	2013	1913	1827	1753	1688	1631	1580	1535	1494	0.193		
	8	3521	3120	2820	2586	2399	2246	2118	2010	1918	1838	1768	1706	1651	1601	1557	0.173		
9	3732	3301	2978	2727	2526	2361	2224	2108	2008	1922	1847	1780	1721	1668	1621	0.157			
		K2 =	870	K3 =		257	K4_B =		3.55	K4_F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF															
			SPAN, FT															
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1
TYPE II INSULATING FILL	36/9	0	4142	3652	3285	3000	2771	---	---	---	---	---	---	---	---	---	0.357	
		1	4398	3872	3477	3170	2925	2724	2557	---	---	---	---	---	---	---	0.299	
		2	4654	4091	3669	3341	3079	2864	2685	2533	2403	2291	2192	2106	2028	1959	1897	0.258
		3	4910	4311	3862	3512	3232	3004	2813	2652	2513	2393	2289	2196	2114	2040	1974	0.226
		4	5166	4531	4054	3683	3386	3143	2941	2770	2623	2496	2385	2286	2199	2121	2051	0.202
		5	5423	4750	4246	3854	3540	3283	3069	2888	2733	2598	2481	2377	2285	2202	2128	0.182
		6	5679	4970	4438	4024	3694	3423	3197	3006	2843	2701	2577	2467	2370	2283	2205	0.166
		7	5935	5189	4630	4195	3847	3563	3325	3125	2952	2803	2673	2558	2455	2364	2281	0.152
		8	6191	5409	4822	4366	4001	3702	3453	3243	3062	2906	2769	2648	2541	2445	2358	0.141
		9	6447	5629	5014	4537	4155	3842	3581	3361	3172	3008	2865	2739	2626	2526	2435	0.131
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/7	0	2801	2503	2280	2106	1967	---	---	---	---	---	---	---	---	---	0.535		
	1	3057	2723	2472	2277	2120	1993	1886	---	---	---	---	---	---	---	0.415		
	2	3313	2942	2664	2447	2274	2133	2014	1915	1829	1755	1690	1632	1581	1536	1495	0.340	
	3	3570	3162	2856	2618	2428	2272	2143	2033	1939	1857	1786	1723	1667	1617	1572	0.287	
	4	3826	3381	3048	2789	2582	2412	2271	2151	2049	1960	1882	1813	1752	1698	1649	0.249	
	5	4082	3601	3240	2960	2735	2552	2399	2269	2158	2062	1978	1904	1838	1779	1725	0.219	
	6	4338	3821	3433	3131	2889	2692	2527	2388	2268	2165	2074	1994	1923	1860	1802	0.196	
	7	4594	4040	3625	3301	3043	2831	2655	2506	2378	2267	2170	2085	2009	1940	1879	0.178	
	8	4851	4260	3817	3472	3197	2971	2783	2624	2488	2370	2266	2175	2094	2021	1956	0.162	
	9	5107	4480	4009	3643	3350	3111	2911	2742	2598	2472	2362	2265	2179	2102	2033	0.149	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/5	0	2652	2375	2168	2006	1877	---	---	---	---	---	---	---	---	---	0.642		
	1	2908	2595	2360	2177	2031	1912	1812	---	---	---	---	---	---	---	0.477		
	2	3164	2815	2552	2348	2185	2051	1940	1846	1765	1695	1634	1580	1532	1489	1450	0.380	
	3	3421	3034	2744	2519	2339	2191	2068	1964	1875	1798	1730	1670	1617	1570	1527	0.315	
	4	3677	3254	2937	2690	2492	2331	2196	2082	1985	1900	1826	1761	1703	1651	1604	0.270	
	5	3933	3473	3129	2861	2646	2471	2324	2201	2094	2003	1922	1851	1788	1732	1681	0.236	
	6	4189	3693	3321	3031	2800	2610	2452	2319	2204	2105	2018	1942	1873	1813	1758	0.209	
	7	4445	3913	3513	3202	2953	2750	2581	2437	2314	2208	2114	2032	1959	1893	1835	0.188	
	8	4702	4132	3705	3373	3107	2890	2709	2555	2424	2310	2210	2122	2044	1974	1911	0.171	
	9	4958	4352	3897	3544	3261	3030	2837	2674	2534	2412	2306	2213	2130	2055	1988	0.156	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/4	0	2205	1992	1833	1709	1609	---	---	---	---	---	---	---	---	---	0.802		
	1	2461	2212	2025	1879	1763	1668	1588	---	---	---	---	---	---	---	0.561		
	2	2718	2432	2217	2050	1917	1808	1717	1640	1574	1516	1466	1422	1383	1348	1316	0.431	
	3	2974	2651	2409	2221	2070	1947	1845	1758	1683	1619	1562	1513	1468	1429	1393	0.350	
	4	3230	2871	2601	2392	2224	2087	1973	1876	1793	1721	1658	1603	1554	1510	1470	0.294	
	5	3486	3090	2794	2563	2378	2227	2101	1994	1903	1824	1755	1693	1639	1590	1547	0.254	
	6	3742	3310	2986	2733	2532	2367	2229	2113	2013	1926	1851	1784	1724	1671	1624	0.224	
	7	3999	3530	3178	2904	2685	2506	2357	2231	2123	2029	1947	1874	1810	1752	1700	0.200	
	8	4255	3749	3370	3075	2839	2646	2485	2349	2232	2131	2043	1965	1895	1833	1777	0.180	
	9	4511	3969	3562	3246	2993	2786	2613	2467	2342	2234	2139	2055	1981	1914	1854	0.164	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41									
36/3	0	2056	1865	1721	1609	1520	---	---	---	---	---	---	---	---	---	1.070		
	1	2312	2084	1913	1780	1674	1587	1514	---	---	---	---	---	---	---	0.679		
	2	2569	2304	2105	1951	1827	1726	1642	1571	1510	1457	1410	1370	1333	1301	1271	0.498	
	3	2825	2523	2297	2122	1981	1866	1770	1689	1620	1559	1507	1460	1419	1382	1348	0.393	
	4	3081	2743	2490	2293	2135	2006	1898	1807	1729	1662	1603	1550	1504	1463	1425	0.324	
	5	3337	2963	2682	2463	2289	2146	2026	1926	1839	1764	1699	1641	1589	1543	1502	0.276	
	6	3593	3182	2874	2634	2442	2285	2154	2044	1949	1867	1795	1731	1675	1624	1579	0.240	
	7	3850	3402	3066	2805	2596	2425	2283	2162	2059	1969	1891	1822	1760	1705	1656	0.213	
	8	4106	3622	3258	2976	2750	2565	2411	2280	2169	2072	1987	1912	1846	1786	1733	0.191	
	9	4362	3841	3450	3147	2903	2705	2539	2399	2278	2174	2083	2003	1931	1867	1810	0.173	
		K2 =	1056	K3 =	257	K4_B =	3.55	K4_F =	3.41									

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: 5/8 " puddle weld or equivalent
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	5162	4527	4051	3680	3384	---	---	---	---	---	---	---	---	---	0.410		
		1	5502	4818	4305	3906	3587	3326	3109	---	---	---	---	---	---	---	0.344		
		2	5841	5109	4559	4132	3791	3511	3278	3081	2912	2766	2638	2524	2424	2334	2253	0.297	
		3	6180	5399	4814	4359	3994	3696	3448	3238	3057	2901	2765	2644	2537	2441	2355	0.261	
		4	6519	5690	5068	4585	4198	3881	3617	3394	3203	3037	2892	2764	2650	2548	2457	0.232	
		5	6858	5981	5323	4811	4401	4066	3787	3551	3348	3173	3019	2884	2763	2655	2558	0.210	
		6	7198	6272	5577	5037	4605	4251	3957	3707	3494	3308	3146	3003	2876	2763	2660	0.191	
		7	7537	6562	5832	5263	4808	4436	4126	3864	3639	3444	3274	3123	2989	2870	2762	0.175	
		8	7876	6853	6086	5489	5012	4621	4296	4020	3784	3580	3401	3243	3102	2977	2864	0.162	
	9	8215	7144	6340	5715	5215	4806	4465	4177	3930	3715	3528	3363	3215	3084	2966	0.151		
			K2 =	1398	K3 =		257	K4_B =		3.55	K4_F =		3.41						
	36/7	0	3422	3036	2746	2520	2340	---	---	---	---	---	---	---	---	---	0.615		
		1	3762	3326	3000	2746	2543	2377	---	---	---	---	---	---	---	---	0.478		
		2	4101	3617	3254	2972	2747	2562	2408	2278	2166	2070	1985	1910	1844	1785	1731	0.391	
		3	4440	3908	3509	3198	2950	2747	2578	2435	2312	2205	2112	2030	1957	1892	1833	0.330	
		4	4779	4199	3763	3425	3154	2932	2747	2591	2457	2341	2239	2150	2070	1999	1935	0.286	
		5	5118	4489	4018	3651	3357	3117	2917	2748	2602	2477	2367	2270	2183	2106	2036	0.253	
		6	5458	4780	4272	3877	3561	3302	3087	2904	2748	2612	2494	2389	2296	2213	2138	0.226	
7		5797	5071	4527	4103	3764	3487	3256	3061	2893	2748	2621	2509	2409	2320	2240	0.204		
8		6136	5362	4781	4329	3968	3672	3426	3217	3039	2884	2748	2629	2522	2427	2342	0.187		
9	6475	5653	5035	4555	4171	3857	3595	3374	3184	3019	2875	2748	2635	2534	2443	0.172			
		K2 =	1398	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/5	0	3229	2870	2601	2391	2224	---	---	---	---	---	---	---	---	---	0.739			
	1	3568	3161	2855	2617	2427	2272	2142	---	---	---	---	---	---	---	0.549			
	2	3907	3451	3109	2843	2631	2457	2311	2189	2083	1992	1912	1842	1779	1723	1673	0.437		
	3	4247	3742	3364	3070	2834	2642	2481	2345	2229	2128	2040	1962	1893	1831	1775	0.363		
	4	4586	4033	3618	3296	3038	2827	2651	2502	2374	2264	2167	2082	2006	1938	1877	0.310		
	5	4925	4324	3873	3522	3241	3012	2820	2658	2520	2399	2294	2201	2119	2045	1978	0.271		
	6	5264	4615	4127	3748	3445	3197	2990	2815	2665	2535	2421	2321	2232	2152	2080	0.241		
	7	5604	4905	4382	3974	3648	3382	3160	2972	2810	2671	2549	2441	2345	2259	2182	0.216		
	8	5943	5196	4636	4200	3852	3567	3329	3128	2956	2806	2676	2560	2458	2366	2284	0.196		
9	6282	5487	4890	4427	4055	3752	3499	3285	3101	2942	2803	2680	2571	2473	2385	0.180			
		K2 =	1398	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/4	0	2649	2373	2166	2004	1876	---	---	---	---	---	---	---	---	---	0.923			
	1	2988	2663	2420	2231	2079	1955	1852	---	---	---	---	---	---	---	0.645			
	2	3327	2954	2674	2457	2283	2140	2021	1921	1835	1760	1695	1637	1586	1540	1499	0.496		
	3	3667	3245	2929	2683	2486	2325	2191	2078	1980	1896	1822	1757	1699	1647	1601	0.403		
	4	4006	3536	3183	2909	2690	2510	2361	2234	2126	2032	1949	1877	1812	1755	1703	0.339		
	5	4345	3827	3438	3135	2893	2695	2530	2391	2271	2167	2077	1997	1925	1862	1804	0.293		
	6	4684	4117	3692	3361	3097	2880	2700	2547	2416	2303	2204	2116	2038	1969	1906	0.257		
	7	5024	4408	3947	3588	3300	3065	2870	2704	2562	2439	2331	2236	2152	2076	2008	0.230		
	8	5363	4699	4201	3814	3504	3250	3039	2860	2707	2574	2458	2356	2265	2183	2110	0.207		
9	5702	4990	4455	4040	3707	3435	3209	3017	2853	2710	2585	2475	2378	2290	2211	0.189			
		K2 =	1398	K3 =		257	K4_B =		3.55	K4_F =		3.41							
36/3	0	2456	2207	2021	1876	1760	---	---	---	---	---	---	---	---	---	1.231			
	1	2795	2498	2275	2102	1963	1850	1755	---	---	---	---	---	---	---	0.782			
	2	3134	2789	2529	2328	2167	2035	1925	1832	1752	1683	1622	1569	1522	1479	1441	0.573		
	3	3473	3079	2784	2554	2370	2220	2094	1988	1897	1819	1750	1689	1635	1586	1543	0.452		
	4	3813	3370	3038	2780	2574	2405	2264	2145	2043	1954	1877	1809	1748	1694	1645	0.373		
	5	4152	3661	3293	3006	2777	2590	2434	2301	2188	2090	2004	1928	1861	1801	1746	0.318		
	6	4491	3952	3547	3233	2981	2775	2603	2458	2334	2226	2131	2048	1974	1908	1848	0.277		
	7	4830	4242	3802	3459	3184	2960	2773	2615	2479	2361	2259	2168	2087	2015	1950	0.245		
	8	5169	4533	4056	3685	3388	3145	2942	2771	2624	2497	2386	2288	2200	2122	2052	0.220		
9	5509	4824	4310	3911	3591	3330	3112	2928	2770	2633	2513	2407	2313	2229	2153	0.199			
		K2 =	1398	K3 =		257	K4_B =		3.55	K4_F =		3.41							

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 22 (t = 0.0295 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	2286	2062	1893	1763	1658	---	---	---	---	---	---	---	---	---	0.366		
		1	2497	2243	2052	1903	1785	1687	1606	---	---	---	---	---	---	---	0.301		
		2	2708	2424	2210	2044	1911	1803	1712	1635	1570	1513	1463	1419	1380	1345	1313	0.255	
		3	2920	2605	2369	2185	2038	1918	1818	1733	1660	1597	1542	1493	1450	1412	1377	0.222	
		4	3131	2786	2527	2326	2165	2033	1923	1830	1751	1682	1621	1568	1521	1478	1440	0.196	
		5	3342	2967	2685	2466	2291	2148	2029	1928	1841	1766	1700	1642	1591	1545	1503	0.176	
		6	3553	3148	2844	2607	2418	2263	2134	2025	1932	1850	1780	1717	1661	1612	1567	0.159	
		7	3764	3329	3002	2748	2545	2378	2240	2123	2022	1935	1859	1791	1732	1678	1630	0.145	
		8	3975	3509	3160	2889	2671	2494	2345	2220	2113	2019	1938	1866	1802	1745	1693	0.134	
		9	4186	3690	3319	3029	2798	2609	2451	2317	2203	2104	2017	1941	1872	1812	1757	0.124	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/7	0	1672	1535	1433	1353	1289	---	---	---	---	---	---	---	---	---	0.549		
		1	1883	1716	1591	1494	1416	1352	1299	---	---	---	---	---	---	---	0.414		
		2	2094	1897	1749	1634	1543	1467	1405	1352	1306	1267	1232	1202	1175	1151	1129	0.333	
		3	2305	2078	1908	1775	1669	1582	1510	1449	1397	1351	1312	1277	1245	1217	1192	0.278	
		4	2516	2259	2066	1916	1796	1698	1616	1547	1487	1436	1391	1351	1316	1284	1256	0.239	
		5	2727	2440	2224	2057	1923	1813	1721	1644	1578	1520	1470	1426	1386	1351	1319	0.209	
		6	2938	2621	2383	2197	2049	1928	1827	1741	1668	1605	1549	1500	1456	1417	1382	0.186	
		7	3149	2802	2541	2338	2176	2043	1932	1839	1759	1689	1628	1575	1527	1484	1446	0.168	
		8	3361	2983	2699	2479	2303	2158	2038	1936	1849	1774	1707	1649	1597	1551	1509	0.152	
		9	3572	3164	2858	2620	2429	2273	2144	2034	1940	1858	1787	1724	1668	1617	1572	0.140	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/5	0	1603	1476	1381	1307	1248	---	---	---	---	---	---	---	---	---	0.659		
		1	1814	1657	1540	1448	1375	1315	1265	---	---	---	---	---	---	---	0.474		
		2	2026	1838	1698	1589	1502	1430	1371	1320	1277	1240	1207	1178	1152	1129	1109	0.370	
		3	2237	2019	1856	1730	1628	1545	1476	1418	1367	1324	1286	1252	1223	1196	1172	0.304	
		4	2448	2200	2015	1870	1755	1660	1582	1515	1458	1408	1365	1327	1293	1263	1235	0.257	
		5	2659	2381	2173	2011	1882	1776	1687	1612	1548	1493	1444	1401	1363	1329	1299	0.223	
		6	2870	2562	2331	2152	2008	1891	1793	1710	1639	1577	1523	1476	1434	1396	1362	0.197	
		7	3081	2743	2490	2293	2135	2006	1898	1807	1729	1662	1603	1550	1504	1463	1425	0.177	
		8	3292	2924	2648	2433	2262	2121	2004	1905	1820	1746	1682	1625	1574	1529	1489	0.160	
		9	3503	3105	2806	2574	2388	2236	2109	2002	1910	1831	1761	1699	1645	1596	1552	0.146	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/4	0	1398	1301	1228	1171	1125	---	---	---	---	---	---	---	---	---	0.823		
		1	1610	1482	1386	1312	1252	1203	1163	---	---	---	---	---	---	---	0.554		
		2	1821	1663	1544	1452	1379	1318	1268	1226	1189	1158	1130	1106	1084	1065	1047	0.417	
		3	2032	1844	1703	1593	1505	1433	1374	1323	1280	1242	1209	1180	1154	1131	1110	0.334	
		4	2243	2025	1861	1734	1632	1549	1479	1420	1370	1326	1288	1255	1225	1198	1174	0.279	
		5	2454	2206	2019	1875	1759	1664	1585	1518	1461	1411	1367	1329	1295	1265	1237	0.240	
		6	2665	2387	2178	2015	1885	1779	1690	1615	1551	1495	1447	1404	1365	1331	1300	0.210	
		7	2876	2568	2336	2156	2012	1894	1796	1713	1642	1580	1526	1478	1436	1398	1364	0.187	
		8	3087	2749	2494	2297	2139	2009	1901	1810	1732	1664	1605	1553	1506	1465	1427	0.168	
		9	3299	2930	2653	2438	2265	2124	2007	1908	1823	1749	1684	1627	1577	1531	1490	0.153	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/3	0	1330	1242	1176	1125	1084	---	---	---	---	---	---	---	---	---	1.098		
		1	1541	1423	1335	1266	1211	1166	1128	---	---	---	---	---	---	---	0.665		
		2	1752	1604	1493	1407	1338	1281	1234	1194	1160	1130	1104	1081	1061	1043	1027	0.477	
		3	1964	1785	1652	1548	1464	1396	1340	1292	1250	1215	1184	1156	1132	1110	1090	0.372	
		4	2175	1966	1810	1688	1591	1511	1445	1389	1341	1299	1263	1231	1202	1176	1153	0.305	
		5	2386	2147	1968	1829	1718	1627	1551	1486	1431	1384	1342	1305	1272	1243	1217	0.258	
		6	2597	2328	2127	1970	1844	1742	1656	1584	1522	1468	1421	1380	1343	1310	1280	0.224	
		7	2808	2509	2285	2111	1971	1857	1762	1681	1612	1553	1500	1454	1413	1376	1343	0.198	
		8	3019	2690	2443	2251	2098	1972	1867	1779	1703	1637	1579	1529	1483	1443	1407	0.177	
		9	3230	2871	2602	2392	2224	2087	1973	1876	1793	1721	1659	1603	1554	1510	1470	0.160	
		K2 =	870	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 20 (t = 0.0358 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	2622	2349	2145	1986	1859	---	---	---	---	---	---	---	---	---	0.403		
		1	2878	2569	2337	2157	2013	1895	1797	---	---	---	---	---	---	---	0.331		
		2	3134	2788	2529	2328	2167	2035	1925	1832	1752	1683	1622	1569	1522	1479	1441	0.281	
		3	3390	3008	2722	2499	2320	2174	2053	1950	1862	1785	1719	1660	1607	1560	1518	0.244	
		4	3646	3228	2914	2669	2474	2314	2181	2068	1972	1888	1815	1750	1693	1641	1595	0.216	
		5	3903	3447	3106	2840	2628	2454	2309	2187	2081	1990	1911	1840	1778	1722	1672	0.193	
		6	4159	3667	3298	3011	2782	2594	2437	2305	2191	2093	2007	1931	1863	1803	1749	0.175	
		7	4415	3887	3490	3182	2935	2733	2565	2423	2301	2195	2103	2021	1949	1884	1825	0.160	
		8	4671	4106	3682	3353	3089	2873	2693	2541	2411	2298	2199	2112	2034	1965	1902	0.147	
		9	4927	4326	3875	3524	3243	3013	2822	2660	2521	2400	2295	2202	2120	2046	1979	0.137	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/7	0	1876	1710	1586	1489	1412	---	---	---	---	---	---	---	---	---	0.605		
		1	2132	1930	1778	1660	1565	1488	1424	---	---	---	---	---	---	---	0.456		
		2	2388	2149	1970	1831	1719	1628	1552	1488	1432	1385	1343	1306	1273	1244	1217	0.366	
		3	2644	2369	2162	2001	1873	1768	1680	1606	1542	1487	1439	1396	1358	1325	1294	0.306	
		4	2901	2588	2354	2172	2027	1907	1808	1724	1652	1590	1535	1487	1444	1406	1371	0.263	
		5	3157	2808	2546	2343	2180	2047	1936	1842	1762	1692	1631	1577	1529	1486	1448	0.230	
		6	3413	3028	2739	2514	2334	2187	2064	1961	1872	1795	1727	1668	1615	1567	1525	0.205	
		7	3669	3247	2931	2685	2488	2327	2192	2079	1981	1897	1823	1758	1700	1648	1602	0.185	
		8	3925	3467	3123	2855	2641	2466	2320	2197	2091	2000	1919	1848	1786	1729	1679	0.168	
		9	4182	3686	3315	3026	2795	2606	2449	2315	2201	2102	2015	1939	1871	1810	1755	0.154	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/5	0	1793	1639	1524	1434	1362	---	---	---	---	---	---	---	---	---	0.726		
		1	2049	1859	1716	1605	1516	1443	1382	---	---	---	---	---	---	---	0.522		
		2	2305	2078	1908	1775	1669	1583	1510	1449	1397	1351	1312	1277	1245	1218	1192	0.408	
		3	2562	2298	2100	1946	1823	1722	1639	1568	1507	1454	1408	1367	1331	1298	1269	0.334	
		4	2818	2517	2292	2117	1977	1862	1767	1686	1616	1556	1504	1457	1416	1379	1346	0.283	
		5	3074	2737	2484	2288	2131	2002	1895	1804	1726	1659	1600	1548	1502	1460	1423	0.246	
		6	3330	2957	2676	2459	2284	2142	2023	1922	1836	1761	1696	1638	1587	1541	1500	0.217	
		7	3586	3176	2869	2629	2438	2281	2151	2041	1946	1864	1792	1729	1672	1622	1577	0.195	
		8	3843	3396	3061	2800	2592	2421	2279	2159	2056	1966	1888	1819	1758	1703	1654	0.176	
		9	4099	3615	3253	2971	2745	2561	2407	2277	2166	2069	1984	1910	1843	1784	1731	0.161	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/4	0	1544	1426	1337	1268	1213	---	---	---	---	---	---	---	---	---	0.907		
		1	1800	1645	1529	1439	1366	1307	1258	---	---	---	---	---	---	---	0.610		
		2	2057	1865	1721	1610	1520	1447	1386	1335	1290	1252	1218	1189	1163	1139	1118	0.459	
		3	2313	2085	1914	1780	1674	1587	1514	1453	1400	1354	1315	1279	1248	1220	1195	0.368	
		4	2569	2304	2106	1951	1828	1727	1642	1571	1510	1457	1411	1370	1333	1301	1272	0.307	
		5	2825	2524	2298	2122	1981	1866	1770	1689	1620	1559	1507	1460	1419	1382	1348	0.264	
		6	3082	2744	2490	2293	2135	2006	1899	1808	1730	1662	1603	1551	1504	1463	1425	0.231	
		7	3338	2963	2682	2464	2289	2146	2027	1926	1839	1764	1699	1641	1590	1544	1502	0.206	
		8	3594	3183	2874	2634	2443	2286	2155	2044	1949	1867	1795	1731	1675	1625	1579	0.185	
		9	3850	3402	3067	2805	2596	2425	2283	2162	2059	1969	1891	1822	1760	1705	1656	0.168	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										
	36/3	0	1461	1355	1275	1213	1163	---	---	---	---	---	---	---	---	---	1.209		
		1	1718	1574	1467	1384	1317	1262	1217	---	---	---	---	---	---	---	0.733		
		2	1974	1794	1659	1554	1470	1402	1345	1296	1255	1219	1187	1160	1135	1113	1093	0.526	
		3	2230	2014	1851	1725	1624	1542	1473	1415	1365	1321	1283	1250	1220	1194	1170	0.410	
		4	2486	2233	2044	1896	1778	1681	1601	1533	1474	1424	1380	1340	1306	1275	1247	0.336	
		5	2742	2453	2236	2067	1932	1821	1729	1651	1584	1526	1476	1431	1391	1356	1324	0.285	
		6	2999	2673	2428	2238	2085	1961	1857	1769	1694	1629	1572	1521	1477	1437	1400	0.247	
		7	3255	2892	2620	2408	2239	2101	1985	1888	1804	1731	1668	1612	1562	1517	1477	0.218	
		8	3511	3112	2812	2579	2393	2240	2113	2006	1914	1834	1764	1702	1647	1598	1554	0.195	
		9	3767	3331	3004	2750	2547	2380	2241	2124	2023	1936	1860	1793	1733	1679	1631	0.177	
		K2 =	1056	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE: 1.5 B,F
DECK GAGE: 18 (t = 0.0474 ")
SUPPORT FASTENERS: #12 screws
SIDELAP FASTENERS: #10 screws
 Φ (EQ): 0.50 Ω (EQ): 3.25
 Φ (WIND): 0.50 Ω (WIND): 3.25
 Φ (OTHER): 0.50 Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																
			SPAN, FT																
			3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	K1	
TYPE II INSULATING FILL	36/9	0	3239	2879	2608	2398	2230	---	---	---	---	---	---	---	---	---	0.464		
		1	3578	3169	2863	2624	2433	2277	2147	---	---	---	---	---	---	---	0.381		
		2	3918	3460	3117	2850	2637	2462	2317	2193	2088	1996	1916	1846	1783	1727	1676	0.324	
		3	4257	3751	3372	3076	2840	2647	2486	2350	2233	2132	2044	1965	1896	1834	1778	0.281	
		4	4596	4042	3626	3303	3044	2832	2656	2507	2379	2268	2171	2085	2009	1941	1880	0.248	
		5	4935	4332	3880	3529	3247	3017	2825	2663	2524	2403	2298	2205	2122	2048	1981	0.223	
		6	5275	4623	4135	3755	3451	3202	2995	2820	2669	2539	2425	2325	2235	2155	2083	0.202	
		7	5614	4914	4389	3981	3654	3387	3165	2976	2815	2675	2552	2444	2348	2262	2185	0.184	
		8	5953	5205	4644	4207	3858	3572	3334	3133	2960	2811	2680	2564	2461	2369	2287	0.170	
		9	6292	5496	4898	4433	4062	3757	3504	3289	3106	2946	2807	2684	2574	2477	2389	0.157	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/7	0	2252	2032	1868	1740	1637	---	---	---	---	---	---	---	---	---	0.696		
		1	2591	2323	2122	1966	1841	1738	1653	---	---	---	---	---	---	---	---	0.525	
		2	2930	2614	2376	2192	2044	1923	1823	1738	1665	1601	1546	1497	1454	1415	1380	0.422	
		3	3269	2905	2631	2418	2248	2109	1992	1894	1810	1737	1673	1617	1567	1522	1482	0.352	
		4	3609	3195	2885	2644	2451	2294	2162	2051	1955	1873	1800	1737	1680	1629	1583	0.303	
		5	3948	3486	3140	2870	2655	2479	2332	2207	2101	2008	1928	1856	1793	1736	1685	0.265	
		6	4287	3777	3394	3097	2858	2664	2501	2364	2246	2144	2055	1976	1906	1843	1787	0.236	
		7	4626	4068	3649	3323	3062	2849	2671	2521	2392	2280	2182	2096	2019	1951	1889	0.212	
		8	4966	4358	3903	3549	3266	3034	2841	2677	2537	2416	2309	2216	2132	2058	1991	0.193	
		9	5305	4649	4157	3775	3469	3219	3010	2834	2682	2551	2436	2335	2245	2165	2092	0.177	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/5	0	2142	1938	1785	1666	1571	---	---	---	---	---	---	---	---	---	0.835		
		1	2481	2229	2040	1893	1775	1679	1598	---	---	---	---	---	---	---	---	0.601	
		2	2820	2520	2294	2119	1978	1864	1768	1687	1618	1557	1505	1458	1417	1380	1347	0.469	
		3	3160	2810	2549	2345	2182	2049	1938	1844	1763	1693	1632	1578	1530	1487	1449	0.385	
		4	3499	3101	2803	2571	2386	2234	2107	2000	1908	1829	1759	1698	1643	1594	1551	0.326	
		5	3838	3392	3057	2797	2589	2419	2277	2157	2054	1965	1887	1818	1756	1702	1652	0.283	
		6	4177	3683	3312	3023	2793	2604	2446	2313	2199	2100	2014	1937	1869	1809	1754	0.250	
		7	4517	3974	3566	3250	2996	2789	2616	2470	2345	2236	2141	2057	1983	1916	1856	0.224	
		8	4856	4264	3821	3476	3200	2974	2786	2626	2490	2372	2268	2177	2096	2023	1958	0.203	
		9	5195	4555	4075	3702	3403	3159	2955	2783	2635	2507	2395	2297	2209	2130	2059	0.185	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/4	0	1813	1656	1538	1447	1374	---	---	---	---	---	---	---	---	---	1.044		
		1	2152	1947	1793	1673	1577	1499	1434	---	---	---	---	---	---	---	---	0.702	
		2	2491	2238	2047	1899	1781	1684	1603	1535	1477	1426	1381	1342	1307	1276	1248	0.528	
		3	2830	2528	2302	2125	1984	1869	1773	1692	1622	1562	1509	1462	1421	1383	1350	0.424	
		4	3170	2819	2556	2352	2188	2054	1943	1848	1767	1697	1636	1582	1534	1491	1452	0.354	
		5	3509	3110	2811	2578	2392	2239	2112	2005	1913	1833	1763	1701	1647	1598	1554	0.304	
		6	3848	3401	3065	2804	2595	2424	2282	2161	2058	1969	1890	1821	1760	1705	1655	0.266	
		7	4187	3691	3319	3030	2799	2609	2451	2318	2203	2104	2017	1941	1873	1812	1757	0.237	
		8	4527	3982	3574	3256	3002	2794	2621	2475	2349	2240	2145	2061	1986	1919	1859	0.213	
		9	4866	4273	3828	3482	3206	2979	2791	2631	2494	2376	2272	2180	2099	2026	1961	0.194	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										
TYPE II INSULATING FILL	36/3	0	1703	1562	1456	1374	1308	---	---	---	---	---	---	---	---	---	1.392		
		1	2042	1853	1711	1600	1512	1439	1379	---	---	---	---	---	---	---	---	0.843	
		2	2382	2144	1965	1826	1715	1624	1549	1484	1430	1382	1340	1304	1271	1242	1215	0.605	
		3	2721	2434	2219	2052	1919	1809	1718	1641	1575	1518	1467	1423	1384	1349	1317	0.472	
		4	3060	2725	2474	2278	2122	1994	1888	1798	1720	1653	1595	1543	1497	1456	1419	0.387	
		5	3399	3016	2728	2505	2326	2179	2057	1954	1866	1789	1722	1663	1610	1563	1521	0.327	
		6	3738	3307	2983	2731	2529	2364	2227	2111	2011	1925	1849	1782	1723	1670	1622	0.284	
		7	4078	3597	3237	2957	2733	2549	2397	2267	2156	2060	1976	1902	1836	1777	1724	0.251	
		8	4417	3888	3492	3183	2936	2734	2566	2424	2302	2196	2104	2022	1949	1884	1826	0.224	
		9	4756	4179	3746	3409	3140	2920	2736	2580	2447	2332	2231	2142	2062	1992	1928	0.203	
		K2 =	1398	K3	257	K4_B =	3.55	K4_F =	3.41										

IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

DECK TYPE:	0.6 Form (9/16" Std. Form Deck)	BARE		FILLED	
DECK GAGE:	28 (t = 0.0149")	Φ (EQ): 0.55	Ω (EQ): 3.00	Φ (EQ): 0.50	Ω (EQ): 3.25
SUPPORT FASTENERS:	16 ga. weld washer w/ 3/8" hole - E70	Φ (WIND): 0.70	Ω (WIND): 2.35	Φ (WIND): 0.50	Ω (WIND): 3.25
SIDELAP FASTENERS:	#10 screws	Φ (OTHER): 0.60	Ω (OTHER): 2.65	Φ (OTHER): 0.50	Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF											
			SPAN, FT											
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1
NO FILL (BARE DECK)	30/7	0	1879	1434	<u>1140</u>	<u>939</u>	<u>795</u>	<u>689</u>	<u>605</u>	<u>537</u>	<u>481</u>	---	---	0.414
		1	2007	1567	<u>1260</u>	<u>1045</u>	<u>889</u>	<u>771</u>	<u>681</u>	<u>608</u>	<u>545</u>	<u>494</u>	<u>452</u>	0.322
		2	2115	1686	<u>1372</u>	<u>1146</u>	<u>979</u>	<u>852</u>	<u>753</u>	<u>675</u>	<u>609</u>	<u>552</u>	<u>505</u>	0.263
		3	1966	1657	<u>1398</u>	<u>1194</u>	<u>1035</u>	<u>910</u>	<u>810</u>	<u>729</u>	<u>662</u>	<u>606</u>	<u>558</u>	0.222
		4	2020	1732	<u>1479</u>	<u>1274</u>	<u>1111</u>	<u>981</u>	<u>876</u>	<u>789</u>	<u>718</u>	<u>658</u>	<u>607</u>	0.193
			K2 =	440	K4 =	3.09	D_{0.6Form}		89					
	30/5	0	1382	1093	885	<u>737</u>	<u>628</u>	<u>546</u>	<u>483</u>	<u>428</u>	<u>384</u>	---	---	0.552
		1	1476	1202	991	<u>834</u>	<u>716</u>	<u>625</u>	<u>554</u>	<u>497</u>	<u>448</u>	<u>406</u>	<u>371</u>	0.399
		2	1549	1295	1086	<u>924</u>	<u>798</u>	<u>701</u>	<u>623</u>	<u>560</u>	<u>508</u>	<u>464</u>	<u>424</u>	0.313
		3	1607	1373	<u>1170</u>	<u>1006</u>	<u>876</u>	<u>773</u>	<u>689</u>	<u>621</u>	<u>565</u>	<u>517</u>	<u>477</u>	0.257
		4	1654	1440	<u>1245</u>	<u>1081</u>	<u>948</u>	<u>841</u>	<u>753</u>	<u>680</u>	<u>620</u>	<u>569</u>	<u>525</u>	0.218
			K2 =	440	K4 =	3.09	D_{0.6Form}		189					
30/4	0	1116	913	755	636	<u>547</u>	<u>478</u>	<u>424</u>	<u>379</u>	<u>339</u>	---	---	0.621	
	1	1185	1001	846	<u>724</u>	<u>628</u>	<u>552</u>	<u>492</u>	<u>443</u>	<u>402</u>	<u>365</u>	<u>334</u>	0.434	
	2	1235	1072	924	<u>801</u>	<u>702</u>	<u>622</u>	<u>556</u>	<u>502</u>	<u>458</u>	<u>420</u>	<u>387</u>	0.334	
	3	1272	1128	990	<u>870</u>	<u>769</u>	<u>686</u>	<u>617</u>	<u>559</u>	<u>511</u>	<u>470</u>	<u>434</u>	0.271	
	4	1300	1174	1046	<u>931</u>	<u>831</u>	<u>746</u>	<u>674</u>	<u>614</u>	<u>562</u>	<u>518</u>	<u>480</u>	0.228	
		K2 =	440	K4 =	3.09	D_{0.6Form}		305						
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	6678	6087	5791	5614	5496	5411	5348	5298	5259	---	---	0.621
		1	6998	6300	5951	5742	5602	5502	5428	5370	5323	5285	5253	0.434
		2	7318	6513	6111	5870	5709	5594	5508	5441	5387	5343	5307	0.334
		3	7638	6727	6271	5998	5815	5685	5588	5512	5451	5401	5360	0.271
		4	7958	6940	6431	6126	5922	5777	5668	5583	5515	5459	5413	0.228
		K2 =	440	K3 =	2377	K4 =		3.09						
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	5014	4423	4127	3950	3832	3747	3684	3635	3595	---	---	0.621
		1	5334	4636	4287	4078	3938	3839	3764	3706	3659	3621	3589	0.434
		2	5654	4850	4447	4206	4045	3930	3844	3777	3723	3679	3643	0.334
		3	5974	5063	4607	4334	4152	4022	3924	3848	3787	3738	3696	0.271
		4	6294	5276	4767	4462	4258	4113	4004	3919	3851	3796	3749	0.228
		K2 =	440	K3 =	2377	K4 =		3.09						
TYPE I INSULATING FILL	30/4	0	2221	1630	1334	1157	1038	954	891	841	802	---	---	0.621
		1	2541	1843	1494	1285	1145	1045	971	912	866	828	796	0.434
		2	2861	2056	1654	1413	1252	1137	1051	984	930	886	849	0.334
		3	3181	2270	1814	1541	1358	1228	1131	1055	994	944	903	0.271
		4	3501	2483	1974	1669	1465	1320	1211	1126	1058	1002	956	0.228
		K2 =	440	K3 =	257	K4 =		3.09						
TYPE II INSULATING FILL	30/4	0	2489	1898	1602	1425	1307	1222	1159	1110	1070	---	---	0.621
		1	2809	2111	1762	1553	1413	1314	1239	1181	1134	1096	1064	0.434
		2	3129	2325	1922	1681	1520	1405	1319	1252	1198	1154	1118	0.334
		3	3449	2538	2082	1809	1627	1497	1399	1323	1262	1213	1171	0.271
		4	3769	2751	2242	1937	1733	1588	1479	1394	1326	1271	1224	0.228
		K2 =	440	K3 =	257	K4 =		3.09						

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.011	4509	2004	1127	721	501	368	282	223	180	149	125

DECK TYPE:	0.6 Form (9/16" Std. Form Deck)	BARE		FILLED	
DECK GAGE:	26 (t = 0.0179")	Φ (EQ): 0.55	Ω (EQ): 3.00	Φ (EQ): 0.50	Ω (EQ): 3.25
SUPPORT FASTENERS:	16 ga. weld washer w/ 3/8" hole - E70	Φ (WIND): 0.70	Ω (WIND): 2.35	Φ (WIND): 0.50	Ω (WIND): 3.25
SIDLAP FASTENERS:	#10 screws	Φ (OTHER): 0.60	Ω (OTHER): 2.65	Φ (OTHER): 0.50	Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF											
			SPAN, FT											
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1
NO FILL (BARE DECK)	30/7	0	2432	1857	<u>1476</u>	<u>1215</u>	<u>1030</u>	<u>892</u>	<u>786</u>	<u>696</u>	<u>625</u>	---	---	0.454
		1	2587	2016	<u>1620</u>	<u>1343</u>	<u>1142</u>	<u>991</u>	<u>875</u>	<u>782</u>	<u>702</u>	<u>636</u>	<u>582</u>	0.353
		2	2719	2161	<u>1756</u>	<u>1465</u>	<u>1251</u>	<u>1088</u>	<u>962</u>	<u>861</u>	<u>779</u>	<u>706</u>	<u>646</u>	0.288
		3	2528	2122	<u>1785</u>	<u>1522</u>	<u>1318</u>	<u>1158</u>	<u>1030</u>	<u>926</u>	<u>841</u>	<u>769</u>	<u>709</u>	0.244
		4	2596	2216	<u>1886</u>	<u>1620</u>	<u>1411</u>	<u>1244</u>	<u>1109</u>	<u>1000</u>	<u>909</u>	<u>832</u>	<u>767</u>	0.211
			K2 =	528	K4 =	3.09	D_{0.6Form}		67					
	30/5	0	1789	1415	1146	<u>954</u>	<u>813</u>	<u>707</u>	<u>625</u>	<u>556</u>	<u>499</u>	---	---	0.605
		1	1903	1547	1273	<u>1071</u>	<u>919</u>	<u>802</u>	<u>711</u>	<u>637</u>	<u>575</u>	<u>521</u>	<u>476</u>	0.437
		2	1994	1660	1389	<u>1179</u>	<u>1019</u>	<u>893</u>	<u>794</u>	<u>713</u>	<u>647</u>	<u>591</u>	<u>541</u>	0.343
		3	2066	1757	<u>1492</u>	<u>1280</u>	<u>1113</u>	<u>981</u>	<u>874</u>	<u>787</u>	<u>715</u>	<u>655</u>	<u>604</u>	0.281
		4	2125	1841	<u>1585</u>	<u>1373</u>	<u>1202</u>	<u>1064</u>	<u>951</u>	<u>859</u>	<u>782</u>	<u>717</u>	<u>662</u>	0.239
			K2 =	528	K4 =	3.09	D_{0.6Form}		143					
30/4	0	1445	1182	977	824	<u>708</u>	<u>619</u>	<u>549</u>	<u>492</u>	<u>441</u>	---	---	0.681	
	1	1528	1289	1087	929	<u>805</u>	<u>708</u>	<u>630</u>	<u>567</u>	<u>515</u>	<u>469</u>	<u>429</u>	0.476	
	2	1590	1375	1183	<u>1024</u>	<u>895</u>	<u>792</u>	<u>708</u>	<u>640</u>	<u>582</u>	<u>534</u>	<u>493</u>	0.366	
	3	1637	1446	1265	<u>1108</u>	<u>978</u>	<u>871</u>	<u>782</u>	<u>709</u>	<u>647</u>	<u>594</u>	<u>549</u>	0.297	
	4	1673	1504	1335	<u>1183</u>	<u>1053</u>	<u>944</u>	<u>852</u>	<u>775</u>	<u>709</u>	<u>653</u>	<u>604</u>	0.250	
		K2 =	528	K4 =	3.09	D_{0.6Form}		232						
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	7201	6435	6052	5823	5670	5560	5478	5415	5364	---	---	0.681
		1	7585	6691	6245	5977	5798	5670	5574	5500	5440	5392	5351	0.476
		2	7969	6948	6437	6130	5926	5780	5671	5585	5517	5462	5415	0.366
		3	8354	7204	6629	6284	6054	5890	5767	5671	5594	5531	5479	0.297
		4	8738	7460	6821	6438	6182	6000	5863	5756	5671	5601	5543	0.250
		K2 =	528	K3 =	2377	K4 =		3.09						
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	5537	4771	4389	4159	4006	3897	3815	3751	3700	---	---	0.681
		1	5921	5028	4581	4313	4134	4006	3911	3836	3777	3728	3687	0.476
		2	6305	5284	4773	4466	4262	4116	4007	3922	3854	3798	3751	0.366
		3	6690	5540	4965	4620	4390	4226	4103	4007	3930	3868	3815	0.297
		4	7074	5796	5157	4774	4518	4336	4199	4092	4007	3938	3879	0.250
		K2 =	528	K3 =	2377	K4 =		3.09						
TYPE I INSULATING FILL	30/4	0	2743	1978	1595	1366	1213	1103	1021	957	906	---	---	0.681
		1	3128	2234	1787	1519	1341	1213	1117	1043	983	935	894	0.476
		2	3512	2490	1980	1673	1469	1323	1213	1128	1060	1004	958	0.366
		3	3896	2747	2172	1827	1597	1433	1310	1214	1137	1074	1022	0.297
		4	4281	3003	2364	1981	1725	1543	1406	1299	1214	1144	1086	0.250
		K2 =	528	K3 =	257	K4 =		3.09						
TYPE II INSULATING FILL	30/4	0	3012	2246	1864	1634	1481	1372	1290	1226	1175	---	---	0.681
		1	3396	2503	2056	1788	1609	1481	1386	1311	1252	1203	1162	0.476
		2	3780	2759	2248	1941	1737	1591	1482	1397	1329	1273	1226	0.366
		3	4165	3015	2440	2095	1865	1701	1578	1482	1405	1343	1290	0.297
		4	4549	3271	2632	2249	1993	1811	1674	1567	1482	1413	1354	0.250
		K2 =	528	K3 =	257	K4 =		3.09						

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.013	5865	2607	1466	938	652	479	367	290	235	194	163

DECK TYPE:	0.6 Form (9/16" Std. Form Deck)	BARE		FILLED	
DECK GAGE:	24 (t = 0.0239")	Φ (EQ): 0.55	Ω (EQ): 3.00	Φ (EQ): 0.50	Ω (EQ): 3.25
SUPPORT FASTENERS:	16 ga. weld washer w/ 3/8" hole - E70	Φ (WIND): 0.70	Ω (WIND): 2.35	Φ (WIND): 0.50	Ω (WIND): 3.25
SIDELAP FASTENERS:	#10 screws	Φ (OTHER): 0.60	Ω (OTHER): 2.65	Φ (OTHER): 0.50	Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF											
			SPAN, FT											
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1
NO FILL (BARE DECK)	30/7	0	3715	2837	2254	<u>1856</u>	<u>1573</u>	<u>1362</u>	<u>1200</u>	<u>1067</u>	<u>958</u>	---	---	0.524
		1	3923	3051	<u>2447</u>	<u>2027</u>	<u>1723</u>	<u>1495</u>	<u>1319</u>	<u>1179</u>	<u>1061</u>	<u>962</u>	<u>880</u>	0.407
		2	4105	3248	2631	2191	<u>1869</u>	<u>1625</u>	<u>1436</u>	<u>1285</u>	<u>1162</u>	<u>1056</u>	<u>966</u>	0.333
		3	3817	3183	<u>2666</u>	<u>2266</u>	<u>1958</u>	<u>1717</u>	<u>1526</u>	<u>1372</u>	<u>1245</u>	<u>1138</u>	<u>1048</u>	0.282
		4	3916	3315	<u>2805</u>	2401	<u>2084</u>	<u>1834</u>	<u>1634</u>	<u>1471</u>	<u>1336</u>	<u>1223</u>	<u>1127</u>	0.244
			K2 =	705	K4 =	3.09	D_{0.6Form}		44					
	30/5	0	2733	2161	1750	1457	<u>1243</u>	<u>1081</u>	<u>955</u>	<u>853</u>	<u>765</u>	---	---	0.699
		1	2887	2339	1921	<u>1614</u>	<u>1384</u>	<u>1208</u>	<u>1069</u>	<u>959</u>	<u>868</u>	<u>787</u>	<u>719</u>	0.506
		2	3013	2495	2079	1761	<u>1518</u>	<u>1330</u>	<u>1181</u>	<u>1061</u>	<u>962</u>	<u>879</u>	<u>805</u>	0.396
		3	3117	2631	2222	<u>1899</u>	<u>1647</u>	<u>1448</u>	<u>1289</u>	<u>1160</u>	<u>1054</u>	<u>964</u>	<u>889</u>	0.325
		4	3203	2750	<u>2352</u>	<u>2027</u>	<u>1768</u>	<u>1562</u>	<u>1394</u>	<u>1257</u>	<u>1144</u>	<u>1048</u>	<u>967</u>	0.276
			K2 =	705	K4 =	3.09	D_{0.6Form}		93					
30/4	0	2208	1806	1492	1258	<u>1081</u>	<u>945</u>	<u>838</u>	<u>752</u>	<u>678</u>	---	---	0.787	
	1	2320	1950	1641	1400	<u>1212</u>	<u>1065</u>	<u>948</u>	<u>852</u>	<u>774</u>	<u>707</u>	<u>646</u>	0.550	
	2	2408	2070	1772	<u>1529</u>	<u>1334</u>	<u>1179</u>	<u>1053</u>	<u>950</u>	<u>864</u>	<u>792</u>	<u>730</u>	0.422	
	3	2476	2171	1887	<u>1646</u>	<u>1448</u>	<u>1286</u>	<u>1153</u>	<u>1043</u>	<u>951</u>	<u>873</u>	<u>807</u>	0.343	
	4	2530	2255	1987	<u>1751</u>	<u>1552</u>	<u>1387</u>	<u>1249</u>	<u>1133</u>	<u>1036</u>	<u>952</u>	<u>881</u>	0.289	
		K2 =	705	K4 =	3.09	D_{0.6Form}		150						
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	8412	7243	6658	6307	6074	5906	5781	5684	5606	---	---	0.787
		1	8925	7585	6915	6513	6245	6053	5910	5798	5708	5635	5574	0.550
		2	9438	7927	7171	6718	6416	6200	6038	5912	5811	5729	5660	0.422
		3	9951	8269	7428	6923	6587	6346	6166	6026	5914	5822	5745	0.343
		4	10465	8611	7684	7128	6758	6493	6294	6140	6016	5915	5831	0.289
		K2 =	705	K3 =	2377	K4 =		3.09						
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	6748	5579	4994	4644	4410	4243	4117	4020	3942	---	---	0.787
		1	7261	5921	5251	4849	4581	4389	4246	4134	4045	3972	3911	0.550
		2	7774	6263	5507	5054	4752	4536	4374	4248	4147	4065	3996	0.422
		3	8288	6605	5764	5259	4923	4683	4502	4362	4250	4158	4082	0.343
		4	8801	6947	6021	5465	5094	4829	4631	4476	4353	4251	4167	0.289
		K2 =	705	K3 =	2377	K4 =		3.09						
TYPE I INSULATING FILL	30/4	0	3955	2786	2201	1850	1616	1449	1324	1227	1149	---	---	0.787
		1	4468	3128	2458	2056	1787	1596	1452	1341	1251	1178	1117	0.550
		2	4981	3470	2714	2261	1959	1743	1581	1455	1354	1272	1203	0.422
		3	5494	3812	2971	2466	2130	1889	1709	1569	1457	1365	1288	0.343
		4	6007	4154	3227	2671	2301	2036	1837	1683	1559	1458	1374	0.289
		K2 =	705	K3 =	257	K4 =		3.09						
TYPE II INSULATING FILL	30/4	0	4223	3054	2469	2119	1885	1718	1592	1495	1417	---	---	0.787
		1	4736	3396	2726	2324	2056	1864	1721	1609	1520	1447	1386	0.550
		2	5249	3738	2982	2529	2227	2011	1849	1723	1622	1540	1471	0.422
		3	5763	4080	3239	2734	2398	2158	1977	1837	1725	1633	1557	0.343
		4	6276	4422	3496	2940	2569	2304	2106	1951	1828	1726	1642	0.289
		K2 =	705	K3 =	257	K4 =		3.09						

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.018	9299	4133	2325	1488	1033	759	581	459	372	307	258

DECK TYPE: 0.6 Form (9/16" Std. Form Deck) **BARE**
DECK GAGE: 28 (t = 0.0149 ") Φ (EQ): 0.55 Ω (EQ): 3.00
SUPPORT FASTENERS: #12 screws Φ (WIND): 0.70 Ω (WIND): 2.35
SIDLAP FASTENERS: #10 screws Φ (OTHER): 0.60 Ω (OTHER): 2.65

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF													
			SPAN, FT													
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1		
NO FILL (BARE DECK)	30/7	0	1228	937	745	613	<u>520</u>	<u>450</u>	<u>396</u>	<u>351</u>	<u>314</u>	---	---	0.468		
		1	1350	1066	863	718	<u>612</u>	<u>532</u>	<u>470</u>	<u>421</u>	<u>378</u>	<u>343</u>	<u>314</u>	0.353		
		2	1445	1176	969	815	<u>700</u>	<u>611</u>	<u>542</u>	<u>486</u>	<u>440</u>	<u>401</u>	<u>367</u>	0.284		
		3	1338	1158	996	<u>862</u>	<u>754</u>	<u>667</u>	<u>597</u>	<u>539</u>	<u>490</u>	<u>450</u>	<u>415</u>	0.237		
		4	1377	1217	1064	<u>932</u>	<u>823</u>	<u>733</u>	<u>658</u>	<u>596</u>	<u>544</u>	<u>500</u>	<u>462</u>	0.204		
			K2 =	440		K4 =	3.09		D_{0.6Form}	89						
	30/5	0	903	714	578	481	411	357	<u>315</u>	<u>280</u>	<u>251</u>	---	---	0.624		
		1	991	819	681	576	497	<u>435</u>	<u>386</u>	<u>347</u>	<u>314</u>	<u>285</u>	<u>261</u>	0.435		
		2	1052	900	768	660	<u>575</u>	<u>508</u>	<u>453</u>	<u>408</u>	<u>371</u>	<u>340</u>	<u>314</u>	0.334		
		3	1095	963	839	<u>734</u>	<u>646</u>	<u>575</u>	<u>516</u>	<u>467</u>	<u>426</u>	<u>391</u>	<u>361</u>	0.271		
		4	1126	1012	899	<u>797</u>	<u>709</u>	<u>636</u>	<u>574</u>	<u>522</u>	<u>478</u>	<u>440</u>	<u>407</u>	0.228		
			K2 =	440		K4 =	3.09		D_{0.6Form}	189						
30/4	0	729	597	493	416	357	312	277	248	<u>222</u>	---	---	0.702			
	1	793	680	581	500	436	<u>385</u>	<u>344</u>	<u>310</u>	<u>282</u>	<u>258</u>	<u>236</u>	0.472			
	2	832	739	649	571	<u>505</u>	<u>451</u>	<u>406</u>	<u>368</u>	<u>336</u>	<u>309</u>	<u>286</u>	0.356			
	3	858	782	703	629	<u>564</u>	<u>509</u>	<u>461</u>	<u>421</u>	<u>386</u>	<u>356</u>	<u>330</u>	0.285			
	4	876	813	744	676	<u>614</u>	<u>559</u>	<u>511</u>	<u>469</u>	<u>433</u>	<u>401</u>	<u>373</u>	0.238			
		K2 =	440		K4 =	3.09		D_{0.6Form}	305							
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	6063	5677	5484	5368	5291	5235	5194	5162	5136	---	---	0.702		
		1	6383	5890	5644	5496	5397	5327	5274	5233	5200	5173	5151	0.472		
		2	6703	6103	5804	5624	5504	5418	5354	5304	5264	5231	5204	0.356		
		3	7023	6317	5964	5752	5611	5510	5434	5375	5328	5290	5257	0.285		
		4	7343	6530	6124	5880	5717	5601	5514	5446	5392	5348	5311	0.238		
		K2 =	440		K3 =	2377		K4 =	3.09							
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	4399	4013	3820	3704	3627	3572	3530	3498	3472	---	---	0.702		
		1	4719	4226	3980	3832	3733	3663	3610	3569	3536	3509	3487	0.472		
		2	5039	4440	4140	3960	3840	3754	3690	3640	3600	3568	3540	0.356		
		3	5359	4653	4300	4088	3947	3846	3770	3711	3664	3626	3594	0.285		
		4	5679	4866	4460	4216	4053	3937	3850	3782	3728	3684	3647	0.238		
		K2 =	440		K3 =	2377		K4 =	3.09							
TYPE I INSULATING FILL	30/4	0	1606	1220	1027	911	834	778	737	705	679	---	---	0.702		
		1	1926	1433	1187	1039	940	870	817	776	743	716	694	0.472		
		2	2246	1646	1347	1167	1047	961	897	847	807	774	747	0.356		
		3	2566	1860	1507	1295	1153	1053	977	918	871	832	800	0.285		
		4	2886	2073	1666	1423	1260	1144	1057	989	935	891	854	0.238		
		K2 =	440		K3 =	257		K4 =	3.09							
TYPE II INSULATING FILL	30/4	0	1874	1488	1295	1179	1102	1047	1005	973	947	---	---	0.702		
		1	2194	1701	1455	1307	1208	1138	1085	1044	1011	984	962	0.472		
		2	2514	1915	1615	1435	1315	1229	1165	1115	1075	1043	1015	0.356		
		3	2834	2128	1775	1563	1422	1321	1245	1186	1139	1101	1069	0.285		
		4	3154	2341	1935	1691	1528	1412	1325	1257	1203	1159	1122	0.238		
		K2 =	440		K3 =	257		K4 =	3.09							

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
 WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.011	4509	2004	1127	721	501	368	282	223	180	149	125

DECK TYPE:	0.6 Form (9/16" Std. Form Deck)	BARE		FILLED	
DECK GAGE:	26 (t = 0.0179")	Φ (EQ): 0.55	Ω (EQ): 3.00	Φ (EQ): 0.50	Ω (EQ): 3.25
SUPPORT FASTENERS:	#12 screws	Φ (WIND): 0.70	Ω (WIND): 2.35	Φ (WIND): 0.50	Ω (WIND): 3.25
SIDLAP FASTENERS:	#10 screws	Φ (OTHER): 0.60	Ω (OTHER): 2.65	Φ (OTHER): 0.50	Ω (OTHER): 3.25

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF											
			SPAN, FT											
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1
NO FILL (BARE DECK)	30/7	0	1475	1126	895	737	624	<u>541</u>	<u>476</u>	<u>422</u>	<u>379</u>	---	---	0.513
		1	1622	1281	1036	862	<u>735</u>	<u>639</u>	<u>565</u>	<u>505</u>	<u>456</u>	<u>413</u>	<u>378</u>	0.387
		2	1736	1413	1164	979	<u>841</u>	<u>734</u>	<u>651</u>	<u>583</u>	<u>528</u>	<u>483</u>	<u>442</u>	0.311
		3	1607	1391	1196	<u>1036</u>	<u>906</u>	<u>802</u>	<u>717</u>	<u>647</u>	<u>589</u>	<u>540</u>	<u>498</u>	0.260
		4	1654	1461	1278	<u>1120</u>	<u>988</u>	<u>880</u>	<u>791</u>	<u>716</u>	<u>654</u>	<u>601</u>	<u>555</u>	0.223
			K2 =	528		K4 =	3.09		D_{0.6Form}	67				
	30/5	0	1085	858	695	578	493	429	<u>379</u>	<u>337</u>	<u>302</u>	---	---	0.684
		1	1191	984	818	693	597	<u>523</u>	<u>464</u>	<u>416</u>	<u>378</u>	<u>344</u>	<u>314</u>	0.477
		2	1264	1081	922	793	<u>691</u>	<u>610</u>	<u>544</u>	<u>490</u>	<u>446</u>	<u>409</u>	<u>377</u>	0.366
		3	1316	1157	1008	881	<u>776</u>	<u>690</u>	<u>619</u>	<u>561</u>	<u>511</u>	<u>470</u>	<u>434</u>	0.297
		4	1353	1216	1080	<u>957</u>	<u>852</u>	<u>764</u>	<u>689</u>	<u>627</u>	<u>574</u>	<u>528</u>	<u>489</u>	0.250
			K2 =	528		K4 =	3.09		D_{0.6Form}	143				
30/4	0	876	717	592	499	429	375	333	298	267	---	---	0.770	
	1	952	817	698	601	524	463	<u>413</u>	<u>373</u>	<u>339</u>	<u>311</u>	<u>285</u>	0.517	
	2	1000	888	780	686	607	<u>542</u>	<u>487</u>	<u>442</u>	<u>404</u>	<u>371</u>	<u>343</u>	0.390	
	3	1031	939	844	756	<u>678</u>	<u>611</u>	<u>554</u>	<u>506</u>	<u>464</u>	<u>428</u>	<u>397</u>	0.313	
	4	1052	977	894	813	<u>738</u>	<u>672</u>	<u>614</u>	<u>564</u>	<u>520</u>	<u>482</u>	<u>448</u>	0.261	
		K2 =	528		K4 =	3.09		D_{0.6Form}	232					
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	6297	5832	5600	5461	5368	5302	5252	5214	5183	---	---	0.770
		1	6681	6089	5793	5615	5496	5412	5348	5299	5260	5227	5200	0.517
		2	7065	6345	5985	5769	5625	5522	5445	5385	5336	5297	5264	0.390
		3	7449	6601	6177	5922	5753	5632	5541	5470	5413	5367	5329	0.313
		4	7834	6857	6369	6076	5881	5741	5637	5555	5490	5437	5393	0.261
		K2 =	528		K3 =	2377		K4 =	3.09					
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	4633	4169	3937	3797	3705	3638	3589	3550	3519	---	---	0.770
		1	5017	4425	4129	3951	3833	3748	3685	3635	3596	3564	3537	0.517
		2	5401	4681	4321	4105	3961	3858	3781	3721	3673	3633	3601	0.390
		3	5786	4937	4513	4259	4089	3968	3877	3806	3750	3703	3665	0.313
		4	6170	5194	4705	4412	4217	4078	3973	3892	3826	3773	3729	0.261
		K2 =	528		K3 =	2377		K4 =	3.09					
TYPE I INSULATING FILL	30/4	0	1839	1375	1143	1004	911	845	795	757	726	---	---	0.770
		1	2224	1632	1335	1158	1039	955	891	842	803	770	743	0.517
		2	2608	1888	1528	1312	1168	1065	987	927	879	840	807	0.390
		3	2992	2144	1720	1465	1296	1174	1084	1013	956	910	871	0.313
		4	3377	2400	1912	1619	1424	1284	1180	1098	1033	980	935	0.261
		K2 =	528		K3 =	257		K4 =	3.09					
TYPE II INSULATING FILL	30/4	0	2108	1644	1412	1272	1180	1113	1064	1025	994	---	---	0.770
		1	2492	1900	1604	1426	1308	1223	1160	1110	1071	1039	1012	0.517
		2	2876	2156	1796	1580	1436	1333	1256	1196	1148	1108	1076	0.390
		3	3261	2412	1988	1734	1564	1443	1352	1281	1225	1178	1140	0.313
		4	3645	2669	2180	1887	1692	1553	1448	1367	1301	1248	1204	0.261
		K2 =	528		K3 =	257		K4 =	3.09					

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.013	5865	2607	1466	938	652	479	367	290	235	194	163

DECK TYPE:	0.6 Form (9/16" Std. Form Deck)	BARE				FILLED			
DECK GAGE:	24 (t = 0.0239")	Φ (EQ): 0.55		Ω (EQ): 3.00		Φ (EQ): 0.50		Ω (EQ): 3.25	
SUPPORT FASTENERS:	#12 screws	Φ (WIND): 0.70		Ω (WIND): 2.35		Φ (WIND): 0.50		Ω (WIND): 3.25	
SIDLAP FASTENERS:	#10 screws	Φ (OTHER): 0.60		Ω (OTHER): 2.65		Φ (OTHER): 0.50		Ω (OTHER): 3.25	

Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF												
			SPAN, FT												
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	K1	
NO FILL (BARE DECK)	30/7	0	1969	1503	1194	984	834	722	<u>636</u>	<u>566</u>	<u>508</u>	---	---	0.593	
		1	2165	1710	1384	1152	982	<u>854</u>	<u>754</u>	<u>675</u>	<u>610</u>	<u>554</u>	<u>507</u>	0.447	
		2	2317	1886	1554	1308	<u>1122</u>	<u>980</u>	<u>869</u>	<u>779</u>	<u>706</u>	<u>644</u>	<u>592</u>	0.359	
		3	2146	1857	1597	1383	<u>1210</u>	<u>1070</u>	<u>957</u>	<u>864</u>	<u>787</u>	<u>721</u>	<u>666</u>	0.300	
		4	2209	1951	1707	1495	<u>1320</u>	<u>1175</u>	<u>1056</u>	<u>956</u>	<u>873</u>	<u>802</u>	<u>741</u>	0.258	
			K2 =	705	K4 =	3.09	D_{0.6Form}		44						
	30/5	0	1448	1145	927	772	659	573	506	452	<u>406</u>	---	---	0.791	
		1	1590	1313	1093	925	797	698	<u>619</u>	<u>556</u>	<u>504</u>	<u>461</u>	<u>421</u>	0.552	
		2	1688	1444	1231	1059	923	<u>814</u>	<u>727</u>	<u>655</u>	<u>595</u>	<u>545</u>	<u>503</u>	0.423	
		3	1757	1545	1346	1177	<u>1036</u>	<u>922</u>	<u>827</u>	<u>749</u>	<u>683</u>	<u>627</u>	<u>579</u>	0.344	
		4	1807	1624	1442	1278	<u>1138</u>	<u>1020</u>	<u>921</u>	<u>837</u>	<u>766</u>	<u>705</u>	<u>653</u>	0.289	
			K2 =	705	K4 =	3.09	D_{0.6Form}		93						
30/4	0	1170	957	791	667	573	501	444	398	359	---	---	0.889		
	1	1271	1090	932	803	700	618	552	<u>498</u>	<u>452</u>	<u>415</u>	<u>382</u>	0.598		
	2	1335	1186	1042	916	811	723	<u>651</u>	<u>590</u>	<u>539</u>	<u>495</u>	<u>458</u>	0.450		
	3	1377	1254	1127	1009	905	<u>816</u>	<u>740</u>	<u>675</u>	<u>619</u>	<u>572</u>	<u>530</u>	0.361		
	4	1405	1304	1193	1085	986	<u>897</u>	<u>820</u>	<u>753</u>	<u>694</u>	<u>643</u>	<u>598</u>	0.301		
		K2 =	705	K4 =	3.09	D_{0.6Form}		150							
2 1/2" NW CONCRETE (ABOVE DECK)	30/4	0	6763	6144	5834	5648	5524	5435	5369	5317	5276	---	---	0.889	
		1	7276	6486	6090	5853	5695	5582	5497	5431	5379	5336	5300	0.598	
		2	7789	6828	6347	6058	5866	5729	5626	5545	5481	5429	5385	0.450	
		3	8303	7170	6603	6264	6037	5875	5754	5659	5584	5522	5471	0.361	
		4	8816	7512	6860	6469	6208	6022	5882	5774	5687	5615	5556	0.301	
		K2 =	705	K3 =	2377	K4 =		3.09							
2 1/2" LW CONCRETE (ABOVE DECK)	30/4	0	5099	4480	4170	3984	3860	3772	3705	3654	3612	---	---	0.889	
		1	5613	4822	4427	4189	4031	3918	3834	3768	3715	3672	3636	0.598	
		2	6126	5164	4683	4395	4202	4065	3962	3882	3818	3765	3721	0.450	
		3	6639	5506	4940	4600	4373	4211	4090	3996	3920	3858	3807	0.361	
		4	7152	5848	5196	4805	4544	4358	4218	4110	4023	3952	3892	0.301	
		K2 =	705	K3 =	2377	K4 =		3.09							
TYPE I INSULATING FILL	30/4	0	2306	1686	1377	1191	1067	978	912	860	819	---	---	0.889	
		1	2819	2029	1633	1396	1238	1125	1040	974	922	878	843	0.598	
		2	3332	2371	1890	1601	1409	1272	1169	1088	1024	972	928	0.450	
		3	3846	2713	2146	1807	1580	1418	1297	1202	1127	1065	1014	0.361	
		4	4359	3055	2403	2012	1751	1565	1425	1316	1230	1158	1099	0.301	
		K2 =	705	K3 =	257	K4 =		3.09							
TYPE II INSULATING FILL	30/4	0	2574	1955	1645	1459	1335	1247	1180	1129	1087	---	---	0.889	
		1	3088	2297	1902	1664	1506	1393	1309	1243	1190	1147	1111	0.598	
		2	3601	2639	2158	1870	1677	1540	1437	1357	1293	1240	1196	0.450	
		3	4114	2981	2415	2075	1848	1686	1565	1471	1395	1333	1282	0.361	
		4	4627	3323	2671	2280	2019	1833	1693	1585	1498	1427	1367	0.301	
		K2 =	705	K3 =	257	K4 =		3.09							

NOMINAL SHEAR DIAPHRAGM STRENGTH VALUES UNDERLINED ABOVE MAY BE CONTROLLED BY SHEAR BUCKLING. SEE TABLE BELOW.
WHEN FILLED DIAPHRAGMS ARE USED, IT MAY BE NECESSARY TO INCREASE THE NUMBER, OR STRENGTH, OF THE PERIMETER CONNECTIONS TO DEVELOP THE VALUES SHOWN IN THE TABLE. SEE SECTION 5.4 OF THE STEEL DECK INSTITUTE'S DIAPHRAGM DESIGN MANUAL - 3RD EDITION.

Φ (BUCKLING): 0.80 Ω (BUCKLING): 2.65

Type of Fill	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING (S _n), PLF / SPAN, FT										
			1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
No Fill	All	0.018	9299	4133	2325	1488	1033	759	581	459	372	307	258

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED				
DECK GAGE: 22 (t = 0.0295) $F_y = 50$ ksi			Φ_{df} (EQ): 0.55			Ω_{df} (EQ): 3.00			Φ_{df} (EQ): 0.50		Ω_{df} (EQ): 3.25		
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (WIND): 0.75			Ω_{df} (WIND): 2.15			Φ_{df} (WIND): 0.50		Ω_{df} (WIND): 3.25		
SIDELAP FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (OTHER): 0.55			Ω_{df} (OTHER): 3.00			Φ_{df} (OTHER): 0.50		Ω_{df} (OTHER): 3.25		
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF										
			SPAN, FT										
			4	5	6	7	8	9	10	11	12	K1	
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	760	600	---	---	---	---	---	---	---	---	0.728
		1	1110	930	800	---	---	---	---	---	---	---	0.358
		2	1375	1185	1035	910	815	730	---	---	---	---	0.237
		3	1565	1385	1230	1100	995	900	825	760	700	---	0.177
		4	1705	1540	1390	1260	1150	1050	970	895	830	---	0.142
		5	1810	1660	1525	1400	1285	1185	1095	1020	950	---	0.118
2" x 12" No Fill (BARE DECK)	36/4	0	745	580	---	---	---	---	---	---	---	---	0.728
		1	1110	930	785	---	---	---	---	---	---	---	0.358
		2	1375	1185	1035	910	815	730	---	---	---	---	0.237
		3	1565	1385	1230	1100	995	900	825	760	700	---	0.177
		4	1705	1540	1390	1260	1150	1050	970	895	830	---	0.142
		5	1810	1660	1525	1400	1285	1185	1095	1020	950	---	0.118
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	5720	5555	---	---	---	---	---	---	---	---	0.728
		1	6190	5930	5760	---	---	---	---	---	---	---	0.358
		2	6535	6310	6075	5905	5780	5685	---	---	---	---	0.237
		3	6535	6535	6390	6175	6015	5895	5795	5715	5645	---	0.177
		4	6535	6535	6535	6445	6250	6100	5980	5885	5800	---	0.142
		5	6535	6535	6535	6535	6490	6310	6170	6055	5960	---	0.118
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4280	4115	---	---	---	---	---	---	---	---	0.728
		1	4615	4490	4320	---	---	---	---	---	---	---	0.358
		2	4615	4615	4615	4465	4340	4245	---	---	---	---	0.237
		3	4615	4615	4615	4615	4575	4455	4355	4270	4205	---	0.177
		4	4615	4615	4615	4615	4615	4615	4615	4540	4445	4360	0.142
		5	4615	4615	4615	4615	4615	4615	4615	4615	4615	4520	0.118
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	6	4615	4615	4615	4615	4615	4615	4615	4615	4615	4615	0.101
		8	4615	4615	4615	4615	4615	4615	4615	4615	4615	4615	0.078

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5" x 6"	All	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	All	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

² Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nt}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
 LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nt}, \Phi_{db}S_{nb}\}$

³ Values for various manufacturer's fasteners available upon request.

⁴ E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED			
DECK GAGE: 20 (t = 0.0358) $F_y = 50$ ksi			Φ_{df} (EQ): 0.55			Ω_{df} (EQ): 3.00			Φ_{df} (EQ): 0.50		Ω_{df} (EQ): 3.25	
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (WIND): 0.75			Ω_{df} (WIND): 2.15			Φ_{df} (WIND): 0.50		Ω_{df} (WIND): 3.25	
SIDELAP FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (OTHER): 0.55			Ω_{df} (OTHER): 3.00			Φ_{df} (OTHER): 0.50		Ω_{df} (OTHER): 3.25	
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF									
			SPAN, FT									
			4	5	6	7	8	9	10	11	12	K1
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	1045	825	---	---	---	---	---	---	---	0.802
		1	1465	1225	1050	---	---	---	---	---	---	0.394
		2	1800	1540	1340	1180	1050	930	---	---	---	0.261
		3	2055	1800	1590	1415	1275	1155	1050	965	885	0.195
		4	2250	2010	1805	1625	1470	1340	1230	1135	1055	0.156
		5	2395	2180	1980	1805	1650	1515	1395	1295	1205	0.130
2" x 12" No Fill (BARE DECK)	36/4	0	1025	805	---	---	---	---	---	---	---	0.802
		1	1465	1225	1030	---	---	---	---	---	---	0.394
		2	1800	1540	1340	1180	1045	930	---	---	---	0.261
		3	2055	1800	1590	1415	1275	1155	1050	965	885	0.195
		4	2250	2010	1805	1625	1470	1340	1230	1135	1055	0.156
		5	2395	2180	1980	1805	1650	1515	1395	1295	1205	0.130
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	6020	5795	---	---	---	---	---	---	---	0.802
		1	6535	6250	6025	---	---	---	---	---	---	0.394
		2	6535	6535	6400	6185	6025	5900	---	---	---	0.261
		3	6535	6535	6535	6510	6310	6150	6025	5925	5840	0.195
		4	6535	6535	6535	6535	6535	6405	6255	6130	6030	0.156
		5	6535	6535	6535	6535	6535	6535	6480	6335	6215	0.130
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4580	4355	---	---	---	---	---	---	---	0.802
		1	4615	4615	4585	---	---	---	---	---	---	0.394
		2	4615	4615	4615	4615	4585	4460	---	---	---	0.261
		3	4615	4615	4615	4615	4615	4615	4585	4485	4400	0.195
		4	4615	4615	4615	4615	4615	4615	4615	4615	4590	0.156
		5	4615	4615	4615	4615	4615	4615	4615	4615	4615	0.130
		6	4615	4615	4615	4615	4615	4615	4615	4615	4615	0.111
		8	4615	4615	4615	4615	4615	4615	4615	4615	4615	0.086

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5"x 6"	All	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	All	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

² Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
 LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nf}, \Phi_{db}S_{nb}\}$

³ Values for various manufacturer's fasteners available upon request.

⁴ E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp.			BARE						FILLED				
DECK GAGE: 18 (t = 0.0474)			$F_y = 50 \text{ ksi}$						$\Phi_{df} \text{ (EQ): } 0.55$	$\Omega_{df} \text{ (EQ): } 3.00$	$\Phi_{df} \text{ (EQ): } 0.50$	$\Omega_{df} \text{ (EQ): } 3.25$	
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴									$\Phi_{df} \text{ (WIND): } 0.75$	$\Omega_{df} \text{ (WIND): } 2.15$	$\Phi_{df} \text{ (WIND): } 0.50$	$\Omega_{df} \text{ (WIND): } 3.25$	
SIDELAP FASTENERS ³ : 5/8" arc spot welds									$\Phi_{df} \text{ (OTHER): } 0.60$	$\Omega_{df} \text{ (OTHER): } 2.65$	$\Phi_{df} \text{ (OTHER): } 0.50$	$\Omega_{df} \text{ (OTHER): } 3.25$	
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF										
			SPAN, FT										
			5	6	7	8	9	10	11	12	13	K1	
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	1085	---	---	---	---	---	---	---	---	---	0.923
		1	1595	1360	---	---	---	---	---	---	---	---	0.454
		2	2005	1740	1530	1365	1220	---	---	---	---	---	0.301
		3	2340	2065	1840	1655	1495	1365	1255	1150	---	---	0.225
		4	2610	2340	2110	1910	1745	1600	1475	1365	1275	---	0.180
		5	2830	2570	2340	2140	1965	1810	1680	1560	1460	---	0.150
		6	3000	2760	2540	2340	2165	2005	1870	1745	1635	---	0.128
		8	3255	3050	2855	2670	2500	2345	2200	2070	1950	---	0.099
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	6060	---	---	---	---	---	---	---	---	---	0.923
		1	6535	6360	---	---	---	---	---	---	---	---	0.454
		2	6535	6535	6535	6360	6200	---	---	---	---	---	0.301
		3	6535	6535	6535	6535	6525	6365	6230	6120	---	---	0.225
		4	6535	6535	6535	6535	6535	6535	6495	6365	6250	---	0.180
		5	6535	6535	6535	6535	6535	6535	6535	6535	6475	---	0.150
		6	6535	6535	6535	6535	6535	6535	6535	6535	6535	---	0.128
		8	6535	6535	6535	6535	6535	6535	6535	6535	6535	---	0.099
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4615	---	---	---	---	---	---	---	---	---	0.923
		1	4615	4615	---	---	---	---	---	---	---	---	0.454
		2	4615	4615	4615	4615	4615	---	---	---	---	---	0.301
		3	4615	4615	4615	4615	4615	4615	4615	4615	---	---	0.225
		4	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.180
		5	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.150
		6	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.128
		8	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.099

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

$\Phi_{db} \text{ (BUCKLING): } 0.80$ $\Omega_{db} \text{ (BUCKLING): } 2.00$

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			5	6	7	8	9	10	11	12	13
1.5"x 6"	All	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680

²Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nl}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nl}, \Phi_{db}S_{nb}\}$

³Values for various manufacturer's fasteners available upon request.

⁴E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED				
DECK GAGE: 22 (t = 0.0295) $F_y = 50$ ksi			Φ_{df} (EQ): 0.55			Ω_{df} (EQ): 3.00			Φ_{df} (EQ): 0.50		Ω_{df} (EQ): 3.25		
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (WIND): 0.75			Ω_{df} (WIND): 2.15			Φ_{df} (WIND): 0.50		Ω_{df} (WIND): 3.25		
SIDELAP FASTENERS ³ : #10 screws			Φ_{df} (OTHER): 0.60			Ω_{df} (OTHER): 2.65			Φ_{df} (OTHER): 0.50		Ω_{df} (OTHER): 3.25		
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF										
			SPAN, FT										
			4	5	6	7	8	9	10	11	12	K1	
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	760	600	...	...	...	...	...	...	...	...	0.728
		1	885	720	590	...	...	...	...	...	...	...	0.509
		2	995	825	690	585	505	445	...	...	...	...	0.391
		3	1100	920	790	670	580	515	460	420	385	...	0.318
		4	1190	1005	865	755	655	580	520	475	435	...	0.267
		5	1275	1090	945	830	730	645	580	530	485	...	0.231
2" x 12" No Fill (BARE DECK)	36/4	0	745	580	...	...	...	...	...	...	...	...	0.728
		1	885	700	570	...	...	...	...	...	...	...	0.509
		2	995	820	670	575	500	445	...	...	...	...	0.391
		3	1100	920	770	660	575	515	460	420	385	...	0.318
		4	1190	1005	865	745	650	580	520	475	435	...	0.267
		5	1275	1090	945	830	730	645	580	530	485	...	0.231
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	5720	5555	...	...	...	...	...	...	...	...	0.728
		1	5870	5675	5545	...	...	...	...	...	...	...	0.509
		2	6020	5795	5645	5540	5460	5400	...	...	...	...	0.391
		3	6170	5915	5750	5625	5535	5465	5410	5365	5325	...	0.318
		4	6320	6040	5850	5715	5610	5535	5470	5420	5375	...	0.267
		5	6475	6160	5950	5800	5685	5600	5530	5475	5425	...	0.231
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4280	4115	...	...	...	...	...	...	...	...	0.728
		1	4430	4235	4105	...	...	...	...	...	...	...	0.509
		2	4580	4355	4205	4100	4020	3960	...	...	...	...	0.391
		3	4615	4475	4310	4185	4095	4025	3970	3925	3885	...	0.318
		4	4615	4595	4410	4275	4170	4095	4030	3980	3935	...	0.267
		5	4615	4615	4510	4360	4245	4160	4090	4035	3985	...	0.231
		6	4615	4615	4610	4445	4320	4225	4150	4085	4035	...	0.203
		8	4615	4615	4615	4615	4475	4360	4270	4195	4135	...	0.164

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5" x 6"	All	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	All	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

² Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nt}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
 LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nt}, \Phi_{db}S_{nb}\}$

³ Values for various manufacturer's fasteners available upon request.

⁴ E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED				
DECK GAGE: 20 (t = 0.0358) $F_y = 50$ ksi			Φ_{df} (EQ): 0.55			Ω_{df} (EQ): 3.00			Φ_{df} (EQ): 0.50		Ω_{df} (EQ): 3.25		
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴			Φ_{df} (WIND): 0.75			Ω_{df} (WIND): 2.15			Φ_{df} (WIND): 0.50		Ω_{df} (WIND): 3.25		
SIDELAP FASTENERS ³ : #10 screws			Φ_{df} (OTHER): 0.60			Ω_{df} (OTHER): 2.65			Φ_{df} (OTHER): 0.50		Ω_{df} (OTHER): 3.25		
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF										
			SPAN, FT										
			4	5	6	7	8	9	10	11	12	K1	
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	1045	825	...	...	...	...	...	...	...	...	0.802
		1	1205	985	810	...	...	...	...	...	...	...	0.561
		2	1355	1125	945	800	690	605	...	...	...	...	0.431
		3	1495	1250	1070	915	790	695	625	570	520	...	0.350
		4	1620	1370	1180	1030	895	785	705	640	590	...	0.294
		5	1735	1480	1280	1125	995	875	785	715	655	...	0.254
2" x 12" No Fill (BARE DECK)	36/4	0	1025	805	...	...	...	...	...	...	...	...	0.802
		1	1205	965	790	...	...	...	...	...	...	...	0.561
		2	1355	1125	920	780	680	605	...	...	...	...	0.431
		3	1495	1250	1055	895	785	695	625	570	520	...	0.350
		4	1620	1370	1180	1010	885	785	705	640	590	...	0.294
		5	1735	1480	1280	1125	985	875	785	715	655	...	0.254
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	6020	5795	...	...	...	...	...	...	...	...	0.802
		1	6220	5955	5780	...	...	...	...	...	...	...	0.561
		2	6420	6120	5915	5770	5660	5575	...	...	...	...	0.431
		3	6535	6280	6050	5885	5765	5665	5590	5530	5475	...	0.350
		4	6535	6440	6185	6000	5865	5755	5670	5600	5545	...	0.294
		5	6535	6535	6320	6115	5965	5845	5750	5675	5610	...	0.254
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4580	4355	...	...	...	...	...	...	...	...	0.802
		1	4615	4515	4340	...	...	...	...	...	...	...	0.561
		2	4615	4615	4475	4330	4220	4135	...	...	...	...	0.431
		3	4615	4615	4610	4445	4320	4225	4150	4090	4035	...	0.350
		4	4615	4615	4615	4560	4425	4315	4230	4160	4105	...	0.294
		5	4615	4615	4615	4615	4525	4405	4310	4235	4170	...	0.254
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	6	4615	4615	4615	4615	4615	4495	4390	4305	4235	...	0.224
		8	4615	4615	4615	4615	4615	4615	4555	4455	4370	...	0.180

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5"x 6"	All	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	All	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

² Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nt}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nt}, \Phi_{db}S_{nb}\}$

³ Values for various manufacturer's fasteners available upon request.

⁴ E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp.			BARE					FILLED														
DECK GAGE: 18 (t = 0.0474)			$F_y = 50 \text{ ksi}$					$\Phi_{df} \text{ (EQ): } 0.55$					$\Omega_{df} \text{ (EQ): } 3.00$									
SUPPORT FASTENERS ³ : 5/8" arc spot welds ⁴			$\Phi_{df} \text{ (WIND): } 0.75$					$\Omega_{df} \text{ (WIND): } 2.15$					$\Phi_{df} \text{ (EQ): } 0.50$					$\Omega_{df} \text{ (EQ): } 3.25$				
SIDELAP FASTENERS ³ : 5/8" arc spot welds			$\Phi_{df} \text{ (OTHER): } 0.60$					$\Omega_{df} \text{ (OTHER): } 2.65$					$\Phi_{df} \text{ (WIND): } 0.50$					$\Omega_{df} \text{ (WIND): } 3.25$				
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																			
			SPAN, FT																			
			5	6	7	8	9	10	11	12	13	K1										
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	1085	---	---	---	---	---	---	---	---	---	0.923									
		1	1595	1360	---	---	---	---	---	---	---	---	0.454									
		2	2005	1740	1530	1365	1220	---	---	---	---	---	0.301									
		3	2340	2065	1840	1655	1495	1365	1255	1150	---	---	0.225									
		4	2610	2340	2110	1910	1745	1600	1475	1365	1275	---	0.180									
		5	2830	2570	2340	2140	1965	1810	1680	1560	1460	---	0.150									
		6	3000	2760	2540	2340	2165	2005	1870	1745	1635	---	0.128									
		8	3255	3050	2855	2670	2500	2345	2200	2070	1950	---	0.099									
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	6060	---	---	---	---	---	---	---	---	---	0.923									
		1	6535	6360	---	---	---	---	---	---	---	---	0.454									
		2	6535	6535	6535	6360	6200	---	---	---	---	---	0.301									
		3	6535	6535	6535	6535	6525	6365	6230	6120	---	---	0.225									
		4	6535	6535	6535	6535	6535	6535	6495	6365	6250	---	0.180									
		5	6535	6535	6535	6535	6535	6535	6535	6535	6475	---	0.150									
		6	6535	6535	6535	6535	6535	6535	6535	6535	6535	---	0.128									
		8	6535	6535	6535	6535	6535	6535	6535	6535	6535	---	0.099									
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	4615	---	---	---	---	---	---	---	---	---	0.923									
		1	4615	4615	---	---	---	---	---	---	---	---	0.454									
		2	4615	4615	4615	4615	4615	---	---	---	---	---	0.301									
		3	4615	4615	4615	4615	4615	4615	4615	4615	---	---	0.225									
		4	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.180									
		5	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.150									
		6	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.128									
		8	4615	4615	4615	4615	4615	4615	4615	4615	4615	---	0.099									

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

$\Phi_{db} \text{ (BUCKLING): } 0.80$ $\Omega_{db} \text{ (BUCKLING): } 2.00$

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S _{nb}), plf									
			5	6	7	8	9	10	11	12	13	
1.5"x 6"	All	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680	

²Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum { S_{nl}/Ω_{df} , S_{nb}/Ω_{db} }
LRFD Required Strength (Factored Applied Load) \leq Minimum { $\Phi_{df}S_{nl}$, $\Phi_{db}S_{nb}$ }

³Values for various manufacturer's fasteners available upon request.

⁴E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED							
DECK GAGE: 22 (t = 0.0295)			F _y = 50 ksi						Φ _{df} (EQ): 0.70		Ω _{df} (EQ): 2.30		Φ _{df} (EQ): 0.50		Ω _{df} (EQ): 3.25	
SUPPORT FASTENERS ³ : #12 screws			Φ _{df} (WIND): 0.80						Ω _{df} (WIND): 2.00		Φ _{df} (WIND): 0.50		Ω _{df} (WIND): 3.25			
SIDELAP FASTENERS ³ : #10 screws			Φ _{df} (OTHER): 0.70						Ω _{df} (OTHER): 2.30		Φ _{df} (OTHER): 0.50		Ω _{df} (OTHER): 3.25			
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF													
			SPAN, FT													
			4	5	6	7	8	9	10	11	12	K1				
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	385	300	...	...	...	...	...	...	...	...	0.823
		1	500	415	345	...	...	...	...	...	...	...	0.554
		2	600	505	435	380	330	290	...	...	...	...	0.417
		3	680	585	510	450	400	360	320	320	270	...	0.334			
		4	750	655	575	515	460	415	380	345	320	...	0.279			
		5	805	715	635	570	515	470	430	395	365	...	0.240			
2" x 12" No Fill (BARE DECK)	36/4	0	375	295	...	...	...	...	...	...	...	...	0.823
		1	500	415	340	...	...	...	...	...	...	...	0.554
		2	600	505	435	375	325	290	...	...	...	...	0.417
		3	680	585	510	450	400	360	320	290	270	...	0.334			
		4	750	655	575	515	460	415	380	345	320	...	0.279			
		5	805	715	635	570	515	470	430	395	365	...	0.240			
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	5315	5235	...	...	...	...	...	...	...	...	0.823
		1	5465	5355	5280	...	...	...	...	...	...	...	0.554
		2	5615	5475	5380	5310	5260	5220	...	...	...	...	0.417
		3	5770	5595	5480	5395	5335	5285	5250	5215	5190	...	0.334			
		4	5920	5715	5580	5485	5410	5355	5310	5270	5240	...	0.279			
		5	6070	5835	5680	5570	5485	5420	5370	5325	5290	...	0.240			
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	3875	3795	...	...	...	...	...	...	...	...	0.823
		1	4025	3915	3840	...	...	...	...	...	...	...	0.554
		2	4175	4035	3940	3870	3820	3780	...	...	...	...	0.417
		3	4330	4155	4040	3955	3895	3845	3810	3775	3750	...	0.334			
		4	4480	4275	4140	4045	3970	3915	3870	3830	3800	...	0.279			
		5	4615	4395	4240	4130	4045	3980	3930	3885	3850	...	0.240			
		6	4615	4515	4340	4215	4120	4050	3990	3940	3900	...	0.210			
		8	4615	4615	4540	4385	4270	4180	4110	4050	4000	...	0.168			

411

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S _{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5" x 6"	All	0.173	8715	5575	3870	2845	2175	1720	1390	1150	965
2" x 12"	All	0.296	13440	8600	5970	4385	3360	2655	2150	1775	1490

² Design Strength: ASD Required Strength (Service Applied Load) <= Minimum {S_{nt}/Ω_{df}, S_{nb}/Ω_{db}}
LRFD Required Strength (Factored Applied Load) <= Minimum {Φ_{df}S_{nt}, Φ_{db}S_{nb}}

³ Values for various manufacturer's fasteners available upon request.

⁴ E60XX electrodes assumed for welds.

DECK TYPE: 1.5 Form, 1.5 Comp., 2.0 Form, 2.0 Comp.			BARE						FILLED				
DECK GAGE: 20 (t = 0.0358) $F_y = 50$ ksi			Φ_{df} (EQ): 0.70			Ω_{df} (EQ): 2.30			Φ_{df} (EQ): 0.50		Ω_{df} (EQ): 3.25		
SUPPORT FASTENERS ² : #12 screws			Φ_{df} (WIND): 0.80			Ω_{df} (WIND): 2.00			Φ_{df} (WIND): 0.50		Ω_{df} (WIND): 3.25		
SIDELAP FASTENERS ³ : #10 screws			Φ_{df} (OTHER): 0.70			Ω_{df} (OTHER): 2.30			Φ_{df} (OTHER): 0.50		Ω_{df} (OTHER): 3.25		
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH ^{1,2} , PLF										
			SPAN, FT										
			4	5	6	7	8	9	10	11	12	K1	
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	470	370	...	...	...	...	...	...	...	...	0.907
		1	625	520	435	...	...	...	...	...	...	...	0.610
		2	750	635	550	480	420	370	...	...	...	...	0.459
		3	855	740	645	570	510	460	415	375	345	...	0.368
		4	940	825	730	650	585	530	485	445	410	...	0.307
		5	1005	900	805	725	655	600	550	505	470	...	0.264
2" x 12" No Fill (BARE DECK)	36/4	0	460	360	...	...	...	...	...	...	...	...	0.907
		1	625	520	425	...	...	...	...	...	...	...	0.610
		2	750	635	550	475	415	370	...	...	...	...	0.459
		3	855	740	645	570	510	460	415	375	345	...	0.368
		4	940	825	730	650	585	530	485	445	410	...	0.307
		5	1005	900	805	725	655	600	550	505	470	...	0.264
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	5405	5305	...	...	...	...	...	...	...	...	0.907
		1	5605	5465	5370	...	...	...	...	...	...	...	0.610
		2	5810	5625	5505	5420	5355	5305	...	...	...	...	0.459
		3	6010	5790	5640	5535	5455	5395	5345	5305	5270	...	0.368
		4	6210	5950	5775	5650	5555	5485	5425	5380	5340	...	0.307
		5	6410	6110	5910	5765	5655	5575	5505	5450	5405	...	0.264
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	3965	3865	...	...	...	...	...	...	...	...	0.907
		1	4165	4025	3930	...	...	...	...	...	...	...	0.610
		2	4365	4185	4065	3980	3915	3865	...	...	...	...	0.459
		3	4570	4345	4200	4095	4015	3955	3905	3865	3830	...	0.368
		4	4615	4510	4335	4210	4115	4045	3985	3935	3900	...	0.307
		5	4615	4615	4470	4325	4215	4135	4065	4010	3965	...	0.264
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	6	4615	4615	4605	4440	4315	4220	4145	4085	4030	...	0.231
		8	4615	4615	4615	4615	4520	4400	4305	4230	4165	...	0.185

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

Φ_{db} (BUCKLING): 0.80 Ω_{db} (BUCKLING): 2.00

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			4	5	6	7	8	9	10	11	12
1.5"x 6"	All	0.210	11660	7465	5180	3805	2915	2300	1865	1540	1295
2" x 12"	All	0.377	18610	11910	8270	6075	4650	3675	2975	2460	2065

² Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nt}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
 LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nt}, \Phi_{db}S_{nb}\}$

³ Values for various manufacturer's fasteners available upon request.

DECK TYPE: 1.5 Form, 1.5 Comp.			BARE						FILLED											
DECK GAGE: 18 (t = 0.0474)			$F_y = 50 \text{ ksi}$						$\Phi_{df} \text{ (EQ): } 0.70$				$\Omega_{df} \text{ (EQ): } 2.30$							
SUPPORT FASTENERS ³ : #12 screws			$\Phi_{df} \text{ (WIND): } 0.80$						$\Omega_{df} \text{ (WIND): } 2.00$				$\Phi_{df} \text{ (EQ): } 0.50$				$\Omega_{df} \text{ (EQ): } 3.25$			
SIDELAP FASTENERS ³ : #10 screws			$\Phi_{df} \text{ (OTHER): } 0.70$						$\Omega_{df} \text{ (OTHER): } 2.30$				$\Phi_{df} \text{ (WIND): } 0.50$				$\Omega_{df} \text{ (WIND): } 3.25$			
Type of Fill	Fastener Layout	Sidelap Connectors per Span	NOMINAL SHEAR DIAPHRAGM STRENGTH, PLF																	
			SPAN, FT																	
			5	6	7	8	9	10	11	12	13	K1								
1 1/2" x 6" No Fill (BARE DECK)	36/4	0	495	...	...	...	...	...	...	...	...	...	...	1.044
		1	710	605	...	...	...	...	...	...	...	...	...	0.702
		2	885	770	675	600	530	...	...	...	...	...	...	0.528
		3	1035	910	805	725	655	595	540	495	...	...	...	0.424			
		4	1155	1030	925	835	760	695	640	595	550	...	...	0.354				
		5	1255	1135	1030	935	855	790	730	675	630	...	...	0.304				
2 1/2" NW CONCRETE (ABOVE DECK)	36/4	0	5435	...	...	...	...	...	...	...	...	...	...	1.044
		1	5680	5550	...	...	...	...	...	...	...	...	...	0.702
		2	5925	5755	5635	5540	5470	...	...	...	...	...	...	0.528
		3	6170	5960	5810	5695	5605	5535	5480	5430	...	...	...	0.424			
		4	6415	6165	5985	5850	5745	5660	5590	5535	5485	...	...	0.354				
		5	6535	6370	6160	6000	5880	5780	5700	5635	5580	...	...	0.304				
2 1/2" LW CONCRETE (ABOVE DECK)	36/4	0	3995	...	...	...	...	...	...	...	...	...	...	1.044
		1	4240	4110	...	...	...	...	...	...	...	...	...	0.702
		2	4485	4315	4195	4100	4030	...	...	...	...	...	...	0.528
		3	4615	4520	4370	4255	4165	4095	4040	3990	...	...	...	0.424			
		4	4615	4615	4545	4410	4305	4220	4150	4095	4045	...	...	0.354				
		5	4615	4615	4615	4560	4440	4340	4260	4195	4140	...	...	0.304				
		6	4615	4615	4615	4615	4575	4465	4375	4295	4235	...	0.266							
		8	4615	4615	4615	4615	4615	4615	4615	4595	4500	4420	...	0.213						

¹Nominal shear strength of bare deck shown above may be limited by shear buckling. See Table below.

$\Phi_{db} \text{ (BUCKLING): } 0.80$ $\Omega_{db} \text{ (BUCKLING): } 2.00$

Deck Profile	Fastener Layout	I in ⁴ /ft	NOMINAL SHEAR DUE TO PANEL BUCKLING ² (S_{nb}), plf								
			5	6	7	8	9	10	11	12	13
1.5"x 6"	All	0.279	11385	7905	5810	4445	3515	2845	2350	1975	1680

²Design Strength: ASD Required Strength (Service Applied Load) \leq Minimum $\{S_{nf}/\Omega_{df}, S_{nb}/\Omega_{db}\}$
LRFD Required Strength (Factored Applied Load) \leq Minimum $\{\Phi_{df}S_{nf}, \Phi_{db}S_{nb}\}$

³Values for various manufacturer's fasteners available upon request.

