ARIZONA DEPARTMENT OF TRANSPORTATION

REPORT NUMBER: AZ92-377-II

CONSTRUCTION REPORT FOR ARIZONA'S SHRP SPS-4 EXPERIMENT

Appendices

Prepared by:
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Edward J. Elnicky, P.E.
Western Technologies, Inc.
P.O. Box 21387
3737 East Broadway
Phoenix, Arizona 85036

377-11

August 1992

Prepared for:
Arizona Department of Transportation
206 South 17th Avenue
Phoenix, Arizona 85007
in cooperation with
U.S. Department of Transportation
Federal Highway Administration

The contents of the report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Arizona Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation. Trade or manufacturers' names which may appear herein are cited only because they are considered essential to the objectives of the report. The U.S. Government and The State of Arizona do not endorse products or manufacturers.

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LIST OF TABLES

APPENDIX A

Change Order No. 19

(2)

B

BALL, BALL AND BROSAMER, INC.
GENERAL ENGINEERING CONTRACTORS
CALIFORNIA STATE CONTRACTORS
LICENSE NO. 302008

POST OFFICE BOX 100
DANVILLE, CALIFORNIA 9452
TELEPHONE (415) 837-023
TELEX NO. 910389402

Job 131
February 11, 1991

REF:131-02-132

PLEASE REPLY TO
P.O. Box 870
Apache Jct.,AZ
85217-0870

Arizona Department of Transportation
1540 S. Recker Road
Mesa, AZ 85206

Attention: Mr. Michael Loo - Acting Resident Engineer

Subject: Superstition Freeway / Power Rd. - U.S. 60
Contract # F-028-1-514
SEALANT RESEARCH TEST SECTION, C.O. #19

Gentlemen:

We hereby submit our cost proposal for the Sealant Research Test Section. the total cost for Change Order No. 19 is $25,620.60 Lump Sum. A detailed cost analysis is attached.

Please contact us if you have any questions. Time is of the essence. Our paving progress has already moved into this test area on February 9, 1991.

If you have any questions please contact our field office at (602) 983-5141.

Very truly yours,
Ball, Ball and Brosamer, Inc.

John Pologar
Project Manager

JP/pc
cc: Danville
File job 131
Enclosure

RECEIVED
FEB 13 1991
AZ DEPT. OF TRANSPTN.
ORG. 4149

AUDIT FED OFF #4149   TEL:602-830-3921   Feb 13,91 14:24 No.002 P.06

(3)

PROJECT NUMBER: F-028-1-514   BALL, BALL, & BROSAMER JOB NUMBER: 131   CHANGE ORDER NUMBER: 19

DESCRIPTION: ADDITIONAL COSTS TO PROVIDE AND INSTALL 11 NAME BRAND PRODUCTS IN 24 TEST SECTIONS   DATE: 11-Feb-91

DESCRIPTION	LE	QUANT/ ST HRS	UNIT/ OT HRS	MATERIAL UNIT PRICE	MATERIAL EXTENDED	LABOR RATE	LABOR EXTENDED	EQUIP. RATE	EQUIPMENT EXTENDED	SUBCONTRACT	TOTALS
TOTAL NUMBER OF UNITS:		57300 LF									
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
MATERIAL					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00	$13,471.07	
LABOR					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00	$4,554.12	
EQUIPMENT					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00	$1,329.81	
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
SUBTOTALS					$0.00		$0.00		$0.00	$19,355.00	$19,355.00
LABOR BURDEN	%				XXXXXX		$0.00		XXXXXX	XXXXXX	$0.00
SUBTOTALS					$0.00		$0.00		$0.00	$19,355.00	$19,355.00
OVERHEAD & PROFIT	%%				$0.00		$0.00		XXXXXX	$2,903.25	$2,903.25
SUBTOTALS (L,E & M)					$0.00		$0.00		$0.00	$24,484.06	$24,484.08
BUSINESS TAXES	%										$1,034.45
SUBTOTAL											$25,518.53
CONTRACT BOND	%										$102.07
										GRAND TOTAL	$25,620.60

CO-19.WK1   UNIT PRICE $0.447

CONCRETE SAWING AND SEALING

(4)

MULTIPLE CONCRETE ENTERPRISES

February 7, 1991

John Pologar
Ball, Ball & Brosamer
P.O. Box 870
Apache Jct., AZ 85217-0870

Dear John:

Enclosed you will find the revised change order #19 on the Superstition freeway test sections. Please disregard the others, sent to you previously.

Thanks,

Var

Var Stephens

Proposal

(5)

MULTIPLE CONCRETE ENTERPRISES
P.O. BOX 628
LAYTON, UTAH 84041
PHONE 544-2693 or 355-0189 (SLC)

PROPOSAL SUBMITTED TO	PHONE	DATE
Ball, Ball & Brosamer		2-7-91
STREET	**JOB NAME**	
P.O. Box 870	Superstition Freeway -	
CITY, STATE AND ZIP CODE	**JOB LOCATION**	
Apache Jct., AZ 85217-0870	Test Sections	
ARCHITECT / **DATE OF PLANS**		**JOB PHONE**
C/O John Pologar		

We hereby submit specifications and estimates for:

CHANGE ORDER #19

To install ~~11~~ 9 brand name products in 24 test sections.

Additional material costs to be incurred (see attachments)	$10,282.00
Additional labor costs to be incurred	3,476.00
Additional Equipment costs to be incurred	1,015.00
Mark up	4,582.00
Total:	$19,355.00

Estimated 57,300 L/F of joint involved

19,355 ÷ 57,300 L/F = .34¢ L/F

AN EQUAL OPPORTUNITY EMPLOYER

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature

Note: This proposal may be withdrawn by us if not accepted within ____ days.

Acceptance of Proposal — The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature

Date of Acceptance:

Signature

A-4

(6)

Superstition Change Order #19

MATERIALS

Compression Seal D. S. Brown V-687					
Approx.	3,000 L/F	@ .62	=		1,860.00
Lubricant	10 gal	@ 12.00 gal	=		120.00
Compression Seal Elastomer PV687					
Approx.	3,000 L/F	@ .58	=		1,740.00
Lubricant	10 gal	@ 11.80	=		118.00
Freight on Lube		45.00	=		45.00
Mobay 960 S.L.					
Waste & test			9 gal		
Approx. trans	1500' 3/8" x 3/8"		12 gal		
Approx. long.	1350' 1/2" x 1/2"		19 gal		
		Total	40 gal	@ $35.00	1,400.00
Mobay 960					
Waste & Test			9 gal		
Approx. trans.	1500' 3/8" x 3/8"		12 gal		
Approx. long.	1350' 1/2" x 1/2"		19 gal		
		Total	40 gal	@ $29.00	1,160.00
Dow 890 S.L.					
Waste & Test			9 gal		
Approx trans.	3,000' 3/16" x 5/16"		6 gal		
	3,000' 5/15" x 3/8"		20 gal		
	3,000' 3/8" x 3/8"		23 gal		
Approx. long.	8100' 1/2" x 1/2"		116 gal		
		Total	174 gal	(comes in 40 gal drums)	
				Need 5 drums	
			200 gal	@ $43.01	8,602.00
Dow 888 S.L.					
Waste & test			9 gal		
Approx. trans.	3,000' 3/8" x 3/8"		23 gal		
Approx. long.	3,700' 1/2" x 1/2"		34 gal		
		Total	66 gal	(2 drums @ 40g. ea.)	
			80 gal	@ $41.75	3,340.00

(7)

Dow 888					
Waste & test			9 gal		
Approx. trans.	3,000'	3/8" x 3/8"	23 gal		
Approx. long.	2,700'	1/2" x 1/2"	34 gal		
		Total	66 gal	(2 drums @ 40 g. ea.)	
			80 gal	@ $29.00	2,320.00
Crafco 444 hot pour					
Waste & test			15 gal		
Approx. trans.	3,000'	3/8" x 3/8"	23 gal		
Approx. long.	2,700'	1/2" x 1/2"	39 gal		
		Total	77 gal	@ $ 7.00	539.00
Flush oil needed			10 gal	@ $12.00	120.00
Crafco 221 hot pour					
Waste & test			15 gal		
Approx. trans.	3,000'	3/8" x 3/8"	23 gal		
Approx. long.	2,700'	1/2" x 1/2"	39 gal		
		Total	77 gal	@ $ 3.50	270.00
Flush oil needed			10 gal	@ $12.00	120.00
Crafco Silicone S.L.					
Waste & Test			9 gal		
Approx. trans.	1,500'	3/8" x 5/16"	10 gal		
Approx. long.	1,350'	1/2" x 1/2"	19 gal		
		Total	38 gal	(1 drum = 40 gal.)	
			40 gal	@ $29.00	1,160.00
Crafco Silicone Non-Sag					
Waste & Test			9 gal		
Approx. trans.	1,500'	3/8" x 3/8"	12 gal		
Approx. long.	1,350'	1/2" x 1/2"	19 gal		
		Total	40 gal	@ $28.00	1,120.00

*No extra costs in sawing or backer-rod will be incurred.

Total material costs this change order:	$24,034.00
Less materials already bid in (est. 57,300 L/F)	-13,752.00
Additional material costs	$10,282.00

(8)

LABOR

1. Flushing machines between products & changing barrells
   5 man crew 1/2 hr. down time per product change (24 changes)
   60 man hours @ $14.75 $ 885.00

2. Transport materials to job site
   2 men 8 hrs. = 16 hrs. @ $14.75 236.00

3. Changing of blades on saws for width & depth variances
   3 man crew 8 hrs = 24 total down time @ $14.75 354.00

4. Operator for power sweeper specified
   1 man 8 hrs. x 2 days = 16 hrs. @ $18.50 296.00

5. Additional cleaning labor required to remove laitence broomed into joints after waterblasting operation, by brooming of the surface.
   3 men 8 hrs. x 3 days = 72 hrs @ $14.75 1,062.00

Direct labor costs	2,833.00
Labor overhead costs	643.00
Total increased labor costs	3,476.00

EQUIPMENT

Truck & Compressor (additional cleaning)	N/C
Silicone Truck & Pump	N/C
Hot pour truck & machine	N/C
Compression joint machine rental M.C.E.	565.00
Power broom rental	450.00
Total equipment costs	1,015.00

BALL, BALL AND BROSAMER, INC.

GENERAL ENGINEERING CONTRACTORS
CALIFORNIA STATE CONTRACTORS
LICENSE NO. 302008

POST OFFICE BOX 100
DANVILLE, CALIFORNIA 9452
TELEPHONE (415) 837-023
TELEX NO 910389402

Job 131
March 1, 1991

REF: 131-03-143

Arizona Department of Transportation
1540 S. Recker Road
Mesa, AZ 85206

P.O. Box 87
Apache Jct., A
85217-0870

Attention: Mr. Michael Loo - Acting Resident Engineer

Subject: Superstition Freeway / Power Rd. - U.S. 60
Contract # F-028-1-514
SEALANT RESEACH TEST SECTION

Gentlemen:

We hereby submit our revised proposal for the Sealant Research Test Section. Our total price for this cost Change Order is $12,964.51 lump sum.

Please expedite immediate approval to avoid delaying progress on the project. We are presently trying to work around the test area with our subsequent operations (e.g curb grade, median trimming) but sealing of this area is becoming immediately imperative.

If you have any questions please contact our field office at (602) 983-5141.

Very truly yours,
Ball, Ball and Brosamer, Inc.

John Pologar
Project Manager

JP/pc
cc: Danville
File job 131
Enclosure

ATTACHMENT NO. _____
To accompany CHANGE ORDER _____

MULTIPLE CONCRETE ENTERPRISES
P.O. POX 628
LAYTON, UTAH 84041
PHONE 544-2693 or 355-0189 (SLC)

PROPOSAL SUBMITTED TO	PHONE	DATE
Ball, Ball & Brosamer		2-7-91
STREET	JOB NAME	
P.O. Box 870	Superstition Freeway -	
CITY, STATE AND ZIP CODE	JOB LOCATION	
Apache Jct., AZ 85217-0870	Test Sections	
ARCHITECT / DATE OF PLANS		JOB PHONE
C/O John Pologar		

We hereby submit specifications and estimates for:

CHANGE ORDER #19

To install 11 brand name products in 24 test sections.

Additional material costs to be incurred (see attachments)	8212.00	~~$10,282.00~~
Additional labor costs to be incurred	2751.00	~~3,476.00~~
Additional Equipment costs to be incurred	565.00	~~1,015.00~~
Mark up	1632.00	~~4,582.00~~
Total:	$13,190.00	$19,355.00
less deductions	-3396.00	
	$9794.00	

Estimated ~~57,300 L/F~~ 56,9?? of joint involved

~~19,355 ÷ 57,300 L/F = .34¢ L/F~~

ATTACHMENT NO. _____
To accompany CHANGE ORDER _____

AN EQUAL OPPORTUNITY EMPLOYER

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature Bill Stoft

Note: This proposal may be withdrawn by us if not accepted within _____ days.

Acceptance of Proposal —The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature _____

Date of Acceptance: _____

Signature _____

Superstition Change Order #19

MATERIALS

*Note #1 Delete material completely.

Compression Seal D. S. Brown V-687					
Approx.	3,000 L/F	@ .62	=		~~1,860.00~~ 0
Lubricant	10 gal	@ 12.00 gal	=		~~120.00~~ 0
Compression Seal Elastomer PV687					
Approx.	3,000 L/F	@ .58	=		1,740.00
Lubricant	10 gal	@ 11.80	=		118.00
Freight on Lube		45.00	=		45.00
Mobay 960 S.L.					
Waste & test			9 gal		
Approx. trans	1500' 3/8" x 3/8"		12 gal		
Approx. long.	1350' 1/2" x 1/2"		19 gal		
		Total	40 gal	@ $35.00	1,400.00

*Note #2 change this product to S.L.

Mobay 960					
Waste & Test			9 gal		
Approx. trans.	1500' 3/8" x 3/8"		12 gal		
Approx. long.	1350' 1/2" x 1/2"		19 gal	$35.00	$1,400.00
		Total	40 gal	@ ~~$29.00~~	~~1,160.00~~
Dow 890 S.L.					
Waste & Test			9 gal		
Approx trans.	3,000' 3/16" x 5/16"		6 gal		
	3,000' 5/15" x 3/8"		20 gal		
	3,000' 3/8" x 3/8"		23 gal		
Approx. long.	8100' 1/2" x 1/2"		116 gal		
		Total	174 gal	(comes in 40 gal drums)	
				Need 5 drums	
			200 gal	@ $43.01	8,602.00
Dow 888 S.L.					
Waste & test			9 gal		
Approx. trans.	3,000' 3/8" x 3/8"		23 gal		
Approx. long.	3,700' 1/2" x 1/2"		34 gal		
		Total	66 gal	(2 drums @ 40g. ea.)	
			80 gal	@ $41.75	3,340.00

ATTACHMENT NO. .....
To accompany CHANGE ORDER

Dow 888				
Waste & test		9 gal		
Approx. trans. 3,000' 3/8" x 3/8"		23 gal		
Approx. long. 2,700' 1/2" x 1/2"		34 gal		
	Total	66 gal	(2 drums @ 40 g. ea.)	
		80 gal	@ $29.00	2,320.00
Crafco 444 hot pour				
Waste & test		15 gal		
Approx. trans. 3,000' 3/8" x 3/8"		23 gal		
Approx. long. 2,700' 1/2" x 1/2"		39 gal		
	Total	77 gal	@ $ 7.00	539.00
Flush oil needed		10 gal	@ $12.00	120.00
Crafco 221 hot pour				
Waste & test		15 gal		
Approx. trans. 3,000' 3/8" x 3/8"		23 gal		
Approx. long. 2,700' 1/2" x 1/2"		39 gal		
	Total	77 gal	@ $ 3.50	270.00
Flush oil needed		10 gal	@ $12.00	120.00
Crafco Silicone S.L.				
Waste & Test		9 gal		
Approx. trans. 1,500' 3/8" x 5/16"		10 gal		
Approx. long. 1,350' 1/2" x 1/2"		19 gal		
	Total	38 gal	(1 drum = 40 gal.)	
		40 gal	@ $29.00	1,160.00
Crafco Silicone Non-Sag *Note #2 change the product to S.L.				
Waste & Test		9 gal		
Approx. trans. 1,500' 3/8" x 3/8"		12 gal		
Approx. long. 1,350' 1/2" x 1/2"		19 gal	$29.00	$1160.00
	Total	40 gal	~~@ $28.00~~	~~1,120.00~~

*No extra costs in sawing or backer-rod will be incurred.

Total material costs this change order:	~~$24,034.00~~	$22,334.00
Less materials already bid in (est. ~~57,300 L/F~~ [illegible] L/F) 542 gal. @ 26.00	~~-13,752.00~~	$14,092.[illegible]
Additional material costs	~~$10,282.00~~	$8242.00

Note #3 original purchase of silicone was purchased as truckload quantity at 26.00 per gal. and freight was F.O.B. job site (free)

ATTACHMENT NO. ______

To accompany CHANGE ORDER ______

LABOR

1. Flushing machines between products & changing barrells
   5 man crew 1/2 hr. down time per product change (24 changes)
   ~~60~~ 40 man hours @ $14.75 $ ~~885.00~~ @ 590.00

2. Transport materials to job site
   2 men 8 hrs. = 16 hrs. @ $14.75 236.00

3. Changing of blades on saws for width & depth variances
   3 man crew 8 hrs = 24 total down time @ $14.75 354.00

4. Operator for power sweeper specified
   ~~1 man 8 hrs. x 2 days = 16 hrs. @ $18.50~~ ~~296.00~~ O
   Deleted

5. Additional cleaning labor required to remove laitence broomed into joints after waterblasting operation, by brooming of the surface.
   3 men 8 hrs. x 3 days = 72 hrs @ $14.75 1,062.00

* Note #4 - These joints are already being driven on by const. traffic because they have been left uncovered already. By the time the material is here we will have to dry saw and extensively re-clean the joints.

Direct labor costs		~~2,833.00~~ @ 2242..
Labor overhead costs	Note #5 M.C.E. Payroll Burden 22.69%	~~643.00~~ @ 509.0
Total increased labor costs		~~3,476.00~~ @ 2751.0

F.I.C.A. 7.65%
F.U.T.A. .80%
S.U.T.A. 4.24%
Liab. Ins. 4.40%
Work Comp 5.40%
= 22.69%

EQUIPMENT

Truck & Compressor (additional cleaning)		N/C
Silicone Truck & Pump		N/C
Hot pour truck & machine		N/C
Compression joint machine rental M.C.E.		565.00
~~Power broom rental~~	Deleted	~~450.00~~
Total equipment costs		~~1,015.00~~ @ 565.00

Note #6 We are still in need of this machine to install the Elastomer Compression seal specified.
(or is A.D.O.T. going to have their competition, D.S. Brown install their product for them?)

ATTACHMENT NO. .....
To accompany CHANGE ORDER .....

ARIZONA DEPARTMENT OF TRANSPORTATION

206 South Seventeenth Avenue Phoenix, Arizona 85007-2830

ROSE MOFFORD
Governor

JAMES S. CREEDON
Acting Director

February 22, 1991

Ball, Ball and Brosamer, Inc.
P. O. Box 870
Apache Junction, Arizona 85217-0870

Attn: JOHN POLOGAR

Re: Project F-028-1-814/H045304C
SUPERSTITION FREEWAY
(Power Road to US 60)Phase III
SEALANT RESEARCH TEST SECTION

Upon review of your submitted cost analysis, it became evident that clarifications are required. Each Experimental Zone should contain the same products. Two sealants specified in Zone No. 2 were incorrect. Test Section No. (16) should be sealed with Mobay Baysilone Self Leveling and Test Section No. (20) should be sealed with Craftco Silicone Self Leveling. * see note #2 materials cost sheet

With regards to the cost analysis the following items should be also be considered. As previously discussed, the (D.S. Brown) * see note #1 materials cost sheet compression seal will be placed by the manufacturer. In addition, the originally specified power sweeping requirement (Item No. 2 - January 22, 1991 letter) shall be deleted.

The following is the Department's evaluation of the remaining costs.

Amount of Mobay 960 not used (per Multiple Concrete Ent.)
587 gallons @ $29.00 = $17,023.00

see note #3 materials cost sheet

Total Cost of New Product (per Multiple Concrete Ent.)
= ~~$24,081.00~~

MATERIALS COSTS

~~$24,081.00~~
~~-17,023.00~~
~~$ 7,008.00~~

ATTACHMENT NO. .....
To accompany CHANGE ORDER .....

LABOR COSTS

1. 8 man crew (1/2 ea.) per product change (16 changes).
o.k. 40 hr. @ $14.75 = 590.00

2. o.k. Transport Materials
2 men 8 hrs.= 16 hr. @ $14.75 = 236.00

3. o.k. Change Blades
3 men crew 8 hrs.= 24 hrs. @ $14.75 = 354.00

4. o.k. Delete Power Sweeper -0-

5. Delete *See note on labor cost sheet ~~-0-~~ $1062-

Direct Labor	~~$1,180.00~~	$2242.00
~~Labor OH&P @ 15%~~ 22.67%	~~177.00~~	$509.00
Total Labor Costs	$1,357.00	$2751.00

see note #5 labor cost sheet

EQUIPMENT COSTS ~~-0-~~ $565.00

There are no additional equipment Cost due to deletion of sweeping and placement of compression seal by manufacturer.
see note #6 Equip. cost sheet

ADOT CREDIT

The submitted addendum indicated Lineal foot prices of $0.16 and $0.28 for joint widening and sealing respectively. It is unclear how these prices were derived. Please provide further explanation. However, if we assume these numbers to be accurate the Department should receive the following credit.

1. Deletion of Tran. widening (Test Sec. 3,9,13,17)
4 @ 1500'/Sec. = 6000'
6000' x $0.16 = $ 960.00 ok

2. Deletion of Trans. joint sealing (Test Sec. 1,3,5,14,17,22)
~~4~~ 4 @ 1500'/Sec. = ~~9000~~' 6000' .28¢
9000' x $0.28 = ~~$2,520.00~~ $1680.00
Test sec. 5 + 22 still take elastomeric product not 0.5 ...

3. Deletion of Longitudinal joint widening (Test Sec. 3,9,13,17)
4 @ 1500'/Sec. = 6000'
6000' x $0.16 = ~~$ 960.00~~ 0 ALREADY WIDENED
This item already done

ATTACHMENT NO. ____
To accompany CHANGE ORDER

4. Deletion of longitudinal joint sealing (Test Sec. 3.17)
2 @ ~~1600'~~ 1350'/Sec. = 3000'
~~3000'~~ 2760' x $0.28 = ~~$840.00~~ $756.00
~~$8,280.00~~ $3396.00

The final summary of proposed costs is as follows:

Materials Costs	~~$7,000.00~~	+$3242.00
Labor Costs	~~1,857.00~~	+$2751.00
Equipment Costs	~~0.00~~	+$565.00
ADOT Credit	-~~$8,280.00~~	-$3396.00
TOTAL	~~$2,085.00~~	$8162.00
mark-up 20%		$1632.00
		$9794.00

Should you have any questions, please call me at 396-8383.

Sincerely,

Michael V. Loo

MICHAEL V. LOO
Acting Resident Engineer

MVL/ma
cc: Harrington
file

ATTACHMENT NO. .....
To accompany CHANGE ORDER .....

"12CPI"

PROJECT NUMBER: F-028-1-514 BALL, BALL, & BROSAMER JOB NUMBER: 131 CHANGE ORDER NUMBER: 19 REV

DESCRIPTION: ADDITIONAL COSTS TO PROVIDE AND INSTALL 11 NAME BRAND PRODUCTS IN 24 TEST SECTIONS DATE: 11-Feb-91

DESCRIPTION	LE	QUANT/ ST HRS	UNIT/ OT HRS	MATERIAL UNIT PRICE	MATERIAL EXTENDED	LABOR RATE	LABOR EXTENDED	EQUIP. RATE	EQUIPMENT EXTENDED	SUBCONTRACT	TOTALS
TOTAL NUMBER OF UNITS:		56900 LF									
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
MATERIAL					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$9,405.78	
					$0.00	0.00	$0.00	0.00	$0.00		
LABOR					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$3,139.44	
					$0.00	0.00	$0.00	0.00	$0.00		
EQUIPMENT					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$644.78	
					$0.00	0.00	$0.00	0.00	$0.00		
DEDUCTIONS					$0.00	0.00	$0.00	0.00	$0.00	($3,396.00)	
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
SUBTOTALS					$0.00		$0.00		$0.00	$9,794.00	$9,794.00
LABOR BURDEN	$				XXXXXX		$0.00		XXXXXX	XXXXXX	$0.00
SUBTOTALS					$0.00		$0.00		$0.00	$9,794.00	$9,794.00
OVERHEAD & PROFIT	$$				$0.00		$0.00		XXXXXX	$1,469.10	$1,469.10
SUBTOTALS (L,E & M)					$0.00		$0.00		$0.00	$12,389.41	$12,389.41
BUSINESS TAXES	$										$523.45
SUBTOTAL											$12,912.86
CONTRACT BOND	$										$51.65
									GRAND TOTAL		$12,964.51

ATTACHMENT NO

To accompany CHANGE ORDER

CO-19REV.WK1 UNIT PRICE $0.228

BALL, BALL AND BROSAMER, INC.

GENERAL ENGINEERING CONTRACTORS
CALIFORNIA STATE CONTRACTORS
LICENSE NO. 302008

POST OFFICE BOX 1007
DANVILLE, CALIFORNIA 94526
TELEPHONE (415) 837-0231
TELEX NO. 9103894028

Job 131
March 18, 1991

RECEIVED
MAR 21 1991
AZ DEPT. OF TRANSPTN.
ORG - 4149

PLEASE REPLY TO

P.O. Box 870
Apache Jct., AZ
85217-0870

REF:131-03-155

Arizona Department of Transportation
1540 S. Recker Road
Mesa, AZ 85206

Attention: Mr. Michael Loo - Acting Resident Engineer

Subject: Superstition Freeway / Power Rd. - U.S. 60
Contract # F-028-1-514
COST ANALYSIS FOR SEALANT TEST SECTION

Gentlemen:

We herewith submit our revised cost analysis for the sealant test section. Our total price for this change order is $14,011.52. Per ADOT'S direction, the materials have been ordered and we stand ready to start work.

Please approve this cost analysis to prevent any delay to the project.

If you have any questions please contact our field office at (602) 983-5141.

Very truly yours,
Ball, Ball and Brosamer, Inc.

John Pologar
Project Manager

JP/cr
cc: Danville
File job 131

ATTACHMENT NO. _____
To accompany CHANGE ORDER _____

PROJECT NUMBER: F-028-1-514 BALL, BALL, & BROSAMER JOB NUMBER: 131 CHANGE ORDER NUMBER: 19

DESCRIPTION: SEALANT RESEARCH TEST SECTION REV 4 DATE: 21-Jan-91

DESCRIPTION	LE	QUANT/ ST HRS	UNIT/ OT HRS	MATERIAL UNIT PRICE	MATERIAL EXTENDED	LABOR RATE	LABOR EXTENDED	EQUIP. RATE	EQUIPMENT EXTENDED	SUBCONTRACT	TOTALS
TOTAL NUMBER OF UNITS:		1 LS									
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
MATERIAL					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$11,755.30	
					$0.00	0.00	$0.00	0.00	$0.00		
LABOR					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$3,163.65	
					$0.00	0.00	$0.00	0.00	$0.00		
EQUIPMENT					$0.00	0.00	$0.00	0.00	$0.00		
SUBCONTRACTOR QUOTE					$0.00	0.00	$0.00	0.00	$0.00	$649.75	
					$0.00	0.00	$0.00	0.00	$0.00		
ADOT CREDIT					$0.00	0.00	$0.00	0.00	$0.00	($3,396.00)	
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
					$0.00	0.00	$0.00	0.00	$0.00		
SUBTOTALS					$0.00		$0.00		$0.00	$12,172.70	$12,172.70
LABOR BURDEN	%				XXXXXX		$0.00		XXXXXX	XXXXXX	$0.00
SUBTOTALS					$0.00		$0.00		$0.00	$12,172.70	$12,172.70
OVERHEAD & PROFIT	%%				$0.00		$0.00		XXXXXX	$1,217.27	$1,217.27
SUBTOTALS (L,E & M)					$0.00		$0.00		$0.00	$13,389.97	$13,389.97
BUSINESS TAXES	%										$565.73
SUBTOTAL											$13,955.70
CONTRACT BOND	%										$55.82
									GRAND TOTAL		$14,011.52

CO19REV4.WK1 UNIT PRICE $14,011.52

ATTACHMENT NO.

To accompany CHANGE ORDER

CONCRETE SAWING AND SEALING

MULTIPLE CONCRETE ENTERPRISES

March 15, 1991

John Pologar
Ball, Ball & Brosamer
P.O. Box 870
Apache Jct., AZ 85217-0870

Dear John:

In response to A.D.O.T. Revision #4 on change order #19 Test Sections.

	M.C.E.	A.D.O.T.
Additional material costs	10,222.00	10,222.00

(Including D.S. Brown Compression Seal)

2. There was no decrease in the credit of Mobay product presently being used. Based on the actual material footage production per gallon multiplied by the L/F of joint applicable equals 542 gallons at our purchase price on truck load quantities of $26.00 per gallon the total credit to A.D.O.T. is $14,092.00. I am not aware of where A.D.O.T. came up with the quantity of 587 gallon for credit.

3. A.D.O.T. states there has not been traffic on the P.C.C.P. in the areas of the test sections. This is not a factual statement and all that is required is to drive down and look at the joints. Unless A.D.O.T. or S.H.A.R.P.S. people would rather we seal contaminated concrete joints the additional cleaning charges must stand.

	M.C.E.	A.D.O.T.
Labor	2,751.00	1,447.74

4. The compression joint machine is unavailable at any rental yards and can only be purchased from the material manufacturer. M.C.E. owns the only power machine in the western states and D.S. Brown only rents their machine to reputable firms with a technician and then only on large orders.

ATTACHMENT NO. ____
To accompany CHANGE ORDER

P.O. Box 628 • Layton, Utah 84041 • Phone (801) 544-2693

D.S. Brown has faxed a copy of what they would rent their machine for, so as A.D.O.T. can have a cost comparison. (See attachment #1)

5 day estimated at $60.00 per day = $300.00
Round trip transport costs to bring machine from McCarren Airport, Las Vegas, Nevada - Superstition project, Phoenix, Arizona. $265.00

Total cost for machine $565.00

A.D.O.T. must understand the inconveniences and expenses incurred to perform such a small amount of sealant changes. If we were comparing large quantities of each type, the costs would come down considerably. (I/E/ example) Monthly rates rather than daily rates, freight prices eliminated, etc.

5. Cost analysis for A. Widening joints @ .16 L/F
B. Sealing Joints @ .27 L/f

A. Widening joints	Diamond blades	~~.85~~ .045
	Labor (Incl. Overhead)	~~.06~~ .06
	Equipment & Fuel costs	~~.13~~ .015
		.16 L/F
B. Sealing joints	Silicone	.205
	Backer-rod	.015
	Labor (Incl overhead)	.048
	Equipment & Fuel costs	.012
		.28 L/F

*Again note these costs are based on very large quantities (I/E over 1,000,000 L/F of joint)

Summary of revised costs:	Material	$10,222.00
	Labor	2,751.00
	Equipment	565.00
	Subtotal	$13,538.00
	Mark up 15%	2,030.70
	Subtotal	$15,568.70
	Less deduct to A.D.O.T.	3,396.00
	Total cost of change order	$12,172.70

ATTACHMENT NO. _____
To accompany CHANGE ORDER

THE D. S. BROWN COMPANY

P. O. BOX 158/331 E. CHERRY ST.
NORTH BALTIMORE, OHIO, USA 45872

March 15, 1991

Multiple Concrete Corp.
1680 W. Gordon Ave.
PO Box 628
Layton, UT 84041

RE: Rental sales of the Delastall Autoinstaller

Dear Wynn:

It is very uncommon to find the Delastall for rent. The D.S. Brown Company rents the Delastall only on special projects. But in the event we would rent the machine, the cost would be approximately $75.00/day, plus freight expenses to and from the jobsite. The rent on a monthly basis would be slightly less, in the area of $1000.00/month. Not included in the rent is clean-up solvents or spare parts.

Hopefully this answers your question. If I can be of any further help, please call me.

Best regards,

Edwin Bechstein

Edwin Bechstein
Product Manager

EB/rg

ATTACHMENT NO. .....
To accompany CHANGE ORDER .....

TELEPHONE 419-257-3581 TWX 810-490-2312

APPENDIX B

Joint Sealant Product Literature

CRAFCO INC.
6975 W. CRAFCO WAY · CHANDLER, AZ 85226 · 602/276-0406
WATS (800) 528-8242 · FAX (602) 961-0513

PRODUCT DATA SHEET

ROADSAVER SILICONE SL SEALANT

PART NO. 34903 January 1991

READ BEFORE USING THIS PRODUCT

GENERAL

Crafco Self-Leveling Highway Silicone Sealant is a low modulus silicone which offers the performance and durability characteristics of conventional silicone with the ease of installation of self-leveling materials. Crafco Self-Leveling Highway Silicone can be used in all highway horizontal joint applications in which conventional non-sag silicones have been used. Self-Leveling Highway Silicone is applied to concrete joints using conventional silicone installation techniques without the use of tooling. The leveling characteristics insure that the required joint wetting for development of appropriate adhesion occurs.

SPECIFICATION CONFORMANCE

The recommended specification for Roadsaver Silicone SL is:

Uncured Properties	**Specification Limits**
Extrusion Rate (ASTM C603)	10-sec. max..
or	
Extrusion Rate (ASTM Mil 8802)	500 g/min. minimum
Skinover Time (1)	4 hours max.
Leveling at 77F (ASTM C639)	Pass
Cured Properties	**Specification Limits**
Through Cure Time, 1/2" x 1/2" (1)	21 day max.
Elongation (ASTM D412-C) (2)	700% min.
Stress at 150% (ASTM D412-C) (2)	30 psi max.
Shore OO Hardness (ASTM D2240) (2)	40-80
Specific Gravity (ASTM D792-A) (2)	1.10-1.40
Adhesion to Concrete (Mil 8802) (2)	20 pli min.
Bond and Movement Capability (3)	
100% movement at 0 F	Pass 10 cycles
Accelerated Weathering (ASTM C793) (2)	Pass 5,000 hours
Bond to Mortar (AASHTO T132) (2)	50 psi minimum

NOTES:
(1) Tested at 77 +/- 3F and 50 +/- 5% humidity.
(2) Specimens shall be obtained from 1/8 inch thickness sheets of material which was cured for 21 days at 77 +/- 3F and 50 +/- 5% relative humidity.
(3) Specimens cured for 21 days at 77 +/- 3F and 50 +/- 5% humidity followed by 7 days of immersion in distilled water prior to extending 100% at 1/8 inch per hour in accordance with ASTM C719.

APPLICATION:

The unit weight is 10.7 pounds per gallon. One gallon will seal 150 feet of 1/2 inch wide by 1/4 inch deep joint. For detailed application procedures, refer to the Crafco Application Instructions for Self-Leveling Silicone Sealant.

PACKAGING:

Roadsaver Silicone SL Sealant is packaged in plastic lined open head 55 gallon drums which contain 45 gallons of material. Additionally, for small applications the sealant is available in plastic gallon pails and standard caulking tubes.

AVAILABILITY AND COST:

For prices and ordering information for Crafco Roadsaver Silicone Sealant, contract your local Crafco distributor or Crafco, Inc.

GENERAL OFFICES: CHANDLER TECHNOLOGY CENTER, 7402 W. DETROIT STREET, SUITE 180
CHANDLER, AZ 85226

CRAFCO INC.

6975 W. CRAFCO WAY • CHANDLER, AZ 85226
1-800-528-8242 • (602) 276-0406 • FAX (602) 961-0513

PRODUCT DATA SHEET

SUPERSEAL 444

SEALANT

PART NO. 34650

JANUARY 1989

READ BEFORE USING THIS PRODUCT

GENERAL:

CRAFCO Superseal 444 sealant is a high quality, hot-applied sealant intended for use in sealing joints in portland cement concrete pavements. The sealant is specifically formulated and produced to meet requirements of ASTM D3406-85 and AASHTO M282.

Superseal 444 is supplied in liquid form in 5 gallon pails. Being initially liquid, Superseal 444 is much easier to handle during application than solid hot-poured sealant types.

During application, Superseal 444 is simply poured into the melter applicator unit, heated to application temperature, and applied to prepared joints. At application temperature, Superseal 444 is self leveling and produces uniform and neat sealed joints. After application and cooling, Superseal 444 forms a tough, resilient, well bonded seal for concrete pavement joints.

Superseal 444 is formulated to be used only as a sealant for portland cement concrete pavements. It *is not to be* used in asphalt concrete pavements.

PHYSICAL PROPERTIES AND SPECIFICATION CONFORMANCE:

Crafco Superseal 444 meets all requirements of ASTM D3406-85, "Specification for Joint Sealant, Hot-Poured, Elastomeric Type, For Portland Cement Concrete Pavements" and AASHTO M282. Typical test results for the sealant are:

Test	Typical Superseal 444 Results*	AASHTO M282 ASTM D3406-85 Spec. Limits
Cone Penetration, 77°F	1.10 cm	1.30 cm max.
Flow, 158°F, 72 hrs.	No Flow	No Flow
Bond, 0 F, 50% ext.	No Separations 3 cycles	No Separations 3 cycles
Water Immersed Bond	No Separations 3 cycles	No Separations 3 cycles
Resilience, 77°F	65%	60% min.
Aged Resilience, 77°F	65%	60% min.
Artificial Weathering Test	Pass	See Below**
Tensile Adhesion	700%	500% min.
Flexibility	Pass	Pass
Recommended Pour Temperature	260°F	—
Safe Heating Temperature	280°F	As Specified

** The joint sealant shall not flow, show tackiness, presence of an oil-like film or reversion to a mastic-like substance, formation of surface blisters either intact or broken, form internal voids, surface crazing or cracking, or hardening or loss of resilient, rubber-like properties. Evidence of physical change in the surface of the material by visual and tactile examination shall constitute failure of this test.

Additional properties of Superseal 444 are:

Test	Superseal 444 Result*
Brookfield Viscosity at 280°F (ASTM D3236)	40 Poise
Unit Weight at 60°F	10.5 lbs/gallon
Coverage 1/2 x 1" joint	27.3 lbs per 100 ft.

*Typical Superseal 444 results shall not be used as specification limits.

Pour 260° F
Safe Heating 250°F
Safe Heat 280°F

APPLICATION:

For detailed application procedures refer to the Crafco Application Instructions for Superseal 444 sealant.

PACKAGING:

The sealant is packaged in 5 gallon pails with 46 pails per pallet. Sealant may be packaged in pails with a polyethylene liner on request.

AVAILABILITY AND COST:

For prices and availability of Crafco Superseal 444, contact your local Crafco Distributor or Crafco, Inc.

WARRANTY:

CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, CRAFCO shall not be responsible for improperly applied or misused sealants.

Remedies against CRAFCO, INC., as agreed to by Crafco, are limited to replacing non-conforming product or refund (full or partial) of purchase price from CRAFCO, INC. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by CRAFCO, INC. whichever is earlier.

There shall be no other warranties expressed or implied. For optimum performance, follow CRAFCO recommendations for sealant installation.

CRAFCO INC.

6875 W. CRAFCO WAY · CHANDLER, AZ 85226 · 602/276-0406
WATS (800) 528-8242 · FAX (602) 961-0513

PRODUCT DATA SHEET

ROADSAVER 221 SEALANT

PART NO. 34221 January1991

READ BEFORE USING THIS PRODUCT

GENERAL

CRAFCO RoadSaver 221 sealant is a single component, high quality hot-pour petroleum based pavement crack and joint sealant which is specially formulated to meet all requirements of ASTM D3405 and AASHTO M301. The sealant exceeds requirements of ASTM D1190, AASHTO M173 and Federal Specification SS-S-164. RoadSaver 221 is supplied in solid block form which is easily melted. When properly applied, RoadSaver 221 will form a long lasting resilient seal which is flexible and extensible at sub-zero temperatures and which resists tracking at hot summer temperatures. RoadSaver 221, when melted, can be applied to pavement cracks and joints using either pressure feed melter applicator units or pour pots. RoadSaver 221 is ideally suited for sealing cracks and joints in both asphalt and portland cement concrete pavements.

SPECIFICATION CONFORMANCE

Specification limits for RoadSaver 221 when tested for conformance with ASTM D3405 are:

Test	ASTM D3405 Spec. Limits
Cone Penetration, 77F	90 max.
Flow, 140F	3mm max.
Resilience, 77F	60% min.
Bond, -20F, 50% ext.	Pass 3 cycles
Bond, 0F, 100% ext.	Pass 3 cycles
Asphalt Compatibility	Compatible
Recommend Pour Temperature	380F
Safe Heating Temperature	410F

APPLICATION

The unit weight of Crafco RoadSaver 221 is 10.0 lbs. per gallon at 60F. 13.0 lbs. of material is required to fill 100 feet of a 1/2" x 1/2" joint. For detailed application procedures refer to the CRAFCO Application Instructions for RoadSaver 221 sealant.

PACKAGING

Packaging of Crafco sealants consists of individual boxes of sealants which are palletized into shipping units each weighing approximately 2400 pounds. Sealants are sold by the net pallet weight. Standard packaging consists of boxes containing approximately 50 pounds of sealant. Sealant may be ordered in boxes weighing approximately 50 pounds with two compartments each containing approximately 25 pounds of sealant. All boxes contain a non-adherent film for easy sealant removal. Several alternate packaging types are available on a special order basis.

AVAILABILITY AND COST

For prices and to order RoadSaver 221, contact your local CRAFCO Distributor or Crafco, Inc.

WARRANTY

CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants.

GENERAL OFFICES: CHANDLER TECHNOLOGY CENTER, 7402 W. DETROIT STREET, SUITE 180
CHANDLER, AZ 85226

CRAFCO INC.

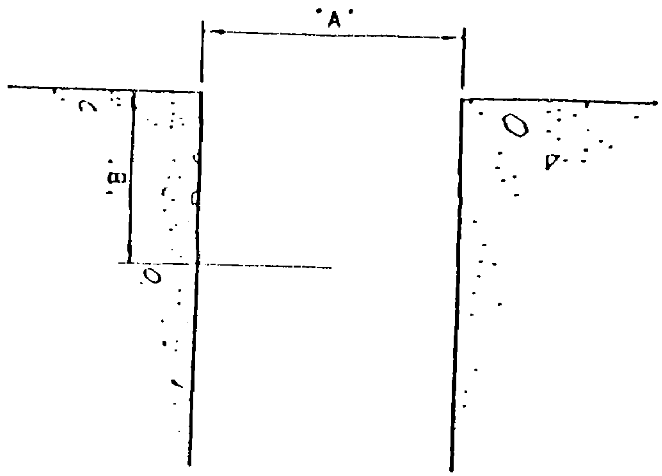
Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier.

There shall be no other warranties expressed or implied. For optimum performance, follow Crafco recommendations for sealant installation.

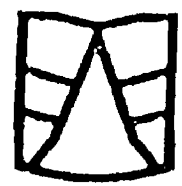
DIMENSION TABLE

MODLE NUMBER	MOVEMENT	SEAL SIZE		GROOVE WIDTH		SEAL DEPTH B	INSTALLATION WIDTH
		WIDTH	HEIGHT	MIN. A	MAX. A		
WB-437	.207"	7/16"	9/16"	.153"	.360"	1"	1/4"
WB-562	.253"	8/16"	11/18"	.197"	.450"	1 1/8"	5/16"
WB-687	.310"	11/16"	11/16"	.240"	.550"	1 1/4"	3/8"
WB-812	.366"	13/16"	7/8"	.284"	.650"	1 1/2"	7/16"
WB-1000	.450"	1"	1 1/8"	.350"	.800"	1 3/4"	1/2"
WB-1250	.563"	1 1/4"	1 1/8"	.437"	1.00"	2"	5/8"
WC-1250	.563"	1 1/4"	1 5/32"	.437"	1.00"	2"	5/8"
WC-1625	.732"	1 8/8"	1 8/32"	.868"	1.30"	2"	3/4"
WC-1750	.919"	1 3/4"	11/32	.560"	1.487"	2"	7/8"
WC-2000	.975"	2"	21/32	.625"	1.600"	2"	1"

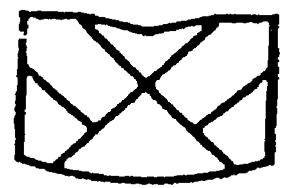
8-5



CONCRETE BLOCKOUT



WABO WB
COMPRESSION SEAL



WABO WC
COMPRESSION SEAL

NO	DESCRIPTION	NAME	DATE
4			
3			
2			
1			

REVISIONS

Watson Bowman Acme
95 Pineview Drive Amherst, N.Y. 14120 TEL. (716) 691-7566 FAX (716) 691-9239

PROJECT: WABO COMPRESSION SEAL

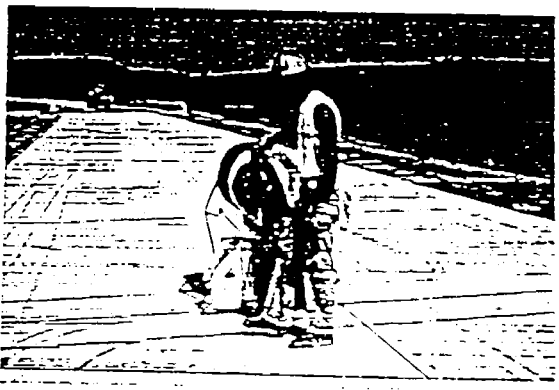
TITLE: SALES DRAWING

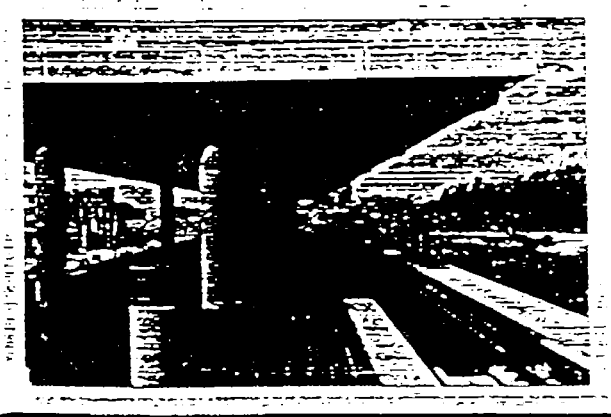
DETAILED BY: D. WULF	DATE: 2-23-88
CHECKED BY: J. SOBOL	DATE: 2-23-88
SCALE: 3/4"=1"	WBA JOB NO.: ------
SHEET NO.: 1 of 1	DRAWING NO.: C-10826

THE D.S. BROWN COMPANY

CONTRACTION/EXPANSION CONSTRUCTION JOINTS

1990





E AND V SERIES PAVEMENT SEALS

The DELASTIC Series "E" and "V" seals are the primary sealing systems for concrete pavement slabs in all major applications—primarily in concrete roadways and airport aprons and runways. Literally hundreds of miles of pavement seal have been laid in the past years and have outlasted all other types of sealing systems.

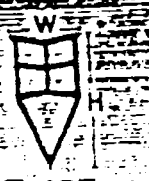
Advantages

Long, continuous sections can be installed in transverse and longitudinal concrete joints using The D.S. Brown Company's proven Delastall® "Auto-installer" shown on the back cover. One operator can thus place thousands of feet of seal in a single day. The cost effectiveness of this machine lies not only in the speed of installation with zero percentage stretch of material, but also in sizable lubricant adhesive savings. The design and execution of the sawed or formed concrete joints is the responsibility of the engineer and contractor.

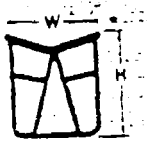
Specifications

The neoprene compound produces a product which materially conforms to ASTM D 2628-81. Lubricant/adhesives, when required, shall conform to ASTM D-2835/ASTM D-4070 respectively.

The Seal is to be recessed from the roadway surface by 0.125 in. or as specified by the appropriate State agency.



E-437



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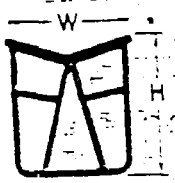
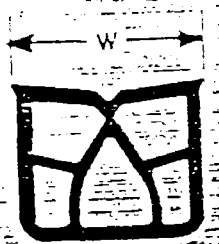
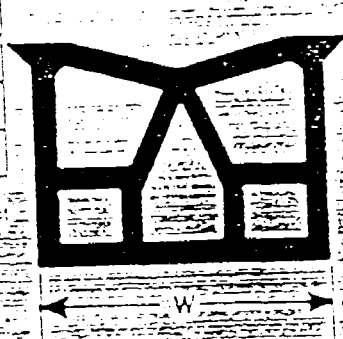


V-812



E-1253



E-2000

DELASTIC® SEAL CATALOG NUMBER	SEAL CHARACTERISTICS			JOINT DESIGN CRITERIA		
	WIDTH (Dimension W)	HEIGHT (Dimension H)	MOVEMENT[1]	NARROWEST OPENING[2]	WIDEST OPENING[3]	MINIMUM DEPTH
E-312	5/16 (7.94)	5/8 (15.88)	0.140 (3.56)	0.125 (3.18)	0.265 (6.73)	1-1/8 (28.58)
E-437	7/16 (11.11)	15/16 (23.81)	0.184 (4.67)	0.187 (4.75)	0.371 (9.42)	1-1/4 (31.75)
E-562	9/16 (14.29)	11/16 (17.46)	0.178 (4.52)	0.250 (6.35)	0.478 (12.14)	1-3/8 (34.93)
V-562	9/16 (14.29)	11/16 (17.46)	0.178 (4.52)	0.250 (6.35)	0.478 (12.14)	1-3/8 (34.93)
E-625	5/8 (15.88)	3/4 (19.05)	0.206 (5.23)	0.325 (8.26)	0.531 (13.49)	1-1/2 (38.10)
E-687	11/16 (17.46)	13/16 (20.64)	0.259 (6.58)	0.325 (8.26)	0.584 (14.83)	1-1/2 (38.10)
V-687	11/16 (17.46)	13/16 (20.64)	0.259 (6.58)	0.325 (8.26)	0.584 (14.83)	1-1/2 (38.10)
E-812	13/16 (20.64)	15/16 (23.81)	0.346 (8.84)	0.350 (8.89)	0.698 (17.73)	1-5/8 (41.28)
V-812	13/16 (20.64)	15/16 (23.81)	0.348 (8.84)	0.350 (8.89)	0.698 (17.73)	1-5/8 (41.28)
E-1000	1 (25.40)	1 (25.40)	0.450 (11.43)	0.400 (10.16)	0.850 (21.59)	1-7/8 (47.63)
V-1000	1 (25.40)	1 (25.40)	0.450 (11.43)	0.400 (10.16)	0.850 (21.59)	1-7/8 (47.63)
E-1253	1-1/4 (31.75)	1 (25.40)	0.612 (15.54)	0.450 (11.43)	1.062 (26.97)	2-1/8 (53.98)
E-1625	1-5/8 (41.28)	1-1/8 (28.58)	0.781 (19.84)	0.600 (15.24)	1.381 (35.08)	2-1/2 (63.50)
V-1625	1-5/8 (41.28)	1-1/8 (28.58)	0.781 (19.84)	0.600 (15.24)	1.381 (35.08)	2-1/2 (63.50)
E-2000	2 (50.80)	1-1/2 (38.10)	0.950 (24.13)	0.750 (19.05)	1.700 (43.18)	3 (76.20)
E-2500	2-1/2 (63.50)	2-1/2 (63.50)	1.100 (27.94)	0.775 (19.68)	2.125 (53.98)	3-1/2 (88.90)
E-3000	3 (76.20)	2-1/2 (63.50)	1.260 (32.00)	1.200 (30.48)	2.550 (64.77)	3-1/2 (88.90)

[1] Thickness of seal wall and internal web are not drawn to scale. These dimensions vary with seal size; exact measurements will be supplied on request. (Please state model number.)
[2] Maximum movement that seal will accommodate in joint of correct design.
[3] A narrower opening will put excessive stress on seal and may cause premature failure.
A wider opening may not provide sufficient compressive force to hold seal in place.

Meets ASTM D 2628 and AASHTO M-220 Standard Specifications

DOW CORNING

HIGHWAY/AIRPORT PRODUCTS

DOW CORNING®
SILICONE JOINT SEALANTS

Groundwork Takes Teamwork

THE BENEFITS

Low- and ultra-low modulus.

Each sealant stretches 100 percent in the joint with very little force. This places minimal strain on the bond line or joint walls, maximizing the probability of a successful seal with continuous or gradual joint movement.

Movement of highway joints caused by temperature, shrinkage, and vertical deflections under traffic requires a low-modulus sealant that does not strongly resist stress and/or shear — such as DOW CORNING® 888 silicone joint sealant or DOW CORNING® 888-SL self-leveling silicone joint sealant. The movement associated with asphalt shoulders caused by similar and other conditions requires an ultra-low-modulus sealant such as DOW CORNING® 890-SL self-leveling silicone joint sealant.

Ease of installation.

All three silicone joint sealants are ready to use as supplied. They require no mixing or heating and can be dispensed directly from the bulk container into the joints by hand or with an air-powered pump.

And DOW CORNING 888-SL self-leveling silicone joint sealant and 890-SL self-leveling silicone joint sealant are equally easy to install. Because they are self-leveling, no tooling is required. This unique feature allows for faster installation and reduced labor costs compared with non-self-leveling silicone sealants.

Unprimed adhesion.

All three sealants exhibit excellent unprimed adhesion to the recommended surfaces. The surfaces must be clean, dry, and frost free immediately prior to installation.

All-temperature gunnability.

The consistency of each sealant and the self-leveling characteristics of DOW CORNING 888-SL self-leveling silicone joint sealant and DOW CORNING 890-SL self-leveling silicone joint sealant are relatively unchanged over the normal installation temperature range.

High movement capability.

All three sealants perform in a continuous joint movement of +100/-50 percent. In new construction, all three sealants will take the 25-percent movement of each of two or three slab lengths working in unison before all the "shrink," or contraction, cracks occur.

Weather resistance.

These inorganic materials are 100 percent silicone rubber. Therefore, they are relatively unaffected by sunlight, rain, snow, ozone, or temperature extremes.

Irregular surface sealing.

All three products seal joints where spalls have occurred, provided adequate contact is made between the sealant and the substrate. The self-leveling ability of DOW CORNING 888-SL and 890-SL lends itself to sealing irregular joint surfaces by providing adequate contact to the substrate without the need for tooling.

Elasticity.

Each of the sealants can be stretched and held to 100 percent of the joint width. When released, each sealant will recover 95 percent or greater of the original dimension. This extension can be repeated many times, and the sealant will resume its original shape without splitting, cracking, or losing adhesion. Thus, when properly installed in a highway contraction joint, the sealant does not "pump" out of the joint during compression. Nor does it split, crack, or lose adhesion during extension.

Resilience.

Once cured, these sealants prevent stones and other incompressibles from entering the joint by "squeezing" them out as soon as the force pushing these incompressibles into the sealant is removed.

Fast cure.

Typically, these sealants skin over in one hour or less. With this fast cure and a recessed joint design, the road usually can be opened soon after sealing.

Long-life reliability.

Under normal conditions, cured sealant stays rubbery from -50°F to 300°F (-45°C to 149°C) without tearing, cracking, or becoming brittle.

THE ADDED BENEFITS

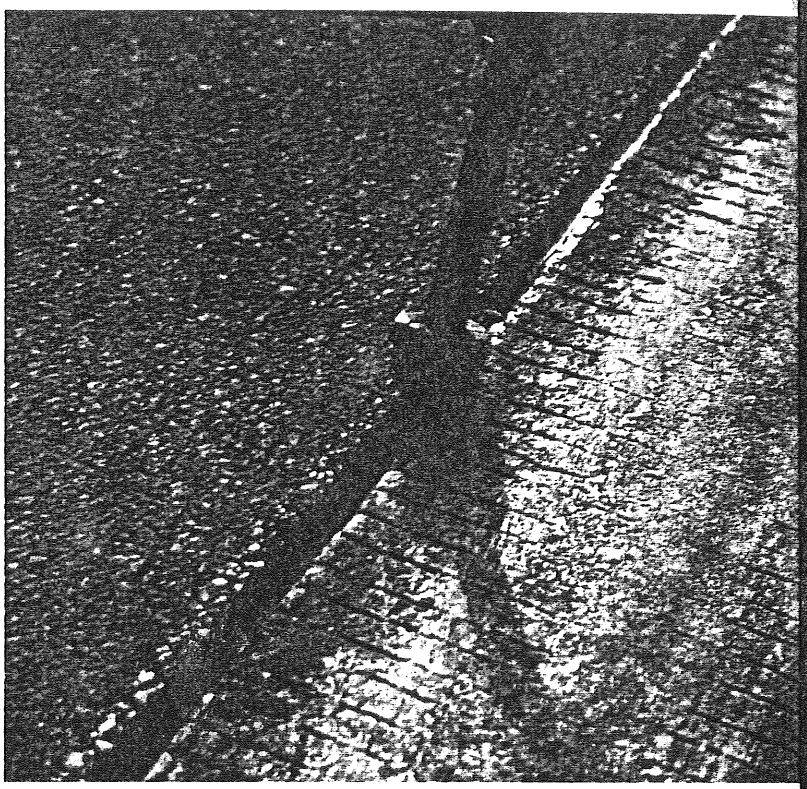
Compliance.

DOW CORNING 888 silicone joint sealant meets or exceeds both Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants), which were written for construction sealants requiring extremely high movement capability. it also meets Canadian Specification 19GP9 Type I and approximately 35 Department of Transporation (DOT) specifications that require a low-modulus sealant with high movement capability.

And, the AASHTO-AGC-ARTBA Joint Committee (Task Group 23, Subcommittee on New Highway Materials) included a discussion of silicone joint sealants in its booklet entitled "Guide Procedures for Concrete Pavement 4R Operations - 1985." In addi-'ion, the Federal Aviation Adminstration recently published the "FAA Engineering Brief Number 36 - Silicone Joint Sealants." This publication approves the use of these materials in airfield situations. Also, the Army Corps of Engineers will be issuing a guide, #CRD-C-527 (draft), which will allow the use of silicone materials in military applications.

The Dow Corning reputation.

DOW CORNING® silicone joint sealants offer unequalled performance in highway, airport, and parking deck applications. For 40 years, Dow Corning Corporation has shown engineers and contractors how high-performance silicone joint sealants can increase the safety and usefulness and extend the life of highway and airport construction.



DOW CORNING SILICONE JOINT SEALANTS

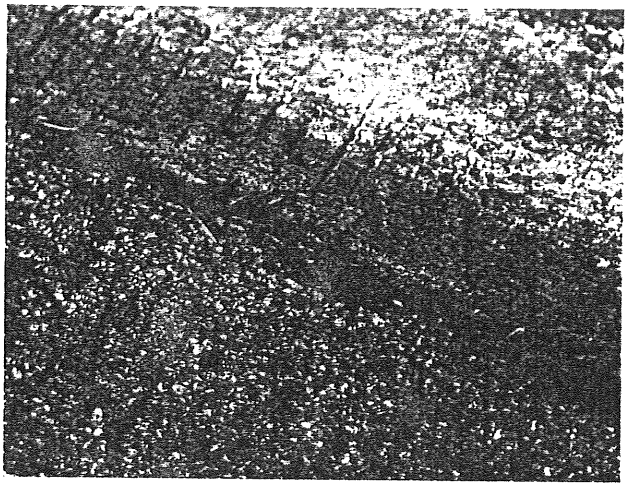
The problem.

Water and deicing chemicals are major enemies when it comes to long-term pavement performance — because water and deicing chemicals can cause joint failures.

Contraction and expansion joint failures in highways, airport aprons, and parking decks lead to erosion of the pavement subbase and/or corrosion of the metal reinforcement bars due to water and deicing chemicals entering the joints at the pavement surface.

These joints also sustain damage when incompressibles (dirt and/or stones) become lodged into the joint. Such damage results in spalling and/or breakage of concrete along the joint edge.

That's why highway, airport, and parking deck joints require a tough but flexible sealant that can withstand extreme weather conditions, as well as excessive horizontal and vertical movement.



The solution.

Fight back with DOW CORNING® silicone joint sealants.

DOW CORNING silicone joint sealants help prevent erosion, corrosion, spalling, and concrete breakage in contraction and expansion joints.

And, Dow Corning offers not one, but *three* silicone joint sealants to get the job done.

DOW CORNING® 888 silicone joint sealant is a one-part silicone, non-sag formulation that can be installed over a wide temperature range. And because of its non-sag characteristics, it can be used on both horizontal and vertical surfaces. It cures on exposure to atmospheric moisture to form a permanently flexible, low-modulus, high-elongation silicone rubber joint seal. DOW CORNING 888 silicone joint sealant is ideal for use in new or old Portland cement concrete-to-concrete joints that undergo a high degree of movement, such as tranverse pavement expansion and contraction joints in highways, airport aprons, runways, and parking decks.

DOW CORNING® 888-SL self-leveling silicone joint sealant has the same characteristics as DOW CORNING 888 silicone joint sealant and is also used in Portland cement concrete-to-concrete applications. DOW CORNING 888-SL self-leveling silicone joint sealant is unique, however, because it is self-leveling. Due to this unique feature, no tooling is required, allowing for easier and faster application.

DOW CORNING® 890-SL self-leveling silicone joint sealant for asphalt is also a one-part silicone sealant. While DOW CORNING 888 silicone joint sealant and 888-SL self-leveling silicone joint sealant are low-modulus sealants, DOW CORNING-890-SL self-leveling silicone joint sealant cures to produce an ultra-low-modulus sealant. Because of this ultra-low-modulus, DOW CORNING 890-SL is ideally suited to applications such as concrete/asphalt shoulder joints, where movement occurs differently because two dissimilar materials are used.

New Product Information

DOW CORNING

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT

DESCRIPTION

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is a one-component self-leveling sealant that readily extrudes over a wide temperature range and cures to produce a durable, flexible, low-modulus silicone rubber joint seal for use in Portland Cement Concrete (PCC) applications.

Because of its low-modulus characteristics and good extension/compression recovery (+100%/-50% of original joint width), DOW CORNING 888-SL SELF LEVELING SILICONE JOINT SEALANT gives outstanding performance in highway, airport, bridge and parking deck joints in which extreme movement occurs.

Highway concrete contraction expansion joints are generally sealed to prevent erosion of pavement subbase and/or corrosion of metal tie bars embedded in the concrete. Such corrosion results from water and deicing chemicals entering the joints at the pavement surface.

Sealing of highway joints also prevents spalling and breakage of concrete along the slab edge which occurs when non-compressibles (dirt, stones and/or ice) are forced into or formed in the joint.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT features:

- Ease of application—self-leveling (no tooling step), one-component, ready to use as supplied; dispensed directly from bulk container into joint by hand or with an air-powered pump.
- All-temperature gunnability—consistency and self-leveling characteristics are relatively unchanged over normal installation temperature range.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT

Type	Low-modulus silicone
Cure	One part; cures at room temperature by reaction with moisture in air
Special properties	Self-leveling, no tooling required; bonds to concrete without use of primer; good recovery from extension/compression
Primary Use	Sealing concrete pavement contraction joints, especially those exposed to extreme movement

- Unprimed adhesion—primer is not required for bonding to concrete. For optimum adhesion, the surface must be clean, dry and frost-free.
- Seals irregular surfaces—self-leveling characteristics of the sealant lend itself to sealing irregular joint surfaces by providing adequate contact to the substrate without the need for tooling.
- High movement capability—the sealant will perform in a continuous joint movement of +100% and -50%. In new construction, it will take a 25% movement of each of 2 or 3 slab lengths working in unison before all the "shrink" or contraction cracks occur.

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications or joint designs, but for comparison of rubber properties.

As Supplied

Color	Dark Gray
Flow, Sag or Slump	Self-leveling
Extrusion Rate, grams per minute	460
Percent Solids, %	94
Specific Gravity	1.3–1.4
Working Time, minutes	15
Skin-Over Time, at 25° C (77° F), minutes	25
Cure Time, at 25° C (77° F), days	14
Full Adhesion, days	14–21

As Cured—after 21 days at 25° C (77° F) and 50% RH

Elongation, percent minimum	1400
Modulus @ 50% Elongation, psi	16
Modulus @ 100% Elongation, psi	18
Modulus @ 150% Elongation, psi	20
Durometer Hardness, Shore 00, points	65
Adhesion to Concrete, minimum percent elongation	500

Specification Writers: Please contact Dow Corning Corporation, Midland, Michigan, before writing specifications on this product.

• Low modulus—the sealant stretches 100% in the joint with very little force. This places very little stress on the bond line or joint wall. This maximizes the probability of a successful seal with a continuous or gradual joint movement. Joint movement caused by temperature, traffic etc. requires a sealant that does not strongly resist stress and/or shear.

• Fully elastic—the sealant can be stretched to 100% or compressed to 50% of the joint bond width and held there. When released, it will recover 95% or greater of the original dimension. The extension and/or compression can be repeated many times and the sealant will resume its original shape without splits or cracks. Thus, when properly installed in a highway contraction joint, it does not "pump" out of the joint during compression. Nor does it split, crack or lose adhesion during extension.

• Resilient—once cured, the sealant prevents stones and other non-compressibles from entering the joint by "squeezing" them out as soon as the force pushing these non-compressibles into the sealant is removed.

• Good weatherability—a 100% silicone rubber is relatively unaffected by sunlight, rain, snow, ozone, or temperature extremes. Most organic sealants stiffen in cold temperatures and soften in warm weather. Organics also degrade and crack in sunlight.

• Cure time—typically, the sealant will have a skin-over time of one hour or less. With a recessed joint design, the road can be opened to traffic soon after sealing in most applications.

• Long-life reliability—under normal conditions, cured sealant stays rubbery from -45 to 149° C (-50 to 300° F) without tearing, cracking or becoming brittle.

USES

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is especially effective for sealing transverse contraction and expansion joints, longitudinal, center line and concrete to concrete shoulder joints in Portland Cement Concrete pavement. These concrete expansion contraction joints can be on a roadway or a bridge.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT can be used as the original sealant in new concrete construction or as a remedial or repair sealant in old construction. In new construction, it provides the extra insurance needed if all the "shrink" or contraction cracks do not occur during the initial "weakening" step. An example would be, when two or three concrete lengths act in unison, stressing a sealant two or three times the design dimensions or movement.

For use in repair or remedial applications where other joint sealing materials have failed because of excessive movement or poor weatherability, DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT can be used to seal irregularly shaped and/or spalled joints. These joints should be dry and free of all old sealing compounds.

LIMITATIONS

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is not recommended for continuous water immersion. It should not be applied in totally confined spaces where the sealant is not exposed to atmospheric moisture. The sealant should never be applied to wet or damp concrete or installed during inclement weather. New concrete should be allowed to cure and dry for at least 7 days of good drying weather. For each day of rain that occurs during that period, an additional day should be added to the 7-day drying time.

The sealant bead must be recessed below the pavement surface to prevent abrasion from traffic and snow removal equipment.

The adhesion to joints that are formed with products other than Portland Cement concrete should be checked before performing full-scale sealing.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is a self-leveling sealant which requires no tooling. Because of this special feature, the sealant should be applied only in horizontal joints.

HOW TO USE

Low-modulus DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT easily withstands extreme joint movement when properly applied. The sealant will withstand 100% extension and 50% compression of the original joint width. However, the recommended joint movement design is for ± 25% (50% total) and not at the sealant limits. This difference ensures a successful seal when job site joint widths are different than designed widths. Therefore, the joint design dimensions should be less than the ultimate sealant capability.

A thin bead of silicone sealant will accommodate more movement than a thick bead. DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT should be no thicker than 1/2 inch (12.7 mm) and no thinner than 1/4 inch (6.4 mm). Within these limits, the sealant width-to-depth ratio should be 2:1.

In all cases, the sealant must be recessed below the pavement surface at least 1/4 inch with 1/2 inch recess being acceptable in wider joints (see Table I). Consideration should also be given to other possible road-working operations, such as diamond-grinding of the surface. Activities of this type would require the sealant bead to be recessed even deeper.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is a self-leveling sealant which does not require an extra tooling step. Sealant depth should be controlled to provide a recessed sealant surface.

In new construction where the joint is a new cut, a shallow cut is recommended where the backer rod is placed on the "shelf" or bottom of the joint (see Figure I). Recommended depths are shown in Table I. This design makes it easier to install backer rod at a constant depth, thus the sealant bead will also be easier to control. A shallow cut design also saves saw blades and time and is recommended when the pavement will see foot traffic, as in urban areas.

In repair or remedial work where previous sealing materials have been of a joint filling type rather than a joint sealing type, or where the joint is not broadened by sawing, a standard joint design is recommended in which the backer rod is slightly above the shelf. Extra space (1/4 inch to 1/2 inch) between the bottom of the backer rod

TABLE I: RECOMMENDED BACKER-ROD INSTALLATION (SHALLOW CUT)*

Joint Width	1/4"	3/8"	1/2"	3/4"	1"
Recessed Below Surface	1/4"	1/4"	1/4"	1/4"	1/2"
Sealant Thickness	1/4"	1/4"	1/4"	3/8"	1/2"
Backer Rod Diameter	3/8"	1/2"	5/8"	7/8"	1 1/4"
Total Joint Depth	7/8-1"	1-1 1/8"	1 1/8-1 1/4"	1 1/2-1 5/8"	2 1/4-2 3/8"

*On road surfaces where grinding is planned at a later date, the sealant and backer rod should be installed so that sealant is approximatley 1/4 inch below the road surface after grinding is complete. An additional small amount should be added to allow for surface imperfections on the bottom and to provide room for old sealant to pump up from below during rehabilitation work in the summer months.

and the shelf should be provided to allow for possible "pumping" of old joint filling material from the bottom of the joint.

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is part of a system which must include the proper backer rod and proper installation procedures. SOF ROD, supplied by Applied Extrusion Technologies, is recommended for general use especially in irregular joints. In joints that are very consistent in width and have smooth parallel surfaces, expanded closed-cell polyethylene foam may be used. Several other types of back-up materials (paper, fibrous ropes and open-cell polyurethane foam) are available but have proven to be unacceptable. It is recommended that care be given to selection of the proper oversized backer, so that it fits tightly in the joint. This will prevent the self-leveling sealant from leaking past the backer rod to the bottom of the joint.

INSTALLATION

When installing DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT, it is critical that the joint be clean and dry prior to and during installation. Several procedures have been used in the past. However, experience has shown that some are less reliable than others. Water blasting, grinding, routing and wire brushing are no longer acceptable cleaning methods.

Instead, the following procedure is considered most reliable and is recommended for cleaning and drying the joint.

1. Clean all joints of contaminants and impurities to the depth at which the sealant and backer rod are to be installed. This may require cutting immediately followed by flushing with water to remove residual laitance. Flushing should be done in only one direction to reduce recontamination of the joint faces. After drying, at least the top inch of each joint face must be sandblasted to ensure a sound, clean surface for sealant application.

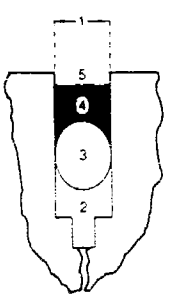
Sandblasting should be performed in two passes (one for each joint face) with the nozzle held at an angle to the face and no more than 2 inches from it.

2. Blow out the dust, loose particles and other debris from the joints in one direction only with oil-free compressed air. Surfaces must be clean, dry, frost-free and dust-free and can be checked by running a finger along the joint face. If a white, chalky dust appears on the finger, the joint must be recleaned.

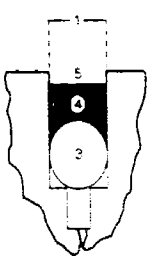
3. Install the recommended back-up material in the joints. This material permits application of the sealant at a controlled depth and acts as a bond breaker between the sealant and the bottom of the joint to allow the silicone sealant to stretch freely with joint movement. See Table I for the proper depth.

4. Apply DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT in a continuous operation to properly fill and seal the joint width (see Table II). The nozzle used to install the sealant should be such that the joint is filled from the bottom up. Filling in this manner displaces air from the joint and eliminates the likelihood of creating air voids in the sealant. Do not overfill the joint. The sealant must be recessed below the pavement

FIGURE I: GOOD JOINT DESIGNS



STANDARD JOINT



SHALLOW CUT JOINT FOR NEW CONSTRUCTION

1. Joint width wide enough to accomodate movement. (For additional information on joint width, see papers by Spells and Klosowski, "Silicone Sealants for Use in Concrete Construction," Vol. 1, No. 1, *American Concrete Institute*, SP-70, 1981 and J.B. Cook, "Construction Sealants and Adhesives," Wiley-Interscience, 1970.

2. Joint sawed deep enough to allow backer-rod/sealant placement and space for pumping of old sealing compounds. *NOTE*: This applies to standard joints only; void space beneath backer rod in new construction is not needed.

3. Proper backer-rod placement

4. Sealant installed to proper depth and width.

5. Sealant recessed 1/4 inch to 1/2 inch below pavement surface.

TABLE II: ESTIMATING REQUIREMENTS*

Linear feet per gallon of DOW CORNING 890-SL SELF-LEVELING SILICONE JOINT SEALANT FOR ASPHALT for various joint widths.

Joint Width, Inches	Sealant Bead Thickness, Inches	Minimum Joint Depth, Inches	Backer Rod Diameter, Inches	Backer Rod Placement Depth, Inches	Estimated Linear Feet/Gallon
1/4	1/4	1	3/8	1/2	275
3/8	1/4	1-1/4	1/2	1/2	185
1/2	1/4	1-1/4	5/8	1/2	140
5/8	5/16	1-1/2	3/4	9/16	90
3/4	3/8	1-3/4	1	7/8	60
7/8	7/16	1-7/8	1	11/16	45
1	1/2	2	1-1/4	3/4	35
>1	1/2	2+	1-1/4+	3/4	—

*Volumes will vary depending on joint design, tooling, backer-rod placement and waste.

surface (see Figure I). In the case of an overfilled joint, excess sealant must be removed such that proper joint geometry and recess are maintained. For maximum performance, the sealant should be applied at temperatures above 40° F (4.4° C).

New concrete must be allowed to cure and dry for a minimum of 7 good drying days prior to sealant installation for optimum adhesion. For each day of wet or rainy weather, an additional day of dry weather must be added to the drying period.

5. DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is self-leveling and tooling the sealant is not recommended. The sealant will self-level and develop good contact with the joint surface without tooling.

6. Excess sealant may be cleaned off tools and equipment while in an uncured state with a commercial solvent such as xylol or a "high-flash" solvent. Use appropriate precautions with regard to fire hazards and eye and skin contact. (Use goggles and gloves, if needed.)

7. Joints that have been properly recessed may be opened to traffic as soon as the installation equipment can be cleared from the traffic lane.

NOTE: For complete installation instructions, see Installation Guide for DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT.

CAUTION

Before handling sealant, read product and material safety data sheets for detailed use and health information.

Direct contact with uncured sealant may irritate eyes slightly. Avoid eye contact. Do not handle contact lenses with sealant on hands. In case of eye contact, flush eyes with water for 15 minutes.

Uncured sealant may cause injury if swallowed in large amounts. Do not put in mouth. If swallowed, obtain immediate medical attention.

Toxicology studies indicate that repeated, prolonged overexposure to DMF or N-MA causes adverse reproductive effects in laboratory animals. Avoid breathing vapors. Do not use in poorly ventilated spaces. Avoid prolonged skin contact.

Sealant contains dimethylformide (DMF). Overexposure can injure lungs, liver, kidneys and heart.

KEEP OUT OF REACH OF CHILDREN.

SHIPPING LIMITATIONS

None.

STORAGE AND SHELF LIFE

When stored in original, unopened containers at or below 32 C (90 F), DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT has a shelf life of 6 months from date of shipment. Keep containers tightly closed.

PACKAGING

DOW CORNING 888-SL SELF-LEVELING SILICONE JOINT SEALANT is supplied in 29-fl oz (857 mL) disposable plastic cartridges, 4.5-gal (17-L) plastic bulk pails, and 40-gal bulk drums.

WARRANTY INFORMATION—PLEASE READ CAREFULLY

Dow Corning believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the product or products, but it is your responsibility to thoroughly test the product in your specific application to determine its performance, efficacy and safety.

Unless Dow Corning provides you with a specific written warranty of fitness for a particular use, Dow Corning's sole warranty is that the product or products will meet Dow Corning's then current sales specifications. **DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR USE.** Your exclusive remedy and Dow Corning's sole liability for breach of warranty is limited to refund of the purchase price or replacement of any product shown to be other than as warranted, and Dow Corning expressly disclaims any liability for incidental or consequential damages.

DOW CORNING CORPORATION
MIDLAND, MICHIGAN 48640

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DOW CORNING

Mobay

A Bayer USA INC COMPANY

Mobay Corporation
Inorganic Chemicals Division

Product Information

Baysilone

960 Self-Leveling Silicone Concrete Joint Sealant

Description

Baysilone 960 SL Silicone Sealant is a one-component material which cures with the moisture in the air to form a flexible, low-modulus rubber seal particularly suitable as a concrete joint sealant. The low-modulus properties enable the sealant to withstand movement of ±50% or +100% of the original joint width (refer to Table I).

Baysilone 960 SL Silicone Sealant is 100 percent silicone rubber which is highly weather resistant. This provides for longer performance life than petroleum (organic) based joint sealants. The sealant is basically unaffected by sunlight, rain, ozone, and high or low temperatures. The rubber is also resistant to certain chemicals. Deicing chemicals, automotive fuels, and jet fuel do not affect the performance of the sealant when adequate drainage or clean-up occurs.

Product Features	Advantages
• One Component Product	• No mixing required
• Ease of Dispensing	• Can be pumped from the container with 20 psi air pressure.
• Self-Leveling	• No tooling required
• Primerless Adhesion to Concrete	• No primer needed to bond to concrete.
• UV and Ozone resistant	• Good weatherability and long service life. Will not dry out, become brittle, or crack.
• Wide temperature range performance	• Sealant stays flexible at temperatures from **-40°F** to **300°F**.
• Low modulus	• Performs in joints where movement occurs.

Applications

Baysilone 960 SL Silicone Sealant may be installed in existing or new portland concrete cement (PCC) highway contraction (transverse) joints, in the center-line longitudinal joint, and/or in shoulder longitudinal joints where concrete shoulders are prevalent. Baysilone 960 SL Silicone Sealant is also used to seal concrete joints on airport runways, taxiways, and aprons.

Specifications

Baysilone 960 SL Silicone Sealant meets or exceeds the requirements of federal specifications TT-S-00230C (COM-NBS), and TT-S-001543A (COM-NBS).

Joint Design

Proper joint design plays a major role in the performance of Baysilone 960 SL Silicone Sealant as a joint sealant. The dimensions of the joint should be sufficiently large enough to avoid movement beyond the sealant's capability.

The joint should be in the range of ¼ to 1 inch. Thermal expansion of the pavement, joint spacing, and changes in temperature all must be considered when determining proper joint width. When joint spacing exceeds 20 feet and climate conditions are severe, it is advisable to have the joint width greater than ½ inch.

The joint depth varies according to the designed width. It must be deep enough to accomodate the sealant, backer rod, and a space for old sealers and debris that may pump up into the joint when the concrete expands. The sealant bead should have a depth of one-half the width. The sealant surface should be ¼ to ½ inch below the pavement surface to prevent traffic contact and ensure optimal performance. The diameter of the backer rod must be approximately 25% larger than the width of the joint. The space below the backer rod need not be greater than ¼ to ½ inch. For example, the total depth for a joint which is 1 inch wide would be in the range of 2 to 2¾ inches. Table II gives infor-

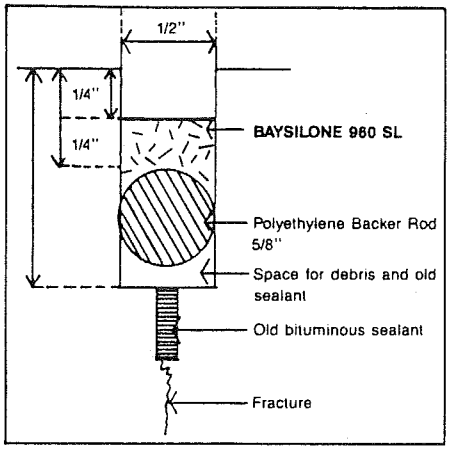
Table I: Typical Properties

Uncured Properties*		Test Method
Color:	Gray, Off-White	
Flow or Sag:	Self-Leveling	
Working Time:	15 minutes	
Tack-Free Time: @ 77°F (25°C), 50% R.H.	1-2 hours	ASTM C679
Viscosity:	20,000-50,000 cst	Brookfield
Specific Gravity:	1.07	
Cured Properties* (@ 77°F (25°C), 50% RH, 21 days)		**Test Method**
Shore A Hardness:	5	ASTM D2240
Joint Movement Capability:	±50%	ASTM C719
	+100%	[1]MCTM 001
Ultimate Tensile:	75 psi	ASTM D412
Tensile Stress at 150% Elongation:	30 psi	ASTM D412
Percent Elongation:	600%	ASTM D412

*These typical property values are provided as general information only. They should not be used for writing specifications. Contact Mobay for specification values.

[1]MCTM 001 is a Mobay Corporate Test Method which corresponds to ASTM test methods and is available upon request.

mation on joint widths and corresponding depths. A typical joint would have the following design:



Joint Preparation and Sealant Installation:

The sealant can be applied over a wide temperature range by way of an air-powered dispensing pump set at 20 psi. Prior to sealing, the ambient temperature should be above 50°F with the concrete dry (no residual moisture from morning frost and dew) so that the joint is at its optimum opening width. When applying sealant at temperatures below 50°F, extra care must be taken to assure that the joint remains dry and frost free before sealant installation. Also, it should be noted that at temperatures below 77°F the tack free time and cure through of the sealant will take longer.

The joints must be properly prepared for sealant installation. Both new or previously sealed joints must be clean and dry and free of any foreign materials such as; oil, grease, old sealant, and dried saw slurry. For previously sealed joints that are being resealed, mechanically remove all of the existing sealant prior to saw cutting the joint, care should be taken not to melt residual asphaltic sealant and spread it on the joint face with the hot saw blade. After saw cutting, both faces of the joint should then be sandblasted and/or high-pressure water washed, followed by high pressure air blowing just prior to sealant application, to remove any wind-blown debris. Make sure concrete is dry and free of residual moisture after water blasting.

For joints in new construction, the fresh-cut joints should be cleaned thoroughly on both sides following the procedure outlined above. Please note, however, that fresh concrete must be allowed to cure 5-7 days, dependent upon weather conditions, before sealant is installed. The time frame allows for the removal of all residual moisture in the concrete.

An approved closed cell polyethylene backer rod must be installed into the joint before sealant application. This product prevents 3-sided adhesion of the sealant which would cause joint failures. **The backer rod must be 25% larger in diameter than the width of the joint in order to prevent the sealant from flowing around the rod and to help the sealant maintain good side wall contact should any joint movement occur during the curing phase. If the joints are of uneven widths or excess movement is expected in the joint then a soft compressable polyethylene rod of larger diameter is recommended. Care should be taken not to puncture the backer rod during installation.**

Baysilone 960 SL Silicone Sealant is available in pails and drums, but for highway applications the 55 gallon drum (with 45 gallons of material) is most common. Remove the lid and untie the plastic liner, pulling it out and down over the outside of the drum. Place the drum under appli-

Table II: Joint Widths/Depths

Joint Width	Sealant Recess	Sealant Depth	Backer Rod Diameter	Total Joint Depth
1/4"	1/4"	1/4"	5/16"	13/16 - 1 5/16"
3/8"	1/4"	1/4"	1/2"	1 - 1 1/2"
1/2"	1/4"	1/4"	5/8"	1 1/8 - 1 5/8"
5/8"	1/4"	5/16"	3/4"	1 5/16 - 1 13/16
3/4"	1/4 - 1/2"	3/8"	7/8"	1 1/2 - 2 1/4"
7/8"	1/4 - 1/2"	7/16"	1"	1 11/16 - 2 7/16"
1"	1/4 - 1/2"	1/2"	1 1/4"	2 - 2 3/4"

cator pump and lower the clean follower-plate onto the sealant using the pump manufacturer's recommended procedures.

Baysilone 960 SL Silicone Sealant typically flows through the lines of an air-powered dispensing pump at approximately 20 psi. For best results, sealant should be installed in the joint by pushing it ahead of the tip of the wand - not by pulling it - into the joint. No tooling is required for the self-leveling sealant.

Table III provides estimated linear feet of coverage per gallon of Baysilone 960 SL Silicone Sealant for various sized joints.

The highway lanes that have been sealed should not be opened for traffic until the sealant is tack free to the touch. Tack free time is dependent upon the installed ambient temperature and humidity levels. At 77°F and 50% relative humidity the sealant will become tack free within 2 hours while cool, dry days may require longer to be tack free, and warmer more humid days may shorten the tack free time. These same temperatures and humidity levels affect the thru cure rate of the sealant.

Cure Rate/Adhesion

Baysilone 960 SL Silicone Sealant cures through from the outside to the inside and is dependent on the temperature and contact with moisture in the air. At a constant temperature and humidity of 77°F and 50% relative humidity, the sealant will cure through 1/8 inch from any air interface in 7 days. If the constant or intermittent temperatures and/or humidity are lower then the cure through rate will be slower. It is typical for the sealant at the bottom and center of the joint to cure more slowly because the exposure to air has been limited by the backer rod.

The adhesion of the sealant to the sidewalls is also effected by the cure rate. The adhesion increases with time until the sealant has completely cured. At constant 77°F and 50% relative humidity, the typical adhesion properties will be achieved in 21 days. If the weather conditions result in a slower cure rate, then it will take longer to get the typical adhesion properties. Also, any large or rapid movements of joint or immersion in water from a hard rain during the curing phase could adversely affect the sealant adhesion.

These factors concerning cure rate and adhesion should be considered when planning installation, work closures, or evaluating projects during installation.

Table III:
Estimated linear feet of coverage per gallon of Baysilone 960 SL Silicone Sealant

Width of Joint (inches)	Depth of Sealant (inches)	Linear feet/gallon
1	1/2	28
7/8	7/16	38
3/4	3/8	51
5/8	5/16	76
1/2	1/4	114
3/8	1/4	151
1/4	1/4	229

Equipment Recommendations

Complete units include an air powered pump, follower plate, hose, gun, and applicator nozzle. The extrusion pumps are available with various output capacities. The hoses and connections must not allow moisture penetration. Teflon® lined hoses are recommended because of its low moisture permeability. It should be noted that the rate of sealant delivery is affected by air pressure, hose length, hose diameter, and nozzle diameter. There are several manufacturers of the installation equipment who

Footnote: Teflon® is a registered trademark of E.I. Dupont de Nemours & Co., Inc.

should be consulted regarding their recommended procedures for equipment use (refer to Table IV).

Health and Safety Information

During cure a mild vapor is released, therefore, adequate ventilation should be assured. Avoid contact with the eyes. In case of contact with the eyes, immediately flush eyes with water for at least 15 minutes and consult a physician. Wearers of contact lenses should be certain that all silicone is removed from the hands before touching the lenses. Contact lenses can absorb the silicone and cause damage or discomfort to the eyes. The product may irritate the skin, therefore, wipe off all silicone with a dry cloth or paper towel and wash with soap and water. Keep away from children.

Appropriate literature has been assembled which provides information concerning the health and safety concerns that must be observed when handling Mobay products mentioned in this publication. Before working with any product mentioned in this publication, you must read and become familiar with the available information concerning its hazards, proper use and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your Mobay representative or contact the Corporate Occupational and Product Safety Group.

Table IV: Manufacturers of Installation Equipment

Aro Corporation Bryan, OH 43506 419-636-4242	Lincoln Industrial Division St. Louis, MO 63120 314-679-4200
Graco, Inc. Minneapolis, MN 55440 612-623-6000	Pyles Industries, Inc. Wixom, MI 48096 313-349-5500

10/90

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Midland, Michigan 48686
(517) 496-6000

Product Information Dept.

Information About Silicone Sealants

DOW CORNING® 888 SILICONE JOINT SEALANT

Type	Low-modulus silicone
Cure	One part, cures at room temperature by reaction with moisture in air
Special Properties	Easy to use, bonds to concrete without use of primer; good recovery from extension/compression
Primary Use	Sealing highway concrete contraction joints, especially those exposed to extreme movement

DESCRIPTION

DOW CORNING® 888 silicone joint sealant is a one-part, cold-applied silicone material that readily extrudes over a wide temperature range and cures to produce a durable, flexible, low-modulus silicone rubber joint seal for use in Portland Cement Concrete (PCC) applications.

Because of its low-modulus characteristics and good extension/compression recovery (+100/-50 percent of original joint width), DOW CORNING 888 silicone joint sealant gives outstanding performance in highway, airport, bridge and parking deck joints in which extreme movement occurs.

Highway concrete contraction/expansion joints are generally sealed to prevent erosion of pavement subbase and/or corrosion of metal tie bars embedded in the concrete. Such corrosion results from water and deicing chemicals entering the joints at the pavement surface.

Sealing of highway joints also prevents spalling and breakage of concrete along the slab edge, which occurs when noncompressibles (dirt, stones and/or ice) are forced into or form in the joint.

DOW CORNING 888 silicone joint sealant features:

- Easy to use – one-component, cold-applied, ready-to-use as supplied; no mixing required; dispensed directly from bulk container into joint by hand or with an air-powered pump.
- All-temperature gunnability – consistency is relatively unchanged over normal installation temperature range.
- Unprimed adhesion – primer is not required for bonding to Portland Cement Concrete. For optimum adhesion, the surface must be clean, dry and frost-free.
- Seals irregular surfaces – can be used to seal joints where spalls have occurred, provided adequate contact is made between sealant and substrate.
- High movement capability – the sealant will perform in a continuous joint movement of +100/-50 percent. In new construction, it will take the 25 percent movement of each of two or three slab lengths working in

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications or joint designs, but for comparison of rubber properties.

As Supplied

Color	Gray
Flow, Sag or Slump	Nil
Extrusion Rate, grams per minute	90-250
Specific Gravity	1.450-1.515
Skin-Over Time, at 25 C (77 F), minutes	10
Tack-Free Time, at 25 C (77 F), hours	1
Cure Time, at 25 C (77 F), days	7-14
Full Adhesion, days	14-21

As Cured – after 7 days at 25 C (77 F) and 50 percent RH

Elongation, percent minimum	1200
Modulus, at 150 percent Elongation, psi maximum	45
Durometer Hardness, Shore A points	15
Joint Movement Capability, +100/-50 percent, 10 cycles	No failure
Adhesion to Concrete, minimum percent Elongation	+500

Specification Writers: Please contact Dow Corning Corporation, Midland, Michigan, before writing specifications on this product.

unison before all the "shrink" or contraction cracks occur.

- Low modulus – the sealant stretches 100 percent in the joint with very little force. This places very little strain on the bond line or joint wall. This maximizes the probability of a successful seal with continuous joint movement. Joint movement caused by temperature, traffic and faulting requires a sealant that does not strongly resist stress and/or shear.
- Fully elastic – the sealant can be stretched to 100 percent or compressed to 50 percent of the joint bond width and held there. When released, it will recover 95 percent or greater of the original dimension. The extension and/or compression can be repeated many times and the sealant will resume its original shape without splits or cracks. Thus, when properly installed in a highway contraction joint, it does not "pump" out of the joint during compression. Nor does it split, crack or lose adhesion during extension.
- Resilient – once cured, the sealant prevents stones and other noncompressibles from entering the joint by "squeezing" them out as soon as the force pushing these noncompressibles into the sealant is removed.
- Good weatherability – its 100 percent silicone rubber is virtually unaffected by sunlight, rain, snow, ozone or temperature extremes.
- Fast cure – typically, the sealant will have a tack-free surface in one hour or less. With this fast cure and recessed joint design, the road can be opened soon after sealing in most applications.
- Long-life reliability – under normal conditions, cured sealant stays rubbery from -45 to 149 C (-49 to 300 F) without tearing, cracking or becoming brittle.
- Compliance with performance requirements – meets and exceeds both Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants) that were written for construction sealants requiring extremely high movement capability. Also meets Canadian Specification 19GP9 Type I and approximately 35 Department of Transportation (DOT) specifications that require a low-modulus sealant with high movement capability.
- The AASHTO-AGC-ARTBA Joint Committee (Task Group 23, Subcommittee on New Highway Materials) included a discussion of silicone joint sealants in its booklet titled "Guide Procedures for Concrete Pavement 4R Operations - 1985." In addition, the Federal Aviation Administration has published the "FAA Engineering Brief Number 36 – Silicone Joint Sealants." This publication approves the use of these materials in airfield situations.

USES

DOW CORNING 888 silicone joint sealant is especially effective for sealing transverse contraction and expansion joints, longitudinal, center line and shoulder joints in Portland Cement Concrete. These concrete expansion/contraction joints can be on a roadway or a bridge.

DOW CORNING 888 silicone joint sealant can be used as the original sealant in new concrete construction or as a remedial or repair sealant in old construction. In new construction, it provides the *extra* insurance needed if all the "shrink" or contraction cracks do not occur during the initial "weakening" step. Thus, two or three concrete lengths act in unison, stressing a sealant two or three times the design dimensions or movement.

For use in repair or remedial applications where other joint sealing materials have failed because of excessive movement or poor weatherability, DOW CORNING 888 silicone joint sealant can be used to seal irregularly shaped and/or spalled joints. Thus, the joints do not need reforming before sealing. These joints should be dry and free of all old sealing compounds.

LIMITATIONS

DOW CORNING 888 silicone joint sealant is not recommended for continuous water immersion. It should not be applied in totally confined spaces where the sealant is not exposed to atmospheric moisture.

The sealant should never be applied to wet or damp concrete or installed during inclement weather. New concrete should be allowed to cure and dry for at least 7 days of good drying weather. For each day of rain that occurs during that period, an additional day should be added to the 7-day drying time. For "Fastrack" or high early concrete mixes, please contact your Dow Corning Technical Service Representative.

The sealant bead should be recessed below the pavement surface to prevent abrasion from traffic and snow removal equipment.

The adhesion to substrates other than Portland Cement Concrete should be checked before performing full-scale sealing. Contact your Dow Corning Technical Service Representative.

HOW TO USE

Low-modulus DOW CORNING 888 silicone joint sealant easily withstands extreme joint movement when properly applied. The sealant will withstand 100 percent extension and 50 percent compression of the original joint width. However, the recommended joint movement design is for ±25 percent (50 percent total) and not at the sealant limits. This difference ensures a successful seal when job site joint widths are different than designed widths. Therefore, the joint design dimensions should be less than the ultimate sealant capability.

A thin bead of silicone sealant will accommodate more movement than a thick bead. DOW CORNING 888 silicone joint sealant should be no thicker than 1/2 inch (12.7 mm) and no thinner than 1/4 inch (6.4 mm). Within these limits, the sealant width-to-depth ratio should be 2:1.

In all cases, the sealant must be recessed below the pavement surface at least 1/4 inch with 1/2 inch recess being acceptable in wider joints (see Table I). Consid-eration should also be given to other possible road-working operations, such as diamond-grinding of the surface. Activities of this type would require the sealant bead to be recessed even deeper.

DOW CORNING 888 silicone joint sealant is a nonsag sealant. This allows its use in vertical curb joints as well as horizontal joints.

TABLE I: RECOMMENDED BACKER ROD INSTALLATION (SHALLOW CUT)[1]

Joint Width	1/4"	3/8"	1/2"	3/4"	1"
Recessed Below Surface	1/4"	1/4"	1/4"	1/4"	1/2"
Sealant Thickness	1/4"	1/4"	1/4"	3/8"	1/2"
Backer Rod Diameter	3/8"	1/2"	5/8"	7/8"	1 1/4"
Total Joint Depth	7/8-1"	1-1 1/8"	1 1/8-1 1/4"	1 1/2-1 5/8"	2 1/4-2 3/8"

[1]On road surfaces where grinding is planned at a later date, the sealant and backer rod should be installed so that sealant is approximately 1/4 inch below the road surface after grinding is complete. An additional small amount should be added to allow for surface imperfections on the bottom and to provide room for old sealant to pump up from below during rehabilitation work in the summer months.

Being a non-leveling sealant, DOW CORNING 888 silicone joint sealant must be "tooled" to ensure good contact and adhesion as well as to control sealant depth and provide a recessed surface. Several devices can be used for tooling. Among the simplest and easiest to obtain is the expanded closed-cell polyethylene foam backer rod, which must be larger than the joint width.

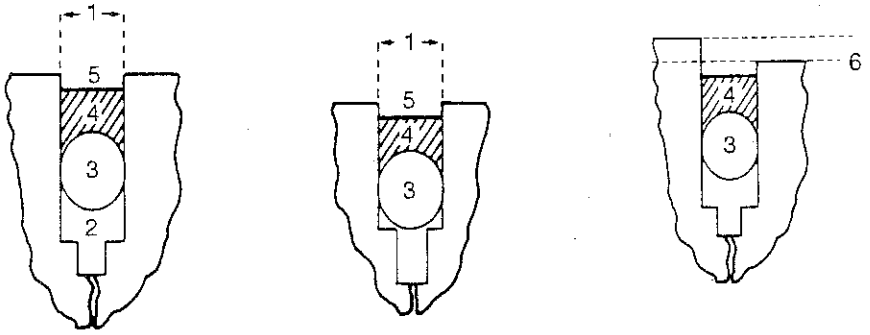
In new construction where the joint is a new cut, a shallow cut is recommended where the backer rod is placed on the "shelf" or bottom of the joint (see Figure I). Recommended depths are shown in Table I. This design provides a firm support for sealant tooling, making the sealant easier to install, and further ensures good sealant/concrete contact. A shallow cut design also saves saw blades and time.

In repair work where previous sealing materials have been of a joint filling type rather than a joint sealing type, or where the joint is not broadened by sawing, a standard joint design is recommended in which the backer rod is slightly above the shelf. Extra space (1/4 inch to 1/2 inch) between the bottom of the backer rod and shelf should be provided to allow for possible "pumping" of old joint filling material from the bottom of the joint. It is recommended that care be given to selection of proper oversized backer, so that a firm tooling support is obtained (generally 1/4 inch larger than the joint works quite well).

DOW CORNING 888 silicone joint sealant is part of a system that must include the proper backer rod and proper installation procedures. The backer rod must be expanded closed-cell polyethylene foam. Where irregularly shaped joints exist, backer rod that is open-cell with an impervious skin is recommended to ensure a tight fit. Several other back-up materials (paper, fibrous ropes and open cell foam) are available, but have proven to be unacceptable. There are several manufacturers of closed-cell polyethylene foam and any may be used.

Table I shows proper backer rod size for various joint widths, based on closed-cell backer rod.

FIGURE I: GOOD JOINT DESIGNS



STANDARD JOINT

SHALLOW CUT JOINT FOR NEW CONSTRUCTION

DESIGN IF GRINDING IS ANTICIPATED

1. Joint width wide enough to accommodate movement. (For additional information on joint width, see papers by Spells and Klosowski, "Silicone Sealants for Use in Concrete Construction," Vol. 1, No. 1, *American Concrete Institute*, SP-70, 1981; J.B. Cook, "Construction Sealants and Adhesives," Wiley-Interscience, 1970; and J.M. Klosowski, "Sealants in Construction," Marcel Dekker, 1989).

2. Joint sawed deep enough to allow backer rod/sealant placement and space for pumping of old sealant compounds. NOTE: This applies to standard joints only; void space beneath backer rod in new construction is not needed.

3. Proper backer rod placement to prevent three-sided adhesion.

4. Sealant installed to proper depth and width.

5. Sealant tooled 1/4 inch to 1/2 inch below pavement surface.

6. Depth of lowest slab determines the amount of recess required if grinding is anticipated; once grinding is complete, the sealant will have proper recess below the pavement surface.

INSTALLATION

When installing DOW CORNING 888 silicone joint sealant, it is critical to clean and dry the joint prior to and during installation. Several procedures have been used in the past. However, experience has shown that some are less reliable than others, apparently due to operator error and inadequate equipment maintenance. For this reason, water blasting, grinding, routing and wire brushing are no longer acceptable cleaning methods.

Instead, the following procedure is considered most reliable and is recommended for cleaning and drying the joint:

TABLE II: JOINT REQUIREMENTS

Linear feet per gallon of DOW CORNING 888 silicone joint sealant for various joint widths.

Joint Width, Inches	Sealant Bead Thickness, Inches	Minimum Joint Depth, Inches	Backer Rod Diameter, Inches	Backer Rod Placement Depth, Inches	Estimated* Linear Feet/Gallon
1/4	1/4	1	3/8	1/2	246
3/8	1/4	1 1/4	1/2	1/2	149
1/2	1/4	1 1/2	5/8	1/2	103
5/8	5/16	1 1/2	3/4	9/16	66
3/4	3/8	1 3/4	1	7/8	46
7/8	7/16	1 7/8	1	11/16	33
1	1/2	2	1 1/4	3/4	26
>1	1/2	2+	1 1/4+	3/4	-

*Volumes will vary depending on joint design, tooling, backer rod placement and waste, and are based on material needed to form an hour-glass shape, including the shoulders on top and bottom.

1. Clean all joints of contaminants and impurities to the depth at which the sealant and backer rod are to be installed. This may require cutting, immediately followed by flushing with water to remove residual laitance. Flushing should be done in only one direction (forward) to reduce recontamination of the joint faces. After drying, at least the top inch of each joint face must be sandblasted to ensure a sound, clean surface for sealant application.

Sandblasting should be performed in two passes (one for each joint face) with the nozzle held at an angle to the face and no more than 2 inches from it. Sandblasting should be performed in compliance with federal and local laws. Proper protective equipment must be worn.

2. Blow out the dust, loose particles and other debris from the joints in one direction only with oil- and water-free compressed air*. Surfaces must be *clean, dry, frost-free* and *dust-free* and can be checked by running a finger along the joint face. If a white, chalky dust appears on the finger, the joint must be recleaned.

3. Install recommended backer rod in the joint. The backer rod permits application of the sealant at a controlled depth and acts as a bond breaker to allow the silicone sealant to stretch freely with joint movement. See Table I for the proper depth.

4. Apply DOW CORNING 888 silicone joint sealant in a continuous operation to properly fill and seal the joint width (see Table II). For maximum performance, the sealant should be applied at temperatures above 4.4 C (40 F). However, this material has been successfully installed at lower temperatures. This type of situation requires greater caution to ensure a clean, dry and frost-free joint and should be discussed with a Dow Corning representative before installation.

For optimum adhesion, new concrete must be allowed to cure and dry for a minimum of 7 good drying days prior to sealant installation. For each day of wet or rainy weather, an additional day of dry weather must be added to the drying period.

For "Fastrack" or high early concrete mixes please contact your Dow Corning Technical Service Representative.

5. Tool the joint so that it is concave and a minimum of 1/4 inch below the roadway surface to prevent traffic abrasion. Tooling should be done before a "skin" forms, usually within 10 minutes of application. Do not use soap, water or oil as a tooling aid (see Figure I).

6. Excess sealant may be cleaned from tools and equipment while in an uncured state with a commercial solvent such as xylol or a high-flash solvent. Use appropriate precautions with regard to fire hazards and eye and skin contact. (Use goggles and gloves, if needed.)

7. Joints that have been properly recessed may be opened to traffic as soon as the installation equipment can be cleared from the traffic lane.

NOTE: For complete installation instructions, see the DOW CORNING Silicone Pavement Sealant Guide, Form No. 61-507.

CAUTION

Before handling sealant, read product and material safety data sheets for detailed use and health information.

Direct contact with uncured sealant may irritate eyes slightly. Avoid eye contact. Do not handle contact lenses with sealant on hands. In case of eye contact, flush eyes with water for 15 minutes.

Uncured sealant may cause injury if swallowed in large amounts. Do not put in mouth. If swallowed, obtain immediate medical attention.

Toxicology studies indicate that repeated, prolonged over-exposure to N-MA causes adverse reproductive effects in laboratory animals. Avoid breathing vapors. Do not use in poorly ventilated spaces. Avoid prolonged skin contact.

KEEP OUT OF REACH OF CHILDREN.

*OSHA Regulation, General Rules, Part 1, R-408, 0036 Paragraph 1.

SHIPPING LIMITATIONS

None.

STORAGE AND SHELF LIFE

When stored in original, unopened containers at or below 32 C (90 F), DOW CORNING 888 silicone joint sealant has a shelf life of 6 months from date of shipment. Keep containers tightly closed.

PACKAGING

DOW CORNING 888 silicone joint sealant is supplied in 29-fl oz (857-mL) disposable plastic cartridges, 4.5-gal (17-L) bulk pails, and 40-gal (151.4-L) bulk drums.

MSDS INFORMATION

ATTENTION: PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICE, OR BY CALLING (517) 496-6000.

WARRANTY INFORMATION – PLEASE READ CAREFULLY

Dow Corning believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the product or products, but it is your responsibility to thoroughly test the product in your specific application to determine its performance, efficacy and safety.

Unless Dow Corning provides you with a specific written warranty of fitness for a particular use, Dow Corning's sole warranty is that the product or products will meet Dow Corning's then current sales specifications. **DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR USE.** Your exclusive remedy and Dow Corning's sole liability for breach of warranty is limited to refund of the purchase price or replacement of any product shown to be other than as warranted, and Dow Corning expressly disclaims any liability for incidental or consequential damages.

APPENDIX C

Laboratory Test Results

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by: [signature]

Project SPS-4 Silicone Joint Sealant Testing
Location None Given
Material Dow Corning 890 SL Sampled By ADOT/-- Date 03-25-91
Source Lot ET 11047 Submitted By WT/Young Date 03-28-91
Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	12.5
Durometer Hardness (Shore A)	3
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	81
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	85
Extrusion Rate, g/Min.	630
Non-Volatile Content, %	97.1
Specific Gravity	1.293
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	Satisfactory

4857J:1

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by:

Project SPS-4 Silicone Joint Sealant Testing
Location None Given
Material Mobay Baysilone SL 960 Sampled By ADOT/-- Date 03-27-91
Source Lot No. 56191 Submitted By WT/Young Date 03-28-91
Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	28.4
Durometer Hardness (Shore A)	9
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	78
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	85
Extrusion Rate, g/Min.	842
Non-Volatile Content, %	92.9
Specific Gravity	1.070
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	*Unsatisfactory

*Complete adhesive failure on all specimens

4857J:2

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by: [signature]

Project SPS-4 Silicone Joint Sealant Testing
Location Test Sections 6 and 19
Material Dow Corning 888 SL Sampled By ADOT/-- Date 03-29-91
Source Lot GA 110415 Submitted By WT/Young Date 04-08-91
Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	25.6
Durometer Hardness (Shore A)	10
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	81
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	75
Extrusion Rate, g/Min.	594
Non-Volatile Content, %	94.3
Specific Gravity	1.358
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	Satisfactory

4857J:3

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by:

Project SPS-4 Silicone Joint Sealant Testing

Location None Given

Material Crafco Silicone SL Sampled By ADOT/-- Date 03-30-91

Source No Lot Given Submitted By WT/Young Date 04-08-91

Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	14.9
Durometer Hardness (Shore A)	2
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	112
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	135
Extrusion Rate, g/Min.	1844
Non-Volatile Content, %	96.4
Specific Gravity	1.310
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	Satisfactory

4857J:4

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by: [signature]

Project SPS-4 Silicone Joint Sealant Testing

Location Test Section #15

Material Dow Corning 888 Sampled By ADOT/-- Date 03-30-91

Source Lot No. FG08054 Submitted By WT/Young Date 04-08-91

Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	54.3
Durometer Hardness (Shore A)	21
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	163
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	60
Extrusion Rate, g/Min.	368
Non-Volatile Content, %	96.7
Specific Gravity	1.493
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	Satisfactory

4857J:5

Client: ARIZONA TRANSPORTATION RESEARCH CENTER
ARIZONA STATE UNIVERSITY
ATTN: MR DWIGHT METCALF, E.I.T.
COLLEGE OF ENGINEERING AND APPLIED SCIENCE
TEMPE, AZ 85287-7306

Job No. --
Invoice No. 22410552
Date of Report 09-30-91
Reviewed by: [signature]

Project SPS-4 Silicone Joint Sealant Testing
Location Test Section #16 (Experiment #2)
Material Mobay Baysoline SL Sampled By ADOT/-- Date 03-29-91
Source Lot No. 56191 Submitted By WT/Young Date 04-08-91
Test Procedure GDT-106 Authorized By ATRC/Hussain Date 03-28-91

Test	Results
Tensile Stress at 150% strain, psi (average of 5 tested)	28.3
Durometer Hardness (Shore A)	10
Bonding Strength on Concrete Mortar, psi (average of 5 tested)	93.1
Tack Free Time, Min. (at 77°± 3°F and 50±5% Humidity)	85
Extrusion Rate, g/Min.	851
Non-Volatile Content, %	93.1
Specific Gravity	1.071
Movement Capability and Adhesion (10 cycles, +50%/0% at 0°F)	*Unsatisfactory

*Complete adhesive failure on all specimens

4857J:6

Arizona Transportation Research Center
Arizona State University
College of Engineering and Applied Science
Tempe, Arizona 85287-7306

October 7, 1991

Attn: Mr. Dwight Metcalf, E.I.T.

Re: Laboratory Testing of Crafco Superseal 444, Lot 323
SPS-4 Test Sections

Ref. No. 22410552-1

A sample of Crafco Superseal 444 (Lot No. 323), submitted by ATRC personnel on October 22, 1991, has been tested in accordance with ASTM D3406-85, "Joint Sealant, Hot Applied, Elastomeric Type, for Portland Cement Concrete Pavements". Testing was conducted to determine specification conformance. The manufacturer's recommended safe heating temperature of 280°F, provided with the sample, was used to prepare test specimens. Testing for artificial weathering was not requested.

SAMPLE PREPARATION

A portion of the liquid sealant material was obtained from the bulk sample in accordance with the above procedure. The sealant material was then heated in an oil-jacketed melter, equipped with mechanical agitation, at the specified safe heating temperature for six hours.

Results of testing along with the specified limits are presented in the following table. Testing indicates the sealant material meets the physical requirements as listed in ASTM D3406-85.

Arizona Transportation Research Center
Ref. No. 22410552-1

Laboratory Test Results for Crafco Superseal 444
Lot No. 323

Property	Results	ASTM D3406 Specified Limits
Penetration at 77°F, 1/10 mm (150-gram cone)	100	130 Maximum
Flow, 158°F (72 hours), mm	0.0	3.0 Maximum
Nonimmersed Bond at 0°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Water Immersed Bond 0°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Resilience, 77°F, %	79	60 Minimum
Oven Aged Resilience, 77°F, %	69	60 Minimum
Tensile Adhesion, %	733	500 Minimum
Flexibility, 158°F, 72 Hours	Satisfactory	No Cracking

Sealant Material Meets the Physical Requirements as Listed Above

If you should have any questions regarding these results, or if we can be of further assistance, please do not hesitate to call.

Sincerely,
WESTERN TECHNOLOGIES INC.

Phillip D. Feliz, S.E.T.
Senior Materials Specialist

Reviewed by:
Frank M. Guerra, P.E.
Director, Materials Laboratory

PDF (4919J)

Copies to: Client/Addressee (3)

Arizona Transportation Research Center
Arizona State University
College of Engineering and Applied Science
Tempe, Arizona 85287-7306

December 2, 1991

Attn: Mr. Dwight Metcalf, E.I.T.

Re: Laboratory Testing of
Crafco Roadsaver 221
SPS-4 Test Sections

Ref. No. 22410552-1

A sample of Crafco Roadsaver 221, submitted by ATRC personnel on March 21, 1991, has been tested in accordance with ASTM D3405-78, "Joint Sealant, Hot Poured, for Concrete and Asphalt Pavements". Western received authorization to proceed testing on September 18, 1991. Testing was conducted to determine specification conformance. The manufacturer's recommended safe heating temperature of 410°F, provided with the sample, was used to prepare test specimens. Testing for artificial weathering was not requested.

SAMPLE PREPARATION

A portion of the liquid sealant material was obtained from the bulk sample in accordance with the above procedure, and in a manner to avoid inclusion of the surface layer or any container liner. The sealant material was then heated in an oil-jacketed melter, equipped with mechanical agitation, until the specified safe heating temperature was reached. Testing was again repeated after heating in the above manner for six hours.

Results of testing along with the specified limits are presented in the following tables. Testing indicates the sealant material meets the physical requirements as listed in ASTM D3405-78.

Arizona Transportation Research Center
Ref. No. 22410552-1

Laboratory Test Results for Crafco Roadsaver 221
(After Six Hours of Heating)

Property	Results	ASTM D3405 Specified Limits
Penetration at 77°F, 1/10 mm (150-gram cone)	85	90 Maximum
Flow, 140°F (5 hours), mm	0.0	3.0 Maximum
Bond at -20°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Water Immersed Bond 0°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Resilience, 77°F, %	60	60 Minimum
Brookfield Viscosity @ 380°F, cp	3600	---
Ductility @ 77°F, cm	41	---
Asphalt Compatability	Compatable	Compatable

Sealant Material Meets the Physical Requirements as Listed Above

If you should have any questions regarding these results, or if we can be of further assistance, please do not hesitate to call.

Sincerely,
WESTERN TECHNOLOGIES INC.

Phillip D. Feliz, S.E.T.
Senior Materials Specialist

Reviewed by:
Frank M. Guerra, P.E.
Director, Materials Laboratory

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Arizona Transportation Research Center
Ref. No. 22410552-1

Laboratory Test Results for Crafco Roadsaver 221
(Initial Heating)

Property	Results	ASTM D3405 Specified Limits
Penetration at 77°F, 1/10 mm (150-gram cone)	78	90 Maximum
Flow, 140°F (5 hours), mm	0.0	3.0 Maximum
Bond at -20°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Water Immersed Bond 0°F, 50% extension	Passed 3 Cycles	Pass 3 Cycles
Resilience, 77°F, %	65	60 Minimum
Brookfield Viscosity @ 380°F, cp	5300	---
Ductility @ 77°F, cm	42	---
Asphalt Compatability	Compatable	Compatable

Sealant Material Meets the Physical Requirements as Listed Above

LABORATORY REPORT

Client ARIZONA TRANSPORTATION RESEARCH CENTER

Job No.
W/O No. 2241W061
Date of Report 12/4/91

Reviewed By

Project ATRC SPS-4 Compression Sealant

Location Western Technologies Inc., Phoenix, Arizona

Material/Specimen Compression Sealant Sampled By ATRC/Hossain Date 3/31/91

Source Test Section #1 Delastic V687 Submitted By ATRC/Metcalf Date 9/18/91

Test Procedure ASTM D412/D573 Authorized By ATRC/Metcalf Date 9/18/91

RESULTS

TENSILE STRENGTH - ASTM D412, METHOD A, SAMPLE DIE C

Sample Number	Sample Width (in)	Sample Thickness in.	Area Sq. In.	Ultimate Load, lbF	Ultimate Tensile Strength psi	Requirement
1	.250	.074	.0185	48.17	2,600	2000 min. psi

ELONGATION AT BREAK - ASTM D412, METHOD A, SAMPLE DIE C

Sample Number	Gauge Length, In.	Final Length at Break, In	Elongation @ Break, %	Requirement
1	1.0	4.3	330	250 min. %

ACCELERATED AGING - ASTM D573 70 HOURS AT 212°F

Sample Number	Sample Width (in)	Sample Thickness in.	Area Sq. In.	Ultimate Load, lbF	Ultimate Tensile Strength psi	Percentage Change in Property	Require. %
1	.250	.066	.0165	38.33	2,320	-10.8	20 max. loss, %

ACCELERATED AGING - ASTM D573 70 HOURS AT 212°F

ELONGATION AT BREAK - ASTM D412, METHOD A, SAMPLE DIE C

Sample Number	Gauge Length, In	Final Length Break, In.	Elongation @ Break, In	Percentage in Change Property	Requirement %
1	1.0	4.0	300	-9.1	20 max. loss, %

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LABORATORY REPORT

Client ARIZONA TRANSPORTATION RESEARCH CENTER

Job No.
W/O No. 2241W061
Date of Report 12/4/91
Reviewed By

Project ATRC SPS-4 Compression Sealant

Location Western Technologies Inc., Phoenix, Arizona

Material/Specimen Compression Sealant Sampled By ATRC/Hossain Date 3/31/91

Source Test Section #1 Delastic V687 Submitted By ATRC/Metcalf Date 9/18/91

Test Procedure ASTM D412/D573 Authorized By ATRC/Metcalf Date 9/18/91

RESULTS

COMPRESSION - DEFLECTION ASTM D2628 9.3
AT 80% OF NOMINAL WIDTH

Sample Number	Nominal Width, In	Sample Length, In	Load, lbF Applied on 3rd Cycle	Compression Deflection	Requirement
1	.744	5.000	30.12	6.0	3.5 min, lbF/in.
2	.742	5.0625	28.50	5.6	"
3	.744	5.000	29.22	5.8	"

LOW TEMPERATURE RECOVERY ASTM D2628 9.2
22 HOURS AT -20°F, 50% DEFLECTION

Sample Number	Nominal Width	Recovered Width	% Recovery	Requirement
1	.750	.672	90	83 min. %
2	.765	.688	90	"

72 HOURS AT 14°F, 50% DEFLECTION

Sample Number	Nominal Width	Recovered Width	% Recovery	Requirement
1	.761	.712	94	88 min. %
2	.758	.709	94	"

HIGH TEMPERATURE RECOVERY ASTM D2628 9.2
70 HOURS AT 212°F, 50% DEFLECTION

Sample Number	Nominal Width	Recovered Width	% Recovery	Requirement
1	.755	.610	81	85 min. %
2	.759	.604	80	"

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5508K2

LABORATORY REPORT

Client ARIZONA TRANSPORTATION RESEARCH CENTER

Job No. _____
W/O No. 2241W061
Date of Report 12/4/91
Reviewed By S M Geiringer

Project ATRC SPS-4 Compression Sealant

Location Western Technologies Inc., Phoenix, Arizona

Material/Specimen Compression Sealant Sampled By ATRC/Hossain Date 3/31/91

Source Test Section #1 Delastic V687 Submitted By ATRC/Metcalf Date 9/18/91

Test Procedure ASTM D412/D573 Authorized By ATRC/Metcalf Date 9/18/91

RESULTS

DUROMETER HARDNESS ASTM D2240
LOW TEMPERATURE STIFFENING 7 DAYS AT 14°F

Sample No. 1	Sample No. 2	Sample No. 3	
A/60/1	A/60/1	A/60/1	
A/60/1	A/60/1	A/58/1	Samples were plied
A/61/1	A/60/1	A/61/1	four (4) times to obtain
A/61/1	A/60/1	A/60/1	nominal thickness of .300"
A/60/1	A/60/1	A/59/1	
Average Hardness	Average Hardness	Average Hardness	
60	60	60	

Sample Number	Durometer Hardness Points Change	Requirement
1	+2	0 to +15
2	+2	"
3	+2	"

DUROMETER HARDNESS - ASTM D2240

Sample No. 1	Average Hardness
A/58/1	
A/58/1	
A/59/1	58
A/59/1	
A/58/1	Sample was plied four (4) times to obtain a nominal thickness of .278"

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LABORATORY REPORT

Client ARIZONA TRANSPORTATION RESEARCH CENTER

Job No.
W/O No. 2241W061
Date of Report 12/4/91

Reviewed By

Project ATRC SPS-4 Compression Sealant

Location Western Technologies Inc., Phoenix, Arizona

Material/Specimen Compression Sealant Sampled By ATRC/Hossain Date 3/31/91

Source Test Section #1 Delastic V687 Submitted By ATRC/Metcalf Date 9/18/91

Test Procedure ASTM D412/D573 Authorized By ATRC/Metcalf Date 9/18/91

RESULTS

ACCELERATED AGING - ASTM D573 70 HOURS at 212°F
DUROMETER HARDNESS - ASTM D2240

Sample No. 1	Sample No. 2	Sample No. 3	
A/63/1	A/63/1	A/63/1	
A/65/1	A/63/1	A/64/1	Samples were plied
A/65/1	A/63/1	A/63/1	four (4) times to obtain
A/63/1	A/63/1	A/63/1	nominal thicknesses of .278"
A/63/1	A/63/1	A/64/1	
Average Hardness	Average Hardness	Average Hardness	
64	63	63	

Sample Number	Durometer Hardness Points Change	Requirement
1	+6	0 to +10
2	+5	"
3	+5	"

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LABORATORY REPORT
REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location None Given

Material/Specimen Comp. Sealant Lot 1ES2 Sampled By ATRC/-- Date --

Source Watson Bowman (3/4"x3/4") Submitted By RTC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

RESULTS

TENSILE STRENGTH (ASTM D412, METHOD A, SAMPLE DIE C)

Specimen	Width (Inches)	Thickness (Inches)	Area Sq. In.	Ultimate Load, lbF	Ultimate Tensile Str., psi	Property Change, %
As rec'd.	0.250	0.057	0.01425	33.92	2380	-16.0
After aging	0.250	0.078	0.01950	39.09	2000	

ASTM D2628-91 requirement for ultimate tensile strength: 2000 psi minimum.
ASTM D2628-91 requirement for property change: -20% maximum

ELONGATION AT BREAK (ASTM D412, METHOD A, SAMPLE DIE C)

Spec. I.D.	Gauge Length, In.	Final Length at Break	Elongation at Break %	Property Change, %
As rec'd.	1.0	4.2	320	-9.4
*After aging	1.0	3.9	290	

ASTM D2628-91 requirement for elongation: 250% minimum
ASTM D2628-91 requirement for property change: -20% maximum

*Accelerated aging specimens aged for 70 hours at 212°F in accordance with ASTM D573

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5736K1

LABORATORY REPORT
REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location Not Given

Material/Specimen Comp. Sealant Lot 1ES2 Sampled By ATRC/-- Date --

Source Watson Bowman (3/4"x3/4") Submitted By ATRC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

COMPRESSION-DEFLECTION AT 80% OF NOMINAL WIDTH (ASTM D2628)

Spec. I.D.	Width (Inches)	Length (Inches)	Load, lbF	Compression Deflection lbF/inches	ASTM D2628 Requirement
1	0.716	5.062	35.30	7.0	3.5 lbF/inch mininum

RECOVERY PROPERTIES (ASTM D2628)

Spec. I.D.	Width (Inches)	Recovered Width (In.)	% Recovery	ASTM D2628-91 Requirement
22 hours @ -20°F and 50% deflection	0.719	0.654	91	83% minimum
72 hours @ 14°F and 50% deflection	0.716	0.687	96	88% minimum
70 hours @ 212°F and 50% deflection	0.717	0.476	66	85% minimum

NOTE: Required number of specimens for testing were unobtainable due to size of sample submitted by client

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LABORATORY REPORT
REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location Not Given

Material/Specimen Comp. Sealant Lot 1ES2 Sampled By ATRC/-- Date --

Source Watson Bowman (3/4"x3/4") Submitted By ATRC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

DUROMETER HARDNESS (ASTM D2240)

Initial Hardness (Avg. of 5 Trials)	Low Temp. Hardness (Avg. of 15 Trials)	High Temp. Hardness (Avg. of 15 Trials)	Point Change	ASTM D2628-91 Requirement
A/58/1	A/62/1	---	+4	0 to +15
A/58/1	---	A/61/1	+3	0 to +10

NOTES: 1) Low temperature specimens were cured for 7 days at 14°F
2) High temperature specimens were cured for 70 hours at 212°F
3) All specimens were plied four (4) times in order to obtain minimum test thickness

OIL SWELL (ASTM D471)

Original Mass,g	Final Mass,g	Weight Change,%	ASTM D2628-91 Requirement
1.8826	2.0576	+9.3	
1.7509	1.9100	+9.1	45% Maximum
1.8866	2.0611	+9.2	

NOTE: Test performed after curing sample for 70 hours at 212°F using ASTM oil 3

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LABORATORY REPORT
REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location Not Given

Material/Specimen Comp. Sealant Lot 1169 Sampled By ATRC/-- Date --

Source Watson Bowman (1"x1") Submitted By ARTC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

RESULTS

TENSILE STRENGTH (ASTM D412, METHOD A, SAMPLE DIE C)

Specimen	Width (Inches)	Thickness (Inches)	Area Sq. In.	Ultimate Load, lbF	Ultimate Tensile Str., psi	Property Change, %
As rec'd.	0.250	0.076	0.0190	44.81	2360	-2.5
*After aging	0.250	0.078	0.0195	44.94	2300	

ASTM D2628-91 requirement for ultimate tensile strength: 2000 psi minimum
ASTM D2628-91 requirement for property change. -20% maximum

ELONGATION AT BREAK (ASTM D412, METHOD A, SAMPLE DIE C)

Spec. I.D.	Gauge Length, In.	Final Length at Break	Elongation at Break %	Property Change, %
As rec'd.	1.0	4.4	340	-8.8
*After aging	1.0	4.1	310	

ASTM D2628-91 requirement for elongation: 250% minimum
ASTM D2628-91 requirement for property change: -20% maximum

*Accelerated aging specimens aged for 70 hours at 212°F in accordance with ASTM D573.

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LABORATORY REPORT

REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location Not Given

Material/Specimen Comp. Sealant Lot 1169 Sampled By ATRC/-- Date --

Source Watson Bowman (1"x1") Submitted By ARTC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

COMPRESSION-DEFLECTION AT 80% OF NOMINAL WIDTH (ASTM D2628)

Spec. I.D.	Width (Inches)	Length (Inches)	Load, lbF	Compression Deflection lbF/inches	ASTM D2628 Requirement
1	0.909	5.062	25.56	5.0	3.5 lbF/inch mininum
2	0.902	5.062	26.30	5.2	3.5 lbF/inch minimum
3	0.909	5.062	25.84	5.1	3.5 lbF/inch minimum

RECOVERY PROPERTIES (ASTM D2628)

Spec. I.D.	Width (Inches)	Recovered Width (In.)	% Recovery	ASTM D2628-91 Requirement
22 hours @ -20°F	0.906	0.832	92	83% minimum
& 50% deflection	0.902	0.831	92	83% minimum
72 hours @ 14°F	0.902	0.863	96	88% minimum
& 50% deflection	0.901	0.863	96	88% minimum
70 hours @ 212°F	0.914	0.745	82	85% minimum
& 50% deflection	0.911	0.743	82	85% minimum

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LABORATORY REPORT
REVISED 7/30/92

Client ARIZONA STATE UNIVERSITY
ARIZONA TRANSPORTATION RESEARCH CENTER
ATTN: DWIGHT METCALF
COLLEGE OF ENGINEERING ERC 405
TEMPE ARIZONA 85287

Job No. ---
Invoice No. 22420209
Date of Report 3/2/92

Reviewed By

Project SPS-4 Compression Sealant Testing

Location Not Given

Material/Specimen Comp. Sealant Lot 1169 Sampled By ATRC/-- Date --

Source Watson Bowman (1"x1") Submitted By ARTC/Metcalf Date 2/11/92

Test Procedure As listed below Authorized By ARTC/Metcalf Date 2/11/92

DUROMETER HARDNESS (ASTM D2240)

Initial Hardness (Avg. of 5 Trials)	Low Temp. Hardness (Avg. of 15 Trials)	High Temp. Hardness (Avg. of 15 Trials)	Point Change	ASTM D2628-91 Requirement
A/57/1	A/59/1	---	+2	0 to +15
A/57/1	---	A/59/1	+2	0 to +10

NOTES:
1) Low temperature specimens were cured for 7 days at 14°F
2) High temperature specimens were cured for 70 hours at 212°F
3) All specimens were plied four (4) times in order to obtain minimum test thickness

OIL SWELL (ASTM D471)

Original Mass,g	Final Mass,g	Weight Change,%	ASTM D2628-91 Requirements
2.6677	2.8988	+8.7	45% Maximum
2.4146	2.6302	+8.9	
2.3620	2.5714	+8.9	

NOTE: Test perfomred after curing sample for 70 hours at 212° using ASTM oil 3

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APPENDIX D

Field Measurements of Saw Joints

Table D-1 Field Measurement of Saw Joints

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	1	5	1	7	23	6	6	25	4.1875	8	22	76	69	1
1	1	5	2	7	22	6	6	25	4.125	7	23			2
1	1	5	3	7	23	6	6	24	4.1875	8	22			2
1	1	5	4	7	22	6	7	24	4.125	8	23			2
1	1	5	5	7	22	6	6	25	3.875	8	22			2
1	1	5	6	7	22	7	7	25	3.75	7	22			1
1	1	5	7	7	22	7	7	25	4.25	7	22			1
1	1	5	8	7	23	6	6	25	3.875	8	22			2
1	1	5	9	7	22	6	6	24	4	8	23			1
1	1	5	10	7	24	6	6	26	3.8125	7	22			2
1	1	5	11	7	23	6	6	25	4	8	23			2
1	1	5	12	7	22	6	7	25	4.0625	8	22			1
1	1	5	13	7	24	6	6	24	4	8	22			2
1	1	5	14	7	22	6	6	24	3.875	7	22			2
1	1	5	15	7	22	6	6	24	3.9375	7	22			2
1	1	5	16	7	22	7	8	25	4.25	7	22			1
1	1	5	17	7	21	6	6	25	4.25	7	22			2
1	1	5	18	7	21	6	6	24	4	7	23			2
1	1	5	19	7	21	6	6	25	4.25	7	22			2
1	1	5	20	7	23	6	7	26	4.5	7	21			1
1	1	5	21	7	22	6	6	24	3.75	7	22			2
1	1	5	22	7	21	7	7	24	3.75	7	23			1
1	1	5	23	7	22	6	6	24	4	7	22			2
1	1	5	24	7	21	6	7	25	4	7	22			1
1	1	5	25	7	26	7	6	25	3.9375	7	22	77.5	71.2	2
Mean				7	22.32	6.2	6.36	24.68	4.03	7.36	22.2	76.75	70.1	1.64
Stdev				0	1.144552	0.408248	0.568624	0.627163	0.189331	0.489898	0.5	1.06066	1.555635	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	2	1	1	7	21	7	7	26	4	7	22	79.4	71.2	2
1	2	1	2	7	21	6	6	26	4	7	23			2
1	2	1	3	7	21	7	6	26	4.25	7	22			1
1	2	1	4	7	21	6	6	25	4.25	7	22			2
1	2	1	5	7	21	6	6	25	4.125	8	23			2
1	2	1	6	7	23	7	7	26	4.0625	7	22			2
1	2	1	7	7	21	7	7	26	4.25	7	22			1
1	2	1	8	7	23	6	6	26	4.25	8	22			2
1	2	1	9	7	22	6	6	26	4.25	8	22			2
1	2	1	10	8	22	7	6	26	4.125	7	22			2
1	2	1	11	8	21	6	7	25	4	7	23			1
1	2	1	12	8	20	6	6	24	4.125	7	22			2
1	2	1	13	8	20	6	6	26	4.875	8	23			2
1	2	1	14	7	21	6	7	25	4	7	23			2
1	2	1	15	7	22	7	8	25	4	7	22			1
1	2	1	16	7	22	6	6	24	4.5	8	22			2
1	2	1	17	7	22	6	6	25	4.5	8	22			1
1	2	1	18	7	23	6	6	24	4.5	7	22			2
1	2	1	19	7	23	6	6	25	4.25	7	22			1
1	2	1	20	7	22	6	6	26	4	7	22			1
1	2	1	21	7	22	6	6	24	4.5	7	22			2
1	2	1	22	7	23	6	6	25	4	8	22			2
1	2	1	23	8	22	6	6	25	4.0625	8	23			1
1	2	1	24	8	24	6	6	24	4.125	8	22			2
1	2	1	25	8	23	6	6	25	4.0625	7	23	79.1	71.7	1
1	2	1	26	8	23	6	6	26	4.5	7	23			2
1	2	1	27	7	24	6	6	26	4.375	7	22			1
1	2	1	28	7	22	6	6	25	3.9375	7	23			2
1	2	1	29	7	23	7	6	25	4.125	8	23			2
1	2	1	30	8	23	6	7	25	4.0625	8	24			1
1	2	1	31	8	22	6	6	24	4.125	7	23			2
1	2	1	32	7	21	6	7	24	4.5	7	24			2
1	2	1	33	7	21	6	6	25	4.25	8	23			2
1	2	1	34	7	21	7	7	25	4	8	24			1
Mean				7.294118	21.94118	6.235294	6.294118	25.14706	4.204044	7.382353	22.52941	79.25	71.45	1.647059
Stdev				0.462497	1.042758	0.430562	0.523937	0.74396	0.216128	0.49327	0.662195	0.212132	0.353553	0.485071

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	3	2	1	7	23					7	21	73	60.1	1
1	3	2	2	7	22					7	22			2
1	3	2	3	7	22					7	22			2
1	3	2	4	7	20					7	22			2
1	3	2	5	7	22					7	21			1
1	3	2	6	7	21					7	21			2
1	3	2	7	7	20					7	21			1
1	3	2	8	7	20					7	22			2
1	3	2	9	7	20					7	21			2
1	3	2	10	7	21					7	21			2
1	3	2	11	7	22					7	21			1
1	3	2	12	7	23					7	21			1
1	3	2	13	7	23					7	22			2
1	3	2	14	7	21					7	21			1
1	3	2	15	7	22					7	21			2
1	3	2	16	7	22					7	22			2
1	3	2	17	7	21					7	20			2
1	3	2	18	7	21					7	21			1
1	3	2	19	7	20					7	21			2
1	3	2	20	7	22					7	21			2
1	3	2	21	7	21					7	20			1
1	3	2	22	7	21					7	21			2
1	3	2	23	7	19					7	22			2
1	3	2	24	7	22					7	21			2
1	3	2	25	7	21					7	20			1
1	3	2	26	7	21					7	21			2
1	3	2	27	7	19					7	22			2
1	3	2	28	7	18					7	21			2
1	3	2	29	7	18					7	21			1
1	3	2	30	7	19					7	20			1
1	3	2	31	7	19					7	20			2
1	3	2	32	7	17					7	21			1
1	3	2	33	7	19					7	20			2
1	3	2	34	7	17					7	20			2
1	3	2	35	7	17					8	22			2
1	3	2	36	8	20					8	21			1
1	3	2	37	8	19					8	21			2
1	3	2	38	8	18					8	20			2
Mean				7.078947	20.34211					7.105263	21.02632	73	60.1	1.657895
Stdev				0.273276	1.71285					0.311012	0.67731			0.480783

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	4	3	1	8	22	6		24	3.25	8	22	73	60.1	2
1	4	3	2	8	22	6		26	4.1875	8	21			2
1	4	3	3	8	22	6		25	4.25	8	21			2
1	4	3	4	8	22	7		26	4.125	7	22			1
1	4	3	5	8	23	6		27	4.3125	7	21			2
1	4	3	6	8	23	6		27	4.125	8	21			2
1	4	3	7	8	23	6		26	4.375	7	21			2
1	4	3	8	8	23	8		26	3.625	7	21			1
1	4	3	9	8	23	6		25	3.375	8	20			2
1	4	3	10	8	23	6		26	3.25	7	21			2
1	4	3	11	8	24	6		26	3.375	7	21			1
1	4	3	12	8	24	7		25	4.25	8	22			1
1	4	3	13	8	24	6		26	4.3125	7	21			2
1	4	3	14	8	24	6		26	4.25	7	21			2
1	4	3	15	8	24	6		25	4.0625	7	21			1
1	4	3	16	8	24	6		25	4.3125	7	21			2
1	4	3	17	8	22	8		27	4.3125	7	21			1
1	4	3	18	8	23	7		23	4.25	7	21			2
1	4	3	19	8	23	7		26	4.3125	7	21			1
1	4	3	20	7	23	6		24	4.3125	7	22			2
1	4	3	21	8	23	6		25	3.9375	7	21			1
1	4	3	22	8	24	7		25	4.3125	7	21			1
1	4	3	23	8	23	6		26	4.25	8	22			2
1	4	3	24	8	24	6		25	4	8	22			1
1	4	3	25	8	24	6		27	4.3125	8	22	73.5	60.7	2
Mean				7.96	23.16	6.36		25.56	4.0575	7.36	21.24	73.25	60.4	1.6
Stdev				0.2	0.746101	0.637704		1.003328	0.369279	0.489898	0.522813	0.353553	0.424264	0.5

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	5	5	1	8	24	7	6	25		7	18	63 2	60 8	1
1	5	5	2	8	27	6	6	25		7	19			2
1	5	5	3	8	22	7	6	25		7	18			1
1	5	5	4	8	24	7	7	26		7	18			1
1	5	5	5	8	23	7	6	26		7	17			2
1	5	5	6	8	23	7	7	24		7	18			1
1	5	5	7	8	24	7	7	25		7	18			2
1	5	5	8	8	24	6	6	26		7	17			2
1	5	5	9	8	26	7	6	26		7	18			1
1	5	5	10	8	26	7	6	26		7	18			2
1	5	5	11	8	27	7	7	26		7	20			1
1	5	5	12	8	20	6	6	28		7	20			2
1	5	5	13	8	24	6	6	24		7	18			1
1	5	5	14	8	26	5	5	26		7	20			1
1	5	5	15	8	25	6	6	24		7	17			1
1	5	5	16	8	25	6	6	25		7	19			1
1	5	5	17	8	26	7	6	27		7	20			1
1	5	5	18	8	25	6	6	24		7	19			2
1	5	5	19	8	24	6	6	24		7	19			1
1	5	5	20	8	24	7	6	26		7	20			2
1	5	5	21	8	24	6	6	25		7	24			1
1	5	5	22	8	24	7	6	24		7	19			2
1	5	5	23	8	22	6	6	25		7	20			1
1	5	5	24	8	24	7	7	25		7	18			2
1	5	5	25	8	23	7	6	24		7	19	63 5	61 7	2
Mean				8	24.24	6.52	6.16	25.24		7	18 84	63.35	61.25	1.44
Stdev				0	1.614517	0.585947	0.472582	1.051982		0	1.462874	0.212132	0.636396	0.506623

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	6	1	1	8	23	6	6	27	4.5	7	18	65.1	58.9	1
1	6	1	2	8	23	7	6	26	4.125	7	20			2
1	6	1	3	8	26	6	6	24	3.875	7	26			1
1	6	1	4	8	26	6	5	25	4	7	26			1
1	6	1	5	8	24	6	6	26	4	8	26			1
1	6	1	6	8	23	7	6	25	4	8	26			2
1	6	1	7	8	24	7	6	25	4	8	26			1
1	6	1	8	8	25	6	6	26	4.0625	8	25			2
1	6	1	9	8	23	7	6	24	4.5	8	25			1
1	6	1	10	8	23	7	6	25	4.25	8	24			2
1	6	1	11	8	22	7	6	25	4.25	8	25			1
1	6	1	12	8	24	7	6	25	4.0625	8	24			2
1	6	1	13	8	24	7	6	25	4.875	8	25			1
1	6	1	14	8	22	6	6	27	3.9375	8	24			1
1	6	1	15	8	24	7	6	26	4.1875	8	24			1
1	6	1	16	8	24	7	6	26	4.25	8	24			1
1	6	1	17	8	24	7	6	26	4	8	22			1
1	6	1	18	8	23	7	6	24	3.9375	8	24			2
1	6	1	19	8	23	7	6	24	4	8	23			2
1	6	1	20	8	23	7	7	25	4.125	8	23			1
1	6	1	21	8	22	7	6	24	4.125	8	24			1
1	6	1	22	8	23	7	6	26	4	8	24			2
1	6	1	23	8	24	6	5	26	4.25	8	24			1
1	6	1	24	8	23	7	6	25	4	8	23			2
1	6	1	25	8	22	7	6	25	4.125	8	22	65.1	59.5	2
Mean				8	23.48	6.72	5.96	25.28	4.1375	7.84	23.88	65.1	59.2	1.4
Stdev				0	1.084743	0.458258	0.351188	0.890693	0.220971	0.374166	1.9	0	0.424264	0.5

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	7	1	1	8	21	7	6	24	4.1875	8	22	68.1	60.7	1
1	7	1	2	8	24	7	6	26	4.25	8	23			2
1	7	1	3	8	23	7	7	25	4.5	8	23			2
1	7	1	4	3	22	7	5	24	4.5	8	23			1
1	7	1	5	8	23	7	6	26	4	8	23			2
1	7	1	6	8	23	7	6	25	4	8	23			2
1	7	1	7	8	23	7	6	24	4.25	8	23			1
1	7	1	8	8	22	7	6	25	4.25	8	23			2
1	7	1	9	8	22	7	6	24	4.25	8	23			1
1	7	1	10	8	22	7	6	24	4.25	8	23			2
1	7	1	11	8	20	7	6	25	4	8	22			2
1	7	1	12	8	21	7	6	25	3.875	8	21			1
1	7	1	13	8	22	7	6	24	4.25	8	21			2
1	7	1	14	8	23	7	6	26	4.5	8	22			2
1	7	1	15	8	22	7	5	24	4.25	8	22			1
1	7	1	16	8	22	7	6	24	4.5	8	22			2
1	7	1	17	8	21	7	6	24	4.5	8	21			2
1	7	1	18	8	22	7	6	24	4.25	8	23			2
1	7	1	19	8	22	7	6	25	4.25	8	23			1
1	7	1	20	8	23	7	6	24	4.375	8	22			2
1	7	1	21	8	23	7	6	24	4.375	8	23			2
1	7	1	22	8	22	7	6	25	4.25	8	23			2
1	7	1	23	8	24	7	6	26	4	8	23			1
1	7	1	24	8	23	7	6	25	4	8	22			2
1	7	1	25	8	23	7	6	25	4.5	8	23	71.1	68.1	2
Mean				8	22.32	7	5.96	24.68	4.2525	8	22.48	69.6	64.4	1.68
Stdev				0	0.945163	0	0.351188	0.748331	0.189641	0	0.714143	2.12132	5.23259	0.476095

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	8	1	1	8	22	7	6	25	4	7	25	73.2	68.7	2
1	8	1	2	8	24	6	6	24	4.375	8	22			1
1	8	1	3	8	23	7	8	25	3.9375	8	22			2
1	8	1	4	8	22	7	10	25	4	8	22			2
1	8	1	5	8	22	7	6	24	4.5	8	22			1
1	8	1	6	8	22	7	6	24	4.1875	8	23			2
1	8	1	7	8	22	7	6	27	4.0625	8	22			1
1	8	1	8	8	23	7	6	26	4.25	8	23			2
1	8	1	9	8	23	7	6	24	4.25	8	22			2
1	8	1	10	8	22	7	6	24	4	8	23			1
1	8	1	11	8	25	7	6	25	4.25	8	21			1
1	8	1	12	8	24	7	6	24	3.875	8	24			2
1	8	1	13	8	23	7	6	25	3.875	8	22			2
1	8	1	14	8	22	7	6	24	4.125	8	22			1
1	8	1	15	8	23	7	6	25	3.875	8	22			1
1	8	1	16	8	23	7	6	24	4.25	8	23			1
1	8	1	17	8	23	7	6	24	4.1875	8	23			1
1	8	1	18	8	24	7	7	24	4	8	24			1
1	8	1	19	8	23	7	6	25	4.1875	8	23			1
1	8	1	20	8	21	7	6	25	4.1875	8	24			1
1	8	1	21	8	23	7	6	24	3.625	8	23			1
1	8	1	22	8	22	7	6	24	4.1875	8	23			1
1	8	1	23	8	22	7	6	24	4.25	8	21			2
1	8	1	24	8	20	7	6	24	4	8	22			2
1	8	1	25	8	21	7	6	24	3.9375	8	22	72	69.2	2
Mean				8	22.56	6.96	6.28	24.52	4.095	7.96	22.6	72.6	68.95	1.44
Stdev				0	1.083205	0.2	0.890693	0.770281	0.190189	0.2	0.957427	0.848528	0.353553	0.506623

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Exper.	Test	Joint	Joint	Should. J.	Should. J.	Trans. J.	Trans. J.	Trans. J.	Primary C.	Long. J.	Long. J.	Ambient	Concrete	crack-1
Zone	Section	Detail	Number	Width	Depth	Width (in.)	Width (fin.)	Depth	Depth	Width	Depth	Temp	Temp	no crack-2
1	9	4	1	8	23	4			4.0625	8	21	63	58.4	1
1	9	4	2	7	23	3			4.0625	8	23			1
1	9	4	3	7	23	3			3.75	7	23			1
1	9	4	4	7	23	4			4	7	22			1
1	9	4	5	7	24	4			4.25	7	21			1
1	9	4	6	7	24	3			3.4375	7	24			1
1	9	4	7	7	23	3			3.75	7	23			2
1	9	4	8	7	23	4			4.4375	7	22			1
1	9	4	9	7	24	4			4.25	7	23			1
1	9	4	10	7	23	4			4.25	7	23			1
1	9	4	11	7	23	4			4.375	7	23			1
1	9	4	12	7	22	4			4.25	7	22			1
1	9	4	13	7	22	3			4.375	7	22			1
1	9	4	14	7	21	4			4.625	7	22			2
1	9	4	15	7	23	4			4.25	7	23			1
1	9	4	16	7	23	4			4.375	7	23			1
1	9	4	17	7	23	4			4.375	7	23			1
1	9	4	18	7	23	3			4.3125	7	23			1
1	9	4	19	7	21	4			4.3125	7	23			1
1	9	4	20	7	22	3			4.3125	7	22			1
1	9	4	21	7	23	3			4.25	7	22			2
1	9	4	22	7	24	3			4.3125	8	23			2
1	9	4	23	7	23	4			4	8	23			1
1	9	4	24	7	22	3			4	8	21			1
1	9	4	25	7	23	4			4	7	21	65.2	59.9	1
Mean				7.04	22.84	3.6	#DIV/0!	#DIV/0!	4.175	7.2	22.44	64.1	59.15	1.166667
Stdev				0.2	0.8	0.5	#DIV/0!	#DIV/0!	0.257694	0.408248	0.820569	1.555635	1.06066	0.380693

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	10	1	1	8	23	6	0	24	4.25	7	23	65.2	59.9	2
1	10	1	2	7	23	6	0	25	4.25	7	23			1
1	10	1	3	7	23	7	0	25	4.25	7	22			1
1	10	1	4	7	23	6	0	25	4.125	7	23			1
1	10	1	5	7	22	7	0	25	4.3125	7	22			2
1	10	1	6	7	23	7	0	24	4.25	7	22			1
1	10	1	7	7	22	7	0	24	4.1875	7	21			1
1	10	1	8	7	23	6	0	24	4.25	7	23			1
1	10	1	9	7	22	6	0	26	4.1875	7	22			1
1	10	1	10	7	22	6	0	24	3.9375	7	22			2
1	10	1	11	7	23	6	0	24	4.0625	7	23			1
1	10	1	12	7	22	7	0	24	4.3125	7	22			1
1	10	1	13	7	21	6	0	24	4.75	7	22			2
1	10	1	14	7	22	6	0	25	4.25	7	22			2
1	10	1	15	8	22	7	0	25	4	7	22			2
1	10	1	16	8	22	7	0	24	4.125	7	22			1
1	10	1	17	8	23	7	0	24	4.0625	7	22			1
1	10	1	18	7	24	7	0	24	4.1875	7	22			1
1	10	1	19	8	24	7	0	24	4.125	7	22			1
1	10	1	20	7	24	7	0	26	4.3125	7	23			1
1	10	1	21	7	22	6	0	24	4.1875	7	22			2
1	10	1	22	7	23	7	0	24	4.1875	7	23			1
1	10	1	23	7	22	7	0	25	4.3125	8	23			1
1	10	1	24	7	23	7	0	25	4.25	7	22			2
1	10	1	25	7	22	7	0	26	4.25	7	23	67.1	62	2
Mean				7.2	22.6	6.6	0	24.56	4.215	7.04	22.32	66.15	60.95	1.36
Stdev				0.408248	0.763763	0.5	0	0.711805	0.148867	0.2	0.556776	1.343503	1.484924	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (in.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	11	1	1	7	23	7	8	25	4.25	8	22	69.5	63.4	1
1	11	1	2	7	22	6	7	26	3.8125	7	21			1
1	11	1	3	8	23	7	6	25	4.25	7	22			2
1	11	1	4	8	23	7	6	24	4.125	7	21			2
1	11	1	5	7	22	7	6	26	4.25	8	23			1
1	11	1	6	7	21	6	6	26	4.125	7	21			2
1	11	1	7	7	22	7	6	25	3.875	7	22			2
1	11	1	8	8	23	6	6	26	4.25	7	22			1
1	11	1	9	7	23	7	6	25	4.25	7	22			2
1	11	1	10	7	23	7	7	25	4	7	23			1
1	11	1	11	7	23	6	6	25	4.25	7	22			2
1	11	1	12	7	23	6	6	24	4.375	8	23			1
1	11	1	13	8	23	7	6	25	3.875	8	22			2
1	11	1	14	7	23	7	6	26	4.25	7	23			2
1	11	1	15	7	23	7	6	26	4.25	8	22			2
1	11	1	16	7	23	7	6	25	4.25	8	22			1
1	11	1	17	7	23	7	6	25	4.25	8	22			2
1	11	1	18	7	23	7	6	25	4	8	22			2
1	11	1	19	7	23	7	7	24	4.25	7	23			2
1	11	1	20	8	22	7	6	25	4	8	22			1
1	11	1	21	8	23	7	6	25	4.125	8	22			2
1	11	1	22	8	22	7	6	26	4.125	8	23			1
1	11	1	23	8	22	7	6	25	4.125	8	22			2
1	11	1	24	8	23	7	6	25	4.125	8	22			2
1	11	1	25	8	23	7	7	26	4	8	21	70.8	65	1
Mean				7.4	22.68	6.8	6.24	25.2	4.1375	7.56	22.08	70.15	64.2	1.6
Stdev				0.5	0.556776	0.408248	0.522813	0.645497	0.146575	0.506623	0.640312	0.919239	1.131371	0.5

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
1	12	1	1	7	23	6	0	25	3.9375	8	22	70.8	65	1
1	12	1	2	7	23	6	0	26	4.25	8	23			1
1	12	1	3	7	23	7	0	26	3.875	8	20			2
1	12	1	4	7	23	7	0	25	4	7	21			2
1	12	1	5	7	22	7	0	25	4.1875	8	21			2
1	12	1	6	8	24	7	0	24	4	7	22			2
1	12	1	7	7	22	7	0	26	3.9375	7	24			1
1	12	1	8	7	23	7	0	26	4.3125	8	22			1
1	12	1	9	8	22	7	0	24	4	8	21			2
1	12	1	10	8	23	7	0	25	4.375	8	21			1
1	12	1	11	7	22	7	0	25	4.25	7	23			1
1	12	1	12	8	22	7	0	26	4.0625	8	24			2
1	12	1	13	8	23	7	0	25	4.0625	8	22			2
1	12	1	14	8	24	7	0	25	4.125	7	23			2
1	12	1	15	8	25	7	0	25	0	8	22			2
1	12	1	16	8	26	7	0	26	4.25	8	23			2
1	12	1	17	8	21	7	0	25	4.375	8	22			1
1	12	1	18	8	21	7	0	26	4.25	8	22			2
1	12	1	19	8	21	7	0	25	4.25	8	22			1
1	12	1	20	8	23	7	0	26	4.25	8	23			1
1	12	1	21	8	22	7	0	26	4.1875	8	20			2
1	12	1	22	7	23	7	0	26	4.25	8	21			1
1	12	1	23	7	22	7	0	26	4.25	7	22			2
1	12	1	24	7	22	7	0	26	4.1875	7	25			1
1	12	1	25	7	23	7	0	25	4.25	8	23	71.4	67.2	2
Mean				7.52	22.72	6.92	0	25.4	3.995	7.72	22.16	71.1	66.1	1.56
Stdev				0.509902	1.173314	0.276887	0	0.645497	0.843927	0.458258	1.213809	0.424264	1.555635	0.506623

Exper. Zone	Test Section	Joint Detail	Joint Number	Should J Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin)	Trans. J. Depth	Primary C Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	13	4	1	7	22	8			4.25	7	22	57.3	55.7	
2	13	4	2	7	22	6			4.0625	7	21			
2	13	4	3	7	21	6			4.1875	7	21			1
2	13	4	4	7	22	6			4.25	7	21			1
2	13	4	5	7	21	6			4.1875	7	21			1
2	13	4	6	7	21	6			4.125	7	21			1
2	13	4	7	7	21	4			4.25	7	20			1
2	13	4	8	7	22	2			4.125	7	21			1
2	13	4	9	7	21	3			4.3125	7	21			1
2	13	4	10	7	22	3			4.25	7	22			2
2	13	4	11	7	21	3			4.1875	7	21			1
2	13	4	12	7	22	2			4.125	7	21			1
2	13	4	13	7	22	4			4.125	7	21			1
2	13	4	14	8	23	3			4.125	8	24			2
2	13	4	15	8	23	2			4.1875	8	23			2
2	13	4	16	7	22	3			4.5	7	22			2
2	13	4	17	7	23	3			4.3125	7	23			2
2	13	4	18	7	22	4			4.5	7	23			1
2	13	4	19	8	23	4			4.4375	7	21			2
2	13	4	20	7	22	4			4.4375	7	21			1
2	13	4	21	7	22	3			4.375	7	22			2
2	13	4	22	7	23	3			4.375	7	21			1
2	13	4	23	7	22	3			4.4375	7	22			1
2	13	4	24	7	22	4			4.375	7	21			1
2	13	4	25	7	22	5			4	7	22			1
2	13	4	26	7	21	4			4.25	7	21	62	56.4	1
Mean				7.115385	21.92308	4			4.259615	7.076923	21.53846	59.65	56.05	1.291667
Stdev				0.325813	0.688365	1.523155			0.137718	0.271746	0.904689	3.323402	0.494975	0.464306

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	14	5	1	7	22	7	7	26	4.3125	7	22	62	56.4	1
2	14	5	2	7	23	6	6	27	4.375	7	22			2
2	14	5	3	7	24	7	7	25	4.4375	7	21			1
2	14	5	4	7	24	6	6	24	4.4375	7	22			2
2	14	5	5	7	23	7	7	29	4.5	7	20			1
2	14	5	6	7	22	6	6	25	4.5	7	22			2
2	14	5	7	7	23	6	7	24	4.5	7	23			1
2	14	5	8	7	22	6	6	25	4.5	7	23			2
2	14	5	9	7	22	6	7	25	4.5	7	22			2
2	14	5	10	7	23	6	7	26	4.625	7	22			2
2	14	5	11	7	22	7	7	26	4.5	7	22			1
2	14	5	12	7	23	6	6	24	4.5	7	21			2
2	14	5	13	7	23	6	6	26	4.4375	7	21			2
2	14	5	14	7	23	7	7	25	4.5625	7	22			1
2	14	5	15	7	23	6	6	24	4.5	7	23			2
2	14	5	16	7	22	6	6	24	4.5	7	23			1
2	14	5	17	7	22	6	6	25	4.5625	7	22			1
2	14	5	18	7	22	6	6	25	4.375	7	22			2
2	14	5	19	7	24	6	7	25	4.5	7	22			1
2	14	5	20	7	22	6	6	24	4.5	7	21			2
2	14	5	21	7	22	6	6	23	4.5	7	23			2
2	14	5	22	7	23	7	8	24	4.5	7	23			1
2	14	5	23	7	22	6	6	25	4.5	7	22			2
2	14	5	24	7	22	6	6	24	4.5	7	21			2
2	14	5	25	7	22	6	6	24	4.5	7	21	65.2	57.6	1
Mean				7	22.6	6.24	6.44	24.96	4.485	7	21.92	63.6	57	1.56
Stdev				0	0.707107	0.43589	0.583095	1.240967	0.063225	0	0.812404	2.262742	0.848528	0.506623

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	15	1	1	7	22	6	7	24	4.5625	7	23	65.2	57.6	2
2	15	1	2	7	23	7	7	26	4.5	7	21			1
2	15	1	3	7	23	6	6	24	4.5	7	22			2
2	15	1	4	7	23	6	7	24	4	7	22			2
2	15	1	5	7	22	6	6	25	4.5	7	22			2
2	15	1	6	7	21	7	7	25	4.5	7	22			1
2	15	1	7	7	21	6	6	24	4.5	7	22			2
2	15	1	8	7	22	6	7	25	4.4375	7	22			1
2	15	1	9	7	21	7	6	25	4.5	7	22			2
2	15	1	10	7	21	6	6	24	4.625	7	22			2
2	15	1	11	7	21	7	6	26	4.5625	7	22			1
2	15	1	12	7	21	6	6	25	4.5	7	22			2
2	15	1	13	7	22	6	7	25	4.5	7	21			1
2	15	1	14	7	22	6	6	25	4.625	7	21			2
2	15	1	15	7	21	6	6	25	4.5	7	20			2
2	15	1	16	7	21	7	7	25	4.5	7	21			1
2	15	1	17	7	21	6	6	24	4.625	7	21			2
2	15	1	18	7	23	6	6	24	4.5	7	20			2
2	15	1	19	7	22	6	6	26	4.125	7	21			1
2	15	1	20	7	23	6	7	25	4.25	7	22			2
2	15	1	21	7	21	7	7	26	4.625	7	21			1
2	15	1	22	7	22	6	6	25	4.5	7	21			2
2	15	1	23	7	22	6	6	24	4.625	7	22			2
2	15	1	24	7	22	6	7	25	4.5	7	21			1
2	15	1	25	7	21	6	6	24	4.25	7	22	68.3	59.6	2
Mean				7	21.76	6.24	6.4	24.8	4.4725	7	21.52	66.75	58.6	1.64
Stdev				0	0.778888	0.43589	0.5	0.707107	0.156333	0	0.714143	2.192031	1.414214	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	16	1	1	7	22	6	6	25	4.5625	7	22	75.2	72.2	2
2	16	1	2	7	21	6	8	25	4.625	7	21			1
2	16	1	3	7	22	6	6	24	4.5625	7	21			2
2	16	1	4	7	22	6	6	25	4.5625	7	22			1
2	16	1	5	7	22	6	7	24	4.4375	7	21			1
2	16	1	6	7	20	6	6	25	4.4375	7	20			0
2	16	1	7	7	20	6	6	24	4.5625	7	20			0
2	16	1	8	7	21	6	7	25	4.5	7	20			1
2	16	1	9	7	22	6	6	25	4.375	7	20			0
2	16	1	10	7	22	6	6	24	4.3125	7	20			0
2	16	1	11	7	22	6	8	25	4.5625	7	21			1
2	16	1	12	7	22	6	6	24	4.4375	7	20			0
2	16	1	13	7	22	6	6	25	4.5	7	21			0
2	16	1	14	[illegible]		6	6	25	4.4375	7	22			1
2	16	1	15	[illegible]	22	7	7	24	4.4375	7	20			1
2	16	1	16	[illegible]	23	6	6	24	4.5	7	20			0
2	16	1	17	[illegible]	22	6	6	25	4.1875	7	20			0
2	16	1	1[illegible]	[illegible]	22	6	6	24	4.5	7	19			0
2	16	1	19	7	23	6	8	24	4.5	7	19			1
2	16	1	20	7	22	6	6	25	4.375	7	20			0
2	16	1	21	7	22	6	6	24	4.5	7	20			0
2	16	1	22	7	21	6	6	24	4.4375	7	22			0
2	16	1	23	7	22	6	7	25	4.375	7	20			1
2	16	1	24	7	22	6	6	25	4.5	7	20			0
2	16	1	25	7	21	6	6	24	4.5	7	20	75.1	69.8	1
Mean				7	21.76	6.04	6.4	24.52	4.4675	7	20.44	75.15	71	0.56
Stdev				0	0.723418	0.2	0.707107	0.509902	0.093958	0	0.869866	0.070711	1.697056	0.650641

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	17	2	1	7	22	2	0	0	0	7	21	64.7	57.3	2
2	17	2	2	7	22	3	0	0	0	7	20			2
2	17	2	3	7	22	2	0	0	0	7	20			1
2	17	2	4	7	22	2	0	0	0	7	21			2
2	17	2	5	7	22	2	0	0	0	7	21			1
2	17	2	6	7	21	5	0	0	0	7	20			2
2	17	2	7	7	21	3	0	0	0	7	20			2
2	17	2	8	7	22	2	0	0	0	7	20			1
2	17	2	9	7	21	2	0	0	0	7	20			1
2	17	2	10	7	21	3	0	0	0	7	22			2
2	17	2	11	7	21	3	0	0	0	7	21			2
2	17	2	12	7	22	2	0	0	0	7	21			1
2	17	2	13	7	22	2	0	0	0	7	21			2
2	17	2	14	7	21	2	0	0	0	7	20			2
2	17	2	15	7	22	3	0	0	0	7	20			2
2	17	2	16	7	22	3	0	0	0	7	20			1
2	17	2	17	7	21	3	0	0	0	7	20			1
2	17	2	18	7	21	3	0	0	0	7	20			2
2	17	2	19	7	21	3	0	0	0	7	20			2
2	17	2	20	8	21	5	0	0	0	7	21			1
2	17	2	21	8	20	2	0	0	0	7	20			2
2	17	2	22	8	20	2	0	0	0	7	21			2
2	17	2	23	8	19	2	0	0	0	7	20			1
2	17	2	24	8	19	2	0	0	0	7	20			2
2	17	2	25	8	20	2	0	0	0	7	20	64.6	59.4	2
Mean				7.24	21.12	2.6	0	0	0	7	20.4	64.65	58.35	1.64
Stdev				0.43589	0.927362	0.866025	0	0	0	0	0.57735	0.070711	1.484924	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 crack-2
2	18	1	1	8	17	9	6	25	4.375	7	20	64.6	59.4	2
2	18	1	2	8	20	6	6	25	4.375	7	20			1
2	18	1	3	8	20	6	6	24	4	7	20			2
2	18	1	4	8	20	6	6	24	4	7	21			2
2	18	1	5	7	20	8	7	25	4.4375	7	20			2
2	18	1	6	7	18	6	0	25	4	7	20			1
2	18	1	7	7	20	6	0	24	3.625	7	20			2
2	18	1	8	7	20	6	0	24	4.0625	7	20			1
2	18	1	9	7	20	7	0	25	3.625	7	20			2
2	18	1	10	7	20	6	0	25	3.625	7	21			1
2	18	1	11	7	20	7	0	24	4.1875	7	20			2
2	18	1	12	7	20	6	0	25	3.8125	7	20			2
2	18	1	13	7	20	6	0	24	3.875	7	21			1
2	18	1	14	7	20	6	0	24	4.125	7	20			2
2	18	1	15	7	19	6	0	25	4.0625	7	20			1
2	18	1	16	7	19	7	0	25	4.3125	7	20			2
2	18	1	17	7	18	6	0	24	4.125	7	20			1
2	18	1	18	7	18	6	0	24	4.3125	7	20			2
2	18	1	19	7	17	6	0	24	3.5625	7	18			2
2	18	1	20	7	18	7	0	25	4.25	7	17			2
2	18	1	21	8	18	6	0	25	4	7	18			2
2	18	1	22	8	16	6	0	24	4.1875	7	18			2
2	18	1	23	8	17	6	0	25	4	7	18			1
2	18	1	24	8	16	6	0	24	3.8125	8	18			2
2	18	1	25	8	15	6	0	25	0	8	19	67.9	60.2	2
Mean				7.36	18.64	6.36	1.32	24.52	3.87	7.08	19.56	66.25	59.8	1.68
Stdev				0.489898	1.577973	0.757188	2.719068	0.509902	0.844506	0.276887	1.083205	2.333452	0.565685	0.476095

n = 5
mean = 6.60
Std. Dev. = 0.894

n = 5
mean = 7.00
Std. Dev. = 1.442

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	19	1	1	7	18	6	7	24	4.1875	7	19	67.9	60.2	1
2	19	1	2	7	20	6	6	24	4.1875	7	19			2
2	19	1	3	7	18	6	7	24	4	7	19			2
2	19	1	4	7	19	7	7	25	4.5	7	18			1
2	19	1	5	8	21	6	6	25	3.75	7	20			2
2	19	1	6	8	22	6	6	25	4	7	20			1
2	19	1	7	8	21	6	7	24	3.75	7	20			2
2	19	1	8	7	21	6	6	25	4.25	7	20			1
2	19	1	9	7	21	7	7	26	4.5	7	20			2
2	19	1	10	7	22	6	6	24	4.25	7	20			2
2	19	1	11	8	21	6	7	25	4.375	7	21			1
2	19	1	12	7	21	6	6	24	4.875	7	20			2
2	19	1	13	7	20	6	6	25	4.25	7	20			2
2	19	1	14	7	21	8	8	24	4.5625	7	21			1
2	19	1	15	7	21	6	6	25	4	7	21			2
2	19	1	16	7	22	6	6	24	4.375	7	20			2
2	19	1	17	7	20	6	6	25	4.25	7	19			1
2	19	1	18	7	21	6	7	25	4.25	7	19			2
2	19	1	19	7	22	6	7	25	4	7	19			2
2	19	1	20	7	23	6	7	24	4.25	7	21			1
2	19	1	21	7	22	6	6	25	4	7	21			2
2	19	1	22	7	21	6	6	24	4.5	7	21			2
2	19	1	23	7	21	8	8	25	4.375	7	20			1
2	19	1	24	7	21	6	6	24	4	7	20			2
2	19	1	25	7	21	6	7	25	3.9375	7	20	71.3	62.8	2
Mean				7.16	20.84	6.24	6.56	24.6	4.215	7	19.92	69.6	61.5	1.64
Stdev				0.374166	1.178983	0.597216	0.650641	0.57735	0.263984	0	0.812404	2.404163	1.838478	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	20	1	1	7	21	7	8	24	4.25	7	20	71.3	62.8	2
2	20	1	2	7	20	6	6	25	3.9375	7	22			1
2	20	1	3	8	20	6	6	24	4	7	19			2
2	20	1	4	8	21	7	7	24	3.875	7	20			1
2	20	1	5	7	23	8	8	25	4.5	7	20			2
2	20	1	6	8	22	7	6	25	4.25	7	20			1
2	20	1	7	7	21	6	7	24	4.4375	7	21			2
2	20	1	8	7	21	6	6	25	4.125	7	19			1
2	20	1	9	7	19	8	8	25	4.5	7	19			2
2	20	1	10	7	20	6	6	24	4.0625	7	21			1
2	20	1	11	7	18	6	7	25	4.25	7	18			2
2	20	1	12	7	22	7	6	25	4.25	7	19			1
2	20	1	13	7	21	7	7	25	4.4375	7	19			2
2	20	1	14	7	21	6	6	24	4	7	18			2
2	20	1	15	7	22	6	7	24	3.9375	7	18			1
2	20	1	16	7	23	7	6	24	4	7	19			2
2	20	1	17	7	21	6	7	25	3.875	7	20			2
2	20	1	18	7	23	7	8	25	4	7	20			1
2	20	1	19	7	22	7	6	25	4.125	7	19			2
2	20	1	20	7	23	6	6	25	4	7	20			2
2	20	1	21	7	21	6	7	25	4	7	20			2
2	20	1	22	7	23	7	6	25	4.25	7	20			1
2	20	1	23	7	21	6	6	25	4.25	7	20			2
2	20	1	24	7	21	6	6	24	4.25	7	20			2
2	20	1	25	7	24	6	8	24	4.25	7	21	74.9	65.7	
Mean				7.12	21.36	6.52	6.68	24.6	4.1525	7	19.68	73.1	64.25	1.625
Stdev				0.331662	1.380821	0.653197	0.802081	0.5	0.191009	0	0.988264	2.545584	2.05061	0.494535

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	21	1	1	7	22	6	0	24	4.5	7	21	78.6	65.2	2
2	21	1	2	7	22	7	6	25	4.25	7	20			2
2	21	1	3	7	22	6	7	24	4.375	7	20			1
2	21	1	4	7	21	6	7	24	4.375	7	21			2
2	21	1	5	7	21	6	6	24	4.25	7	22			2
2	21	1	6	7	22	8	7	24	4.375	7	21			2
2	21	1	7	7	21	7	6	24	4.125	7	19			1
2	21	1	8	8	22	7	7	25	4.4375	7	20			2
2	21	1	9	7	22	6	7	24	4.4375	7	20			2
2	21	1	10	7	22	6	6	24	4.25	7	21			1
2	21	1	11	7	23	6	7	25	4.375	7	21			2
2	21	1	12	7	22	6	6	24	4.375	7	20			2
2	21	1	13	7	20	7	6	25	4.5	7	21			1
2	21	1	14	7	23	6	7	25	4.375	7	21			1
2	21	1	15	7	22	6	6	24	4.4375	7	20			2
2	21	1	16	7	22	7	6	23	4.5	7	20			2
2	21	1	17	7	20	7	7	24	4.5	7	21			2
2	21	1	18	7	22	6	6	25	4.5	7	21			1
2	21	1	19	7	21	7	7	24	4.375	7	21			2
2	21	1	20	7	21	6	6	24	4.375	7	20			2
2	21	1	21	7	22	7	6	26	4.25	7	22			1
2	21	1	22	7	21	6	6	24	4.4375	7	21			2
2	21	1	23	7	22	6	6	24	4.4375	7	20			0
2	21	1	24	7	22	6	6	24	4.4375	7	19			0
2	21	1	25	7	22	6	6	24	4.3125	7	19	77.1	66.4	0
Mean				7.04	21.68	6.4	6.12	24.28	4.3825	7	20.48	77.85	65.8	1.48
Stdev				0.2	0.748331	0.57735	1.363818	0.613732	0.097695	0	0.822598	1.06066	0.848528	0.714143

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	22	5	1	7	21	6	7	24	4.25	7	20	77.1	61.4	0
2	22	5	2	7	20	8	7	25	3.625	7	21			0
2	22	5	3	7	20	7	6	24	3.4375	7	20			0
2	22	5	4	7	22	6	6	25	3.5	7	20			0
2	22	5	5	7	20	6	6	25	4	7	20			0
2	22	5	6	7	21	6	6	24	3.75	7	20			0
2	22	5	7	7	20	6	6	24	4	7	20			0
2	22	5	8	7	21	7	6	26	4.1875	7	20			2
2	22	5	9	7	21	6	6	25	3.5	7	21			2
2	22	5	10	7	20	6	6	25	4.25	7	20			2
2	22	5	11	7	20	6	6	25	4.125	7	20			2
2	22	5	12	7	19	6	6	25	3.25	7	21			2
2	22	5	13	7	20	8	7	24	3.75	7	20			1
2	22	5	14	7	18	6	6	24	4	7	20			2
2	22	5	15	7	20	6	6	24	3.75	7	21			2
2	22	5	16	7	20	6	7	24	4	7	21			1
2	22	5	17	7	20	6	7	25	4.25	7	18			2
2	22	5	18	8	20	6	6	25	3.75	7	20			1
2	22	5	19	7	18	7	6	25	3.75	7	21			2
2	22	5	20	8	21	7	6	26	3.875	7	21			2
2	22	5	21	8	20	6	7	24	3.125	7	20			1
2	22	5	22	8	21	7	6	24	3.25	7	21			2
2	22	5	23	8	20	7	6	24	3.75	7	20			1
2	22	5	24	8	20	8	7	24	3.25	7	20			2
2	22	5	25	8	22	7	6	25	4	7	20	76.9	66	1
Mean				7.28	20.2	6.52	6.28	24.6	3.775	7	20.24	77	63.7	1.2
Stdev				0.458258	0.957427	0.714143	0.458258	0.645497	0.339941	0	0.663325	0.141421	3.252691	0.866025

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	23	1	1	7	21	6	6	24	4.375	7	21	76.9	66	2
2	23	1	2	7	23	6	6	25	4.5	7	20			1
2	23	1	3	7	20	6	6	24	4.25	7	18			2
2	23	1	4	7	21	6	6	24	4.4375	7	19			1
2	23	1	5	7	21	7	7	26	4.3125	7	19			2
2	23	1	6	7	22	6	6	24	4.5	7	18			1
2	23	1	7	7	22	6	7	24	4.25	7	19			1
2	23	1	8	7	21	6	6	24	4.5	7	19			2
2	23	1	9	7	22	6	7	25	4.375	7	19			1
2	23	1	10	7	20	6	7	25	4.25	7	18			2
2	23	1	11	7	20	6	6	25	4.375	7	19			2
2	23	1	12	7	20	6	7	25	4.25	7	17			1
2	23	1	13	7	20	6	6	24	4.5	7	18			2
2	23	1	14	8	20	7	6	26	4.3125	7	20			2
2	23	1	15	7	18	7	7	25	4.4375	7	19			1
2	23	1	16	7	18	7	6	24	4.25	7	20			2
2	23	1	17	7	20	6	6	26	4.25	7	22			2
2	23	1	18	7	20	6	6	25	4.4375	7	19			2
2	23	1	19	7	22	6	6	24	4.25	7	18			1
2	23	1	20	7	21	6	6	24	4.25	7	20			2
2	23	1	21	7	20	6	6	25	4.25	7	20			2
2	23	1	22	7	20	7	7	24	4.375	7	20			2
2	23	1	23	7	20	7	6	25	4.25	7	20			2
2	23	1	24	7	19	7	6	25	4.25	7	20			1
2	23	1	25	7	20	6	6	25	4.5	7	20	76	66.5	2
Mean				7.04	20.44	6.28	6.28	24.68	4.3475	7	19.28	76.45	66.25	1.64
Stdev				0.2	1.193035	0.458258	0.458258	0.690411	0.10219	0	1.1	0.636396	0.353553	0.489898

Exper. Zone	Test Section	Joint Detail	Joint Number	Should. J. Width	Should. J. Depth	Trans. J. Width (in.)	Trans. J. Width (fin.)	Trans. J. Depth	Primary C. Depth	Long. J. Width	Long. J. Depth	Ambient Temp	Concrete Temp	crack-1 no crack-2
2	24	3	1	8	17	4	4	19	4.375	7	18	76	66.5	1
2	24	3	2	7	20	5	6	17	4.4375	7	20			2
2	24	3	3	7	20	4	4	18	4.3125	7	20			2
2	24	3	4	7	20	4	4	19	3.875	7	19			1
2	24	3	5	8	20	4	4	18	4.25	7	18			0
2	24	3	6	7	19	4		17	4.3125	7	17			1
2	24	3	7	7	18	5		17	4.3125	7	17			0
2	24	3	8	7	17	4		18	4.25	7	17			0
2	24	3	9	7	19	4		17	4.375	7	18			1
2	24	3	10	7	19	4		18	4.375	7	18			0
2	24	3	11	7	17	4		18	4.25	7	18			0
2	24	3	12	7	18	5		18	4.5	7	17			0
2	24	3	13	7	21	4		16	4.375	7	19			0
2	24	3	14	7	17	4		18	4.25	7	18			1
2	24	3	15	7	20	4		17	4.25	7	20			0
2	24	3	16	7	17	4		17	3.5	7	20			1
2	24	3	17	7	20	5		16	0	7	19			0
2	24	3	18	7	20	4		16	4.125	7	20			0
2	24	3	19	7	21	5		16	4.375	7	21			1
2	24	3	20	7	22	5		18	4.25	7	20			1
2	24	3	21	7	20	4		19	4	7	20			1
2	24	3	22	7	22	5		18	4.375	7	20			1
2	24	3	23	7	23	4		19	4.25	7	20			
2	24	3	24	7	22	5		17	4	7	20			
2	24	3	25	7	22	5		17	4.3125	7	20	78.5	66.6	
Mean				7.08	19.64	4.36	4.4	17.52	4.0675	7	18.96	77.25	66.55	0.636364
Stdev				0.276887	1.823001	0.489898	0.894427	0.962635	0.87275	0	1.240967	1.767767	0.070711	0.657952

APPENDIX E

Measurements of Joint Sealant

Table E-1 Transverse Joint Sealant Measurements

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
1	1	1	13.08	1	9	5		4	9	5
1	1	2	15.08	2	10	5		4	9	4
1	1	3	17.25	2	9	6		5	10	5
1	1	4	14.83	2	10	5		4	10	4
1	1	5	12.42	1	9	6		4	9	5
1	1	6	14.83	1	10	4		5	9	5
1	1	7	17.5	2	8	4		4	9	4
1	1	8	15.33	2	9	4		5	10	5
1	1	9	12.92	2	9	4		5	9	5
1	1	10	14.5	2	8	4		5	10	5
1	1	11	17.25	1	8	5		4	9	5
1	1	12	15.58	2	9	5		5	9	5
1	1	13	12.83	2	10	5		5	10	5
1	1	14	14.67	2	10	4		5	9	5
1	1	15	17.42	1	10	5		4	10	5
1	1	16	15.08	2	10	5		5	9	5
1	1	17	12.75	2	10	5		4	10	5
1	1	18	15.42	2	9	5		4	10	5
1	1	19	17	1	10	5		5	10	5
1	1	20	15.25	2	9	5		5	10	5
1	1	21	13.33	2	10	5		4	10	6
1	1	22	14.33	2	9	5		5	10	5
1	1	23	17.17	2	11	6		3	8	6
1	1	24	15.83	2	11	7		3	11	5
1	1	25	13.33	1	10	5		4	9	5
mean			14.9992	1.72	9.48	4.96		4.4	9.52	4.96
stdev			1.622896	0.458258	0.822599	0.734847		0.645497	0.663197	0.454606

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
1	2	1	13.75	2	9	4	9	3	11	5
1	2	2	17.58	2	8	3	9	4	8	3
1	2	3	15.17	2	10	5	10	5	10	5
1	2	4	13	2	11	5	10	5	9	5
1	2	5	14.83	1	8	4	9	5	10	4
1	2	6	16.92	1	9	5	10	5	9	6
1	2	7	14.75	2	8	4	10	4	8	5
1	2	8	13.08	2	9	5	10	4	8	5
1	2	9	15.58	2	8	4	9	4	8	5
1	2	10	16.42	1	8	5	9	3	9	5
1	2	11	14.75	2	9	5	10	3	10	4
1	2	12	13.5	2	10	3	9	3	8	5
1	2	13	15.33	2	10	4	10	4	8	5
1	2	14	16.5	1	9	5	9	4	9	5
1	2	15	15.58	2	9	5	10	5	10	5
1	2	16	13.25	2	9	5	10	5	8	4
1	2	17	14.42	2	9	4	9	5	9	5
1	2	18	17.08	1	8	5	9	4	9	5
1	2	19	15.17	2	9	5	9	3	8	4
1	2	20	13.08	2	9	5	9	3	9	6
1	2	21	15.33	2	9	5	11	4	9	5
1	2	22	16.25	1	9	5	9	4	9	4
1	2	23	15	2	9	5	9	5	9	3
1	2	24	13.42	2	9	5	9	4	9	6
1	2	25	14.58	1	9	5	9	5	9	6
1	2	26	17.33		9	6	10	5	9	5
1	2	27	15.33		10	5	9	5	9	5
1	2	28	12.83		8	5	9	4	9	4
1	2	29	14.67		9	4	9	4	8	4
1	2	30	17.58		9	5	8	3	8	5
1	2	31	14.75		10	5	10	5	9	5
1	2	32	12.33		10	5	9	2	9	5
1	2	33	15.58		8	6	9	5	9	5
1	2	34	17.17		9	4	9	5	10	4
mean			14.9728	1.72	8.96	4.6	9.44	4.12	8.92	4.8
stdev			1.936022	0.458258	0.734847	0.645497	0.583095	0.781025	0.812404	0.816497

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
~~1~~	~~3~~	~~1~~	~~17.33~~	2						
~~1~~	~~3~~	~~2~~	~~15.83~~	2						
~~1~~	~~3~~	~~3~~	~~12.83~~	2						
~~1~~	~~3~~	~~4~~	~~14.67~~	2						
~~1~~	~~3~~	~~5~~	~~17.33~~	2						
~~1~~	~~3~~	~~6~~	~~14.79~~	1						
~~1~~	~~3~~	~~7~~	~~12.33~~	2						
~~1~~	~~3~~	~~8~~	~~15.58~~	2						
~~1~~	~~3~~	~~9~~	~~17.47~~	2						
1	3	10	14.75	1						
1	3	11	13.25	2						
1	3	12	14.25	2						
1	3	13	17.33	1						
1	3	14	15.5	2						
1	3	15	12.83	2						
1	3	16	14.5	2						
1	3	17	17.25	1						
1	3	18	15	2						
1	3	19	13.17	2						
1	3	20	14.17	1						
1	3	21	16.67	2						
1	3	22	15	2						
1	3	23	12.75	2						
1	3	24	14.25	1						
1	3	25	17.5	2						
1	3	26	14.75	2						
1	3	27	12.67	2						
1	3	28	15.5	2						
1	3	29	17.17	2						
1	3	30	14	2						
1	3	31	12.75	2						
1	3	32	15.33	2						
1	3	33	16.42	2						
1	3	34	15.25	2						
1	3	35	12.83	1						
1	3	36	14.67	2						
1	3	37	17.25	2						
1	3	38	14.83	2						
1	3	39	13.17	1						
1	3	40	15	2						
1	3	41	16.69	2						
1	3	42	15.25	1						
1	3	43	13	2						
1	3	44	14.92	2						
1	3	45	17	2						
1	3	46	15	1						
mean			14.9236	1.8						
stdev			1.515277	0.406248						

unscaled

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	4	1	13.5	2	11	5	12	3	11	6
2	4	2	15	2	11	5	11	5	9	4
2	4	3	17	2	11	6	10	4	9	4
2	4	4	14.83	1	11	6	11	9	10	3
2	4	5	13.17	2	11	5	11	3	10	2
2	4	6	15	2	11	4	11	3	10	5
2	4	7	16.75	2	11	5	12	5	9	4
2	4	8	15.25	1	9	3	11	4	10	5
2	4	9	12.25	2	9	4	11	5	10	5
2	4	10	15.33	2	10	5	10	4	10	2
2	4	11	16.83	2	10	5	12	4	9	2
2	4	12	15.33	1	9	5	11	4	10	5
2	4	13	12.67	2	10	4	11	4	9	5
2	4	14	14.83	2	10	3	12	3	10	5
2	4	15	15.58	2	10	4	12	4	10	3
2	4	16	15.25	2	10	5	11	5	10	5
2	4	17	12.33	1	11	3	12	5	10	3
2	4	18	15	2	10	5	11	5	10	5
2	4	19	17	2	10	5	11	5	10	5
2	4	20	14.83	2	10	5	11	5	10	5
2	4	21	13.17	2	11	3	11	6	11	5
2	4	22	15	1	10	3	11	6	11	5
2	4	23	16.25	2	11	5	12	5	10	6
2	4	24	15	2	11	4	12	5	10	5
2	4	25	13.25	2	10	6	12	6	10	5
mean			14.816	1.8	10.32	4.52		4.68	9.92	4.36
stdev			1.414567	0.406248	0.690411	0.962635		1.281926	0.571548	1.18603

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	5	1	15.42	2						
2	5	2	16.92	2						
2	5	3	14.83	1						
2	5	4	12.58	2						
2	5	5	15.17	2						
2	5	6	16.08	2						
2	5	7	13.25	2						
2	5	8	12.67	2						
2	5	9	5.25	3						
2	5	10	12.83	2						
2	5	11	14.25	1						
2	5	12	13.33	2						
2	5	13	15.25	2						
2	5	14	17.67	1						
2	5	15	14.58	2						
2	5	16	13.33	2						
2	5	17	15.33	1						
2	5	18	16.67	2						
2	5	19	15.08	1						
2	5	20	12.75	2						
2	5	21	15.25	2						
2	5	22	17	2						
2	5	23	14.83	1						
2	5	24	13.08	2						
2	5	25	14.83	2						
2	5	26	17.33	1						
mean			14.4056	1.76						
stdev			2.457195	0.522813						

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	6	1	14.83	2	11	5	10	5	8	4
2	6	2	13.08	2	10	5	10	4	9	4
2	6	3	14.83	2	9	5	10	3	11	6
2	6	4	17.25	1	10	5	11	5	10	6
2	6	5	15	2	10	4	9	3	10	6
2	6	6	12.92	2	10	5	9	5	9	6
2	6	7	15.17	2	9	5	10	5	9	5
2	6	8	17.25	1	9	5	10	3	10	5
2	6	9	14.83	2	10	5	10	3	10	5
2	6	10	12.83	2	10	6	10	4	10	6
2	6	11	15.25	2	10	5	9	6	8	5
2	6	12	17.08	1	9	5	9	5	11	6
2	6	13	15.25	2	9	5	10	3	10	6
2	6	14	12.92	2	10	5	9	4	9	5
2	6	15	14.33	2	10	5	10	5	11	5
2	6	16	17.5	1	10	6	10	4	10	3
2	6	17	14.83	2	10	5	9	4	9	3
2	6	18	12.75	2	11	6	10	4	9	6
2	6	19	15.5	2	11	6	11	5	10	5
2	6	20	16.75	2	10	4	10	3	10	4
2	6	21	15	2	10	5	11	3	11	5
2	6	22	13	1	10	5	10	2	11	5
2	6	23	15.25	2	9	5	9	3	10	5
2	6	24	16.75	2	9	3	9	4	9	5
2	6	25	15.5	2	10	4	10	5	9	5
mean			15.026	1.8	9.84	4.96	9.8	4	9.72	5.04
stdev			1.502789	0.408248	0.6245	0.675771	0.645497	1	0.890693	0.888819

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	7	1	12.75	2	8	5	10	5	9	5
2	7	2	14.67	2	8	6	10	6	8	6
2	7	3	17.33	1	9	5	10	6	8	6
2	7	4	15.25	2	9	5	9	5	8	5
2	7	5	12.83	2	8	6	9	5	8	6
2	7	6	14.58	2	8	5	10	5	8	5
2	7	7	17.42	2	9	4	10	5	8	6
2	7	8	14.83	1	9	5	10	5	8	5
2	7	9	13.25	2	9	5	10	5	9	5
2	7	10	14.83	2	8	5	10	5	8	5
2	7	11	17.25	2	8	5	10	4	8	5
2	7	12	15	2	8	6	9	6	9	5
2	7	13	12.5	2	8	5	10	5	9	5
2	7	14	15.42	1	8	5	11	5	8	5
2	7	15	17	2	9	5	10	4	9	6
2	7	16	14.83	2	8	5	10	5	8	5
2	7	17	13.5	2	9	6	10	4	8	5
2	7	18	14.42	1	9	6	10	5	8	5
2	7	19	17.33	2	9	5	10	5	9	5
2	7	20	14.17	2	9	5	10	5	8	6
2	7	21	13.67	2	9	5	10	6	8	5
2	7	22	14.92	1	8	4	10	6	8	4
2	7	23	16.75	2	9	5	10	4	8	5
2	7	24	14.83	2	8	4	10	5	9	5
2	7	25	13.42	2	8	5	10	4	9	5
mean			14.91	1.8	8.48	5.08		5	8.32	5.2
stdev			1.526262	0.408248	0.509902	0.571548		0.645497	0.476095	0.5

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	8	1	14.67	1	9	3	11	5	10	5
2	8	2	17.17	2	8	2	11	4	10	5
2	8	3	15.42	2	9	4	12	5	9	4
2	8	4	12.5	2	8	4	11	3	9	4
2	8	5	14.83	2	9	4	10	4	9	4
2	8	6	17.42	1	9	5	11	5	9	3
2	8	7	14.83	2	10	3	10	1	10	4
2	8	8	12.75	2	8	3	11	4	9	3
2	8	9	15.58	2	9	2	12	5	9	2
2	8	10	17	2	9	4	11	3	9	4
2	8	11	15	1	9	5	10	4	10	5
2	8	12	13.08	2	8	4	10	4	9	3
2	8	13	14.67	1	8	4	11	4	10	5
2	8	14	17.25	2	7	4	9	2	9	4
2	8	15	15.5	2	9	4	11	5	9	4
2	8	16	13.17	2	9	5	10	4	9	5
2	8	17	13.92	1	8	6	10	7	9	6
2	8	18	17.58	1	8	5	11	5	9	6
2	8	19	15	2	9	6	11	6	10	5
2	8	20	13.08	2	10	6	10	7	10	6
2	8	21	14	1	10	6	11	6	9	5
2	8	22	17	2	10	6	10	6	10	6
2	8	23	15	2	10	7	10	5	9	5
2	8	24	12.83	2	9	5	11	6	10	5
2	8	25	15.17	1	9	1	12	5	10	5
mean			14.9768	1.68	8.84	4.32	10.68	4.6	9.4	4.52
stdev			1.584397	0.476095	0.8	1.464013	0.748331	1.414214	0.5	1.045626

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	9	1	17.25	2	10	4	10	3	9	4
2	9	2	15.25	2	10	3	9	3	11	3
2	9	3	12.25	2	11	3	10	2	11	3
2	9	4	15.08	2	10	3	10	6	11	3
2	9	5	17.67	1	11	4	10	4	10	3
2	9	6	14.75	2	11	4	9	5	11	5
2	9	7	13.08	2	10	4	9	3	11	4
2	9	8	14.92	1	10	3	10	4	11	3
2	9	9	17.08	1	11	4	10	3	11	3
2	9	10	15.17	2	11	2	10	3	10	4
2	9	11	12.42	2	11	3	12	3	9	3
2	9	12	15.25	2	10	4	8	3	9	3
2	9	13	17.5	2	10	3	10	4	11	4
2	9	14	14.83	2	9	2	10	3	11	2
2	9	15	12.92	1	10	4	11	5	10	3
2	9	16	15.67	2	10	4	10	2	11	3
2	9	17	16.83	1	10	3	12	4	11	3
2	9	18	15.83	2	10	1	11	3	11	3
2	9	19	12.75	1	9	4	12	5	11	3
2	9	20	13.08	2	10	3	11	3	11	3
2	9	21	17.17	2	10	3	8	3	10	3
2	9	22	15	2	11	3	11	2	11	4
2	9	23	13.08	1	10	3	10	5	11	3
2	9	24	15	2	11	5	12	5	9	4
2	9	25	16.83	2	11	4	9	4	9	3
mean			15.0664	1.72	10.28	3.32	10.16	3.625	10.44	3.28
stdev			1.709376	0.458258	0.613732	0.852447	1.143095	1.095941	0.820569	0.613732

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	10	1	15.75	2	9	5	11	4	9	5
2	10	2	12.58	2	9	5	11	5	12	5
2	10	3	15	1	9	6	12	5	10	6
2	10	4	17.42	2	9	5	12	4	10	5
2	10	5	14.42	2	9	4	11	5	10	5
2	10	6	12.25	2	9	4	12	4	10	4
2	10	7	15.58	2	9	4	11	5	11	4
2	10	8	17.67	2	9	5	10	4	10	5
2	10	9	14.83	1	10	5	10	5	10	5
2	10	10	12.58	2	9	5	10	5	10	6
2	10	11	14.83	2	9	6	10	4	9	4
2	10	12	17.58	1	11	5	10	5	11	6
2	10	13	15.08	2	9	6	10	4	10	7
2	10	14	12.92	2	9	5	10	4	9	4
2	10	15	14.25	2	9	6	10	4	10	3
2	10	16	17.08	1	10	5	11	4	10	4
2	10	17	15	2	10	5	11	7	11	7
2	10	18	13.25	2	10	6	11	7	11	3
2	10	19	15.08	2	12	5	10	5	10	6
2	10	20	17.33	1	10	6	11	5	11	5
2	10	21	14.92	2	11	6	10	5	10	6
2	10	22	12.17	2	12	7	11	5	11	6
2	10	23	15.33	1	12	5	11	5	11	5
2	10	24	17.75	2	9	5	10	5	9	5
2	10	25	14.5	2	10	3	10	4	10	5
mean			15.006	1.76	9.76	5.16	10.64	4.76	10.2	5.04
stdev			1.754345	0.43589	1.051982	0.85049	0.7	0.830662	0.763763	1.059874

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	11	1	13.75	2	9	3	10	1	9	4
2	11	2	15.5	1	10	4	10	3	8	3
2	11	3	16.33	2	8	4	9	3	8	4
2	11	4	14.5	2	8	3	11	2	8	5
2	11	5	13.58	1	10	5	9	2	9	5
2	11	6	14.83	2	9	5	10	3	8	6
2	11	7	17	2	8	4	9	3	9	6
2	11	8	14.25	1	10	4	9	2	9	6
2	11	9	13.33	2	9	6	10	5	9	6
2	11	10	15.42	2	9	5	8	3	8	5
2	11	11	16.42	2	9	5	10	3	8	5
2	11	12	15	1	9	5	11	3	8	6
2	11	13	12.75	2	8	5	9	3	8	6
2	11	14	15.25	2	10	4	9	3	9	6
2	11	15	17	2	10	5	10	3	9	5
2	11	16	14.58	1	9	5	9	3	8	6
2	11	17	13.25	2	8	5	10	2	9	6
2	11	18	14.83	2	9	3	10	3	8	6
2	11	19	17	2	9	4	10	2	8	6
2	11	20	15.08	1	8	3	10	1	8	5
2	11	21	13.17	2	9	4	9	3	8	3
2	11	22	15	1	8	3	9	2	8	4
2	11	23	16.83	2	9	4	8	2	9	5
2	11	24	15.25	2	8	3	9	4	8	4
2	11	25	12.42	1	8	3	10	2	9	3
mean			14.8928	1.68	8.84	4.16	9.52	2.64	8.4	5.04
stdev			1.388538	0.476095	0.746101	0.898146	0.770281	0.860233	0.5	1.059874

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	12	1	15	2	12	4	10	6	12	3
2	12	2	17.08	1	12	4	12	7	11	5
2	12	3	15.75	2	11	3	12	6	8	2
2	12	4	12.5	2	11	4	12	5	8	4
2	12	5	14	2	10	4	11	6	9	4
2	12	6	17.42	2	12	3	12	5	10	6
2	12	7	14.5	1	11	4	12	5	10	5
2	12	8	13.25	2	12	4	12	5	9	6
2	12	9	15	2	12	4	11	5	8	4
2	12	10	17	2	11	4	12	5	8	5
2	12	11	15.42	2	11	5	12	4	8	5
2	12	12	12	2	11	6	12	5	9	3
2	12	13	14.58	2	11	5	12	4	9	4
2	12	14	16.33	2	12	2	12	3	10	3
2	12	15	4.83	0	12	5	12	5	9	5
2	12	16	12.83	2	12	6	12	6	11	6
2	12	17	15.17	2	9	3	12	6	11	4
2	12	18	12.67	2	9	5	12	5	11	6
2	12	19	14.83	1	9	4	12	4	11	4
2	12	20	17.17	2	10	4	11	5	12	4
2	12	21	15.17	2	10	4	12	5	9	5
2	12	22	13	2	11	4	11	5	10	5
2	12	23	14.83	2	11	5	12	4	9	4
2	12	24	16.5	1	11	4	12	4	11	4
2	12	25	15	2	10	5	12	6	8	5
mean			14.4732	1.76	10.92	4.2	11.76	5.04	9.64	4.44
stdev			2.534206	0.522813	0.996661	0.912871	0.522813	0.888819	1.319091	1.044031

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	13	1	13	2	8	4	10	4	8	5
2	13	2	15.5	1	8	3	8	1	8	5
2	13	3	17	2	9	5	8	4	8	5
2	13	4	15.08	2	8	5	11	2	8	5
2	13	5	12.42	2	8	5	9	2	9	3
2	13	6	14.92	1	8	5	9	3	8	5
2	13	7	16.5	2	8	5	10	5	9	4
2	13	8	14.42	2	7	3	11	2	8	4
2	13	9	13.33	2	8	4	9	2	8	5
2	13	10	15.08	1	8	4	9	0	8	5
2	13	11	15.67	2	9	3	9	3	8	5
2	13	12	15.25	2	8	5	8	1	8	5
2	13	13	12.75	2	8	5	12	3	8	5
2	13	14	14.08	2	11	5	10	3	11	7
2	13	15	17.5	2	8	5	8	2	8	4
2	13	16	15	2	8	5	10	0	9	4
2	13	17	12.67	1	8	4	8	2	8	4
2	13	18	15.08	2	9	3	11	6	8	4
2	13	19	17	1	8	5	11	3	8	4
2	13	20	15	2	9	5	12	6	9	5
2	13	21	13	2	8	5	9	3	10	4
2	13	22	14.92	2	8	4	9	1	8	4
2	13	23	17.17	1	8	4	9	3	8	4
2	13	24	15.25	1	9	5	11	4	8	4
2	13	25	12.25	2	8	5	11	5	8	4
mean			14.7936	1.72	8.28	4.44	9.68	2.8	8.36	4.52
stdev			1.550293	0.458258	0.737111	0.768115	1.281926	1.632993	0.757188	0.770281

Should have 26 joints

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	14	1	15	2	9	6		6	11	6
2	14	2	16.83	2	9	6		5	11	6
2	14	3	15	2	9	6		8	11	6
2	14	4	13.5	2	10	6		5	11	6
2	14	5	15	2	10	6		7	11	6
2	14	6	17	2	10	6		7	12	6
2	14	7	15	2	9	6		6	13	6
2	14	8	13.83	2	10	6		5	12	6
2	14	9	14.75	2	11	6		5	12	5
2	14	10	16.67	2	11	6		5	12	6
2	14	11	16.17	1	12	6		5	8	6
2	14	12	12.83	2	12	6		5	9	6
2	14	13	15.67	2	12	5		5	10	6
2	14	14	14.17	2	12	6		6	8	6
2	14	15	14.83	2	11	5		7	12	5
2	14	16	13.25	2	10	5		7	11	5
2	14	17	14.83	1	12	5		5	11	5
2	14	18	17.5	2	12	6		5	9	5
2	14	19	14.33	2	11	5		6	9	5
2	14	20	13.17	2	10	5		5	10	6
2	14	21	14.83	2	10	6		5	10	5
2	14	22	17.5	1	11	6		8	10	6
2	14	23	14.5	2	10	5		5	8	6
2	14	24	13.17	2	11	5		7	10	6
2	14	25	15.25	2	11	6		7	11	5
mean			14.9832	1.88	10.6	5.68		5.88	10.48	5.68
stdev			1.3561	0.331662	1.040833	0.476095		1.053565	1.388044	0.476095

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	15	1	17	2	12	6	11	5	9	6
2	15	2	15.17	1	8	5	10	5	8	5
2	15	3	13.17	2	8	5	11	5	8	5
2	15	4	14.33	2	9	5	10	5	8	5
2	15	5	17	2	9	6	11	5	8	5
2	15	6	14.92	1	8	5	10	6	8	5
2	15	7	12.75	2	8	6	11	6	8	4
2	15	8	15.25	2	8	5	11	5	8	4
2	15	9	17	2	10	5	12	5	8	5
2	15	10	15	2	10	5	11	6	8	5
2	15	11	13.33	1	10	5	11	5	9	5
2	15	12	14.17	2	8	5	11	5	8	5
2	15	13	17.42	2	8	5	11	5	8	5
2	15	14	15.25	2	10	5	11	4	8	5
2	15	15	12.83	2	8	5	10	5	8	5
2	15	16	15.25	1	9	5	10	6	9	5
2	15	17	17.17	2	8	5	11	5	9	5
2	15	18	14.75	2	8	5	10	5	10	4
2	15	19	13.08	2	9	4	11	5	9	4
2	15	20	15.17	2	9	5	10	3	9	5
2	15	21	16.92	1	10	5	10	5	9	4
2	15	22	15.17	2	10	5	10	5	10	5
2	15	23	13.17	2	9	5	11	5	9	5
2	15	24	14.58	2	9	5	11	5	10	5
2	15	25			9	5	10	5	9	5
mean			14.99375	1.791667	8.958333	5.083333	10.66667	5.041667	8.583333	4.833333
stdev			1.486937	0.414851	1.041703	0.408248	0.56466	0.624094	0.717282	0.481543

Exper.	Test	Joint	Slab	Joint Cr.	Depth to	Depth to	Depth to	Depth to	Depth to	Depth to
Zone	Section	Number	Length	1=y, 2=no	Bckrd Sh.	Slnt Sh.	Bckrd Tr..	Slnt Tr.	Bckrd Lg.	Slnt Lg.
2	16	1	17.5	2	9	3	10	4	9	4
2	16	2	15.08	2	9	4	10	3	10	5
2	16	3	13	1	8	5	10	3	9	4
2	16	4	15	2	9	5	10	2	10	4
2	16	5	17	2	9	4	10	4	10	5
2	16	6	15.17	2	9	4	10	4	10	4
2	16	7	13.17	2	9	5	9	3	10	4
2	16	8	14.67	2	10	5	10	4	10	5
2	16	9	16.5	1	10	4	9	3	9	5
2	16	10	15.5	2	9	4	9	5	9	4
2	16	11	12.92	2	8	4	10	3	9	4
2	16	12	15.42	2	9	5	10	6	10	5
2	16	13	17.42	2	9	5	8	5	10	5
2	16	14	14.5	2	10	5	10	4	9	4
2	16	15	13.25	2	8	4	10	5	9	4
2	16	16	14.83	1	8	4	10	3	8	4
2	16	17	17	2	8	4	9	5	9	4
2	16	18	15	2	8	5	10	3	10	5
2	16	19	13	2	8	5	11	5	9	5
2	16	20	15.42	1	8	5	9	5	9	5
2	16	21	15	2	9	5	10	4	9	5
2	16	22	15	2	8	5	10	4	9	5
2	16	23	13.17	2	9	5	9	2	9	5
2	16	24	14.42	1	8	5	10	3	9	5
2	16	25	17.33	2	8	5	10	4	10	7
mean			15.0508	1.8	8.68	4.56	9.72	3.84	9.36	4.64
stdev			1.460162	0.408248	0.690411	0.583095	0.613732	1.027943	0.568624	0.7

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	17	1	15	2						
2	17	2	12.83	2						
2	17	3	14.83	1						
2	17	4	17.25	2						
2	17	5	15	2						
2	17	6	13	2						
2	17	7	14.58	1						
2	17	8	17.25	2						
2	17	9	15	2						
2	17	10	13	2						
2	17	11	14.5	2						
2	17	12	17.42	1						
2	17	13	15.25	2						
2	17	14	12.83	2						
2	17	15	15.83	2						
2	17	16	17.25	1						
2	17	17	14.75	2						
2	17	18	13.75	2						
2	17	19	15.08	2						
2	17	20	17	2						
2	17	21	14	1						
2	17	22	13.67	2						
2	17	23	15.25	2						
2	17	24	16.75	2						
2	17	25	15.17	2						
2	17	26	13.5	2						
mean			14.9696	1.8						
stdev			1.492619	0.408248						

Exper.	Test	Joint	Slab	Joint Cr.	Depth to	Depth to	Depth to	Depth to	Depth to	Depth to	Depth to
Zone	Section	Number	Length	1=y, 2=no	Bckrd Sh.	Slmt Sh.	Bckrd Tr..	Slmt Tr.	Bckrd Lg.	Slmt Lg.
2	18	1	14.58	1	8	5	12	6	8	4
2	18	2	16.5	2	9	5	12	5	8	5
2	18	3	15.17	2	8	5	10	7	9	5
2	18	4	13.33	2	8	5	10	4	9	5
2	18	5	15.25	1	8	3	10	5	9	5
2	18	6	17	2	10	5	11	4	8	5
2	18	7	14.83	2	12	5	10	3	8	5
2	18	8	13.17	2	10	5	11	5	9	5
2	18	9	15	2	11	6	10	5	10	5
2	18	10	17.5	2	10	5	9	4	10	5
2	18	11	14.75	1	9	5	9	3	11	6
2	18	12	12.5	2	9	5	10	6	12	5
2	18	13	15.5	2	10	5	10	4	10	5
2	18	14	16.08	2	10	5	10	6	11	6
2	18	15	14.75	2	10	5	11	4	11	5
2	18	16	15	1	10	5	11	3	10	5
2	18	17	15.08	2	8	5	10	4	11	6
2	18	18	16	2	9	5	10	5	11	5
2	18	19	15	2	9	4	11	3	11	6
2	18	20	13.42	1	8	5	10	5	10	6
2	18	21	13.67	2	8	4	10	4	11	6
2	18	22	16	2	8	4	10	5	11	5
2	18	23	12.5	2	8	5	11	4	9	4
2	18	24	12.5	2	8	5	11	3	10	5
2	18	25	17.42	2	9	5	11	4	9	5
mean			14.9	1.8	9.08	4.84	10.4	4.44	9.84	5.16
stdev			1.459224	0.408248	1.115049	0.553775	0.763763	1.083205	1.178983	0.553775

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	19	1	14.83	2	8	4	12	4	10	5
2	19	2	13.25	2	8	4	12	4	9	5
2	19	3	15.08	2	8	5	12	3	8	5
2	19	4	16.5	1	9	5	12	3	9	5
2	19	5	15	2	8	4	12	3	9	5
2	19	6	13	2	9	5	10	4	9	6
2	19	7	15.17	2	8	5	11	5	8	5
2	19	8	17	2	8	4	11	3	8	4
2	19	9	14.75	1	9	5	10	3	8	4
2	19	10	12.92	2	9	4	10	4	8	4
2	19	11	15.25	2	8	5	11	5	8	3
2	19	12	16.67	2	9	4	11	3	10	4
2	19	13	15	2	9	4	11	3	9	4
2	19	14	13.08	1	8	5	12	4	8	4
2	19	15	14.83	2	9	5	11	4	9	5
2	19	16	16.75	2	8	4	10	5	8	5
2	19	17	15.67	2	9	5	9	3	10	5
2	19	18	13.25	2	9	3	10	5	9	5
2	19	19	14.92	2	11	4	11	3	10	5
2	19	20	16.42	2	10	4	10	4	9	5
2	19	21	15.25	2	8	4	11	5	9	4
2	19	22	12.67	2	9	4	11	3	10	5
2	19	23	14.83	1	8	4	12	3	8	4
2	19	24	17.58	2	9	5	11	5	9	5
2	19	25	14.75	2	9	5	10	4	9	5
mean			14.9768	1.84	8.68	4.4	10.92	3.8	8.84	4.64
stdev			1.371659	0.374166	0.748331	0.57735	0.862168	0.816497	0.746101	0.637704

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	20	1	15	2	10	1	9	3	8	5
2	20	2	13.17	2	10	4	9	1	8	4
2	20	3	15.42	2	11	4	9	2	9	4
2	20	4	16.67	1	9	4	10	3	9	4
2	20	5	15.08	2	9	5	10	2	10	5
2	20	6	13.25	2	10	4	10	4	9	4
2	20	7	15.42	2	10	5	10	3	10	5
2	20	8	17	2	10	5	10	5	9	5
2	20	9	14.5	1	10	4	11	4	9	4
2	20	10	13.17	2	9	4	10	5	9	4
2	20	11	15.5	2	10	4	10	4	10	4
2	20	12	16.67	2	10	5	10	5	10	4
2	20	13	15	2	9	4	10	4	9	4
2	20	14	13.08	1	8	3	9	3	8	5
2	20	15	14.83	2	8	4	10	6	10	5
2	20	16	16.92	2	8	3	10	3	10	4
2	20	17	15.17	2	9	4	10	3	9	5
2	20	18	13.5	2	10	5	11	4	9	5
2	20	19	14.83	2	9	5	10	3	8	5
2	20	20	16.58	2	9	4	9	4	8	5
2	20	21	15.33	2	8	4	10	3	8	6
2	20	22	12.83	2	9	5	10	4	8	5
2	20	23	14.75	1	8	4	10	5	10	5
2	20	24	18	2	9	4	11	4	8	5
2	20	25	14.5	2	9	5	11	4	9	5
mean			15.0468	1.84	9.24	4.12	9.96	3.64	8.96	4.64
stdev			1.391623	0.374166	0.830662	0.331287	0.61101	1.113553	0.789515	0.568624

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	21	1	13	2	8	3	10	4	9	4
2	21	2	15.17	2	8	4	10	3	9	5
2	21	3	16.83	2	8	4	11	5	8	5
2	21	4	15.42	2	8	4	10	3	8	5
2	21	5	13	1	8	3	9	3	8	4
2	21	6	14.83	2	8	4	10	4	8	3
2	21	7	17.25	2	8	4	10	4	9	4
2	21	8	14.92	2	8	4	11	4	8	3
2	21	9	12.83	2	8	3	10	3	8	3
2	21	10	15	2	8	2	10	3	8	3
2	21	11	16.83	2	8	3	10	2	8	3
2	21	12	15.08	2	9	3	10	3	8	3
2	21	13	13	1	8	3	9	2	8	2
2	21	14	15.25	2	8	3	10	2	8	2
2	21	15	17	2	9	3	11	3	8	3
2	21	16	14.67	2	8	3	11	2	8	2
2	21	17	13	2	9	2	10	3	8	4
2	21	18	15.17	1	8	3	10	3	9	1
2	21	19	17	2	9	3	11	2	9	1
2	21	20	15.58	2	9	2	9	2	9	2
2	21	21	12.42	1	8	2	11	3	8	1
2	21	22	15.08	2	8	2	8	2	9	2
2	21	23	17.75	2	10	2	10	3	9	2
2	21	24	14.83	2	9	2	11	3	10	2
2	21	25	13	1	9	2	10	3	10	2
mean			14.9564	1.8	8.36	2.92	10.08	2.96	8.48	2.84
stdev			1.574002	0.406248	0.568624	0.759386	0.759386	0.789515	0.653197	1.213809

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	22	1	15	2						
2	22	2	17	2						
2	22	3	15	2						
2	22	4	13.25	2						
2	22	5	14.75	2						
2	22	6	16.92	1						
2	22	7	14.58	2						
2	22	8	13.75	2						
2	22	9	14.42	2						
2	22	10	17.42	2						
2	22	11	15.08	2						
2	22	12	13	2						
2	22	13	15.17	1						
2	22	14	16.83	2						
2	22	15	15.08	2						
2	22	16	13.5	2						
2	22	17	14.67	1						
2	22	18	16.5	2						
2	22	19	15.42	2						
2	22	20	13.25	2						
2	22	21	15	1						
2	22	22	16.67	2						
2	22	23	17.83	2						
2	22	24	13	2						
2	22	25	15.42	2						
mean			15.1404	1.84						
stdev			1.421016	0.374166						

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	23	1	17.17	2	10	4	12	5	10	5
2	23	2	14.25	1	10	4	10	4	9	5
2	23	3	13.08	2	10	4	12	3	10	4
2	23	4	15.42	2	10	4	11	4	10	3
2	23	5	17.75	2	10	5	12	4	10	4
2	23	6	14.58	2	9	3	12	4	10	3
2	23	7	13.25	2	9	3	12	3	9	4
2	23	8	14.92	1	9	3	12	4	10	3
2	23	9	16.83	2	10	3	12	3	11	3
2	23	10	15.17	2	9	4	10	4	10	3
2	23	11	13	2	10	3	12	3	9	4
2	23	12	14.83	2	10	3	12	3	10	4
2	23	13	17.17	1	10	4	10	2	9	4
2	23	14	15	2	9	4	11	3	9	4
2	23	15	13.58	2	10	4	12	2	10	4
2	23	16	15.08	2	11	4	9	3	9	3
2	23	17	16.67	2	11	3	10	2	10	3
2	23	18	15.33	2	10	3	13	3	11	3
2	23	19	13.58	1	10	5	11	3	10	3
2	23	20	14.17	2	10	3	10	2	10	4
2	23	21	17.17	2	10	3	11	2	10	3
2	23	22	14.92	2	11	3	12	3	11	4
2	23	23	13	2	11	4	11	2	11	3
2	23	24	15.25	1	10	3	11	2	9	3
2	23	25	16.83	2	10	4	10	0	10	4
mean			15.12	1.8	9.96	3.6	11.2	2.92	9.88	3.6
stdev			1.464158	0.408248	0.61101	0.645497	1	1.037625	0.665833	0.645497

Exper. Zone	Test Section	Joint Number	Slab Length	Joint Cr. 1=y, 2=no	Depth to Bckrd Sh.	Depth to Slnt Sh.	Depth to Bckrd Tr..	Depth to Slnt Tr.	Depth to Bckrd Lg.	Depth to Slnt Lg.
2	24	1	14.83	2		4	9	0	3	
2	24	2	13.25	2		3	10	3	3	
2	24	3	15	2		3	9	2	3	
2	24	4	16.92	2		3	10	3	3	
2	24	5	15.67	1		3	8	2	3	
2	24	6	12.83	2		3	9	2	3	
2	24	7	14.25	2		3	10	3	4	
2	24	8	17.25	2		4	9	2	3	
2	24	9	15	1		4	8	3	3	
2	24	10	12.83	1		3	9	2	4	
2	24	11	15.33	2		3	9	1	4	
2	24	12	17	2		3	10	3	3	
2	24	13	15.17	2		3	9	2	4	
2	24	14	12.83	2		3	8	2	3	
2	24	15	15	1		3	10	2	3	
2	24	16	17	2		4	9	2	3	
2	24	17	15	2		3	9	0	2	
2	24	18	12.42	2		3	8	1	3	
2	24	19	15	2		3	10	2	3	
2	24	20	17.25	2		3	9	2	2	
2	24	21	15	2		3	9	2	2	
2	24	22	13.33	1		3	9	2	3	
2	24	23	14.58	2		2	8	2	3	
2	24	24	17	2		2	9	1	3	
2	24	25	15	2		2	10	1	2	
mean			14.9896	1.8		3.04	9.08	1.88	3	
stdev			1.497188	0.408248		0.538516	0.702377	0.832666	0.57735	

Table E-2 Transverse Joint Shape Factors

Zone 1, Test Section 2				Zone 1, Test Section 4		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	6	7	1.17	9	6	0.67
2	5	6	1.20	6	6	1.00
3	5	6	1.20	6	6	1.00
4	5	6	1.20	2	7	3.50
5	4	6	1.50	8	6	0.75
6	5	7	1.40	8	6	0.75
7	6	7	1.17	7	6	0.86
8	6	6	1.00	7	8	1.14
9	5	6	1.20	6	6	1.00
10	6	6	1.00	6	6	1.00
11	7	7	1.00	8	6	0.75
12	6	6	1.00	7	7	1.00
13	6	6	1.00	7	6	0.86
14	5	7	1.40	9	6	0.67
15	5	8	1.60	8	6	0.75
16	5	6	1.20	6	6	1.00
17	4	6	1.50	7	8	1.14
18	5	6	1.20	6	7	1.17
19	6	6	1.00	6	7	1.17
20	6	6	1.00	6	6	1.00
21	7	6	0.86	5	6	1.20
22	5	6	1.20	5	7	1.40
23	4	6	1.50	7	6	0.86
24	5	6	1.20	7	6	0.86
25	4	6	1.50	5	6	1.20
26	5	6	1.20			
27	4	6	1.50			
28	5	6	1.20			
29	5	6	1.20			
30	5	7	1.40			
31	5	6	1.20			
32	7	7	1.00			
33	4	6	1.50			
34	4	7	1.75			
Average = 1.24				Average = 1.07		
Standard Deviation = 0.21				Standard Deviation = 0.54		

Zone 1, Test Section 6				Zone 1, Test Section 7		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	5	6	1.20	5	6	1.20
2	6	6	1.00	4	6	1.50
3	7	6	0.86	4	7	1.75
4	6	5	0.83	4	5	1.25
5	6	6	1.00	4	6	1.50
6	4	6	1.50	5	6	1.20
7	5	6	1.20	5	6	1.20
8	7	6	0.86	5	6	1.20
9	7	6	0.86	5	6	1.20
10	6	6	1.00	5	6	1.20
11	3	6	2.00	6	6	1.00
12	4	6	1.50	3	6	2.00
13	7	6	0.86	5	6	1.20
14	5	6	1.20	6	6	1.00
15	5	6	1.20	6	5	0.83
16	6	6	1.00	5	6	1.20
17	5	6	1.20	6	6	1.00
18	6	6	1.00	5	6	1.20
19	6	6	1.00	5	6	1.20
20	7	7	1.00	5	6	1.20
21	8	6	0.75	4	6	1.50
22	8	6	0.75	4	6	1.50
23	6	5	0.83	6	6	1.00
24	5	6	1.20	5	6	1.20
25	5	6	1.20	6	6	1.00
Average = 1.08				Average = 1.25		
Standard Deviation = 0.28				Standard Deviation = 0.26		

Joint Number	Zone 1, Test Section 8 Depth of Sealant	Width of Sealant	Shape Factor	Zone 1, Test Section 9 Depth of Sealant	Width of Sealant	Shape Factor
1	6	6	1.00	7	4	0.57
2	7	6	0.86	6	3	0.50
3	7	8	1.14	8	3	0.38
4	8	10	1.25	4	4	1.00
5	6	6	1.00	6	4	0.67
6	6	6	1.00	4	3	0.75
7	9	6	0.67	6	3	0.50
8	7	6	0.86	6	4	0.67
9	7	6	0.86	7	4	0.57
10	8	6	0.75	7	4	0.57
11	6	6	1.00	9	4	0.44
12	6	6	1.00	5	4	0.80
13	7	6	0.86	6	3	0.50
14	7	6	0.86	7	4	0.57
15	6	6	1.00	6	4	0.67
16	6	6	1.00	8	4	0.50
17	3	6	2.00	8	4	0.50
18	6	7	1.17	8	3	0.38
19	5	6	1.20	7	4	0.57
20	3	6	2.00	8	3	0.38
21	5	6	1.20	5	3	0.60
22	4	6	1.50	9	3	0.33
23	5	6	1.20	5	4	0.80
24	5	6	1.20	7	3	0.43
25	7	6	0.86	5	4	0.80
Average = 1.10				Average = 0.58		
Standard Deviation = 0.32				Standard Deviation = 0.16		

Zone 1, Test Section 10				Zone 1, Test Section 11		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	7	6	0.86	9	8	0.89
2	6	6	1.00	7	7	1.00
3	7	7	1.00	6	6	1.00
4	8	6	0.75	9	6	0.67
5	6	7	1.17	7	6	0.86
6	8	7	0.88	7	6	0.86
7	6	7	1.17	6	6	1.00
8	6	6	1.00	7	6	0.86
9	5	6	1.20	5	6	1.20
10	5	6	1.20	5	7	1.40
11	6	6	1.00	7	6	0.86
12	5	7	1.40	8	6	0.75
13	6	6	1.00	6	6	1.00
14	6	6	1.00	6	6	1.00
15	6	7	1.17	7	6	0.86
16	7	7	1.00	6	6	1.00
17	4	7	1.75	8	6	0.75
18	4	7	1.75	7	6	0.86
19	5	7	1.40	8	7	0.88
20	6	7	1.17	9	6	0.67
21	5	6	1.20	6	6	1.00
22	6	7	1.17	7	6	0.86
23	6	7	1.17	6	6	1.00
24	5	7	1.40	5	6	1.20
25	6	7	1.17	8	7	0.88
Average = 1.16				Average = 0.93		
Standard Deviation = 0.24				Standard Deviation = 0.16		

Zone 1, Test Section 12				Zone 2, Test Section 13		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	4	6	1.50	6	8	1.33
2	5	6	1.20	7	6	0.86
3	6	7	1.17	4	6	1.50
4	7	7	1.00	9	6	0.67
5	5	7	1.40	7	6	0.86
6	7	7	1.00	6	6	1.00
7	7	7	1.00	5	4	0.80
8	7	7	1.00	9	2	0.22
9	6	7	1.17	7	3	0.43
10	7	7	1.00	9	3	0.33
11	8	7	0.88	6	3	0.50
12	7	7	1.00	7	2	0.29
13	8	7	0.88	9	4	0.44
14	9	7	0.78	7	3	0.43
15	7	7	1.00	6	2	0.33
16	6	7	1.17	10	3	0.30
17	6	7	1.17	6	3	0.50
18	7	7	1.00	5	4	0.80
19	8	7	0.88	8	4	0.50
20	6	7	1.17	6	4	0.67
21	7	7	1.00	6	3	0.50
22	6	7	1.17	8	3	0.38
23	8	7	0.88	6	3	0.50
24	8	7	0.88	7	4	0.57
25	5	7	1.40	6	5	0.83
Average = 1.07				Average = 0.62		
Standard Deviation = 0.18				Standard Deviation = 0.32		

Zone 2, Test Section 15				Zone 2, Test Section 16		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	6	7	1.17	6	6	1.00
2	5	7	1.40	7	8	1.14
3	6	6	1.00	7	6	0.86
4	5	7	1.40	8	6	0.75
5	6	6	1.00	6	7	1.17
6	4	7	1.75	6	6	1.00
7	5	6	1.20	6	6	1.00
8	6	7	1.17	6	7	1.17
9	7	6	0.86	6	6	1.00
10	5	6	1.20	4	6	1.50
11	6	6	1.00	7	8	1.14
12	6	6	1.00	4	6	1.50
13	6	7	1.17	3	6	2.00
14	7	6	0.86	6	6	1.00
15	5	6	1.20	5	7	1.40
16	4	7	1.75	7	6	0.86
17	6	6	1.00	4	6	1.50
18	5	6	1.20	7	6	0.86
19	6	6	1.00	6	8	1.33
20	7	7	1.00	4	6	1.50
21	5	7	1.40	6	6	1.00
22	5	6	1.20	6	6	1.00
23	6	6	1.00	7	7	1.00
24	6	7	1.17	7	6	0.86
25	5	6	1.20	6	6	1.00
Average = 1.17				Average = 1.14		
Standard Deviation = 0.23				Standard Deviation = 0.29		

Zone 2, Test Section 18				Zone 2, Test Section 19		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	6	9	1.50	8	7	0.88
2	7	6	0.86	8	6	0.75
3	3	6	2.00	9	7	0.78
4	6	6	1.00	9	7	0.78
5	5	8	1.60	9	6	0.67
6	7	6	0.86	6	6	1.00
7	7	6	0.86	6	7	1.17
8	6	6	1.00	8	6	0.75
9	5	7	1.40	7	7	1.00
10	5	6	1.20	6	6	1.00
11	6	7	1.17	6	7	1.17
12	4	6	1.50	8	6	0.75
13	6	6	1.00	8	6	0.75
14	4	6	1.50	8	8	1.00
15	7	6	0.86	7	6	0.86
16	8	7	0.88	5	6	1.20
17	6	6	1.00	6	6	1.00
18	5	6	1.20	5	7	1.40
19	8	6	0.75	8	7	0.88
20	5	7	1.40	6	7	1.17
21	6	6	1.00	6	6	1.00
22	5	6	1.20	8	6	0.75
23	7	6	0.86	9	8	0.89
24	8	6	0.75	6	6	1.00
25	7	6	0.86	6	7	1.17
Average = 1.13				Average = 0.95		
Standard Deviation = 0.32				Standard Deviation = 0.19		

Joint Number	Zone 2, Test Section 20			Zone 2, Test Section 21		
	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	6	8	1.33	6	6	1.00
2	8	6	0.75	7	6	0.86
3	7	6	0.86	6	7	1.17
4	7	7	1.00	7	7	1.00
5	8	8	1.00	6	6	1.00
6	6	6	1.00	6	7	1.17
7	7	7	1.00	6	6	1.00
8	5	6	1.20	7	7	1.00
9	7	8	1.14	7	7	1.00
10	5	6	1.20	7	6	0.86
11	6	7	1.17	8	7	0.88
12	5	6	1.20	7	6	0.86
13	6	7	1.17	7	6	0.86
14	6	6	1.00	8	7	0.88
15	4	7	1.75	8	6	0.75
16	7	6	0.86	9	6	0.67
17	7	7	1.00	7	7	1.00
18	7	8	1.14	7	6	0.86
19	7	6	0.86	9	7	0.78
20	5	6	1.20	7	6	0.86
21	7	7	1.00	8	6	0.75
22	6	6	1.00	6	6	1.00
23	5	6	1.20	7	6	0.86
24	7	6	0.86	8	6	0.75
25	7	8	1.14	7	6	0.86
Average = 1.08				Average = 0.91		
Standard Deviation = 0.20				Standard Deviation = 0.12		

Zone 2, Test Section 23				Zone 2, Test Section 24		
Joint Number	Depth of Sealant	Width of Sealant	Shape Factor	Depth of Sealant	Width of Sealant	Shape Factor
1	7	6	0.86	9	4	0.44
2	6	6	1.00	7	5	0.71
3	9	6	0.67	7	4	0.57
4	7	6	0.86	7	4	0.57
5	8	7	0.88	6	4	0.67
6	8	6	0.75	7	4	0.57
7	9	7	0.78	7	5	0.71
8	8	6	0.75	7	4	0.57
9	9	7	0.78	5	4	0.80
10	6	7	1.17	7	4	0.57
11	9	6	0.67	8	4	0.50
12	9	7	0.78	7	5	0.71
13	8	6	0.75	7	4	0.57
14	8	6	0.75	6	4	0.67
15	10	7	0.70	8	4	0.50
16	6	6	1.00	7	4	0.57
17	8	6	0.75	9	5	0.56
18	10	6	0.60	7	4	0.57
19	8	6	0.75	8	5	0.62
20	8	6	0.75	7	5	0.71
21	9	6	0.67	7	4	0.57
22	9	7	0.78	7	5	0.71
23	9	6	0.67	6	4	0.67
24	9	6	0.67	8	5	0.62
25	10	6	0.60	9	5	0.56
Average = 0.78				Average = 0.61		
Standard Deviation = 0.13				Standard Deviation = 0.08		

APPENDIX F

Load Transfer Efficiency

Table F-1 Load Transfer Efficiency Data

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Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.61	1.92	0.81	3.03	1.98	0.72
	2.65	1.97	0.82	3.05	1.98	0.72
	2.61	1.89	0.79	3.04	1.94	0.70
	2.62	1.89	0.79	3.03	1.94	0.70
	2.68	1.96	0.80	3.04	2.09	0.76
	2.74	1.95	0.78	3.08	2.13	0.76
	2.73	1.95	0.78	3.07	2.12	0.76
	2.73	1.98	0.80	3.09	2.15	0.76
	2.61	1.95	0.82	2.94	2.03	0.76
	2.65	1.94	0.81	2.96	2.06	0.76
	2.56	1.94	0.83	2.94	2.03	0.76
	2.56	1.94	0.83	3.02	2.07	0.75
Mean	2.65	1.94	0.81	3.03	2.04	0.74
Std Dev	0.06	0.03	0.02	0.05	0.07	0.03

Joint Designation:	46J4			47J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.54	2.44	1.06	2.79	2.49	0.98
	2.52	2.47	1.08	2.76	2.51	1.00
	2.50	2.44	1.07	2.76	2.51	1.00
	2.54	2.44	1.06	2.80	2.55	1.00
	2.62	2.45	1.03	2.81	2.60	1.02
	2.67	2.45	1.01	2.85	2.61	1.01
	2.64	2.46	1.02	2.86	2.59	1.00
	2.64	2.46	1.02	2.85	2.58	1.00
	2.57	2.42	1.03	2.75	2.51	1.00
	2.57	2.42	1.03	2.76	2.52	1.00
	2.56	2.40	1.03	2.77	2.48	0.99
	2.57	2.41	1.03	2.82	2.59	1.01
Mean	2.58	2.44	1.04	2.80	2.54	1.00
Std Dev	0.05	0.02	0.02	0.04	0.05	0.01

Joint Designation:	92J4			94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.73	2.55	1.03	2.97	2.54	0.94
	2.74	2.55	1.03	2.94	2.60	0.97
	2.72	2.54	1.03	2.98	2.55	0.94
	2.73	2.54	1.03	2.98	2.59	0.96
	2.80	2.55	1.00	2.94	2.60	0.97
	2.83	2.55	0.99	2.90	2.63	1.00
	2.79	2.58	1.01	2.92	2.62	0.98
	2.80	2.55	1.00	2.94	2.63	0.98
	2.77	2.52	1.00	2.91	2.53	0.96
	2.81	2.55	1.00	2.91	2.53	0.96
	2.77	2.52	1.00	2.97	2.54	0.94
	2.80	2.53	0.99	2.96	2.58	0.96
Mean	2.77	2.54	1.01	2.94	2.58	0.96
Std Dev	0.04	0.01	0.01	0.03	0.04	0.02

Joint Designation:	139J4			140J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.51	2.23	0.98	2.38	2.31	1.07
	2.37	2.23	1.03	2.34	2.21	1.04
	2.50	2.23	0.98	2.30	2.18	1.04
	2.46	2.26	1.01	2.29	2.21	1.06
	2.38	2.37	1.10	2.46	2.23	1.00
	2.34	2.32	1.09	2.55	2.22	0.96
	2.37	2.36	1.10	2.55	2.19	0.94
	2.41	2.36	1.08	2.54	2.18	0.94
	2.40	2.31	1.06	2.39	2.19	1.01
	2.43	2.30	1.04	2.31	2.25	1.07
	2.38	2.28	1.05	2.32	2.26	1.07
	2.42	2.33	1.06	2.36	2.25	1.05
Mean	2.41	2.30	1.05	2.40	2.22	1.02
Std Dev	0.05	0.05	0.04	0.10	0.04	0.05

	Joint Designation:	184J4			186J5	
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.12	2.15	1.12	2.34	2.21	1.04
	2.17	2.16	1.09	2.34	2.22	1.04
	2.16	2.15	1.09	2.31	2.22	1.06
	2.16	2.15	1.09	2.33	2.20	1.04
	2.28	2.16	1.04	2.40	2.20	1.01
	2.31	2.16	1.03	2.41	2.21	1.01
	2.34	2.16	1.02	2.45	2.21	0.99
	2.33	2.19	1.03	2.45	2.21	0.99
	2.31	2.16	1.03	2.39	2.21	1.02
	2.31	2.16	1.03	2.40	2.20	1.01
	2.28	2.15	1.04	2.40	2.22	1.02
	2.28	2.15	1.04	2.39	2.20	1.01
Mean	2.25	2.16	1.05	2.38	2.21	1.02
Std Dev	0.08	0.01	0.03	0.05	0.01	0.02

Joint Designation:	233J4			234J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.55	2.35	1.01	2.38	2.35	1.09
	2.51	2.41	1.05	2.37	2.34	1.09
	2.55	2.35	1.01	2.33	2.34	1.10
	2.54	2.48	1.07	2.38	2.35	1.09
	2.55	2.36	1.02	2.54	2.40	1.04
	2.52	2.34	1.02	2.59	2.42	1.03
	2.52	2.41	1.05	2.57	2.40	1.03
	2.52	2.41	1.05	2.58	2.38	1.01
	2.56	2.47	1.06	2.54	2.39	1.03
	2.58	2.45	1.04	2.53	2.40	1.04
	2.55	2.33	1.00	2.55	2.40	1.03
	2.57	2.37	1.01	2.52	2.39	1.04
Mean	2.54	2.39	1.04	2.49	2.38	1.05
Std Dev	0.02	0.05	0.02	0.09	0.03	0.03

Joint Designation:	278J4			279J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.63	2.53	1.06	2.83	2.62	1.02
	2.68	2.62	1.07	2.80	2.63	1.03
	2.64	2.53	1.06	2.92	2.61	0.98
	2.63	2.53	1.06	2.96	2.65	0.98
	2.66	2.54	1.05	2.99	2.67	0.98
	2.65	2.58	1.07	2.98	2.63	0.97
	2.67	2.56	1.05	2.97	2.63	0.97
	2.66	2.55	1.05	3.01	2.66	0.97
	2.63	2.54	1.06	3.00	2.61	0.96
	2.64	2.53	1.06	2.99	2.62	0.96
	2.65	2.52	1.05	2.98	2.59	0.96
	2.62	2.51	1.05	2.97	2.61	0.96
Mean	2.65	2.55	1.06	2.95	2.63	0.98
Std Dev	0.02	0.03	0.01	0.07	0.02	0.02

Joint Designation:	321J4			322J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.52	2.42	1.05	2.67	2.53	1.04
	2.52	2.41	1.05	2.66	2.49	1.03
	2.53	2.43	1.05	2.71	2.49	1.01
	2.52	2.41	1.05	2.72	2.54	1.03
	2.56	2.47	1.06	2.74	2.50	1.01
	2.55	2.47	1.06	2.75	2.52	1.01
	2.58	2.43	1.04	2.77	2.53	1.01
	2.55	2.44	1.05	2.76	2.53	1.01
	2.54	2.46	1.06	2.72	2.52	1.02
	2.55	2.44	1.05	2.73	2.53	1.02
	2.55	2.45	1.05	2.73	2.53	1.02
	2.55	2.45	1.05	2.73	2.53	1.02
Mean	2.54	2.44	1.05	2.72	2.52	1.02
Std Dev	0.02	0.02	0.01	0.03	0.02	0.01

Joint Designation:	366J4			368J4		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.50	2.44	1.07	2.71	2.49	1.01
	2.58	2.43	1.04	2.68	2.50	1.03
	2.48	2.41	1.07	2.67	2.41	0.99
	2.67	2.47	1.02	2.68	2.50	1.03
	2.64	2.49	1.04	2.63	2.47	1.02
	2.65	2.47	1.03	2.67	2.43	1.00
	2.67	2.48	1.03	2.73	2.53	1.02
	2.63	2.48	1.04	2.66	2.46	1.02
	2.63	2.43	1.02	2.67	2.45	1.01
	2.63	2.39	1.00	2.66	2.45	1.02
	2.59	2.35	1.00	2.67	2.42	1.00
	2.59	2.37	1.01	2.65	2.42	1.01
Mean	2.60	2.43	1.03	2.68	2.46	1.01
Std Dev	0.06	0.05	0.02	0.02	0.04	0.01

Joint Designation:	415J4			417J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.14	1.99	1.03	2.21	2.00	1.00
	2.18	2.04	1.03	2.27	2.06	1.00
	2.09	1.99	1.05	2.17	2.05	1.04
	2.09	1.99	1.05	2.17	2.06	1.04
	2.23	2.09	1.03	2.31	2.07	0.99
	2.28	2.07	1.00	2.32	2.08	0.99
	2.29	2.08	1.00	2.32	2.09	0.99
	2.29	2.08	1.00	2.32	2.08	0.99
	2.22	2.08	1.03	2.30	2.13	1.02
	2.24	2.02	0.99	2.30	2.09	1.00
	2.20	2.02	1.01	2.24	2.03	0.99
	2.19	2.00	1.00	2.24	2.00	0.98
Mean	2.20	2.04	1.02	2.26	2.06	1.00
Std Dev	0.07	0.04	0.02	0.06	0.04	0.02

Joint Designation:	461J4			463J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.19	3.00	1.04	2.98	2.97	1.10
	3.19	2.96	1.02	2.93	2.93	1.10
	3.22	2.94	1.00	2.95	2.95	1.10
	3.21	2.97	1.02	2.90	2.94	1.12
	3.10	2.95	1.04	3.12	2.97	1.05
	3.04	2.96	1.07	3.09	2.91	1.04
	3.08	2.96	1.06	3.09	2.94	1.05
	3.08	2.92	1.04	3.09	2.91	1.04
	3.10	2.89	1.03	3.03	2.85	1.03
	3.13	2.88	1.01	3.00	2.87	1.05
	3.10	2.90	1.03	3.04	2.88	1.04
	3.10	2.89	1.03	3.06	2.90	1.04
Mean	3.13	2.93	1.03	3.02	2.92	1.06
Std Dev	0.06	0.04	0.02	0.07	0.04	0.03

Joint Designation:	503J4			504J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.17	2.16	1.09	2.40	2.23	1.02
	2.21	2.16	1.07	2.42	2.21	1.00
	2.17	2.16	1.09	2.41	2.24	1.02
	2.17	2.16	1.09	2.41	2.24	1.02
	2.39	2.21	1.02	2.48	2.24	0.99
	2.34	2.19	1.03	2.45	2.25	1.01
	2.34	2.16	1.01	2.45	2.25	1.01
	2.34	2.19	1.03	2.45	2.24	1.01
	2.32	2.12	1.01	2.37	2.19	1.02
	2.34	2.12	1.00	2.39	2.20	1.01
	2.33	2.13	1.01	2.34	2.17	1.02
	2.33	2.09	0.99	2.35	2.17	1.02
Mean	2.29	2.15	1.04	2.41	2.22	1.01
Std Dev	0.08	0.03	0.04	0.04	0.03	0.01

Joint Designation:	0J4			1J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.32	2.22	1.05	2.37	2.33	1.08
	2.28	2.26	1.09	2.37	2.33	1.08
	2.28	2.23	1.07	2.37	2.33	1.08
	2.28	2.27	1.09	2.37	2.33	1.08
	2.36	2.18	1.01	2.53	2.36	1.03
	2.35	2.24	1.05	2.52	2.32	1.01
	2.39	2.25	1.03	2.52	2.31	1.01
	2.35	2.24	1.05	2.51	2.31	1.01
	2.31	2.16	1.03	2.48	2.28	1.01
	2.30	2.15	1.03	2.50	2.31	1.01
	2.29	2.17	1.04	2.49	2.29	1.01
	2.32	2.19	1.04	2.51	2.31	1.01
Mean	2.32	2.21	1.05	2.46	2.32	1.04
Std Dev	0.04	0.04	0.03	0.07	0.02	0.03

	Joint Designation:	42J4		43J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.29	2.14	1.03	2.35	2.15	1.00
	2.30	2.16	1.03	2.45	2.19	0.98
	2.30	2.16	1.03	2.49	2.15	0.95
	2.35	2.21	1.03	2.45	2.15	0.97
	2.37	2.19	1.02	2.43	2.26	1.02
	2.35	2.21	1.03	2.39	2.22	1.02
	2.36	2.22	1.03	2.48	2.21	0.98
	2.40	2.22	1.02	2.49	2.22	0.98
	2.37	2.19	1.02	2.48	2.24	0.99
	2.39	2.19	1.01	2.45	2.22	1.00
	2.40	2.23	1.02	2.45	2.23	1.00
	2.35	2.18	1.02	2.45	2.22	1.00
Mean	2.35	2.19	1.03	2.45	2.21	0.99
Std Dev	0.04	0.03	0.01	0.04	0.04	0.02

Joint Designation:	88J4			89J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	1.99	1.94	1.07	2.10	1.94	1.02
	2.03	1.94	1.05	2.03	1.96	1.06
	2.04	1.99	1.07	2.14	1.94	1.00
	2.00	1.95	1.07	2.11	1.91	0.99
	2.09	1.95	1.03	2.19	1.99	1.00
	2.12	1.91	0.99	2.18	1.99	1.00
	2.09	2.01	1.06	2.17	2.01	1.02
	2.12	1.97	1.02	2.23	2.03	1.00
	2.14	2.03	1.05	2.19	1.96	0.98
	2.11	1.93	1.01	2.19	1.98	0.99
	2.13	1.95	1.01	2.19	1.98	0.99
	2.12	1.93	1.00	2.19	1.93	0.97
Mean	2.08	1.96	1.04	2.16	1.97	1.00
Std Dev	0.05	0.04	0.03	0.06	0.04	0.02

Joint Designation:	134J4			135J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.31	2.21	1.05	2.37	2.16	1.00
	2.36	2.21	1.03	2.47	2.25	1.00
	2.31	2.21	1.05	2.41	2.20	1.00
	2.36	2.25	1.05	2.43	2.21	1.00
	2.39	2.20	1.01	2.44	2.20	0.99
	2.37	2.22	1.03	2.52	2.25	0.98
	2.40	2.26	1.03	2.51	2.21	0.97
	2.37	2.21	1.03	2.48	2.17	0.97
	2.33	2.13	1.01	2.37	2.15	1.00
	2.34	2.14	1.01	2.34	2.16	1.02
	2.34	2.16	1.02	2.37	2.15	1.00
	2.35	2.15	1.01	2.35	2.15	1.01
Mean	2.35	2.20	1.03	2.42	2.19	0.99
Std Dev	0.03	0.04	0.02	0.06	0.04	0.02

	Joint Designation:	179J4		181J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.24	2.09	1.03	2.25	2.18	1.06
	2.25	2.10	1.03	2.31	2.19	1.04
	2.29	2.14	1.03	2.31	2.18	1.04
	2.29	2.09	1.01	2.36	2.23	1.04
	2.33	2.18	1.03	2.39	2.22	1.02
	2.33	2.12	1.00	2.37	2.20	1.02
	2.36	2.18	1.01	2.37	2.20	1.02
	2.33	2.15	1.01	2.34	2.21	1.04
	2.33	2.13	1.01	2.53	2.26	0.98
	2.31	2.13	1.02	2.51	2.22	0.97
	2.32	2.14	1.02	2.54	2.23	0.96
	2.32	2.12	1.01	2.51	2.24	0.98
Mean	2.31	2.13	1.02	2.40	2.21	1.02
Std Dev	0.04	0.03	0.01	0.10	0.03	0.03

Joint Designation:	226J4			227J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.48	2.29	1.01	2.48	2.31	1.02
	2.47	2.28	1.01	2.48	2.31	1.02
	2.47	2.32	1.03	2.44	2.36	1.06
	2.51	2.36	1.03	2.44	2.32	1.04
	2.58	2.32	0.99	2.55	2.38	1.03
	2.57	2.32	0.99	2.48	2.33	1.04
	2.60	2.35	0.99	2.48	2.37	1.05
	2.61	2.32	0.98	2.54	2.37	1.03
	2.58	2.35	1.00	2.55	2.35	1.01
	2.57	2.34	1.00	2.58	2.35	1.00
	2.60	2.35	0.99	2.57	2.30	0.98
	2.56	2.36	1.01	2.59	2.32	0.99
Mean	2.55	2.33	1.01	2.52	2.34	1.02
Std Dev	0.05	0.03	0.02	0.05	0.03	0.02

Joint Designation:	271J4			272J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.13	2.12	1.09	2.28	2.17	1.04
	2.11	2.10	1.09	2.26	2.14	1.04
	2.18	2.11	1.07	2.35	2.23	1.04
	2.12	2.07	1.07	2.39	2.14	0.98
	2.36	2.10	0.98	2.34	2.13	1.00
	2.37	2.08	0.97	2.34	2.17	1.02
	2.31	2.09	0.99	2.33	2.13	1.00
	2.34	2.09	0.98	2.34	2.10	0.99
	2.31	2.09	1.00	2.35	2.13	1.00
	2.23	2.06	1.01	2.35	2.12	1.00
	2.26	2.08	1.01	2.36	2.14	1.00
	2.26	2.09	1.01	2.38	2.14	0.99
Mean	2.25	2.09	1.02	2.34	2.14	1.01
Std Dev	0.09	0.02	0.05	0.04	0.03	0.02

Joint Designation:	318J4			319J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.26	2.25	1.09	2.43	2.26	1.02
	2.36	2.25	1.05	2.39	2.26	1.04
	2.44	2.29	1.03	2.39	2.26	1.04
	2.39	2.24	1.03	2.44	2.26	1.02
	2.44	2.23	1.00	2.51	2.30	1.01
	2.49	2.24	0.99	2.49	2.29	1.01
	2.48	2.27	1.00	2.50	2.33	1.02
	2.51	2.26	0.99	2.51	2.30	1.01
	2.42	2.24	1.02	2.50	2.30	1.01
	2.39	2.21	1.02	2.47	2.29	1.02
	2.37	2.22	1.03	2.51	2.29	1.00
	2.39	2.22	1.02	2.50	2.28	1.00
Mean	2.41	2.24	1.02	2.47	2.29	1.02
Std Dev	0.07	0.02	0.03	0.05	0.02	0.01

Joint Designation:	361J4			362J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	1.97	1.82	1.02	1.97	1.90	1.06
	1.98	1.83	1.02	2.03	1.91	1.04
	1.92	1.73	0.99	2.06	1.90	1.02
	2.01	1.82	1.00	2.06	1.90	1.02
	2.00	1.82	1.00	2.09	1.92	1.01
	2.02	1.87	1.02	2.12	1.89	0.98
	1.99	1.82	1.00	2.13	1.93	1.00
	2.02	1.80	0.98	2.16	1.92	0.98
	1.98	1.77	0.98	2.04	1.85	1.00
	2.00	1.71	0.94	1.98	1.89	1.05
	2.00	1.79	0.98	1.99	1.91	1.06
	1.98	1.79	0.99	1.99	1.91	1.06
Mean	1.99	1.80	0.99	2.05	1.90	1.02
Std Dev	0.03	0.04	0.02	0.06	0.02	0.03

Joint Designation:	408J4			410J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.56	2.40	1.03	2.59	2.46	1.04
	2.46	2.39	1.07	2.63	2.50	1.05
	2.60	2.40	1.01	2.63	2.54	1.06
	2.56	2.35	1.01	2.68	2.50	1.03
	2.56	2.38	1.02	2.63	2.46	1.03
	2.61	2.35	0.99	2.64	2.47	1.03
	2.58	2.30	0.98	2.69	2.51	1.03
	2.62	2.34	0.98	2.71	2.53	1.03
	2.56	2.31	0.99	2.54	2.44	1.05
	2.53	2.31	1.00	2.51	2.43	1.06
	2.56	2.34	1.00	2.52	2.41	1.05
	2.56	2.31	0.99	2.52	2.41	1.05
Mean	2.56	2.35	1.01	2.61	2.47	1.04
Std Dev	0.04	0.04	0.03	0.07	0.04	0.01

Joint Designation:	454J4			456J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.23	2.08	1.03	2.16	2.04	1.04
	2.20	2.05	1.02	2.32	2.02	0.96
	2.20	2.05	1.02	2.28	2.03	0.98
	2.24	2.05	1.00	2.29	2.03	0.98
	2.26	2.08	1.01	2.30	2.07	0.99
	2.22	2.03	1.01	2.31	2.08	0.99
	2.24	2.03	0.99	2.36	2.12	0.99
	2.22	2.04	1.01	2.32	2.05	0.97
	2.23	2.03	1.00	2.28	2.08	1.00
	2.21	2.04	1.01	2.24	2.11	1.04
	2.21	2.01	1.00	2.29	2.13	1.03
	2.21	2.04	1.01	2.29	2.07	0.99
Mean	2.22	2.04	1.01	2.29	2.07	1.00
Std Dev	0.02	0.02	0.01	0.05	0.04	0.03

Joint Designation:	501J4			503J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.65	2.40	1.00	2.77	2.50	0.99
	2.51	2.45	1.08	2.77	2.50	0.99
	2.70	2.41	0.98	2.72	2.46	0.99
	2.65	2.46	1.02	2.72	2.46	0.99
	2.68	2.47	1.01	2.77	2.49	0.99
	2.61	2.43	1.02	2.78	2.50	0.99
	2.62	2.47	1.04	2.78	2.50	0.99
	2.62	2.44	1.02	2.78	2.50	0.99
	2.69	2.42	0.99	2.73	2.46	0.99
	2.69	2.41	0.99	2.73	2.46	0.99
	2.66	2.44	1.01	2.72	2.46	0.99
	2.68	2.43	1.00	2.73	2.46	0.99
Mean	2.65	2.43	1.01	2.75	2.48	0.99
Std Dev	0.05	0.02	0.03	0.03	0.02	0.00

Joint Designation:	546J4			548J5		
	Deflection AT Load	Deflection At +12"	LTE	Deflection AT Load	Deflection At -12"	LTE
	2.35	2.11	0.99	2.30	2.09	1.00
	2.39	2.14	0.99	2.29	2.08	1.00
	2.35	2.11	0.99	2.29	2.08	1.00
	2.34	2.10	0.99	2.29	2.13	1.02
	2.27	2.08	1.01	2.39	2.12	0.97
	2.26	2.10	1.03	2.40	2.17	0.99
	2.33	2.14	1.01	2.39	2.16	0.99
	2.29	2.10	1.01	2.39	2.12	0.98
	2.32	2.11	1.00	2.24	2.09	1.03
	2.32	2.09	0.99	2.31	2.13	1.02
	2.31	2.10	1.00	2.28	2.11	1.02
	2.33	2.13	1.00	2.35	2.13	1.00
Mean	2.32	2.11	1.00	2.33	2.12	1.00
Std Dev	0.04	0.02	0.01	0.05	0.03	0.02

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	5.00	2.98	0.657	6.55	1.93	0.323
	5.00	2.94	0.646	6.64	1.97	0.326
	5.07	2.89	0.626	6.50	1.84	0.312
	4.91	2.93	0.656	6.62	1.96	0.326
	4.73	2.98	0.694	6.19	2.28	0.405
	4.71	2.95	0.689	6.23	2.23	0.394
	4.76	2.95	0.682	6.27	2.20	0.387
	4.74	2.92	0.678	6.23	2.17	0.383
	4.52	2.81	0.683	5.57	2.40	0.475
	4.55	2.85	0.688	5.52	2.43	0.485
	4.63	2.82	0.670	5.54	2.41	0.478
	4.64	2.84	0.673	5.55	2.36	0.467
Mean	4.77	2.90	0.67	6.12	2.18	0.40
Std Dev	0.18	0.06	0.02	0.45	0.21	0.07

Joint Designation:	?J4			?J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.51	2.79	0.680	4.19	3.32	0.873
	4.52	2.79	0.680	4.18	3.27	0.862
	4.58	2.83	0.680	4.20	3.29	0.862
	4.51	2.75	0.670	4.18	3.30	0.870
	4.42	2.83	0.705	4.13	3.36	0.894
	4.40	2.79	0.697	4.18	3.35	0.881
	4.46	2.79	0.687	4.14	3.32	0.884
	4.39	2.78	0.697	4.16	3.36	0.888
	4.08	2.75	0.741	3.93	3.18	0.890
	4.13	2.73	0.727	3.98	3.22	0.891
	4.17	2.74	0.724	4.00	3.25	0.892
	4.17	2.73	0.720	3.97	3.22	0.892
Mean	4.36	2.78	0.70	4.10	3.29	0.88
Std Dev	0.18	0.03	0.02	0.10	0.06	0.01

Joint Designation:	48J4			49J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.11	2.09	0.559	4.19	2.19	0.576
	4.10	2.10	0.565	4.26	2.16	0.558
	4.18	2.17	0.570	4.20	2.20	0.576
	4.09	2.10	0.565	4.26	2.25	0.579
	3.90	2.22	0.625	4.13	2.25	0.598
	3.96	2.21	0.615	4.18	2.25	0.592
	3.94	2.19	0.612	4.21	2.26	0.592
	3.97	2.19	0.607	4.23	2.26	0.587
	3.69	2.26	0.673	3.80	2.22	0.642
	3.70	2.19	0.652	3.85	2.18	0.621
	3.76	2.22	0.651	3.88	2.20	0.624
	3.76	2.19	0.641	3.92	2.21	0.620
Mean	3.93	2.18	0.61	4.09	2.22	0.60
Std Dev	0.17	0.05	0.04	0.18	0.03	0.02

Joint Designation:	94J4			95J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.13	2.02	1.046	2.13	1.97	1.015
	2.17	1.98	1.005	2.20	2.04	1.024
	2.17	2.02	1.026	2.19	2.04	1.024
	2.18	1.99	1.005	2.15	2.04	1.043
	2.21	2.00	0.994	2.16	2.00	1.018
	2.19	1.95	0.978	2.19	2.00	1.003
	2.23	1.99	0.980	2.16	2.00	1.018
	2.27	1.98	0.963	2.15	1.99	1.018
	2.12	1.95	1.010	2.09	1.95	1.027
	2.10	1.92	1.009	2.10	1.98	1.038
	2.10	1.95	1.020	2.08	1.94	1.023
	2.10	1.92	1.009	2.09	1.99	1.049
Mean	2.16	1.97	1.00	2.14	2.00	1.02
Std Dev	0.06	0.03	0.02	0.04	0.03	0.01

Joint Designation:	141J4			141J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.34	2.24	1.051	2.33	2.16	1.022
	2.35	2.20	1.032	2.35	2.23	1.041
	2.33	2.09	0.988	2.32	2.23	1.060
	2.35	2.21	1.032	2.30	2.22	1.060
	2.31	2.10	0.999	2.35	2.18	1.022
	2.32	2.14	1.015	2.37	2.17	1.009
	2.30	2.12	1.014	2.36	2.20	1.023
	2.30	2.12	1.014	2.36	2.20	1.023
	2.26	2.09	1.015	2.29	2.12	1.019
	2.23	2.03	1.001	2.27	2.13	1.029
	2.23	2.08	1.025	2.28	2.12	1.019
	2.25	2.10	1.026	2.28	2.11	1.019
Mean	2.30	2.13	1.02	2.32	2.17	1.03
Std Dev	0.05	0.06	0.02	0.04	0.05	0.02

Joint Designation:	184J4			186J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.85	2.27	0.516	5.10	2.06	0.445
	4.86	2.10	0.476	5.08	2.08	0.450
	4.88	2.20	0.497	5.12	2.07	0.445
	4.91	2.16	0.483	5.16	2.13	0.453
	4.69	2.30	0.539	4.86	2.32	0.526
	4.68	2.32	0.546	4.84	2.31	0.526
	4.71	2.29	0.535	4.89	2.32	0.522
	4.76	2.34	0.542	4.89	2.32	0.522
	4.47	2.38	0.587	4.60	2.47	0.591
	4.52	2.43	0.591	4.61	2.47	0.588
	4.52	2.43	0.591	4.58	2.43	0.583
	4.50	2.37	0.580	4.62	2.44	0.580
Mean	4.69	2.30	0.54	4.86	2.29	0.52
Std Dev	0.16	0.10	0.04	0.22	0.16	0.06

Joint Designation:	227J4			228J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.38	2.23	1.033	2.41	2.24	1.023
	2.38	2.20	1.014	2.43	2.31	1.043
	2.30	2.15	1.030	2.41	2.32	1.062
	2.33	2.14	1.012	2.45	2.28	1.024
	2.34	2.16	1.015	2.39	2.25	1.038
	2.36	2.15	1.001	2.41	2.24	1.024
	2.38	2.17	1.003	2.40	2.24	1.024
	2.36	2.22	1.034	2.40	2.30	1.053
	2.31	2.11	1.005	2.34	2.16	1.018
	2.28	2.11	1.017	2.33	2.16	1.018
	2.28	2.09	1.007	2.37	2.22	1.030
	2.32	2.14	1.015	2.35	2.20	1.029
Mean	2.34	2.16	1.02	2.39	2.24	1.03
Std Dev	0.04	0.04	0.01	0.04	0.05	0.01

Joint Designation:	273J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.05	2.36	0.849	3.16	2.34	0.815
	3.00	2.36	0.864	3.16	2.42	0.844
	3.06	2.46	0.883	3.22	2.43	0.830
	3.09	2.49	0.886	3.12	2.38	0.841
	2.99	2.44	0.896	3.07	2.37	0.849
	3.02	2.41	0.875	3.11	2.38	0.841
	3.01	2.45	0.896	3.15	2.42	0.843
	2.99	2.47	0.908	3.13	2.36	0.830
	2.92	2.42	0.911	3.06	2.33	0.837
	2.95	2.38	0.886	3.09	2.38	0.848
	2.98	2.41	0.889	3.12	2.34	0.824
	2.96	2.36	0.878	3.08	2.33	0.831
Mean	3.00	2.42	0.89	3.12	2.37	0.84
Std Dev	0.05	0.05	0.02	0.05	0.04	0.01

Joint Designation:	319J4			319J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.19	2.00	1.005	2.18	2.05	1.037
	2.24	2.05	1.007	2.18	2.06	1.037
	2.20	2.01	1.005	2.22	2.11	1.043
	2.23	2.00	0.986	2.22	2.11	1.043
	2.17	1.96	0.991	2.19	2.05	1.032
	2.19	1.97	0.992	2.24	2.07	1.019
	2.19	1.95	0.976	2.24	2.07	1.019
	2.22	2.00	0.994	2.24	2.08	1.019
	2.17	1.95	0.987	2.17	2.04	1.037
	2.14	1.92	0.986	2.15	2.01	1.026
	2.17	1.95	0.987	2.16	2.01	1.026
	2.17	1.92	0.976	2.16	2.03	1.037
Mean	2.19	1.97	0.99	2.20	2.06	1.03
Std Dev	0.03	0.04	0.01	0.04	0.03	0.01

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.10	1.91	1.00	2.08	1.96	1.04
	2.15	1.93	0.98	2.10	2.02	1.06
	2.16	2.01	1.03	2.04	1.97	1.06
	2.20	1.97	0.99	2.10	2.02	1.06
	2.22	1.95	0.96	2.15	1.98	1.02
	2.22	1.98	0.98	2.17	2.01	1.02
	2.23	1.95	0.96	2.14	1.98	1.02
	2.23	1.95	0.96	2.18	2.02	1.02
	2.13	1.93	1.00	2.15	1.95	1.00
	2.15	1.93	0.99	2.16	1.97	1.00
	2.15	1.91	0.98	2.10	1.94	1.01
	2.15	1.91	0.98	2.14	1.97	1.01
Mean	2.17	1.94	0.98	2.13	1.98	1.03
Std Dev	0.044	0.032	0.018	0.040	0.028	0.022

Joint Designation:	48J4			49J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.66	1.68	0.51	3.26	1.88	0.64
	3.67	1.73	0.52	3.35	1.93	0.63
	3.71	1.69	0.50	3.28	1.90	0.64
	3.70	1.73	0.51	3.31	1.93	0.64
	3.61	1.77	0.54	3.35	2.05	0.67
	3.64	1.81	0.55	3.34	2.01	0.66
	3.67	1.84	0.55	3.31	2.02	0.67
	3.67	1.84	0.55	3.34	2.05	0.67
	3.62	1.95	0.59	3.32	2.15	0.71
	3.56	1.89	0.58	3.32	2.15	0.71
	3.60	1.89	0.58	3.28	2.14	0.72
	3.63	1.90	0.57	3.31	2.14	0.71
Mean	3.64	1.81	0.55	3.31	2.03	0.67
Std Dev	0.043	0.089	0.032	0.030	0.102	0.033

Joint Designation:	92J4			94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.25	2.06	1.01	2.26	2.15	1.04
	2.29	2.06	0.99	2.24	2.07	1.02
	2.21	2.01	1.00	2.24	2.07	1.02
	2.22	2.02	1.00	2.28	2.07	1.00
	2.27	2.06	1.00	2.25	2.02	0.99
	2.26	2.01	0.98	2.29	2.08	1.00
	2.27	2.02	0.98	2.28	2.04	0.99
	2.30	2.05	0.98	2.24	2.04	1.00
	2.22	2.02	1.00	2.26	2.04	0.99
	2.23	2.01	0.99	2.24	2.04	1.00
	2.24	2.02	0.99	2.21	2.02	1.01
	2.23	2.01	0.99	2.24	2.02	0.99
Mean	2.25	2.03	0.99	2.25	2.06	1.00
Std Dev	0.032	0.021	0.010	0.023	0.036	0.016

	Joint Designation:	136J4			138J5	
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.41	2.16	0.99	2.25	2.13	1.04
	2.36	2.16	1.01	2.29	2.17	1.04
	2.41	2.16	0.99	2.24	2.16	1.06
	2.41	2.17	0.99	2.25	2.13	1.04
	2.40	2.15	0.99	2.36	2.11	0.99
	2.42	2.14	0.97	2.36	2.13	0.99
	2.40	2.10	0.97	2.36	2.16	1.01
	2.43	2.11	0.95	2.36	2.16	1.01
	2.40	2.13	0.97	2.36	2.14	1.00
	2.36	2.11	0.99	2.38	2.14	0.99
	2.39	2.11	0.97	2.39	2.14	0.99
	2.39	2.14	0.98	2.36	2.14	1.00
Mean	2.40	2.14	0.98	2.33	2.14	1.01
Std Dev	0.022	0.023	0.013	0.057	0.017	0.028

Joint Designation:	181J4			182J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.50	2.26	1.00	2.47	2.34	1.04
	2.42	2.27	1.03	2.48	2.35	1.04
	2.50	2.18	0.96	2.48	2.36	1.04
	2.47	2.23	0.99	2.46	2.34	1.04
	2.48	2.33	1.03	2.48	2.35	1.04
	2.46	2.31	1.03	2.47	2.33	1.04
	2.42	2.30	1.05	2.47	2.34	1.04
	2.47	2.32	1.03	2.46	2.29	1.02
	2.45	2.27	1.02	2.42	2.30	1.04
	2.43	2.25	1.02	2.47	2.31	1.03
	2.43	2.23	1.01	2.45	2.32	1.04
	2.46	2.24	1.00	2.45	2.31	1.04
Mean	2.46	2.27	1.01	2.46	2.33	1.04
Std Dev	0.030	0.043	0.025	0.017	0.023	0.006

Joint Designation:	228J4			230J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.41	2.22	1.01	2.37	2.20	1.02
	2.38	2.14	0.99	2.35	2.19	1.02
	2.42	2.19	0.99	2.40	2.23	1.02
	2.39	2.20	1.01	2.32	2.20	1.04
	2.42	2.20	1.00	2.41	2.25	1.02
	2.46	2.20	0.99	2.41	2.21	1.01
	2.47	2.22	0.99	2.41	2.21	1.01
	2.42	2.18	0.99	2.48	2.25	0.99
	2.41	2.16	0.99	2.40	2.20	1.01
	2.42	2.17	0.99	2.39	2.22	1.02
	2.39	2.14	0.99	2.41	2.23	1.02
	2.39	2.15	0.99	2.39	2.21	1.02
Mean	2.41	2.18	0.99	2.40	2.22	1.02
Std Dev	0.027	0.029	0.010	0.039	0.020	0.011

Joint Designation:	273J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.46	2.56	0.81	3.21	2.77	0.95
	3.48	2.62	0.83	3.20	2.80	0.96
	3.46	2.56	0.81	3.22	2.82	0.96
	3.47	2.61	0.83	3.19	2.79	0.96
	3.46	2.66	0.85	3.21	2.86	0.98
	3.47	2.67	0.85	3.25	2.91	0.98
	3.44	2.68	0.86	3.26	2.84	0.96
	3.45	2.66	0.85	3.25	2.83	0.96
	3.42	2.73	0.88	3.22	2.87	0.98
	3.41	2.72	0.88	3.26	2.91	0.98
	3.44	2.71	0.87	3.26	2.90	0.98
	3.45	2.75	0.88	3.25	2.92	0.99
Mean	3.45	2.66	0.85	3.23	2.85	0.97
Std Dev	0.022	0.063	0.024	0.026	0.051	0.013

Joint Designation:	314J4			315J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.11	2.00	0.54	4.05	2.04	0.55
	4.08	1.95	0.53	4.09	2.08	0.56
	4.12	1.95	0.52	4.06	2.08	0.56
	4.11	2.00	0.54	4.05	2.00	0.54
	4.16	2.02	0.53	3.95	2.25	0.63
	4.23	2.04	0.53	3.97	2.25	0.62
	4.22	2.01	0.52	3.96	2.27	0.63
	4.23	2.02	0.52	3.96	2.27	0.63
	4.05	2.12	0.58	3.86	2.33	0.67
	4.07	2.11	0.57	3.88	2.33	0.66
	4.10	2.08	0.56	3.84	2.28	0.65
	4.11	2.09	0.56	3.89	2.30	0.65
Mean	4.13	2.03	0.54	3.96	2.21	0.61
Std Dev	0.064	0.056	0.019	0.087	0.121	0.046

Joint Designation:	359J4			360J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.34	2.23	1.05	2.40	2.23	1.02
	2.34	2.23	1.05	2.38	2.25	1.04
	2.31	2.16	1.03	2.44	2.27	1.02
	2.34	2.19	1.03	2.40	2.32	1.06
	2.37	2.15	1.00	2.44	2.28	1.02
	2.35	2.20	1.03	2.39	2.23	1.02
	2.38	2.16	1.00	2.40	2.27	1.04
	2.36	2.21	1.03	2.38	2.25	1.04
	2.42	2.19	1.00	2.38	2.21	1.02
	2.45	2.17	0.98	2.37	2.22	1.03
	2.47	2.17	0.97	2.38	2.25	1.04
	2.45	2.21	0.99	2.36	2.20	1.03
Mean	2.38	2.19	1.01	2.39	2.25	1.03
Std Dev	0.053	0.027	0.028	0.025	0.033	0.012

	Joint Designation:	0 J4		1 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.89	2.43	1.03	3.16	2.47	0.96
	2.93	2.43	1.01	3.17	2.48	0.96
	2.93	2.47	1.03	3.17	2.56	0.99
	2.87	2.50	1.06	3.09	2.49	0.98
	2.89	2.47	1.04	3.12	2.51	0.98
	2.92	2.50	1.04	3.09	2.51	0.99
	2.95	2.47	1.02	3.06	2.43	0.97
	2.94	2.47	1.02	3.01	2.45	0.99
	2.92	2.47	1.03	3.05	2.45	0.98
Mean	2.91	2.47	1.03	3.10	2.48	0.98
Std Dev	0.03	0.02	0.02	0.06	0.04	0.01

Joint Designation:	2 J4			3 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.77	2.36	1.04	2.83	2.35	1.01
	2.78	2.32	1.02	2.83	2.30	0.99
	2.72	2.27	1.02	2.87	2.30	0.98
	2.75	2.36	1.05	2.83	2.26	0.97
	2.81	2.39	1.04	2.83	2.34	1.01
	2.81	2.39	1.04	2.86	2.37	1.01
	2.81	2.38	1.03	2.88	2.32	0.98
	2.83	2.38	1.02	2.86	2.31	0.98
	2.83	2.38	1.02	2.87	2.35	1.00
Mean	2.79	2.36	1.03	2.85	2.32	0.99
Std Dev	0.04	0.04	0.01	0.02	0.03	0.01

Joint Designation:	4 J4			5 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.13	2.46	0.96	2.70	2.48	1.12
	3.07	2.41	0.96	2.80	2.53	1.10
	3.08	2.45	0.97	2.88	2.61	1.11
	3.07	2.48	0.99	2.86	2.59	1.11
	3.04	2.45	0.98	2.86	2.48	1.06
	3.04	2.48	1.00	2.86	2.47	1.06
	3.03	2.51	1.01	2.93	2.50	1.04
	3.00	2.48	1.01	2.91	2.51	1.05
	3.03	2.49	1.00	2.94	2.51	1.04
Mean	3.05	2.47	0.99	2.86	2.52	1.08
Std Dev	0.04	0.03	0.02	0.07	0.05	0.03

Joint Designation:	6 J4			7 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.83	2.25	0.97	2.78	2.34	1.03
	2.83	2.29	0.99	2.89	2.32	0.98
	2.84	2.29	0.99	2.81	2.20	0.96
	2.83	2.33	1.00	2.81	2.20	0.96
	2.91	2.38	1.00	2.84	2.29	0.99
	2.86	2.33	0.99	2.83	2.29	0.99
	2.81	2.34	1.02	2.89	2.28	0.96
	2.84	2.34	1.01	2.91	2.35	0.99
	2.85	2.32	0.99	2.94	2.33	0.97
Mean	2.85	2.32	0.99	2.86	2.29	0.98
Std Dev	0.03	0.04	0.01	0.05	0.06	0.02

Joint Designation:	8 J4			9 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.73	2.14	0.96	2.67	2.19	1.00
	2.72	2.09	0.94	2.67	2.11	0.97
	2.80	2.22	0.96	2.64	1.99	0.92
	2.80	2.21	0.96	2.65	2.07	0.95
	2.78	2.20	0.96	2.65	2.02	0.93
	2.78	2.20	0.96	2.67	2.15	0.98
	2.83	2.21	0.95	2.69	2.14	0.97
	2.79	2.20	0.96	2.72	2.18	0.98
	2.77	2.18	0.96	2.72	2.16	0.97
Mean	2.78	2.18	0.96	2.68	2.11	0.96
Std Dev	0.04	0.04	0.01	0.03	0.07	0.03

Joint Designation:	10 J4			11 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.69	2.35	1.07	2.86	2.25	0.96
	2.81	2.38	1.04	2.76	2.29	1.01
	2.76	2.35	1.04	2.84	2.28	0.98
	2.79	2.37	1.04	2.84	2.32	1.00
	2.89	2.43	1.03	2.83	2.29	0.99
	2.82	2.37	1.03	2.80	2.31	1.01
	2.88	2.41	1.02	2.85	2.35	1.01
	2.88	2.41	1.02	2.89	2.37	1.00
	2.86	2.39	1.02	2.94	2.37	0.99
Mean	2.82	2.39	1.03	2.84	2.31	0.99
Std Dev	0.07	0.03	0.02	0.05	0.05	0.02

	Joint Designation:	12 J4		13 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.06	2.39	0.95	2.85	2.36	1.01
	2.92	2.36	0.99	2.81	2.32	1.01
	2.86	2.35	1.00	2.86	2.34	0.99
	2.83	2.33	1.00	2.92	2.42	1.01
	2.88	2.40	1.02	2.86	2.42	1.03
	2.87	2.36	1.00	2.83	2.43	1.04
	2.88	2.39	1.01	2.84	2.37	1.02
	2.89	2.44	1.03	2.89	2.41	1.01
	2.85	2.40	1.03	2.87	2.39	1.01
Mean	2.89	2.38	1.00	2.86	2.38	1.02
Std Dev	0.07	0.03	0.02	0.03	0.04	0.01

Joint Designation:	14 J4			15 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.72	2.31	1.03	2.83	2.17	0.94
	2.77	2.31	1.02	2.88	2.22	0.94
	2.64	2.23	1.03	2.77	2.13	0.94
	2.72	2.30	1.03	2.81	2.26	0.98
	2.75	2.33	1.03	2.72	2.09	0.94
	2.72	2.30	1.03	2.73	2.17	0.97
	2.74	2.31	1.03	2.77	2.16	0.95
	2.75	2.35	1.04	2.81	2.27	0.99
	2.76	2.35	1.04	2.77	2.27	1.00
Mean	2.73	2.31	1.03	2.79	2.19	0.96
Std Dev	0.04	0.04	0.01	0.05	0.07	0.03

Joint Designation:	16 J4			17 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.27	2.56	0.95	2.89	2.50	1.05
	3.43	2.63	0.93	3.08	2.64	1.05
	3.34	2.58	0.94	2.98	2.58	1.06
	3.31	2.61	0.96	3.01	2.63	1.07
	3.31	2.58	0.95	2.90	2.51	1.06
	3.31	2.58	0.95	2.95	2.57	1.06
	3.24	2.62	0.99	3.02	2.53	1.02
	3.39	2.64	0.95	3.02	2.62	1.06
	3.37	2.60	0.94	3.01	2.63	1.07
Mean	3.33	2.60	0.95	2.98	2.58	1.05
Std Dev	0.06	0.03	0.02	0.06	0.06	0.01

	Joint Designation:	18 J4		19 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.35	2.60	0.95	3.03	2.72	1.09
	3.31	2.64	0.97	3.11	2.72	1.07
	3.32	2.65	0.97	3.03	2.68	1.08
	3.32	2.65	0.97	3.09	2.71	1.07
	3.26	2.62	0.98	3.09	2.71	1.07
	3.21	2.62	1.00	3.07	2.72	1.08
	3.18	2.59	0.99	3.04	2.71	1.09
	3.28	2.65	0.99	3.08	2.68	1.06
	3.26	2.65	0.99	3.08	2.68	1.06
Mean	3.28	2.63	0.98	3.07	2.70	1.07
Std Dev	0.06	0.02	0.02	0.03	0.02	0.01

Joint Designation:	20 J4			21 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.94	2.56	1.07	3.13	2.56	1.00
	3.03	2.57	1.04	3.21	2.60	0.99
	2.99	2.57	1.05	3.15	2.55	0.99
	2.98	2.56	1.05	3.16	2.58	1.00
	2.95	2.56	1.06	3.12	2.57	1.00
	2.98	2.59	1.06	3.09	2.57	1.02
	3.00	2.55	1.04	3.12	2.46	0.96
	3.04	2.59	1.04	3.09	2.58	1.02
	3.08	2.56	1.02	3.08	2.55	1.01
Mean	3.00	2.57	1.05	3.13	2.56	1.00
Std Dev	0.04	0.01	0.02	0.04	0.04	0.02

Joint Designation:	22 J4			23 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.14	2.73	1.06	3.34	2.72	1.00
	3.10	2.69	1.06	3.31	2.73	1.01
	3.15	2.77	1.08	3.30	2.73	1.01
	3.07	2.71	1.08	3.33	2.78	1.02
	3.14	2.80	1.09	3.30	2.58	0.95
	3.02	2.74	1.11	3.33	2.58	0.95
	3.10	2.74	1.08	3.29	2.65	0.99
	3.09	2.75	1.09	3.28	2.74	1.02
	3.09	2.78	1.10	3.34	2.73	1.00
Mean	3.10	2.75	1.08	3.31	2.69	0.99
Std Dev	0.04	0.03	0.02	0.02	0.07	0.03

Joint Designation:	24 J4			25 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.24	2.55	0.96	3.00	2.69	1.09
	3.31	2.63	0.97	2.97	2.57	1.06
	3.22	2.58	0.98	2.95	2.59	1.07
	3.19	2.63	1.01	2.96	2.58	1.06
	3.16	2.59	1.00	2.96	2.61	1.07
	3.16	2.63	1.01	3.00	2.61	1.06
	3.09	2.55	1.01	3.01	2.63	1.07
	3.18	2.59	0.99	3.00	2.62	1.07
	3.20	2.61	1.00	3.02	2.62	1.06
Mean	3.19	2.60	0.99	2.98	2.61	1.07
Std Dev	0.06	0.03	0.02	0.03	0.03	0.01

Joint Designation:	26 J4			27 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.33	2.82	1.03	3.58	2.92	0.99
	3.38	2.83	1.02	3.58	2.92	0.99
	3.35	2.79	1.02	3.53	2.87	0.99
	3.39	2.89	1.04	3.54	2.93	1.01
	3.34	2.87	1.05	3.49	2.90	1.02
	3.37	2.89	1.05	3.43	2.90	1.03
	3.33	2.88	1.05	3.43	2.89	1.03
	3.36	2.89	1.05	3.49	2.93	1.02
	3.33	2.88	1.05	3.43	2.91	1.03
Mean	3.35	2.86	1.04	3.50	2.91	1.01
Std Dev	0.02	0.04	0.01	0.06	0.02	0.02

Joint Designation:	28 J4			29 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.65	2.14	0.99	2.55	2.15	1.03
	2.61	2.06	0.96	2.50	2.14	1.05
	2.65	2.14	0.99	2.58	2.22	1.05
	2.68	2.23	1.02	2.51	2.13	1.03
	2.56	2.09	0.99	2.45	2.12	1.06
	2.57	2.12	1.01	2.50	2.15	1.05
	2.62	2.17	1.01	2.57	2.07	0.99
	2.64	2.16	1.00	2.48	2.11	1.04
	2.61	2.16	1.01	2.53	2.17	1.05
Mean	2.62	2.14	1.00	2.52	2.14	1.04
Std Dev	0.04	0.05	0.02	0.04	0.04	0.02

Joint Designation:	30 J4			31 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.17	2.75	1.06	3.24	2.79	1.05
	3.29	2.92	1.08	3.20	2.88	1.10
	3.25	2.82	1.06	3.20	2.84	1.08
	3.24	2.86	1.07	3.28	2.93	1.09
	3.28	2.86	1.07	3.25	2.87	1.08
	3.27	2.82	1.05	3.27	2.89	1.08
	3.27	2.87	1.07	3.28	2.82	1.05
	3.35	2.90	1.06	3.25	2.83	1.06
	3.35	2.90	1.06	3.27	2.83	1.05
Mean	3.27	2.86	1.06	3.25	2.85	1.07
Std Dev	0.06	0.05	0.01	0.03	0.04	0.02

Joint Designation:	32 J4			33 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.91	2.48	1.04	2.94	2.59	1.07
	2.90	2.48	1.04	2.97	2.65	1.09
	2.98	2.57	1.05	2.99	2.64	1.08
	2.97	2.57	1.06	2.97	2.62	1.07
	3.02	2.60	1.05	3.00	2.61	1.06
	2.99	2.57	1.05	2.98	2.57	1.05
	3.03	2.61	1.05	2.99	2.44	1.00
	2.99	2.57	1.05	2.98	2.53	1.04
	3.00	2.57	1.05	2.94	2.51	1.04
Mean	2.98	2.56	1.05	2.97	2.57	1.06
Std Dev	0.05	0.05	0.00	0.02	0.07	0.03

Joint Designation:	34 J4			35 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.95	2.57	1.07	3.22	2.61	0.99
	3.03	2.66	1.07	3.24	2.55	0.96
	3.03	2.61	1.05	3.21	2.68	1.02
	3.05	2.66	1.06	3.19	2.61	1.00
	2.96	2.57	1.06	3.05	2.52	1.01
	2.96	2.57	1.06	3.11	2.56	1.00
	3.04	2.61	1.05	3.08	2.51	0.99
	3.03	2.63	1.06	3.07	2.60	1.03
	3.15	2.63	1.02	3.09	2.52	1.00
Mean	3.02	2.61	1.05	3.14	2.57	1.00
Std Dev	0.06	0.03	0.02	0.08	0.06	0.02

Joint Designation:	36 J4			37 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.14	2.69	1.04	3.28	2.71	1.01
	3.20	2.73	1.04	3.28	2.71	1.01
	3.24	2.73	1.03	3.29	2.76	1.02
	3.16	2.74	1.06	3.25	2.72	1.02
	3.16	2.74	1.06	3.30	2.78	1.03
	3.25	2.77	1.04	3.30	2.78	1.03
	3.20	2.73	1.04	3.22	2.70	1.02
	3.22	2.76	1.05	3.23	2.68	1.01
	3.26	2.78	1.04	3.23	2.70	1.02
Mean	3.20	2.74	1.04	3.26	2.73	1.02
Std Dev	0.04	0.03	0.01	0.03	0.03	0.01

Joint Designation:	38 J4			39 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.18	2.72	1.04	3.09	2.86	1.13
	3.16	2.70	1.04	3.25	2.98	1.12
	3.16	2.70	1.04	3.16	2.89	1.12
	3.24	2.79	1.05	3.15	2.84	1.10
	3.19	2.73	1.05	3.19	2.85	1.09
	3.12	2.73	1.07	3.22	2.85	1.08
	3.16	2.71	1.04	3.23	2.80	1.06
	3.16	2.72	1.05	3.26	2.83	1.06
	3.18	2.75	1.05	3.21	2.76	1.05
Mean	3.17	2.73	1.05	3.19	2.85	1.09
Std Dev	0.03	0.03	0.01	0.05	0.06	0.03

Joint Designation:	40 J4			41 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.91	2.58	1.08	3.28	2.45	0.91
	2.95	2.58	1.07	3.16	2.38	0.92
	3.00	2.63	1.07	3.18	2.39	0.92
	2.99	2.63	1.07	3.20	2.39	0.91
	3.01	2.65	1.07	3.19	2.37	0.91
	2.98	2.65	1.08	3.18	2.48	0.95
	3.02	2.66	1.07	3.22	2.41	0.91
	3.09	2.69	1.06	3.21	2.49	0.94
	3.09	2.66	1.05	3.29	2.57	0.95
Mean	3.00	2.63	1.07	3.21	2.44	0.92
Std Dev	0.06	0.04	0.01	0.05	0.07	0.02

Joint Designation:	42 J4			43 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.34	2.79	1.02	3.46	2.80	0.99
	3.33	2.78	1.02	3.45	2.80	0.99
	3.37	2.86	1.04	3.36	2.75	1.00
	3.28	2.81	1.04	3.43	2.81	1.00
	3.34	2.84	1.03	3.42	2.80	1.00
	3.32	2.81	1.03	3.46	2.79	0.98
	3.35	2.83	1.03	3.47	2.82	0.99
	3.31	2.84	1.04	3.41	2.77	0.99
	3.31	2.81	1.04	3.36	2.84	1.03
Mean	3.33	2.82	1.03	3.42	2.80	1.00
Std Dev	0.03	0.03	0.01	0.04	0.03	0.01

Joint Designation:	44 J4			45 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.54	3.17	1.09	3.56	3.04	1.04
	3.50	3.09	1.08	3.53	3.06	1.06
	3.50	3.09	1.08	3.55	3.03	1.04
	3.49	3.10	1.08	3.52	3.07	1.07
	3.47	3.11	1.09	3.51	3.10	1.08
	3.49	3.10	1.08	3.59	3.15	1.07
	3.46	3.08	1.09	3.51	3.07	1.06
	3.46	3.11	1.09	3.55	3.05	1.05
	3.54	3.15	1.09	3.48	3.05	1.07
Mean	3.50	3.11	1.09	3.53	3.07	1.06
Std Dev	0.03	0.03	0.01	0.03	0.04	0.01

Joint Designation:	46 J4			47 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.61	3.14	1.06	3.92	3.22	1.00
	3.52	3.10	1.08	3.90	3.20	1.00
	3.52	3.06	1.06	3.89	3.28	1.03
	3.52	3.13	1.08	3.84	3.26	1.03
	3.52	3.13	1.08	3.77	3.19	1.03
	3.52	3.13	1.08	3.75	3.13	1.02
	3.50	3.08	1.07	3.78	3.09	1.00
	3.45	3.09	1.09	3.70	3.11	1.03
	3.51	3.13	1.09	3.74	3.10	1.01
Mean	3.52	3.11	1.08	3.81	3.18	1.02
Std Dev	0.04	0.03	0.01	0.08	0.07	0.01

Joint Designation: 0J4 1J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.54	2.34	1.01	2.63	2.45	1.03
	2.55	2.30	0.99	2.55	2.19	0.95
	2.54	2.29	0.99	2.67	2.40	0.99
	2.55	2.30	0.99	2.65	2.38	0.99
	2.63	2.37	0.99	2.67	2.45	1.01
	2.65	2.36	0.98	2.67	2.43	1.00
	2.68	2.39	0.98	2.67	2.46	1.01
	2.65	2.36	0.98	2.65	2.44	1.01
	2.65	2.38	0.99	2.66	2.41	1.00
	2.66	2.39	0.99	2.65	2.47	1.03
	2.67	2.35	0.97	2.71	2.51	1.02
	2.65	2.37	0.99	2.69	2.49	1.02
Mean	2.62	2.35	0.99	2.66	2.42	1.00
Std Dev	0.06	0.04	0.01	0.04	0.08	0.02

Joint Designation:	43J4			44J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.95	2.60	0.97	2.90	2.63	1.00
	2.88	2.59	0.99	2.94	2.62	0.98
	2.88	2.59	0.99	2.98	2.57	0.95
	2.88	2.55	0.97	3.02	2.66	0.97
	2.81	2.58	1.01	2.94	2.72	1.02
	2.77	2.58	1.02	2.89	2.67	1.02
	2.78	2.59	1.02	2.89	2.67	1.02
	2.74	2.59	1.04	2.92	2.67	1.01
	2.97	2.69	1.00	2.90	2.64	1.00
	2.94	2.63	0.99	2.95	2.67	1.00
	2.95	2.62	0.98	2.95	2.67	1.00
	2.93	2.63	0.99	2.94	2.68	1.00
Mean	2.87	2.60	1.00	2.93	2.66	1.00
Std Dev	0.08	0.04	0.02	0.04	0.04	0.02

Joint Designation:	88J4			89J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.02	2.73	0.99	2.99	2.81	1.03
	3.02	2.72	0.99	2.97	2.70	1.00
	3.06	2.72	0.98	2.95	2.72	1.02
	2.98	2.68	0.99	2.97	2.66	0.98
	2.89	2.71	1.03	3.03	2.81	1.02
	2.89	2.71	1.03	2.97	2.79	1.03
	2.93	2.70	1.01	3.00	2.75	1.01
	2.93	2.77	1.04	3.03	2.79	1.01
	3.00	2.74	1.01	2.97	2.76	1.02
	2.98	2.73	1.01	2.98	2.75	1.01
	2.97	2.72	1.01	3.00	2.77	1.01
	2.98	2.73	1.01	3.00	2.77	1.01
Mean	2.97	2.72	1.01	2.99	2.76	1.01
Std Dev	0.05	0.02	0.02	0.02	0.04	0.01

Joint Designation:	135J4			136J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.52	2.36	1.03	2.59	2.37	1.00
	2.58	2.38	1.02	2.55	2.38	1.02
	2.47	2.32	1.03	2.60	2.47	1.04
	2.47	2.36	1.05	2.61	2.42	1.02
	2.55	2.36	1.02	2.51	2.37	1.04
	2.50	2.32	1.02	2.50	2.39	1.05
	2.54	2.32	1.00	2.47	2.39	1.07
	2.57	2.35	1.01	2.42	2.38	1.08
	2.42	2.24	1.02	2.44	2.28	1.03
	2.41	2.22	1.02	2.41	2.27	1.04
	2.41	2.22	1.02	2.45	2.27	1.02
	2.43	2.22	1.01	2.42	2.26	1.03
Mean	2.49	2.31	1.02	2.50	2.36	1.04
Std Dev	0.06	0.06	0.01	0.08	0.07	0.02

Joint Designation:	179J4			181J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.87	2.57	0.99	2.72	2.63	1.06
	2.96	2.62	0.97	2.73	2.64	1.06
	2.94	2.60	0.97	2.79	2.65	1.04
	2.92	2.62	0.99	2.79	2.71	1.07
	2.89	2.63	1.00	3.01	2.68	0.98
	2.96	2.66	0.99	2.99	2.70	0.99
	2.93	2.68	1.00	3.03	2.68	0.97
	2.89	2.59	0.99	2.94	2.70	1.01
	2.95	2.64	0.99	2.85	2.65	1.02
	2.94	2.61	0.98	2.86	2.67	1.03
	2.95	2.64	0.99	2.84	2.66	1.03
	2.92	2.64	0.99	2.86	2.67	1.03
Mean	2.93	2.62	0.99	2.87	2.67	1.03
Std Dev	0.03	0.03	0.01	0.10	0.02	0.03

Joint Designation:	225J4			227J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.82	2.57	1.00	2.76	2.41	0.96
	2.90	2.66	1.01	2.82	2.37	0.92
	2.90	2.61	0.99	2.73	2.42	0.97
	2.85	2.56	0.99	2.78	2.43	0.96
	2.73	2.57	1.04	2.79	2.54	1.00
	2.71	2.70	1.09	2.77	2.48	0.99
	2.75	2.99	1.19	2.76	2.49	0.99
	2.72	2.53	1.02	2.79	2.51	0.99
	2.79	2.51	0.99	2.77	2.56	1.02
	2.78	2.55	1.01	2.76	2.55	1.02
	2.82	2.54	0.99	2.79	2.56	1.01
	2.80	2.54	1.00	2.79	2.56	1.01
Mean	2.80	2.61	1.03	2.78	2.49	0.99
Std Dev	0.06	0.13	0.06	0.02	0.07	0.03

Joint Designation:	271J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.38	2.23	1.03	2.45	2.23	1.00
	2.43	2.28	1.03	2.45	2.23	1.00
	2.39	2.24	1.03	2.45	2.32	1.04
	2.39	2.23	1.03	2.40	2.18	1.00
	2.39	2.17	1.00	2.50	2.30	1.01
	2.41	2.15	0.98	2.48	2.24	0.99
	2.41	2.22	1.01	2.52	2.32	1.01
	2.40	2.21	1.01	2.51	2.24	0.98
	2.31	2.14	1.02	2.34	2.14	1.01
	2.30	2.16	1.04	2.37	2.22	1.03
	2.33	2.17	1.03	2.37	2.20	1.02
	2.31	2.15	1.03	2.35	2.23	1.04
Mean	2.37	2.20	1.02	2.43	2.24	1.01
Std Dev	0.05	0.05	0.02	0.06	0.05	0.02

Joint Designation:	319J4			320J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.37	2.13	0.99	2.46	2.24	1.00
	2.41	2.16	0.99	2.44	2.27	1.02
	2.41	2.20	1.01	2.46	2.24	1.00
	2.36	2.16	1.01	2.45	2.27	1.02
	2.31	2.12	1.01	2.42	2.21	1.00
	2.34	2.26	1.06	2.38	2.24	1.04
	2.27	2.12	1.03	2.42	2.25	1.02
	2.38	2.15	0.99	2.42	2.31	1.05
	2.36	2.15	1.01	2.42	2.19	1.00
	2.33	2.15	1.02	2.42	2.19	1.00
	2.34	2.16	1.02	2.41	2.20	1.01
	2.36	2.16	1.01	2.42	2.20	1.00
Mean	2.35	2.16	1.01	2.43	2.23	1.01
Std Dev	0.04	0.04	0.02	0.02	0.04	0.02

Joint Designation:	365J4			365J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.23	2.16	1.07	2.21	2.12	1.06
	2.20	2.13	1.07	2.20	2.21	1.11
	2.30	2.10	1.01	2.29	2.30	1.11
	2.22	2.11	1.05	2.21	2.27	1.13
	2.40	2.14	0.98	2.40	2.23	1.02
	2.34	2.12	1.00	2.40	2.12	0.97
	2.37	2.14	0.99	2.40	2.15	0.99
	2.34	2.12	1.00	2.40	2.12	0.97
	2.29	2.11	1.01	2.31	2.16	1.03
	2.32	2.12	1.00	2.30	2.15	1.03
	2.32	2.12	1.00	2.33	2.25	1.06
	2.29	2.09	1.00	2.33	2.22	1.05
Mean	2.30	2.12	1.01	2.32	2.19	1.04
Std Dev	0.06	0.02	0.03	0.08	0.06	0.05

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.91	2.66	1.00	2.98	2.70	1.00
	2.92	2.76	1.04	2.99	2.76	1.02
	2.92	2.68	1.01	3.08	2.80	1.00
	2.96	2.72	1.01	3.06	2.79	1.00
	2.99	2.69	0.99	3.01	2.78	1.02
	3.00	2.67	0.98	3.05	2.77	1.00
	2.98	2.68	0.99	3.04	2.78	1.01
	2.98	2.72	1.00	3.04	2.78	1.01
	2.98	2.75	1.01	3.09	2.82	1.01
	2.97	2.74	1.01	3.03	2.77	1.01
	2.98	2.67	0.99	3.02	2.78	1.01
	2.98	2.61	0.96	3.05	2.79	1.01
Mean	2.96	2.70	1.00	3.04	2.78	1.01
Std Dev	0.03	0.04	0.02	0.03	0.03	0.01

Joint Designation:	45J4			46J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.75	2.59	1.04	2.80	2.57	1.01
	2.82	2.56	1.00	2.73	2.59	1.05
	2.76	2.52	1.00	2.75	2.57	1.03
	2.85	2.55	0.99	2.79	2.60	1.03
	2.92	2.56	0.96	2.89	2.61	0.99
	2.92	2.59	0.98	2.88	2.63	1.01
	2.95	2.55	0.95	2.90	2.58	0.98
	2.98	2.58	0.95	2.93	2.62	0.98
	2.90	2.62	0.99	2.85	2.60	1.00
	2.86	2.60	1.00	2.85	2.65	1.02
	2.88	2.60	0.99	2.82	2.66	1.04
	2.85	2.62	1.01	2.87	2.66	1.02
Mean	2.87	2.58	0.99	2.84	2.61	1.01
Std Dev	0.07	0.03	0.03	0.06	0.03	0.02

Joint Designation:	88J4			90J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.66	2.41	1.00	2.66	2.53	1.05
	2.65	2.44	1.01	2.73	2.51	1.01
	2.66	2.45	1.01	2.75	2.53	1.01
	2.65	2.45	1.01	2.83	2.56	0.99
	2.71	2.48	1.01	2.80	2.59	1.02
	2.70	2.51	1.02	2.87	2.62	1.01
	2.70	2.47	1.01	2.84	2.59	1.00
	2.70	2.51	1.02	2.87	2.55	0.98
	2.77	2.54	1.01	2.81	2.56	1.00
	2.77	2.56	1.02	2.82	2.59	1.01
	2.75	2.52	1.01	2.79	2.56	1.01
	2.78	2.57	1.02	2.80	2.59	1.02
Mean	2.71	2.49	1.01	2.80	2.56	1.01
Std Dev	0.05	0.05	0.01	0.06	0.03	0.02

Joint Designation:	135J4			136J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.47	2.17	0.97	2.42	2.24	1.02
	2.36	2.12	0.99	2.35	2.14	1.00
	2.44	2.11	0.95	2.35	2.19	1.02
	2.41	2.12	0.97	2.35	2.19	1.02
	2.42	2.16	0.98	2.41	2.16	0.99
	2.38	2.15	0.99	2.38	2.20	1.02
	2.37	2.11	0.98	2.38	2.20	1.02
	2.42	2.20	1.00	2.38	2.20	1.02
	2.42	2.11	0.96	2.33	2.13	1.01
	2.40	2.13	0.97	2.33	2.16	1.02
	2.40	2.12	0.97	2.35	2.13	1.00
	2.41	2.13	0.97	2.35	2.15	1.01
Mean	2.41	2.14	0.98	2.37	2.17	1.01
Std Dev	0.03	0.03	0.01	0.03	0.03	0.01

Joint Designation:	182J4			183J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.65	2.54	1.05	2.74	2.61	1.05
	2.68	2.49	1.02	2.79	2.70	1.07
	2.73	2.49	1.00	2.73	2.47	0.99
	2.73	2.44	0.98	2.74	2.52	1.01
	2.79	2.53	1.00	2.79	2.62	1.03
	2.81	2.55	1.00	2.80	2.52	0.99
	2.84	2.54	0.98	2.78	2.64	1.04
	2.80	2.51	0.99	2.78	2.64	1.04
	2.79	2.58	1.02	2.77	2.59	1.03
	2.81	2.57	1.01	2.78	2.60	1.03
	2.78	2.57	1.02	2.82	2.65	1.04
	2.81	2.61	1.02	2.78	2.62	1.04
Mean	2.77	2.54	1.01	2.78	2.60	1.03
Std Dev	0.06	0.05	0.02	0.03	0.06	0.02

Joint Designation:	227J4			228J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.56	2.45	1.05	2.67	2.46	1.01
	2.61	2.45	1.03	2.73	2.51	1.01
	2.56	2.36	1.02	2.66	2.49	1.03
	2.61	2.50	1.05	2.69	2.47	1.01
	2.75	2.53	1.01	2.74	2.50	1.00
	2.77	2.51	1.00	2.72	2.48	1.00
	2.72	2.46	0.99	2.76	2.58	1.03
	2.74	2.55	1.02	2.72	2.51	1.01
	2.69	2.58	1.06	2.70	2.50	1.02
	2.71	2.58	1.04	2.70	2.54	1.03
	2.74	2.61	1.05	2.68	2.52	1.04
	2.74	2.60	1.05	2.67	2.54	1.04
Mean	2.68	2.52	1.03	2.70	2.51	1.02
Std Dev	0.08	0.07	0.02	0.03	0.03	0.01

Joint Designation:	272J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.31	2.16	1.03	2.34	2.22	1.04
	2.33	2.05	0.97	2.44	2.23	1.00
	2.31	2.07	0.99	2.34	2.22	1.04
	2.41	2.12	0.97	2.34	2.22	1.04
	2.45	2.12	0.95	2.43	2.25	1.02
	2.42	2.17	0.99	2.41	2.24	1.02
	2.44	2.16	0.97	2.40	2.23	1.02
	2.41	2.16	0.99	2.41	2.24	1.02
	2.43	2.18	0.99	2.42	2.22	1.01
	2.39	2.14	0.98	2.43	2.21	1.00
	2.45	2.17	0.98	2.43	2.22	1.01
	2.43	2.20	1.00	2.42	2.21	1.01
Mean	2.40	2.14	0.98	2.40	2.23	1.02
Std Dev	0.05	0.04	0.02	0.04	0.01	0.02

Joint Designation:	317J4			318J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.25	2.14	1.05	2.43	2.21	1.00
	2.29	2.18	1.05	2.43	2.21	1.00
	2.25	2.19	1.07	2.42	2.24	1.02
	2.28	2.13	1.03	2.47	2.30	1.02
	2.42	2.17	0.99	2.44	2.20	0.99
	2.46	2.20	0.99	2.43	2.25	1.02
	2.46	2.17	0.97	2.41	2.24	1.02
	2.46	2.17	0.97	2.45	2.20	0.99
	2.32	2.16	1.03	2.39	2.21	1.02
	2.30	2.14	1.03	2.34	2.19	1.03
	2.33	2.17	1.03	2.35	2.20	1.03
	2.33	2.13	1.01	2.37	2.20	1.02
Mean	2.35	2.16	1.02	2.41	2.22	1.01
Std Dev	0.08	0.02	0.03	0.04	0.03	0.01

Joint Designation:	364J4			365J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.55	2.40	1.03	2.65	2.29	0.95
	2.50	2.39	1.05	2.67	2.35	0.97
	2.52	2.36	1.03	2.68	2.37	0.97
	2.51	2.36	1.03	2.70	2.34	0.95
	2.66	2.37	0.98	2.64	2.53	1.06
	2.71	2.44	0.99	2.66	2.41	1.00
	2.71	2.45	0.99	2.71	2.46	1.00
	2.67	2.44	1.01	2.70	2.45	1.00
	2.58	2.45	1.05	2.66	2.48	1.03
	2.60	2.42	1.02	2.66	2.55	1.05
	2.63	2.44	1.02	2.69	2.58	1.06
	2.63	2.42	1.01	2.69	2.56	1.04
Mean	2.61	2.41	1.02	2.68	2.45	1.01
Std Dev	0.07	0.03	0.02	0.02	0.10	0.04

	Joint Designation:	0J4		1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.46	2.31	1.03	2.41	2.37	1.08
	2.48	2.29	1.02	2.49	2.36	1.04
	2.50	2.27	1.00	2.55	2.37	1.02
	2.42	2.31	1.05	2.53	2.35	1.02
	2.51	2.32	1.02	2.60	2.39	1.01
	2.55	2.33	1.01	2.56	2.38	1.02
	2.54	2.32	1.01	2.60	2.39	1.01
	2.54	2.32	1.01	2.60	2.43	1.03
	2.45	2.27	1.02	2.51	2.34	1.02
	2.47	2.27	1.01	2.52	2.39	1.04
	2.49	2.29	1.01	2.51	2.35	1.03
	2.46	2.28	1.02	2.50	2.34	1.03
Mean	2.49	2.30	1.02	2.53	2.37	1.03
Std Dev	0.04	0.02	0.01	0.06	0.03	0.02

Joint Designation:	47J4			48J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.29	2.14	1.03	2.26	2.19	1.06
	2.35	2.15	1.01	2.40	2.27	1.04
	2.34	2.14	1.01	2.36	2.20	1.02
	2.39	2.14	0.99	2.40	2.22	1.02
	2.40	2.14	0.98	2.40	2.18	1.00
	2.39	2.17	1.00	2.39	2.18	1.00
	2.34	2.16	1.01	2.42	2.22	1.01
	2.39	2.10	0.96	2.45	2.21	0.99
	2.32	2.09	0.99	2.34	2.16	1.02
	2.31	2.10	1.00	2.36	2.18	1.02
	2.30	2.10	1.00	2.34	2.19	1.03
	2.31	2.08	0.99	2.36	2.19	1.02
Mean	2.34	2.13	1.00	2.37	2.20	1.02
Std Dev	0.04	0.03	0.02	0.05	0.03	0.02

	Joint Designation:	92J4		94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.47	2.27	1.01	2.53	2.31	1.01
	2.48	2.29	1.01	2.54	2.32	1.01
	2.48	2.29	1.01	2.60	2.37	1.00
	2.46	2.27	1.01	2.52	2.31	1.01
	2.63	2.31	0.97	2.63	2.35	0.98
	2.68	2.35	0.97	2.60	2.38	1.01
	2.68	2.35	0.97	2.61	2.37	1.00
	2.62	2.34	0.98	2.61	2.37	1.00
	2.66	2.33	0.97	2.62	2.37	0.99
	2.65	2.33	0.97	2.61	2.36	0.99
	2.63	2.30	0.96	2.59	2.32	0.99
	2.62	2.32	0.97	2.61	2.36	0.99
Mean	2.59	2.31	0.98	2.59	2.35	1.00
Std Dev	0.09	0.03	0.02	0.04	0.03	0.01

Joint Designation:	135J4			137J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.76	2.47	0.98	2.73	2.59	1.05
	2.77	2.47	0.98	2.73	2.55	1.03
	2.81	2.52	0.99	2.72	2.55	1.03
	2.78	2.57	1.02	2.78	2.55	1.01
	2.88	2.52	0.96	2.79	2.62	1.03
	2.90	2.54	0.96	2.78	2.60	1.03
	2.91	2.52	0.95	2.82	2.61	1.02
	2.89	2.56	0.98	2.79	2.61	1.03
	2.89	2.54	0.97	2.80	2.62	1.03
	2.86	2.51	0.97	2.79	2.61	1.03
	2.86	2.51	0.97	2.82	2.64	1.03
	2.86	2.52	0.97	2.83	2.62	1.02
Mean	2.85	2.52	0.97	2.78	2.60	1.03
Std Dev	0.05	0.03	0.02	0.04	0.03	0.01

Joint Designation:	181J4			182J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.42	2.27	1.03	2.54	2.33	1.01
	2.57	2.32	0.99	2.60	2.37	1.00
	2.51	2.23	0.98	2.53	2.31	1.00
	2.48	2.24	0.99	2.55	2.34	1.01
	2.43	2.24	1.01	2.51	2.33	1.02
	2.45	2.23	1.00	2.57	2.36	1.01
	2.43	2.24	1.01	2.55	2.34	1.01
	2.48	2.23	0.99	2.55	2.33	1.01
	2.41	2.20	1.01	2.49	2.31	1.02
	2.40	2.20	1.01	2.53	2.30	1.00
	2.42	2.20	1.00	2.46	2.28	1.02
	2.43	2.23	1.01	2.51	2.30	1.01
Mean	2.45	2.24	1.00	2.53	2.32	1.01
Std Dev	0.05	0.03	0.01	0.04	0.03	0.01

Joint Designation:	228J4			230J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.68	2.43	1.00	2.73	2.59	1.05
	2.68	2.39	0.98	2.73	2.56	1.03
	2.70	2.46	1.00	2.83	2.56	0.99
	2.78	2.53	1.00	2.80	2.61	1.03
	2.77	2.55	1.01	2.72	2.51	1.01
	2.76	2.51	1.00	2.86	2.68	1.03
	2.78	2.49	0.99	2.80	2.59	1.02
	2.77	2.52	1.00	2.77	2.59	1.03
	2.80	2.54	1.00	2.75	2.64	1.06
	2.83	2.58	1.00	2.74	2.61	1.05
	2.80	2.54	1.00	2.77	2.61	1.04
	2.80	2.57	1.01	2.76	2.60	1.04
Mean	2.76	2.51	1.00	2.77	2.60	1.03
Std Dev	0.05	0.06	0.01	0.04	0.04	0.02

Joint Designation:	273J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.82	2.53	0.99	2.79	2.60	1.03
	2.74	2.44	0.98	2.73	2.60	1.05
	2.83	2.43	0.95	2.80	2.61	1.03
	2.77	2.48	0.98	2.79	2.56	1.01
	2.85	2.52	0.97	2.78	2.59	1.03
	2.85	2.55	0.98	2.80	2.59	1.02
	2.85	2.52	0.97	2.82	2.60	1.02
	2.85	2.48	0.96	2.83	2.62	1.02
	2.89	2.51	0.96	2.78	2.60	1.03
	2.90	2.56	0.97	2.78	2.62	1.04
	2.88	2.55	0.97	2.77	2.61	1.04
	2.86	2.53	0.97	2.76	2.63	1.05
Mean	2.84	2.51	0.97	2.78	2.60	1.03
Std Dev	0.05	0.04	0.01	0.03	0.02	0.01

Joint Designation:	314J4			316J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.52	2.32	1.02	2.35	2.44	1.14
	2.52	2.32	1.02	2.37	2.39	1.10
	2.56	2.31	0.99	2.37	2.24	1.04
	2.52	2.32	1.02	2.32	2.37	1.12
	2.66	2.40	0.99	2.64	2.26	0.94
	2.68	2.35	0.97	2.56	2.48	1.07
	2.64	2.35	0.98	2.59	2.35	1.00
	2.65	2.36	0.98	2.59	2.39	1.01
	2.70	2.40	0.98	2.61	2.43	1.03
	2.67	2.40	0.99	2.65	2.41	1.00
	2.72	2.42	0.98	2.62	2.40	1.01
	2.66	2.41	1.00	2.62	2.40	1.01
Mean	2.62	2.36	0.99	2.53	2.38	1.04
Std Dev	0.07	0.04	0.02	0.13	0.07	0.06

Joint Designation: 359J4 359J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.26	2.21	1.07			
	2.30	2.15	1.03			
	2.30	2.15	1.03			
	2.28	2.13	1.03			
	2.41	2.19	1.00			
	2.40	2.18	1.00			
	2.39	2.21	1.01			
	2.38	2.20	1.01			
	2.43	2.25	1.02			
	2.37	2.19	1.02			
	2.40	2.17	0.99			
	2.40	2.19	1.01			
Mean	2.36	2.18	1.02			
Std Dev	0.06	0.03	0.02			

Joint Designation:	392J4			393J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.29	2.27	1.09	2.33	2.29	1.08
	2.33	2.23	1.05	2.42	2.35	1.07
	2.34	2.24	1.05	2.39	2.32	1.07
	2.48	2.32	1.03	2.35	2.36	1.10
	2.56	2.35	1.01	2.71	2.44	0.99
	2.59	2.34	0.99	2.75	2.44	0.98
	2.55	2.37	1.02	2.74	2.43	0.98
	2.56	2.34	1.01	2.78	2.47	0.98
	2.60	2.37	1.00	2.55	2.40	1.04
	2.59	2.38	1.01	2.54	2.44	1.05
	2.61	2.38	1.00	2.52	2.42	1.05
	2.61	2.38	1.00	2.57	2.44	1.04
Mean	2.51	2.33	1.02	2.55	2.40	1.04
Std Dev	0.12	0.06	0.03	0.16	0.06	0.05

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.65	2.60	1.08	2.74	2.61	1.05
	2.64	2.54	1.06	2.72	2.59	1.05
	2.59	2.50	1.06	2.76	2.60	1.03
	2.65	2.54	1.06	2.68	2.55	1.05
	2.77	2.60	1.03	3.01	2.74	1.00
	2.77	2.59	1.03	2.98	2.71	1.00
	2.77	2.59	1.03	3.03	2.73	0.99
	2.82	2.64	1.03	3.02	2.75	1.00
	2.75	2.60	1.04	2.90	2.65	1.01
	2.75	2.62	1.05	2.87	2.69	1.03
	2.74	2.63	1.06	2.91	2.68	1.01
	2.77	2.64	1.05	2.89	2.68	1.02
Mean	2.72	2.59	1.05	2.88	2.66	1.02
Std Dev	0.07	0.04	0.01	0.13	0.07	0.02

Joint Designation:	42J4			43J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.18	2.08	1.05	2.26	2.10	1.02
	2.21	2.12	1.05	2.26	2.10	1.02
	2.19	2.05	1.03	2.24	2.08	1.02
	2.17	2.07	1.05	2.31	2.15	1.02
	2.27	2.09	1.01	2.28	2.12	1.02
	2.28	2.07	1.00	2.27	2.14	1.04
	2.33	2.12	1.00	2.34	2.15	1.01
	2.30	2.09	1.00	2.30	2.14	1.02
	2.22	2.07	1.03	2.23	2.06	1.02
	2.22	2.05	1.02	2.25	2.08	1.02
	2.23	2.06	1.02	2.25	2.11	1.03
	2.23	2.06	1.02	2.23	2.06	1.02
Mean	2.24	2.08	1.02	2.27	2.11	1.02
Std Dev	0.05	0.02	0.02	0.03	0.03	0.01

Joint Designation:	87J4			86J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.21	1.03	2.32	2.20	1.04
	2.43	2.25	1.02	2.32	2.19	1.04
	2.35	2.16	1.01	2.38	2.26	1.04
	2.40	2.21	1.01	2.35	2.27	1.06
	2.41	2.16	0.99	2.40	2.20	1.01
	2.36	2.12	0.99	2.42	2.19	0.99
	2.40	2.15	0.99	2.38	2.22	1.02
	2.39	2.15	0.99	2.42	2.21	1.01
	2.33	2.15	1.02	2.35	2.15	1.01
	2.30	2.10	1.01	2.32	2.15	1.02
	2.31	2.14	1.02	2.32	2.13	1.01
	2.30	2.11	1.01	2.32	2.13	1.01
Mean	2.36	2.16	1.01	2.36	2.19	1.02
Std Dev	0.04	0.04	0.01	0.04	0.05	0.02

Joint Designation:	134J4			135J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.16	1.01	2.42	2.13	0.97
	2.33	2.15	1.01	2.32	2.16	1.02
	2.35	2.11	0.99	2.38	2.17	1.00
	2.30	2.10	1.01	2.43	2.22	1.01
	2.39	2.24	1.03	2.34	2.21	1.04
	2.36	2.15	1.00	2.35	2.15	1.01
	2.35	2.17	1.01	2.35	2.15	1.01
	2.34	2.16	1.01	2.38	2.19	1.01
	2.33	2.08	0.98	2.30	2.13	1.02
	2.30	2.03	0.97	2.35	2.16	1.01
	2.30	2.03	0.97	2.33	2.12	1.00
	2.30	2.06	0.99	2.36	2.14	1.00
Mean	2.33	2.12	1.00	2.36	2.16	1.01
Std Dev	0.03	0.06	0.02	0.04	0.03	0.02

Joint Designation:	180J4			181J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.26	2.62	0.88	3.34	3.02	0.99
	3.26	2.66	0.90	3.31	2.99	0.99
	3.26	2.62	0.88	3.27	2.95	0.99
	3.22	2.63	0.90	3.27	2.95	0.99
	3.37	2.51	0.82	3.30	2.94	0.98
	3.34	2.49	0.82	3.31	2.99	0.99
	3.38	2.46	0.80	3.32	2.97	0.98
	3.35	2.46	0.81	3.28	2.97	0.99
	3.37	2.32	0.76	3.25	2.95	1.00
	3.41	2.31	0.75	3.23	2.91	0.99
	3.44	2.35	0.75	3.23	2.93	1.00
	3.45	2.36	0.75	3.26	2.91	0.98
Mean	3.34	2.48	0.82	3.28	2.96	0.99
Std Dev	0.08	0.13	0.06	0.03	0.03	0.01

Joint Designation:	224J4			226J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.34	3.14	1.03	3.46	3.36	1.07
	3.36	3.21	1.05	3.46	3.28	1.04
	3.45	3.20	1.02	3.41	3.27	1.06
	3.41	3.21	1.03	3.41	3.27	1.06
	3.34	3.11	1.03	3.48	3.25	1.03
	3.32	3.13	1.04	3.45	3.26	1.04
	3.37	3.14	1.03	3.46	3.27	1.04
	3.35	3.12	1.03	3.50	3.28	1.03
	3.24	3.08	1.05	3.39	3.19	1.04
	3.28	3.08	1.03	3.40	3.25	1.05
	3.28	3.09	1.04	3.39	3.18	1.03
	3.28	3.10	1.04	3.41	3.23	1.04
Mean	3.33	3.13	1.03	3.44	3.26	1.04
Std Dev	0.06	0.05	0.01	0.04	0.05	0.01

Joint Designation:	268J4			269J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.73	1.89	0.56	3.29	2.30	0.77
	3.72	1.99	0.59	3.28	2.25	0.76
	3.75	1.93	0.57	3.29	2.26	0.76
	3.70	1.92	0.57	3.24	2.30	0.78
	3.57	1.99	0.61	3.24	2.39	0.81
	3.57	1.99	0.61	3.25	2.37	0.80
	3.55	1.98	0.61	3.22	2.37	0.81
	3.56	1.96	0.60	3.30	2.41	0.80
	3.48	2.05	0.65	3.20	2.37	0.81
	3.47	2.02	0.64	3.20	2.37	0.81
	3.49	2.04	0.64	3.20	2.35	0.81
	3.47	2.02	0.64	3.23	2.37	0.81
Mean	3.59	1.98	0.61	3.24	2.34	0.79
Std Dev	0.11	0.05	0.03	0.04	0.05	0.02

Joint Designation:	315J4			316J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.94	1.98	1.12	2.08	1.96	1.04
	1.99	1.98	1.09	2.08	1.96	1.04
	1.95	1.94	1.09	2.07	1.91	1.02
	1.98	1.97	1.09	2.09	1.97	1.04
	2.12	1.87	0.97	2.20	1.92	0.96
	2.13	1.88	0.97	2.20	1.93	0.96
	2.11	1.86	0.97	2.21	1.94	0.96
	2.13	1.88	0.97	2.22	1.98	0.98
	2.10	1.93	1.01	2.13	1.96	1.01
	2.08	1.90	1.01	2.18	1.93	0.98
	2.08	1.86	0.98	2.12	1.95	1.01
	2.10	1.91	1.00	2.15	1.96	1.00
Mean	2.06	1.91	1.02	2.14	1.95	1.00
Std Dev	0.07	0.05	0.06	0.06	0.02	0.03

Joint Designation:	359J4			361J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.47	2.05	0.91	2.64	1.93	0.80
	2.51	1.86	0.82	2.64	1.93	0.80
	2.46	2.00	0.89	2.59	1.87	0.80
	2.45	1.85	0.83	2.59	1.88	0.80
	2.46	1.80	0.80	2.61	2.00	0.84
	2.50	1.93	0.85	2.64	1.99	0.83
	2.51	1.91	0.84	2.60	1.95	0.83
	2.53	1.97	0.86	2.60	1.96	0.83
	2.43	1.95	0.88	2.55	1.97	0.85
	2.43	1.92	0.87	2.56	1.97	0.85
	2.42	1.92	0.87	2.54	1.97	0.85
	2.45	1.94	0.87	2.57	1.95	0.84
Mean	2.47	1.93	0.86	2.59	1.95	0.83
Std Dev	0.03	0.07	0.03	0.03	0.04	0.02

Joint Designation:	0J4			1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.13	1.99	1.03	2.15	2.04	1.04
	2.18	1.99	1.00	2.14	2.03	1.04
	2.13	1.94	1.00	2.24	2.07	1.02
	2.14	1.95	1.00	2.20	2.03	1.01
	2.10	1.95	1.02	2.13	1.96	1.01
	2.12	1.93	1.00	2.12	1.99	1.03
	2.11	1.97	1.02	2.14	1.98	1.02
	2.15	1.97	1.01	2.13	2.00	1.03
	2.08	1.92	1.02	2.10	1.93	1.01
	2.08	1.91	1.01	2.11	1.95	1.02
	2.07	1.89	1.01	2.10	1.95	1.02
	2.07	1.90	1.01	2.11	1.96	1.02
Mean	2.11	1.94	1.01	2.14	1.99	1.02
Std Dev	0.03	0.03	0.01	0.04	0.04	0.01

Joint Designation:	46J4			47J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.39	2.18	1.01	2.38	2.21	1.02
	2.44	2.25	1.01	2.45	2.19	0.98
	2.44	2.25	1.01	2.45	2.20	0.98
	2.44	2.29	1.03	2.44	2.18	0.98
	2.45	2.20	0.99	2.41	2.20	1.01
	2.44	2.19	0.99	2.42	2.22	1.01
	2.44	2.22	1.00	2.46	2.29	1.02
	2.43	2.25	1.02	2.44	2.27	1.02
	2.45	2.22	1.00	2.42	2.24	1.02
	2.43	2.20	1.00	2.41	2.23	1.02
	2.46	2.20	0.99	2.41	2.23	1.02
	2.45	2.20	0.99	2.40	2.25	1.03
Mean	2.44	2.22	1.00	2.42	2.23	1.01
Std Dev	0.02	0.03	0.01	0.02	0.03	0.02

Joint Designation:	89J4			90J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.37	2.13	0.99	2.42	2.13	0.97
	2.37	2.12	0.99	2.44	2.10	0.95
	2.42	2.13	0.97	2.41	2.08	0.95
	2.38	2.13	0.99	2.40	2.11	0.97
	2.42	2.17	0.99	2.57	2.20	0.94
	2.46	2.15	0.96	2.62	2.21	0.93
	2.45	2.10	0.94	2.65	2.24	0.93
	2.54	2.14	0.93	2.57	2.20	0.94
	2.50	2.16	0.95	2.67	2.28	0.94
	2.49	2.19	0.97	2.62	2.23	0.94
	2.50	2.16	0.95	2.63	2.22	0.93
	2.48	2.13	0.95	2.60	2.23	0.94
Mean	2.45	2.14	0.96	2.55	2.19	0.94
Std Dev	0.06	0.02	0.02	0.10	0.06	0.01

	Joint Designation:	135J4		136J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.64	2.43	1.01	2.74	2.57	1.03
	2.68	2.43	1.00	2.69	2.51	1.03
	2.68	2.43	1.00	2.74	2.57	1.03
	2.63	2.43	1.01	2.70	2.48	1.01
	2.64	2.45	1.02	2.63	2.49	1.04
	2.68	2.45	1.01	2.61	2.47	1.04
	2.63	2.44	1.02	2.59	2.46	1.04
	2.66	2.47	1.02	2.61	2.47	1.04
	2.54	2.34	1.01	2.58	2.40	1.02
	2.57	2.34	1.00	2.56	2.38	1.02
	2.57	2.34	1.00	2.57	2.39	1.02
	2.59	2.39	1.01	2.56	2.38	1.02
Mean	2.63	2.41	1.01	2.63	2.46	1.03
Std Dev	0.05	0.05	0.01	0.07	0.07	0.01

Joint Designation:	182J4			184J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.49	2.34	1.03	2.53	2.35	1.02
	2.37	2.27	1.05	2.51	2.38	1.04
	2.33	2.22	1.05	2.51	2.34	1.02
	2.42	2.31	1.05	2.54	2.33	1.01
	2.56	2.34	1.00	2.58	2.44	1.04
	2.55	2.33	1.00	2.57	2.36	1.01
	2.57	2.32	0.99	2.56	2.38	1.02
	2.56	2.34	1.00	2.56	2.34	1.01
	2.47	2.32	1.03	2.53	2.35	1.02
	2.48	2.32	1.03	2.55	2.33	1.00
	2.48	2.30	1.02	2.54	2.36	1.02
	2.48	2.29	1.02	2.55	2.36	1.02
Mean	2.48	2.31	1.02	2.54	2.36	1.02
Std Dev	0.08	0.03	0.02	0.02	0.03	0.01

Joint Designation:	228J4			229J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.25	2.01	0.98	2.25	2.12	1.04
	2.31	2.11	1.01	2.29	2.12	1.02
	2.31	2.07	0.99	2.28	2.02	0.98
	2.25	1.96	0.96	2.34	2.08	0.98
	2.30	1.97	0.94	2.31	2.07	0.99
	2.26	2.00	0.98	2.35	2.04	0.96
	2.29	2.01	0.96	2.30	2.00	0.96
	2.27	1.97	0.96	2.35	2.07	0.97
	2.31	1.99	0.95	2.32	2.03	0.96
	2.31	1.98	0.95	2.34	2.11	1.00
	2.29	1.99	0.96	2.32	2.06	0.97
	2.29	1.99	0.96	2.30	2.06	0.98
Mean	2.29	2.01	0.96	2.31	2.06	0.98
Std Dev	0.02	0.04	0.02	0.03	0.04	0.02

Joint Designation:	271J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.63	2.47	1.03	2.66	2.49	1.03
	2.67	2.52	1.04	2.68	2.51	1.03
	2.64	2.47	1.03	2.64	2.55	1.06
	2.64	2.47	1.03	2.64	2.51	1.05
	2.70	2.47	1.01	2.77	2.53	1.00
	2.70	2.51	1.02	2.78	2.54	1.00
	2.66	2.51	1.04	2.79	2.50	0.99
	2.65	2.50	1.04	2.79	2.54	1.00
	2.67	2.51	1.03	2.73	2.50	1.01
	2.64	2.48	1.03	2.78	2.57	1.02
	2.67	2.51	1.03	2.73	2.54	1.03
	2.67	2.51	1.03	2.75	2.52	1.01
Mean	2.66	2.49	1.03	2.73	2.52	1.02
Std Dev	0.02	0.02	0.01	0.06	0.02	0.02

Joint Designation:	316J4			318J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.50	2.30	1.01	2.65	2.37	0.98
	2.49	2.29	1.01	2.59	2.37	1.01
	2.46	2.25	1.01	2.65	2.41	1.00
	2.46	2.30	1.03	2.60	2.37	1.01
	2.54	2.35	1.02	2.65	2.40	1.00
	2.50	2.31	1.02	2.61	2.43	1.02
	2.52	2.29	1.00	2.62	2.41	1.01
	2.47	2.35	1.05	2.66	2.44	1.01
	2.49	2.36	1.04	2.69	2.46	1.00
	2.52	2.36	1.03	2.69	2.46	1.00
	2.50	2.35	1.03	2.69	2.43	0.99
	2.50	2.34	1.03	2.68	2.46	1.01
Mean	2.50	2.32	1.02	2.65	2.42	1.00
Std Dev	0.03	0.04	0.01	0.04	0.03	0.01

	Joint Designation:	364J4		365J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.47	2.36	1.05	2.54	2.27	0.98
	2.51	2.40	1.05	2.58	2.27	0.97
	2.47	2.21	0.99	2.55	2.33	1.00
	2.46	2.26	1.01	2.58	2.31	0.99
	2.49	2.26	1.00	2.62	2.37	0.99
	2.49	2.34	1.03	2.62	2.34	0.98
	2.52	2.37	1.04	2.58	2.33	0.99
	2.46	2.38	1.06	2.62	2.33	0.98
	2.43	2.27	1.03	2.53	2.27	0.99
	2.44	2.21	1.00	2.51	2.28	1.00
	2.44	2.21	1.00	2.51	2.28	1.00
	2.41	2.23	1.02	2.53	2.29	1.00
Mean	2.46	2.29	1.02	2.56	2.31	0.99
Std Dev	0.03	0.07	0.02	0.04	0.03	0.01

	Joint Designation:	0J4		1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.67	2.46	1.01	2.74	2.52	1.01
	2.65	2.45	1.01	2.74	2.52	1.01
	2.64	2.47	1.03	2.79	2.56	1.01
	2.73	2.53	1.02	2.74	2.52	1.01
	2.71	2.48	1.01	2.78	2.57	1.02
	2.70	2.51	1.02	2.80	2.55	1.00
	2.75	2.53	1.01	2.82	2.56	1.00
	2.75	2.53	1.01	2.78	2.57	1.02
	2.69	2.53	1.04	2.80	2.54	1.00
	2.73	2.50	1.01	2.80	2.57	1.01
	2.74	2.51	1.01	2.83	2.58	1.00
	2.75	2.52	1.01	2.83	2.60	1.01
Mean	2.71	2.50	1.02	2.79	2.56	1.01
Std Dev	0.04	0.03	0.01	0.03	0.03	0.01

	Joint Designation:	46J4			48J5	
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.74	2.63	1.06	2.82	2.59	1.01
	2.71	2.60	1.06	2.83	2.74	1.07
	2.65	2.54	1.05	2.83	2.60	1.01
	2.66	2.55	1.05	2.92	2.64	1.00
	2.72	2.57	1.04	2.90	2.69	1.02
	2.69	2.57	1.05	2.88	2.59	0.99
	2.73	2.61	1.05	2.86	2.65	1.02
	2.72	2.57	1.04	2.89	2.64	1.01
	2.70	2.54	1.04	2.88	2.60	0.99
	2.70	2.52	1.03	2.87	2.64	1.01
	2.68	2.52	1.03	2.87	2.64	1.01
	2.70	2.57	1.05	2.87	2.64	1.01
Mean	2.70	2.56	1.04	2.87	2.64	1.01
Std Dev	0.03	0.03	0.01	0.03	0.04	0.02

	Joint Designation:	92J4		93J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.89	2.63	1.00	2.99	2.62	0.96
	2.92	2.72	1.02	3.04	2.72	0.98
	2.83	2.72	1.06	3.08	2.76	0.99
	2.88	2.67	1.02	3.05	2.67	0.96
	2.90	2.70	1.03	3.06	2.73	0.98
	2.90	2.70	1.03	3.06	2.73	0.98
	2.92	2.73	1.03	3.09	2.70	0.96
	2.92	2.73	1.03	3.09	2.77	0.98
	2.90	2.72	1.03	3.05	2.79	1.01
	2.91	2.72	1.03	3.07	2.79	1.00
	2.91	2.70	1.02	3.07	2.79	1.00
	2.90	2.74	1.04	3.05	2.79	1.01
Mean	2.90	2.71	1.03	3.06	2.74	0.99
Std Dev	0.03	0.03	0.01	0.03	0.05	0.02

Joint Designation:	135J4			137J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.75	2.59	1.04	2.89	2.72	1.03
	2.74	2.58	1.04	2.89	2.66	1.01
	2.75	2.55	1.02	2.85	2.62	1.01
	2.77	2.57	1.02	2.86	2.63	1.01
	2.79	2.63	1.04	2.94	2.70	1.01
	2.79	2.60	1.02	2.94	2.73	1.02
	2.80	2.61	1.02	2.90	2.68	1.02
	2.83	2.64	1.03	2.90	2.69	1.02
	2.83	2.64	1.03	2.91	2.68	1.01
	2.82	2.64	1.03	2.94	2.71	1.01
	2.85	2.67	1.03	2.94	2.68	1.00
	2.87	2.68	1.03	2.92	2.69	1.01
Mean	2.80	2.62	1.03	2.91	2.68	1.01
Std Dev	0.04	0.04	0.01	0.03	0.03	0.01

Joint Designation:	181J4			182J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.77	2.62	1.04	3.01	2.78	1.02
	2.87	2.61	1.00	2.92	2.74	1.03
	2.74	2.58	1.04	2.89	2.70	1.03
	2.82	2.61	1.02	2.92	2.69	1.01
	2.86	2.63	1.01	3.09	2.76	0.98
	2.92	2.65	1.00	3.06	2.77	0.99
	2.85	2.62	1.01	3.05	2.76	0.99
	2.85	2.62	1.01	3.08	2.79	1.00
	2.80	2.64	1.04	3.01	2.73	1.00
	2.84	2.67	1.04	3.04	2.78	1.01
	2.80	2.65	1.04	3.07	2.76	0.99
	2.80	2.65	1.04	3.04	2.75	1.00
Mean	2.83	2.63	1.02	3.02	2.75	1.00
Std Dev	0.05	0.02	0.02	0.07	0.03	0.02

Joint Designation:	228J4			230J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.67	2.46	1.01	2.74	2.42	0.97
	2.71	2.51	1.02	2.85	2.53	0.98
	2.67	2.46	1.01	2.81	2.49	0.97
	2.69	2.48	1.01	2.78	2.51	0.99
	2.70	2.48	1.01	2.89	2.53	0.96
	2.72	2.56	1.04	2.87	2.48	0.95
	2.71	2.62	1.06	2.91	2.45	0.93
	2.75	2.48	0.99	2.91	2.48	0.94
	2.70	2.52	1.03	2.84	2.51	0.97
	2.72	2.51	1.02	2.90	2.57	0.98
	2.76	2.52	1.01	2.89	2.57	0.98
	2.72	2.54	1.03	2.87	2.55	0.98
Mean	2.71	2.51	1.02	2.85	2.51	0.97
Std Dev	0.03	0.05	0.02	0.05	0.04	0.02

Joint Designation:	273J4			274J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.34	2.14	1.01	2.42	2.15	0.98
	2.32	2.13	1.01	2.36	2.10	0.98
	2.37	2.17	1.01	2.37	2.10	0.98
	2.34	2.14	1.01	2.36	2.10	0.98
	2.33	2.04	0.96	2.35	2.15	1.00
	2.32	2.10	0.99	2.41	2.17	0.99
	2.33	2.07	0.98	2.36	2.12	0.99
	2.36	2.10	0.98	2.39	2.17	1.00
	2.34	2.06	0.97	2.32	2.10	0.99
	2.30	2.08	0.99	2.31	2.11	1.00
	2.30	2.07	0.99	2.30	2.10	1.00
	2.30	2.09	1.00	2.30	2.10	1.00
Mean	2.33	2.10	0.99	2.35	2.12	0.99
Std Dev	0.02	0.04	0.02	0.04	0.03	0.01

Joint Designation:	315J4			316J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.31	2.12	1.01	2.39	2.18	1.00
	2.31	2.15	1.03	2.41	2.19	1.00
	2.26	2.11	1.03	2.36	2.14	1.00
	2.23	2.12	1.05	2.42	2.20	1.00
	2.27	2.08	1.01	2.41	2.16	0.99
	2.27	2.12	1.02	2.38	2.20	1.02
	2.30	2.15	1.03	2.40	2.19	1.00
	2.29	2.11	1.01	2.41	2.19	1.00
	2.33	2.08	0.98	2.42	2.18	0.99
	2.27	2.09	1.01	2.42	2.18	0.99
	2.26	2.09	1.01	2.47	2.20	0.98
	2.31	2.13	1.01	2.44	2.17	0.98
Mean	2.29	2.11	1.02	2.41	2.18	1.00
Std Dev	0.03	0.02	0.02	0.03	0.02	0.01

Joint Designation:	360J4			361J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.25	1.05	2.46	2.24	1.00
	2.39	2.18	1.01	2.46	2.28	1.02
	2.40	2.10	0.97	2.50	2.28	1.00
	2.44	2.15	0.97	2.48	2.27	1.00
	2.43	2.24	1.01	2.52	2.31	1.01
	2.44	2.25	1.01	2.55	2.34	1.01
	2.44	2.25	1.01	2.56	2.31	0.99
	2.44	2.21	1.00	2.57	2.32	0.99
	2.47	2.22	0.99	2.55	2.33	1.00
	2.48	2.23	0.99	2.59	2.36	1.00
	2.49	2.21	0.98	2.54	2.33	1.01
	2.48	2.23	0.99	2.57	2.37	1.01
Mean	2.44	2.21	1.00	2.53	2.31	1.01
Std Dev	0.04	0.05	0.02	0.05	0.04	0.01

	Joint Designation:	0J4		1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.15	2.05	1.05	2.09	1.92	1.01
	2.16	1.77	0.90	2.10	1.92	1.01
	2.15	1.91	0.98	2.14	1.92	0.99
	2.11	1.91	1.00	2.18	1.97	0.99
	2.14	1.91	0.99	2.13	1.92	0.99
	2.13	1.98	1.02	2.20	1.93	0.96
	2.14	1.81	0.93	2.15	1.94	0.99
	2.13	2.04	1.06	2.17	1.96	1.00
	2.11	1.86	0.97	2.15	1.91	0.98
	2.08	1.80	0.95	2.11	1.88	0.98
	2.10	1.78	0.93	2.12	1.92	1.00
	2.09	1.87	0.98	2.13	1.91	0.98
Mean	2.12	1.89	0.98	2.14	1.93	0.99
Std Dev	0.03	0.09	0.05	0.03	0.02	0.01

Joint Designation:	45J4			46J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.17	1.98	1.00	2.11	1.95	1.02
	2.22	1.97	0.98	2.12	1.96	1.02
	2.23	2.03	1.00	2.18	1.96	0.99
	2.22	1.97	0.98	2.18	1.96	0.99
	2.24	2.02	0.99	2.22	2.08	1.03
	2.21	2.03	1.01	2.23	2.02	1.00
	2.24	2.02	0.99	2.23	2.02	1.00
	2.25	2.03	0.99	2.26	2.05	1.00
	2.23	1.98	0.98	2.20	2.05	1.02
	2.24	2.04	1.00	2.17	2.03	1.03
	2.21	1.98	0.99	2.24	2.06	1.01
	2.22	2.01	1.00	2.23	2.08	1.03
Mean	2.22	2.00	0.99	2.20	2.02	1.01
Std Dev	0.02	0.03	0.01	0.04	0.05	0.01

Joint Designation:	93J4			94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.47	2.27	1.01	2.49	2.27	1.00
	2.53	2.28	0.99	2.42	2.30	1.04
	2.48	2.28	1.01	2.49	2.27	1.00
	2.51	2.32	1.01	2.44	2.22	1.00
	2.57	2.30	0.99	2.57	2.30	0.98
	2.53	2.27	0.99	2.58	2.33	0.99
	2.57	2.31	0.99	2.59	2.34	0.99
	2.57	2.27	0.97	2.56	2.34	1.01
	2.52	2.27	0.99	2.50	2.27	1.00
	2.50	2.27	1.00	2.50	2.25	0.99
	2.53	2.30	1.00	2.50	2.27	1.00
	2.53	2.30	1.00	2.51	2.31	1.01
Mean	2.53	2.29	1.00	2.51	2.29	1.00
Std Dev	0.03	0.02	0.01	0.05	0.04	0.01

Joint Designation:	138J4			140J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.68	2.43	1.00	2.79	2.60	1.03
	2.55	2.39	1.03	2.74	2.48	0.99
	2.56	2.45	1.05	2.83	2.56	0.99
	2.57	2.46	1.05	2.80	2.52	0.99
	2.72	2.56	1.04	2.79	2.62	1.03
	2.75	2.53	1.01	2.82	2.61	1.02
	2.71	2.52	1.02	2.82	2.64	1.03
	2.74	2.52	1.01	2.81	2.63	1.03
	2.80	2.62	1.03	2.86	2.61	1.00
	2.74	2.58	1.04	2.84	2.64	1.02
	2.72	2.58	1.05	2.83	2.63	1.02
	2.72	2.61	1.05	2.88	2.65	1.01
Mean	2.69	2.52	1.03	2.82	2.60	1.01
Std Dev	0.08	0.07	0.02	0.04	0.05	0.01

Joint Designation:	181J4			182J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.99	1.89	1.04	2.00	1.88	1.04
	2.01	1.86	1.02	2.01	1.94	1.06
	2.03	1.89	1.02	2.01	1.93	1.06
	2.05	1.90	1.02	2.06	1.94	1.04
	2.11	1.92	1.00	2.12	1.95	1.01
	2.11	2.00	1.04	2.15	1.99	1.02
	2.12	2.04	1.06	2.16	1.99	1.02
	2.15	2.10	1.07	2.15	1.99	1.02
	2.10	2.01	1.06	2.20	1.98	0.99
	2.09	1.94	1.02	2.15	1.96	1.00
	2.12	1.95	1.01	2.16	1.94	0.99
	2.08	1.93	1.02	2.17	1.97	1.00
Mean	2.08	1.95	1.03	2.11	1.96	1.02
Std Dev	0.05	0.07	0.02	0.07	0.03	0.02

Joint Designation:	215J4			216J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.88	2.09	1.23	2.44	2.27	1.02
	1.97	2.15	1.20	2.44	2.27	1.02
	1.91	2.12	1.22	2.54	2.32	1.00
	2.07	2.10	1.12	2.43	2.27	1.02
	2.38	2.15	0.99	2.45	2.23	1.00
	2.39	2.15	0.99	2.49	2.23	0.99
	2.40	2.14	0.98	2.52	2.28	0.99
	2.42	2.13	0.97	2.46	2.24	1.00
	2.30	2.12	1.01	2.45	2.27	1.02
	2.29	2.10	1.01	2.45	2.27	1.02
	2.28	2.09	1.01	2.44	2.24	1.01
	2.29	2.10	1.01	2.45	2.25	1.01
Mean	2.21	2.12	1.06	2.46	2.26	1.01
Std Dev	0.20	0.02	0.10	0.03	0.02	0.01

Joint Designation:	258J4			259J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.22	2.07	1.02	2.45	2.17	0.98
	2.21	2.06	1.02	2.48	2.26	1.00
	2.32	2.08	0.99	2.44	2.16	0.98
	2.23	2.08	1.02	2.47	2.19	0.98
	2.41	2.12	0.96	2.52	2.24	0.98
	2.36	2.14	1.00	2.50	2.25	0.99
	2.40	2.14	0.98	2.49	2.24	0.99
	2.37	2.14	1.00	2.49	2.28	1.01
	2.30	2.13	1.02	2.51	2.26	0.99
	2.29	2.12	1.01	2.49	2.24	0.99
	2.30	2.07	0.99	2.49	2.24	0.99
	2.31	2.02	0.96	2.51	2.24	0.98
Mean	2.31	2.10	1.00	2.49	2.23	0.99
Std Dev	0.07	0.04	0.02	0.03	0.04	0.01

Joint Designation: 303J4 304J5

Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
2.23	2.17	1.07	2.29	2.35	1.13
2.33	2.18	1.03	2.33	2.30	1.08
2.35	2.24	1.05	2.37	2.33	1.08
2.31	2.20	1.05	2.43	2.34	1.06
2.58	2.25	0.96	2.67	2.38	0.98
2.57	2.28	0.97	2.62	2.37	0.99
2.59	2.29	0.97	2.63	2.38	0.99
2.60	2.30	0.97	2.66	2.37	0.98
2.43	2.25	1.02	2.49	2.33	1.03
2.46	2.19	0.98	2.51	2.33	1.02
2.45	1.95	0.87	2.55	2.40	1.03
2.49	1.93	0.85	2.52	2.38	1.04
Mean 2.45	2.19	0.98	2.51	2.36	1.04
Std Dev 0.12	0.12	0.07	0.13	0.03	0.05

	Joint Designation:	350J4		351J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.48	2.28	1.01	2.49	2.32	1.02
	2.46	2.31	1.03	2.46	2.33	1.04
	2.48	2.28	1.01	2.49	2.31	1.02
	2.44	2.29	1.03	2.45	2.32	1.04
	2.52	2.29	1.00	2.51	2.37	1.04
	2.54	2.31	1.00	2.52	2.38	1.04
	2.52	2.33	1.02	2.50	2.33	1.02
	2.52	2.29	1.00	2.51	2.34	1.02
	2.47	2.24	1.00	2.47	2.29	1.02
	2.44	2.23	1.01	2.52	2.31	1.01
	2.45	2.26	1.02	2.46	2.28	1.02
	2.46	2.26	1.01	2.46	2.31	1.03
Mean	2.48	2.28	1.01	2.48	2.32	1.03
Std Dev	0.03	0.03	0.01	0.03	0.03	0.01

	Joint Designation:	0J4		1J4		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.10	1.87	0.98	2.06	1.90	1.02
	2.18	1.89	0.95	2.10	1.90	0.99
	2.22	1.98	0.98	2.14	1.93	0.99
	2.18	1.93	0.98	2.14	1.93	0.99
	2.13	1.95	1.00	2.18	2.02	1.02
	2.17	1.95	0.99	2.18	1.97	1.00
	2.17	1.95	0.99	2.16	1.96	1.00
	2.16	1.94	0.99	2.16	1.96	1.00
	2.18	1.93	0.97	2.13	1.94	1.00
	2.15	1.93	0.99	2.11	1.92	1.00
	2.16	1.94	0.99	2.13	1.94	1.00
	2.16	1.91	0.98	2.12	1.93	1.00
Mean	2.16	1.93	0.98	2.13	1.94	1.00
Std Dev	0.03	0.03	0.01	0.03	0.03	0.01

Joint Designation:	45J4			46J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.34	2.14	1.01	2.35	2.23	1.04
	2.39	2.20	1.01	2.35	2.14	1.00
	2.39	2.15	0.99	2.30	2.17	1.04
	2.39	2.20	1.01	2.34	2.17	1.02
	2.45	2.23	1.00	2.41	2.28	1.04
	2.45	2.23	1.00	2.44	2.30	1.04
	2.46	2.20	0.99	2.45	2.28	1.02
	2.44	2.22	1.00	2.43	2.30	1.04
	2.44	2.16	0.98	2.44	2.29	1.03
	2.40	2.20	1.01	2.44	2.26	1.02
	2.41	2.21	1.01	2.42	2.29	1.04
	2.42	2.20	1.00	2.44	2.29	1.03
Mean	2.42	2.20	1.00	2.40	2.25	1.03
Std Dev	0.03	0.03	0.01	0.05	0.06	0.01

Joint Designation:	88J4			89J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.97	2.13	1.19	2.25	2.18	1.06
	2.01	2.04	1.12	2.23	2.11	1.04
	2.02	2.05	1.12	2.37	2.10	0.98
	1.98	2.05	1.14	2.37	2.06	0.96
	2.40	2.11	0.96	2.34	2.16	1.02
	2.37	2.14	0.99	2.37	2.15	1.00
	2.38	2.15	0.99	2.37	2.16	1.00
	2.40	2.14	0.98	2.38	2.14	0.99
	2.40	2.12	0.97	2.29	2.14	1.03
	2.39	2.09	0.96	2.32	2.12	1.00
	2.41	2.08	0.95	2.32	2.17	1.03
	2.37	2.05	0.95	2.32	2.17	1.03
Mean	2.26	2.10	1.03	2.33	2.14	1.01
Std Dev	0.20	0.04	0.09	0.05	0.04	0.03

	Joint Designation:	133J4		135J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.57	2.42	1.04	2.69	2.60	1.06
	2.65	2.42	1.00	2.66	2.45	1.01
	2.65	2.42	1.00	2.68	2.47	1.01
	2.67	2.48	1.02	2.64	2.46	1.03
	2.66	2.51	1.04	2.67	2.56	1.05
	2.67	2.48	1.02	2.67	2.56	1.05
	2.68	2.49	1.02	2.67	2.53	1.04
	2.70	2.51	1.02	2.67	2.53	1.04
	2.58	2.40	1.03	2.64	2.46	1.03
	2.59	2.37	1.01	2.61	2.46	1.04
	2.62	2.40	1.01	2.58	2.49	1.06
	2.62	2.37	1.00	2.61	2.46	1.04
Mean	2.64	2.44	1.02	2.65	2.50	1.04
Std Dev	0.04	0.05	0.01	0.03	0.05	0.02

Joint Designation:	179J4			181J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.98	1.74	0.96	1.86	1.83	1.08
	1.94	1.75	0.99	1.91	1.83	1.06
	1.98	1.69	0.94	1.92	1.84	1.06
	2.03	1.74	0.94	1.90	1.79	1.03
	1.89	1.75	1.02	1.91	1.81	1.04
	1.93	1.75	0.99	1.95	1.81	1.02
	1.91	1.79	1.03	1.95	1.81	1.02
	1.93	1.74	0.99	1.91	1.81	1.04
	1.96	1.81	1.02	1.91	1.85	1.07
	1.90	1.75	1.01	1.88	1.78	1.04
	1.92	1.77	1.01	1.93	1.83	1.04
	1.89	1.74	1.01	1.94	1.72	0.98
Mean	1.94	1.75	0.99	1.91	1.81	1.04
Std Dev	0.04	0.03	0.03	0.03	0.03	0.03

Joint Designation:	225J4			226J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.58	1.53	1.06	1.68	1.56	1.02
	1.68	1.48	0.97	1.64	1.56	1.05
	1.63	1.52	1.03	1.72	1.60	1.02
	1.57	1.47	1.03	1.69	1.52	0.99
	1.71	1.49	0.96	1.65	1.56	1.04
	1.70	1.48	0.96	1.65	1.56	1.04
	1.72	1.46	0.94	1.69	1.56	1.01
	1.71	1.53	0.98	1.65	1.56	1.04
	1.70	1.53	0.99	1.66	1.54	1.02
	1.68	1.50	0.99	1.67	1.55	1.02
	1.68	1.48	0.97	1.70	1.54	0.99
	1.71	1.48	0.95	1.67	1.53	1.01
Mean	1.67	1.49	0.98	1.67	1.55	1.02
Std Dev	0.05	0.02	0.04	0.03	0.02	0.02

Joint Designation:	267J4			268J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.11	2.02	1.05	2.08	2.05	1.08
	2.11	1.92	1.00	2.20	2.03	1.01
	2.17	1.98	1.00	2.17	1.96	0.99
	2.18	1.98	1.00	2.16	1.95	0.99
	2.19	1.97	0.99	2.14	2.04	1.05
	2.16	1.94	0.99	2.15	2.06	1.05
	2.16	1.97	1.00	2.19	2.09	1.05
	2.15	1.93	0.99	2.12	2.02	1.05
	2.17	1.97	1.00	2.14	1.97	1.01
	2.13	1.99	1.03	2.11	1.98	1.03
	2.14	1.96	1.01	2.11	1.98	1.03
	2.15	1.95	1.00	2.09	1.99	1.05
Mean	2.15	1.96	1.00	2.14	2.01	1.03
Std Dev	0.02	0.03	0.02	0.04	0.04	0.03

Joint Designation:	313J4			314J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.05	1.90	1.02	2.08	1.91	1.01
	2.07	1.91	1.02	2.04	1.91	1.03
	2.05	1.90	1.02	2.12	1.90	0.99
	2.10	1.95	1.02	2.13	1.92	0.99
	2.11	1.92	1.00	2.02	1.96	1.06
	2.12	1.96	1.02	2.06	1.96	1.05
	2.12	2.00	1.04	2.09	1.95	1.03
	2.11	1.96	1.02	2.06	1.96	1.05
	2.10	1.95	1.02	2.12	1.97	1.02
	2.12	1.92	1.00	2.08	1.96	1.04
	2.11	1.91	1.00	2.15	1.98	1.01
	2.10	1.90	1.00	2.11	1.96	1.02
Mean	2.10	1.93	1.01	2.09	1.94	1.02
Std Dev	0.03	0.03	0.01	0.04	0.03	0.02

Joint Designation:	360J4			362J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.73	1.68	1.07	1.90	1.70	0.99
	1.74	1.73	1.09	1.86	1.71	1.01
	1.79	1.78	1.09	1.86	1.70	1.01
	1.70	1.74	1.12	1.91	1.71	0.99
	1.96	1.77	1.00	1.99	1.63	0.90
	1.93	1.78	1.01	2.00	1.70	0.93
	1.96	1.78	1.00	2.00	1.84	1.01
	1.93	1.78	1.01	1.97	1.77	0.99
	1.96	1.76	0.99	1.97	1.69	0.94
	1.91	1.72	0.99	1.97	1.82	1.02
	1.94	1.74	0.99	1.98	1.79	0.99
	1.93	1.75	1.00	1.95	1.81	1.02
Mean	1.87	1.75	1.03	1.95	1.74	0.98
Std Dev	0.10	0.03	0.05	0.05	0.06	0.04

	Joint Designation:	0J4		2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.13	2.57	0.90	3.71	2.37	0.70
	3.09	2.45	0.87	3.64	2.37	0.72
	3.09	2.53	0.90	3.62	2.40	0.73
	3.06	2.50	0.90	3.67	2.41	0.72
	3.06	2.54	0.91	3.58	2.44	0.75
	3.06	2.54	0.91	3.56	2.46	0.76
	3.11	2.58	0.91	3.59	2.46	0.75
	3.10	2.58	0.91	3.60	2.49	0.76
	2.97	2.54	0.94	3.39	2.48	0.80
	3.01	2.55	0.93	3.39	2.45	0.80
	2.99	2.53	0.93	3.46	2.49	0.79
	2.98	2.52	0.93	3.42	2.45	0.79
Mean	3.06	2.53	0.91	3.55	2.44	0.76
Std Dev	0.05	0.04	0.02	0.11	0.04	0.03

Joint Designation:	45J4			46J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.57	2.47	1.06	2.81	2.56	1.00
	2.59	2.49	1.06	2.79	2.54	1.00
	2.60	2.50	1.06	2.80	2.55	1.00
	2.60	2.50	1.06	2.84	2.59	1.00
	2.62	2.51	1.05	2.88	2.58	0.98
	2.67	2.56	1.05	2.90	2.60	0.98
	2.63	2.49	1.04	2.86	2.56	0.98
	2.67	2.52	1.04	2.87	2.57	0.98
	2.74	2.54	1.02	2.82	2.53	0.99
	2.74	2.53	1.02	2.81	2.52	0.99
	2.75	2.53	1.01	2.84	2.55	0.99
	2.71	2.51	1.02	2.84	2.55	0.99
Mean	2.66	2.51	1.04	2.84	2.56	0.99
Std Dev	0.06	0.02	0.02	0.04	0.02	0.01

	Joint Designation:	93J4		94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.56	1.60	0.49	2.82	2.10	0.82
	3.57	1.64	0.51	2.83	2.11	0.82
	3.57	1.60	0.49	2.80	2.04	0.80
	3.55	1.59	0.49	2.83	2.11	0.82
	3.53	1.82	0.57	3.01	2.18	0.80
	3.55	1.80	0.56	3.05	2.20	0.79
	3.55	1.80	0.56	3.06	2.17	0.78
	3.52	1.77	0.55	3.06	2.17	0.78
	3.42	1.96	0.63	2.95	2.24	0.83
	3.37	1.92	0.63	2.96	2.26	0.84
	3.46	1.90	0.61	2.91	2.25	0.85
	3.44	1.92	0.61	2.90	2.27	0.86
Mean	3.51	1.78	0.56	2.93	2.17	0.82
Std Dev	0.07	0.14	0.05	0.10	0.07	0.03

Joint Designation:	138J4			140J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.33	1.09	2.47	2.35	1.05
	2.35	2.24	1.05	2.50	2.37	1.05
	2.35	2.28	1.07	2.50	2.38	1.05
	2.39	2.38	1.10	2.46	2.34	1.05
	2.54	2.30	0.99	2.56	2.38	1.03
	2.56	2.31	0.99	2.54	2.40	1.04
	2.56	2.31	0.99	2.58	2.41	1.03
	2.56	2.31	0.99	2.54	2.43	1.05
	2.57	2.32	0.99	2.56	2.35	1.01
	2.55	2.28	0.98	2.59	2.35	1.00
	2.59	2.34	1.00	2.59	2.37	1.01
	2.57	2.25	0.96	2.57	2.35	1.01
Mean	2.49	2.30	1.02	2.54	2.37	1.03
Std Dev	0.10	0.04	0.05	0.05	0.03	0.02

Joint Designation:	181J4			183J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.84	1.62	0.96	1.81	1.66	1.01
	1.85	1.62	0.96	1.80	1.65	1.01
	1.84	1.66	0.99	1.82	1.67	1.01
	1.85	1.62	0.96	1.85	1.61	0.96
	1.85	1.64	0.98	1.88	1.68	0.98
	1.89	1.65	0.96	1.90	1.67	0.97
	1.85	1.64	0.98	1.89	1.70	0.99
	1.90	1.65	0.96	1.90	1.73	1.00
	1.88	1.64	0.96	1.85	1.69	1.00
	1.88	1.66	0.97	1.88	1.69	0.99
	1.91	1.64	0.95	1.88	1.71	1.00
	1.89	1.64	0.96	1.88	1.73	1.02
Mean	1.87	1.64	0.97	1.86	1.68	0.99
Std Dev	0.03	0.02	0.01	0.03	0.03	0.02

Joint Designation:	227J4			229J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.72	1.64	0.66	2.43	2.03	0.92
	2.69	1.60	0.66	2.38	1.99	0.92
	2.71	1.61	0.66	2.43	1.99	0.90
	2.72	1.64	0.66	2.37	1.94	0.90
	2.70	1.71	0.70	2.39	1.96	0.90
	2.69	1.70	0.70	2.42	1.96	0.89
	2.73	1.71	0.69	2.42	1.96	0.89
	2.69	1.67	0.68	2.42	1.96	0.89
	2.62	1.77	0.75	2.40	1.99	0.91
	2.61	1.74	0.73	2.37	1.96	0.91
	2.61	1.72	0.73	2.37	1.99	0.92
	2.61	1.72	0.73	2.38	1.97	0.91
Mean	2.67	1.69	0.69	2.40	1.97	0.91
Std Dev	0.05	0.05	0.03	0.02	0.02	0.01

Joint Designation:	274J4			275J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.90	1.78	0.67	2.76	1.93	0.77
	2.87	1.78	0.68	2.78	1.94	0.77
	2.77	1.73	0.69	2.76	1.93	0.77
	2.90	1.77	0.67	2.72	1.93	0.78
	2.84	1.82	0.70	2.74	2.06	0.83
	2.85	1.83	0.71	2.75	2.05	0.82
	2.89	1.87	0.71	2.78	2.08	0.82
	2.85	1.83	0.71	2.79	2.08	0.82
	2.71	1.89	0.77	2.71	2.09	0.85
	2.77	1.91	0.76	2.73	2.07	0.83
	2.78	1.91	0.76	2.74	2.10	0.84
	2.76	1.84	0.73	2.75	2.08	0.83
Mean	2.82	1.83	0.71	2.75	2.03	0.81
Std Dev	0.06	0.06	0.03	0.02	0.07	0.03

Joint Designation:	319J4			319J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.65	1.25	0.38	3.48	1.51	0.48
	3.62	1.26	0.38	3.48	1.55	0.49
	3.66	1.25	0.38	3.46	1.54	0.49
	3.65	1.25	0.38	3.49	1.56	0.49
	3.63	1.45	0.44	3.42	1.65	0.53
	3.63	1.40	0.43	3.42	1.70	0.55
	3.63	1.40	0.43	3.43	1.70	0.55
	3.68	1.41	0.42	3.40	1.68	0.54
	3.45	1.58	0.50	3.26	1.76	0.59
	3.42	1.52	0.49	3.27	1.79	0.60
	3.44	1.50	0.48	3.25	1.77	0.60
	3.50	1.56	0.49	3.27	1.79	0.60
Mean	3.58	1.40	0.43	3.38	1.67	0.54
Std Dev	0.10	0.12	0.05	0.10	0.10	0.05

Joint Designation:	360J4			362J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.81	1.85	0.72	2.65	1.95	0.81
	2.82	1.79	0.70	2.71	1.95	0.79
	2.78	1.79	0.71	2.65	1.95	0.81
	2.87	1.87	0.72	2.72	1.96	0.79
	2.86	1.93	0.74	2.81	1.99	0.78
	2.83	1.95	0.76	2.83	2.00	0.78
	2.80	1.91	0.75	2.81	2.00	0.78
	2.85	1.92	0.74	2.80	1.97	0.77
	2.79	1.95	0.77	2.74	2.03	0.81
	2.76	1.93	0.77	2.72	2.06	0.83
	2.81	1.95	0.77	2.74	2.05	0.83
	2.77	1.93	0.77	2.74	2.01	0.81
Mean	2.81	1.90	0.74	2.74	1.99	0.80
Std Dev	0.04	0.06	0.03	0.06	0.04	0.02

Joint Designation: 0J4 1J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.01	1.81	0.99	1.89	1.73	1.01
	1.91	1.76	1.01	1.91	1.75	1.01
	1.95	1.76	0.99	1.88	1.72	1.01
	1.99	1.74	0.96	1.88	1.72	1.01
	1.99	1.77	0.98	1.98	1.75	0.97
	2.02	1.73	0.95	2.00	1.77	0.97
	2.01	1.76	0.96	2.04	1.73	0.94
	2.00	1.72	0.95	2.04	1.80	0.97
	2.02	1.72	0.94	1.96	1.75	0.98
	2.05	1.76	0.94	1.96	1.74	0.98
	2.01	1.76	0.96	1.95	1.74	0.98
	2.01	1.74	0.95	1.98	1.74	0.97
Mean	2.00	1.75	0.97	1.96	1.75	0.98
Std Dev	0.04	0.02	0.02	0.06	0.02	0.02

Joint Designation:	43J4			44J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.78	1.55	0.96	1.72	1.60	1.02
	1.78	1.55	0.96	1.81	1.65	1.00
	1.77	1.59	0.98	1.74	1.64	1.03
	1.73	1.59	1.01	1.76	1.60	1.00
	1.80	1.66	1.01	1.86	1.66	0.98
	1.79	1.61	0.99	1.88	1.65	0.97
	1.76	1.61	1.01	1.88	1.65	0.97
	1.79	1.60	0.99	1.85	1.66	0.98
	1.81	1.66	1.01	1.85	1.68	1.00
	1.80	1.63	0.99	1.81	1.65	1.00
	1.82	1.64	0.99	1.83	1.67	1.00
	1.79	1.64	1.01	1.83	1.65	0.99
Mean	1.79	1.61	0.99	1.82	1.65	1.00
Std Dev	0.02	0.04	0.02	0.05	0.02	0.02

Joint Designation:	89J4			90J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.09	1.90	1.00	2.07	1.91	1.02
	2.14	1.91	0.98	2.06	1.85	0.99
	2.10	1.86	0.98	2.02	1.90	1.04
	2.14	1.90	0.98	2.06	1.90	1.02
	2.07	1.89	1.00	2.09	1.92	1.01
	2.12	1.90	0.99	2.06	1.92	1.03
	2.16	1.87	0.96	2.06	1.92	1.03
	2.09	1.88	0.99	2.08	1.91	1.01
	2.03	1.81	0.98	2.03	1.88	1.02
	2.06	1.86	0.99	2.07	1.93	1.02
	2.06	1.84	0.98	2.07	1.90	1.01
	2.05	1.83	0.98	2.07	1.90	1.01
Mean	2.09	1.87	0.98	2.06	1.90	1.02
Std Dev	0.04	0.03	0.01	0.02	0.02	0.01

Joint Designation: 136J4 138J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.95	1.76	0.99	1.89	1.82	1.06
	1.99	1.80	0.99	1.93	1.73	0.99
	1.94	1.75	0.99	1.94	1.78	1.01
	1.94	1.81	1.02	1.93	1.73	0.99
	1.96	1.78	1.00	1.95	1.75	0.99
	1.98	1.79	1.00	2.02	1.83	0.99
	1.96	1.77	1.00	2.02	1.82	0.99
	1.99	1.77	0.98	2.01	1.78	0.97
	1.95	1.73	0.98	1.99	1.82	1.01
	1.93	1.73	0.99	1.97	1.80	1.01
	1.96	1.76	0.99	1.99	1.82	1.01
	1.97	1.75	0.98	2.01	1.81	0.99
Mean	1.96	1.77	0.99	1.97	1.79	1.00
Std Dev	0.02	0.02	0.01	0.04	0.04	0.02

Joint Designation:	181J4			182J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.46	2.13	0.95	2.55	2.07	0.89
	2.48	2.11	0.93	2.53	2.11	0.91
	2.60	2.17	0.92	2.55	2.02	0.87
	2.53	2.15	0.93	2.61	2.10	0.88
	2.61	2.16	0.91	2.64	2.23	0.93
	2.65	2.19	0.91	2.59	2.22	0.94
	2.65	2.19	0.91	2.58	2.18	0.93
	2.62	2.16	0.91	2.58	2.14	0.91
	2.58	2.21	0.94	2.63	2.19	0.92
	2.58	2.19	0.93	2.63	2.19	0.92
	2.61	2.21	0.93	2.62	2.21	0.93
	2.58	2.19	0.93	2.63	2.22	0.93
Mean	2.58	2.17	0.93	2.60	2.16	0.91
Std Dev	0.06	0.03	0.02	0.04	0.07	0.02

Joint Designation:	226J4			227J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.53	1.60	0.50	3.30	1.47	0.49
	3.52	1.64	0.51	3.36	1.48	0.49
	3.46	1.59	0.51	3.36	1.52	0.50
	3.50	1.63	0.51	3.41	1.52	0.49
	3.49	1.75	0.55	3.35	1.68	0.55
	3.49	1.67	0.53	3.39	1.69	0.55
	3.42	1.60	0.51	3.38	1.68	0.55
	3.43	1.60	0.51	3.38	1.65	0.54
	3.35	1.76	0.58	3.30	1.81	0.60
	3.39	1.72	0.56	3.25	1.76	0.60
	3.39	1.70	0.55	3.26	1.78	0.60
	3.39	1.70	0.55	3.28	1.78	0.60
Mean	3.45	1.66	0.53	3.33	1.65	0.55
Std Dev	0.06	0.06	0.03	0.06	0.12	0.05

Joint Designation:	271J4			272J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.22	1.85	0.91	2.21	1.90	0.94
	2.24	1.86	0.91	2.25	1.80	0.88
	2.28	1.86	0.90	2.25	1.85	0.90
	2.18	1.81	0.91	2.26	1.82	0.88
	2.21	1.89	0.94	2.25	1.85	0.90
	2.24	1.85	0.91	2.29	1.98	0.95
	2.25	1.89	0.92	2.26	1.95	0.95
	2.27	1.91	0.93	2.29	1.98	0.95
	2.25	1.89	0.92	2.28	1.99	0.96
	2.28	1.89	0.91	2.28	1.99	0.96
	2.28	1.89	0.91	2.26	1.97	0.96
	2.25	1.89	0.92	2.26	1.97	0.96
Mean	2.24	1.87	0.92	2.26	1.92	0.93
Std Dev	0.03	0.03	0.01	0.02	0.07	0.03

Joint Designation:	318J4			319J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.77	1.72	1.07	1.88	1.76	1.03
	1.90	1.71	0.99	1.91	1.75	1.01
	1.91	1.76	1.01	1.96	1.80	1.01
	1.91	1.82	1.04	1.97	1.81	1.01
	1.93	1.64	0.93	1.97	1.77	0.99
	1.97	1.75	0.98	1.94	1.77	1.00
	1.94	1.69	0.96	1.95	1.78	1.00
	1.98	1.72	0.96	1.95	1.78	1.00
	1.93	1.68	0.96	1.96	1.76	0.99
	1.90	1.68	0.97	1.97	1.77	0.99
	1.88	1.68	0.99	1.92	1.75	1.00
	1.90	1.65	0.96	1.93	1.76	1.00
Mean	1.91	1.71	0.98	1.94	1.77	1.00
Std Dev	0.05	0.05	0.04	0.03	0.02	0.01

Joint Designation:	362J4			363J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.70	1.56	1.01	1.62	1.55	1.05
	1.72	1.48	0.95	1.66	1.55	1.02
	1.80	1.57	0.96	1.70	1.58	1.02
	1.74	1.56	0.99	1.70	1.54	1.00
	1.66	1.64	1.09	1.75	1.59	1.00
	1.69	1.58	1.03	1.72	1.56	1.00
	1.69	1.55	1.00	1.80	1.64	1.00
	1.72	1.58	1.01	1.75	1.56	0.98
	1.81	1.61	0.98	1.73	1.59	1.01
	1.81	1.56	0.95	1.76	1.61	1.01
	1.86	1.58	0.94	1.76	1.64	1.02
	1.87	1.60	0.94	1.74	1.60	1.01
Mean	1.76	1.57	0.99	1.72	1.58	1.01
Std Dev	0.07	0.04	0.04	0.05	0.03	0.02

Joint Designation:	6J4			8J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.78	1.64	1.01	1.85	1.69	1.01
	1.79	1.64	1.01	1.86	1.70	1.01
	1.72	1.63	1.04	1.84	1.64	0.98
	1.73	1.64	1.04	1.89	1.60	0.93
	1.85	1.67	0.99	1.90	1.74	1.01
	1.86	1.71	1.01	1.95	1.74	0.98
	1.86	1.68	0.99	1.90	1.71	0.99
	1.83	1.68	1.01	1.94	1.71	0.97
	1.83	1.68	1.01	2.01	1.71	0.94
	1.82	1.69	1.02	1.99	1.75	0.97
	1.85	1.70	1.01	1.99	1.75	0.97
	1.84	1.69	1.01	1.99	1.75	0.97
Mean	1.81	1.67	1.01	1.93	1.71	0.97
Std Dev	0.05	0.03	0.01	0.06	0.05	0.02

Joint Designation: 51J4 52J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.00	1.89	1.04	2.03	1.82	0.98
	1.97	2.04	1.14	2.01	1.80	0.98
	2.01	2.09	1.14	2.07	1.81	0.96
	2.04	2.25	1.21	2.10	1.81	0.95
	1.99	1.71	0.94	2.07	1.90	1.01
	2.00	1.85	1.02	2.11	1.91	0.99
	2.03	1.85	1.00	2.15	1.94	1.00
	2.04	1.86	1.00	2.12	1.92	0.99
	2.04	1.92	1.03	2.17	1.92	0.97
	2.07	1.89	1.00	2.18	1.91	0.96
	2.06	1.88	1.00	2.15	1.90	0.97
	2.06	1.88	1.00	2.17	1.90	0.96
Mean	2.03	1.93	1.05	2.11	1.88	0.98
Std Dev	0.03	0.14	0.08	0.06	0.05	0.02

Joint Designation:	94J4			95J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.85	1.66	0.99	1.82	1.66	1.00
	1.73	1.59	1.01	1.80	1.69	1.03
	1.82	1.71	1.04	1.83	1.67	1.00
	1.77	1.63	1.01	1.80	1.69	1.03
	1.80	1.64	1.01	1.90	1.74	1.01
	1.80	1.65	1.01	1.94	1.74	0.98
	1.84	1.69	1.01	1.91	1.71	0.99
	1.85	1.67	0.99	1.98	1.74	0.97
	1.84	1.66	0.99	1.87	1.66	0.98
	1.80	1.63	0.99	1.85	1.68	1.00
	1.80	1.64	1.01	1.83	1.66	1.00
	1.77	1.60	0.99	1.83	1.67	1.00
Mean	1.81	1.65	1.00	1.86	1.69	1.00
Std Dev	0.04	0.04	0.01	0.06	0.03	0.02

	Joint Designation:	138J4		139J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.73	1.53	0.98	1.71	1.59	1.02
	1.73	1.59	1.01	1.77	1.61	1.00
	1.74	1.54	0.98	1.74	1.57	1.00
	1.70	1.55	1.00	1.81	1.65	1.00
	1.83	1.61	0.97	1.80	1.64	1.00
	1.84	1.65	0.99	1.76	1.64	1.02
	1.81	1.59	0.97	1.80	1.64	1.00
	1.84	1.62	0.97	1.76	1.60	1.00
	1.79	1.59	0.98	1.78	1.62	1.00
	1.76	1.57	0.98	1.75	1.59	1.00
	1.78	1.59	0.98	1.75	1.59	1.00
	1.76	1.57	0.98	1.76	1.61	1.01
Mean	1.78	1.58	0.98	1.77	1.61	1.00
Std Dev	0.05	0.03	0.01	0.03	0.02	0.01

Joint Designation:	186J4			187J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.16	2.01	1.02	2.30	2.09	1.00
	2.12	1.93	1.00	2.26	2.04	0.99
	2.16	2.01	1.02	2.31	2.10	1.00
	2.16	2.01	1.02	2.27	2.05	0.99
	2.21	2.03	1.01	2.23	2.09	1.03
	2.18	2.00	1.01	2.27	2.10	1.02
	2.22	2.06	1.02	2.30	2.13	1.02
	2.22	2.07	1.02	2.24	2.10	1.03
	2.21	2.06	1.02	2.30	2.05	0.98
	2.17	2.02	1.02	2.30	2.08	0.99
	2.16	1.99	1.01	2.27	2.06	0.99
	2.15	1.97	1.01	2.30	2.08	0.99
Mean	2.18	2.01	1.02	2.28	2.08	1.00
Std Dev	0.03	0.04	0.01	0.03	0.03	0.02

Joint Designation:	231J4			232J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.07	1.83	0.97	1.88	1.89	1.11
	2.07	1.83	0.97	1.92	1.94	1.11
	2.03	1.83	0.99	1.93	1.86	1.06
	2.10	1.86	0.98	1.86	1.88	1.11
	2.09	1.90	1.00	2.13	1.92	0.99
	2.10	1.91	1.00	2.14	1.90	0.98
	2.13	1.87	0.97	2.13	1.89	0.98
	2.13	1.91	0.99	2.13	1.93	0.99
	2.13	1.90	0.98	2.13	1.89	0.97
	2.07	1.85	0.98	2.10	1.90	1.00
	2.10	1.87	0.98	2.13	1.93	1.00
	2.09	1.84	0.97	2.13	1.93	1.00
Mean	2.09	1.87	0.98	2.05	1.90	1.02
Std Dev	0.03	0.03	0.01	0.11	0.03	0.06

Joint Designation:	274J4			275J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.58	2.29	0.98	2.57	2.35	1.00
	2.65	2.37	0.98	2.57	2.35	1.00
	2.64	2.35	0.98	2.65	2.40	0.99
	2.62	2.33	0.98	2.61	2.40	1.01
	2.62	2.40	1.01	2.62	2.48	1.04
	2.63	2.37	0.99	2.64	2.47	1.03
	2.63	2.37	0.99	2.68	2.43	1.00
	2.63	2.38	0.99	2.67	2.43	1.00
	2.72	2.42	0.98	2.74	2.51	1.01
	2.62	2.37	1.00	2.70	2.45	1.00
	2.62	2.35	0.99	2.70	2.42	0.99
	2.64	2.35	0.98	2.71	2.46	1.00
Mean	2.63	2.36	0.99	2.66	2.43	1.01
Std Dev	0.03	0.03	0.01	0.05	0.05	0.02

Joint Designation:	319J4			320J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.22	2.07	1.02	2.13	2.01	1.04
	2.19	1.99	1.00	2.26	1.90	0.93
	2.18	2.04	1.03	2.17	1.91	0.97
	2.19	1.95	0.98	2.15	2.03	1.04
	2.17	1.98	1.00	2.25	2.14	1.05
	2.25	2.03	0.99	2.25	2.05	1.00
	2.17	1.98	1.00	2.25	2.04	1.00
	2.18	1.99	1.00	2.25	2.00	0.98
	2.16	1.94	0.99	2.21	2.06	1.03
	2.16	1.94	0.99	2.22	2.09	1.04
	2.14	1.92	0.99	2.21	2.04	1.01
	2.17	1.95	0.99	2.22	2.10	1.04
Mean	2.18	1.98	1.00	2.21	2.03	1.01
Std Dev	0.03	0.05	0.02	0.04	0.07	0.04

Joint Designation:	365J4			365J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.29	2.04	0.98	2.30	2.08	1.00
	2.39	2.10	0.97	2.26	2.13	1.04
	2.35	2.07	0.97	2.20	2.12	1.06
	2.35	2.07	0.97	2.30	2.13	1.02
	2.45	2.12	0.95	2.34	2.17	1.02
	2.46	2.13	0.95	2.34	2.17	1.02
	2.46	2.03	0.91	2.34	2.17	1.02
	2.49	2.03	0.90	2.34	2.17	1.02
	2.43	1.96	0.89	2.36	2.14	1.00
	2.41	2.06	0.94	2.34	2.12	1.00
	2.39	2.07	0.95	2.35	2.10	0.99
	2.42	2.09	0.95	2.35	2.13	1.00
Mean	2.41	2.07	0.94	2.32	2.14	1.01
Std Dev	0.06	0.05	0.03	0.05	0.03	0.02

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.99	1.84	1.02	2.14	1.94	0.99
	2.01	1.86	1.02	2.07	1.89	1.01
	2.08	1.89	1.00	2.10	1.93	1.02
	2.08	1.93	1.02	2.06	1.89	1.01
	2.13	2.01	1.04	2.11	1.94	1.01
	2.12	1.93	1.00	2.16	2.03	1.03
	2.18	1.96	0.99	2.12	1.95	1.01
	2.12	1.90	0.99	2.13	1.96	1.01
	2.08	1.88	1.00	2.07	1.90	1.01
	2.08	1.88	1.00	2.08	1.89	1.00
	2.08	1.90	1.01	2.08	1.89	1.00
	2.05	1.85	0.99	2.08	1.93	1.02
Mean	2.08	1.90	1.01	2.10	1.93	1.01
Std Dev	0.05	0.05	0.02	0.03	0.04	0.01

Joint Designation:	49J4			49J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.90	1.66	0.96	1.92	1.62	0.92
	1.85	1.66	0.99	1.94	1.69	0.96
	1.80	1.60	0.98	1.99	1.74	0.96
	1.79	1.65	1.01	1.89	1.69	0.98
	1.92	1.62	0.93	1.92	1.75	1.01
	1.96	1.66	0.93	1.90	1.62	0.94
	1.96	1.66	0.93	1.94	1.71	0.97
	1.95	1.69	0.95	1.93	1.67	0.95
	1.96	1.63	0.92	1.89	1.52	0.88
	1.93	1.63	0.93	1.89	1.68	0.98
	1.93	1.66	0.94	1.87	1.66	0.98
	1.96	1.68	0.94	1.89	1.68	0.98
Mean	1.91	1.65	0.95	1.92	1.67	0.96
Std Dev	0.06	0.03	0.03	0.03	0.06	0.03

Joint Designation:	91J4			92J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.07	1.87	0.99	2.06	1.84	0.98
	2.18	1.90	0.96	2.00	1.83	1.01
	2.15	1.81	0.93	2.00	1.87	1.03
	2.25	1.95	0.95	2.03	1.81	0.98
	2.12	1.90	0.98	2.09	1.89	0.99
	2.12	1.90	0.98	2.06	1.92	1.03
	2.13	1.93	1.00	2.07	1.94	1.03
	2.14	1.87	0.96	2.10	1.90	0.99
	2.06	1.81	0.96	2.11	1.91	1.00
	2.07	1.80	0.95	2.09	1.91	1.01
	2.07	1.83	0.97	2.09	1.92	1.01
	2.08	1.80	0.95	2.09	1.92	1.01
Mean	2.12	1.86	0.97	2.07	1.89	1.01
Std Dev	0.06	0.05	0.02	0.04	0.04	0.02

Joint Designation:	134J4			135J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.91	1.71	0.99	1.78	1.72	1.06
	1.95	1.76	0.99	1.70	1.76	1.14
	1.91	1.67	0.96	1.84	1.76	1.05
	1.95	1.67	0.94	1.76	1.73	1.09
	1.92	1.70	0.98	2.02	1.78	0.97
	1.91	1.72	0.99	2.00	1.76	0.97
	1.91	1.76	1.01	2.00	1.76	0.97
	1.90	1.72	0.99	2.00	1.80	0.99
	1.90	1.72	1.00	1.95	1.73	0.98
	1.89	1.71	1.00	1.95	1.80	1.02
	1.89	1.69	0.98	1.95	1.83	1.03
	1.86	1.68	0.99	1.95	1.81	1.02
Mean	1.91	1.71	0.99	1.91	1.77	1.02
Std Dev	0.03	0.03	0.02	0.11	0.03	0.05

Joint Designation:	179J4			181J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.24	2.09	1.03	2.34	2.18	1.02
	2.20	2.09	1.05	2.37	2.15	1.00
	2.32	2.13	1.01	2.42	2.21	1.00
	2.28	2.09	1.01	2.38	2.17	1.00
	2.37	2.18	1.01	2.45	2.20	0.99
	2.39	2.16	0.99	2.40	2.22	1.02
	2.39	2.20	1.01	2.40	2.19	1.00
	2.35	2.12	1.00	2.40	2.15	0.99
	2.31	2.11	1.00	2.36	1.97	0.92
	2.29	2.07	0.99	2.35	2.17	1.02
	2.30	2.08	0.99	2.35	2.13	1.00
	2.30	2.10	1.00	2.35	2.11	0.98
Mean	2.31	2.12	1.01	2.38	2.15	0.99
Std Dev	0.06	0.04	0.02	0.03	0.07	0.03

Joint Designation:	227J4			228J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.31	2.16	1.03	2.29	2.22	1.06
	2.28	2.13	1.03	2.37	2.24	1.04
	2.20	2.14	1.07	2.37	2.24	1.04
	2.28	2.13	1.03	2.36	2.24	1.04
	2.45	2.20	0.99	2.50	2.30	1.01
	2.51	2.22	0.97	2.55	2.31	0.99
	2.46	2.21	0.99	2.50	2.30	1.01
	2.46	2.18	0.97	2.52	2.28	1.00
	2.41	2.15	0.98	2.40	2.24	1.03
	2.38	2.18	1.01	2.40	2.22	1.02
	2.41	2.18	0.99	2.43	2.22	1.01
	2.40	2.15	0.98	2.43	2.27	1.03
Mean	2.38	2.17	1.00	2.43	2.26	1.02
Std Dev	0.09	0.03	0.03	0.08	0.03	0.02

Joint Designation:	273J4			274J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.39	2.42	1.12	2.61	2.44	1.03
	2.48	2.42	1.07	2.62	2.41	1.01
	2.56	2.45	1.05	2.58	2.37	1.01
	2.57	2.46	1.05	2.62	2.45	1.03
	2.78	2.52	1.00	2.66	2.52	1.04
	2.68	2.46	1.01	2.66	2.52	1.04
	2.69	2.46	1.01	2.70	2.63	1.07
	2.69	2.47	1.01	2.69	2.55	1.04
	2.65	2.52	1.04	2.73	2.55	1.03
	2.72	2.49	1.01	2.73	2.52	1.02
	2.66	2.46	1.02	2.73	2.54	1.03
	2.68	2.48	1.02	2.74	2.53	1.02
Mean	2.63	2.47	1.03	2.67	2.50	1.03
Std Dev	0.11	0.03	0.03	0.05	0.07	0.02

	Joint Designation:	316J4		317J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.07	0.97	2.04	1.97	1.06
	2.23	2.03	1.00	2.21	2.04	1.01
	2.28	2.04	0.98	2.12	1.96	1.02
	2.27	2.03	0.98	2.08	1.96	1.04
	2.24	2.02	0.99	2.29	2.08	1.00
	2.24	2.05	1.01	2.23	2.09	1.03
	2.28	2.06	0.99	2.23	2.09	1.03
	2.25	2.03	0.99	2.24	2.10	1.03
	2.26	2.04	0.99	2.27	2.00	0.97
	2.26	2.06	1.00	2.25	2.03	0.99
	2.22	2.04	1.01	2.22	2.00	0.99
	2.25	2.07	1.01	2.24	2.03	0.99
Mean	2.26	2.04	0.99	2.20	2.03	1.01
Std Dev	0.04	0.02	0.01	0.08	0.05	0.03

Joint Designation:	361J4			362J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.38	2.09	0.97	2.24	2.07	1.02
	2.32	2.07	0.98	2.19	2.02	1.01
	2.30	2.10	1.00	2.20	2.07	1.04
	2.30	2.10	1.00	2.19	2.02	1.01
	2.26	2.07	1.01	2.25	2.11	1.03
	2.27	2.08	1.01	2.27	2.13	1.03
	2.30	2.07	0.99	2.24	2.10	1.03
	2.30	2.11	1.01	2.27	2.13	1.03
	2.32	2.07	0.98	2.24	1.99	0.98
	2.26	2.04	0.99	2.20	2.00	1.00
	2.28	2.06	0.99	2.24	2.07	1.02
	2.26	2.06	1.00	2.24	2.03	0.99
Mean	2.30	2.08	1.00	2.23	2.06	1.02
Std Dev	0.03	0.02	0.01	0.03	0.05	0.02

Joint Designation:	0J4			1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.23	2.08	1.02	2.28	2.06	0.99
	2.22	2.03	1.00	2.27	2.05	0.99
	2.25	2.05	1.00	2.24	2.02	0.99
	2.19	1.99	1.00	2.24	1.98	0.97
	2.30	2.07	0.99	2.30	2.10	1.00
	2.27	2.02	0.98	2.27	2.06	1.00
	2.27	2.02	0.98	2.27	2.07	1.00
	2.31	2.06	0.98	2.27	2.07	1.00
	2.31	2.06	0.98	2.29	2.07	0.99
	2.29	2.04	0.98	2.30	2.08	0.99
	2.27	2.04	0.99	2.32	2.09	0.99
	2.26	2.04	0.99	2.30	2.08	0.99
Mean	2.27	2.04	0.99	2.28	2.06	0.99
Std Dev	0.04	0.03	0.01	0.02	0.03	0.01

	Joint Designation:	43J4		45J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.20	1.03	2.44	2.26	1.02
	2.36	2.20	1.03	2.40	2.23	1.02
	2.35	2.19	1.03	2.45	2.27	1.02
	2.36	2.20	1.03	2.43	2.25	1.02
	2.40	2.21	1.01	2.50	2.25	0.99
	2.41	2.22	1.01	2.54	2.30	1.00
	2.45	2.26	1.01	2.51	2.23	0.98
	2.37	2.18	1.01	2.49	2.25	0.99
	2.35	2.17	1.02	2.50	2.13	0.94
	2.37	2.19	1.02	2.46	2.21	0.99
	2.35	2.20	1.03	2.45	2.23	1.00
	2.34	2.19	1.03	2.47	2.25	1.00
Mean	2.37	2.20	1.02	2.47	2.24	1.00
Std Dev	0.03	0.02	0.01	0.04	0.04	0.02

Joint Designation:	90J4			92J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.02	1.88	1.02	1.89	1.82	1.06
	2.03	1.83	0.99	1.90	1.82	1.06
	2.03	1.78	0.97	1.91	1.88	1.08
	2.03	1.88	1.02	1.86	1.83	1.08
	2.03	1.84	1.00	2.06	1.86	0.99
	2.03	1.84	1.00	2.07	1.87	0.99
	2.04	1.85	1.00	2.04	1.87	1.01
	2.08	1.82	0.96	2.03	1.87	1.01
	2.09	1.87	0.98	2.07	1.85	0.98
	2.05	1.87	1.00	2.06	1.86	0.99
	2.05	1.85	0.99	2.05	1.85	0.99
	2.12	1.87	0.97	2.08	1.86	0.98
Mean	2.05	1.85	0.99	2.00	1.85	1.02
Std Dev	0.03	0.03	0.02	0.08	0.02	0.04

	Joint Designation:	135J4		137J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.39	2.19	1.01	2.38	2.30	1.06
	2.41	2.21	1.01	2.33	2.21	1.04
	2.39	2.19	1.01	2.34	2.26	1.06
	2.40	2.16	0.99	2.33	2.15	1.02
	2.46	2.21	0.99	2.44	2.27	1.02
	2.48	2.22	0.99	2.46	2.25	1.01
	2.50	2.25	0.99	2.42	2.25	1.02
	2.48	2.22	0.99	2.41	2.24	1.02
	2.46	2.18	0.98	2.35	2.17	1.02
	2.45	2.17	0.98	2.39	2.21	1.02
	2.42	2.15	0.97	2.39	2.18	1.01
	2.41	2.14	0.97	2.39	2.19	1.01
Mean	2.44	2.19	0.99	2.38	2.22	1.03
Std Dev	0.04	0.03	0.01	0.04	0.05	0.02

Joint Designation:	179J4			180J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.46	2.27	1.01	2.47	2.34	1.04
	2.43	2.28	1.03	2.54	2.32	1.01
	2.48	2.41	1.07	2.59	2.46	1.04
	2.38	2.32	1.07	2.48	2.40	1.06
	2.47	2.42	1.08	2.61	2.57	1.08
	2.45	2.37	1.06	2.58	2.40	1.02
	2.51	2.33	1.02	2.56	2.41	1.04
	2.48	2.40	1.06	2.59	2.40	1.02
	2.52	2.32	1.01	2.64	2.41	1.00
	2.48	2.32	1.03	2.58	2.50	1.06
	2.50	2.32	1.02	2.62	2.63	1.10
	2.46	2.32	1.04	2.60	2.40	1.01
Mean	2.47	2.34	1.04	2.57	2.44	1.04
Std Dev	0.04	0.05	0.03	0.05	0.09	0.03

Joint Designation:	221J4			221J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.39	2.10	0.97	2.27	2.09	1.02
	2.33	2.09	0.99	2.32	2.15	1.02
	2.26	2.00	0.98	2.22	2.09	1.04
	2.31	2.06	0.98	2.27	2.09	1.02
	2.39	2.09	0.96	2.36	2.15	1.00
	2.35	2.16	1.01	2.41	2.16	0.99
	2.32	2.09	0.99	2.34	2.16	1.02
	2.36	2.10	0.98	2.38	2.16	1.00
	2.36	2.12	0.99	2.36	2.14	1.00
	2.34	2.09	0.98	2.35	2.11	0.98
	2.34	2.07	0.97	2.35	2.08	0.97
	2.35	2.07	0.97	2.36	2.11	0.98
Mean	2.34	2.09	0.98	2.33	2.13	1.00
Std Dev	0.04	0.04	0.01	0.05	0.03	0.02

Joint Designation: 266J4 267J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.67	2.48	1.02	2.65	2.65	1.10
	2.67	2.47	1.02	2.68	2.63	1.08
	2.67	2.47	1.02	2.62	2.58	1.08
	2.63	2.48	1.04	2.62	2.53	1.06
	2.69	2.51	1.02	2.80	2.62	1.03
	2.73	2.51	1.01	2.77	2.58	1.03
	2.69	2.48	1.01	2.79	2.61	1.03
	2.70	2.48	1.01	2.76	2.58	1.03
	2.60	2.38	1.01	2.65	2.47	1.03
	2.55	2.37	1.02	2.65	2.47	1.03
	2.56	2.41	1.03	2.65	2.49	1.03
	2.60	2.40	1.02	2.70	2.52	1.03
Mean	2.65	2.45	1.02	2.69	2.56	1.05
Std Dev	0.06	0.05	0.01	0.07	0.06	0.03

Joint Designation:	311J4			312J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.01	1.87	1.02	2.01	1.83	1.01
	1.97	1.81	1.01	1.99	1.82	1.01
	1.96	1.76	0.99	1.98	1.86	1.03
	2.00	1.86	1.02	2.01	1.89	1.03
	1.98	1.83	1.01	1.98	1.85	1.03
	1.99	1.78	0.98	1.99	1.86	1.03
	1.96	1.77	0.99	2.03	1.86	1.01
	1.99	1.77	0.98	1.99	1.90	1.05
	1.98	1.80	1.00	2.03	1.83	0.99
	1.98	1.77	0.99	2.00	1.78	0.98
	1.95	1.79	1.01	1.98	1.83	1.02
	1.97	1.79	1.00	1.98	1.84	1.02
Mean	1.98	1.80	1.00	2.00	1.85	1.02
Std Dev	0.02	0.04	0.02	0.02	0.03	0.02

Joint Designation:	353J4			353J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.04	2.83	1.02	3.15	2.96	1.03
	3.00	2.84	1.04	3.15	2.91	1.02
	2.99	2.83	1.04	3.19	2.95	1.02
	3.04	2.83	1.02	3.11	2.88	1.02
	2.96	2.80	1.04	3.11	2.86	1.01
	2.98	2.78	1.03	3.08	2.90	1.03
	3.02	2.82	1.03	3.15	2.93	1.02
	3.02	2.86	1.04	3.10	2.88	1.02
	2.94	2.68	1.00	3.00	2.76	1.01
	2.94	2.73	1.02	2.97	2.76	1.02
	2.94	2.78	1.04	3.00	2.74	1.00
	2.95	2.76	1.03	3.00	2.76	1.01
Mean	2.98	2.80	1.03	3.08	2.86	1.02
Std Dev	0.04	0.05	0.01	0.07	0.08	0.01

Joint Designation:	0J4			2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.17	1.89	0.96	2.13	2.05	1.06
	2.15	1.91	0.98	2.16	1.90	0.96
	2.14	1.85	0.95	2.20	1.99	0.99
	2.20	1.96	0.98	2.16	1.89	0.96
	2.24	1.98	0.97	2.24	1.99	0.98
	2.25	1.98	0.97	2.25	2.00	0.98
	2.21	1.95	0.97	2.24	1.99	0.98
	2.22	1.96	0.97	2.24	1.99	0.98
	2.27	2.00	0.97	2.24	1.99	0.98
	2.27	1.97	0.96	2.27	1.96	0.95
	2.27	1.97	0.96	2.25	2.00	0.98
	2.26	1.96	0.95	2.23	2.03	1.00
Mean	2.22	1.95	0.96	2.22	1.98	0.98
Std Dev	0.05	0.04	0.01	0.04	0.05	0.03

Joint Designation:	45J4			46J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.32	2.07	0.98	2.31	2.13	1.02
	2.46	2.16	0.97	2.34	2.12	1.00
	2.31	2.07	0.98	2.28	2.06	0.99
	2.31	2.11	1.00	2.29	2.07	0.99
	2.36	2.10	0.98	2.40	2.15	0.99
	2.39	2.10	0.96	2.38	2.20	1.02
	2.38	2.12	0.98	2.39	2.17	1.00
	2.40	2.10	0.96	2.44	2.20	0.99
	2.39	2.16	1.00	2.36	2.14	1.00
	2.37	2.17	1.00	2.39	2.11	0.98
	2.38	2.10	0.97	2.38	2.14	0.99
	2.39	2.16	1.00	2.39	2.12	0.98
Mean	2.37	2.12	0.98	2.36	2.13	0.99
Std Dev	0.04	0.04	0.02	0.05	0.04	0.01

	Joint Designation:	89J4		90J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.36	2.16	1.01	2.38	2.21	1.02
	2.35	2.19	1.03	2.43	2.25	1.02
	2.35	2.15	1.01	2.39	2.22	1.02
	2.34	2.18	1.03	2.37	2.21	1.02
	2.42	2.23	1.01	2.40	2.26	1.04
	2.43	2.24	1.01	2.40	2.26	1.04
	2.43	2.24	1.01	2.41	2.27	1.04
	2.43	2.24	1.01	2.41	2.27	1.04
	2.41	2.23	1.02	2.38	2.23	1.03
	2.41	2.23	1.02	2.43	2.25	1.02
	2.44	2.23	1.01	2.42	2.24	1.02
	2.41	2.23	1.02	2.45	2.25	1.01
Mean	2.40	2.21	1.01	2.41	2.25	1.03
Std Dev	0.04	0.03	0.01	0.02	0.02	0.01

Joint Designation:	134J4			135J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.57	2.42	1.03	2.70	2.48	1.01
	2.66	2.45	1.01	2.68	2.51	1.03
	2.62	2.41	1.01	2.66	2.43	1.00
	2.61	2.41	1.01	2.68	2.46	1.01
	2.62	2.46	1.03	2.73	2.52	1.01
	2.63	2.48	1.03	2.72	2.50	1.01
	2.67	2.52	1.04	2.71	2.47	1.00
	2.64	2.45	1.02	2.71	2.47	1.00
	2.56	2.38	1.02	2.64	2.39	0.99
	2.58	2.35	1.00	2.63	2.38	0.99
	2.60	2.35	0.99	2.65	2.38	0.99
	2.60	2.35	0.99	2.65	2.39	0.99
Mean	2.61	2.42	1.02	2.68	2.45	1.00
Std Dev	0.04	0.06	0.02	0.03	0.05	0.01

Joint Designation:	182J4			183J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.13	2.97	1.05	3.15	2.96	1.04
	3.16	3.01	1.05	3.17	2.89	1.00
	3.19	3.03	1.04	3.09	2.86	1.02
	3.09	2.98	1.06	3.12	2.89	1.02
	3.18	2.88	1.00	3.20	2.98	1.02
	3.22	2.85	0.97	3.23	3.04	1.04
	3.19	2.92	1.01	3.21	3.03	1.04
	3.25	2.92	0.99	3.19	3.01	1.04
	3.09	2.88	1.03	3.02	2.78	1.01
	3.03	2.87	1.04	3.02	2.82	1.03
	3.06	2.88	1.03	3.02	2.82	1.03
	3.14	2.88	1.01	3.05	2.85	1.03
Mean	3.14	2.92	1.02	3.12	2.91	1.02
Std Dev	0.07	0.06	0.03	0.08	0.09	0.01

Joint Designation:	227J4			229J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.29	2.14	1.03	2.25	2.12	1.04
	2.27	2.07	1.00	2.34	2.13	1.00
	2.37	2.13	0.99	2.30	2.08	1.00
	2.25	2.09	1.02	2.31	2.13	1.02
	2.33	2.11	1.00	2.38	2.17	1.00
	2.37	2.14	0.99	2.36	2.15	1.00
	2.35	2.13	1.00	2.39	2.15	0.99
	2.34	2.12	1.00	2.39	2.18	1.00
	2.28	2.08	1.00	2.29	2.13	1.03
	2.29	2.08	1.00	2.25	2.10	1.03
	2.32	2.14	1.01	2.26	2.11	1.03
	2.29	2.11	1.01	2.27	2.12	1.03
Mean	2.31	2.11	1.00	2.32	2.13	1.01
Std Dev	0.04	0.03	0.01	0.06	0.03	0.02

Joint Designation:	272J4			273J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.91	1.71	0.99	1.81	1.70	1.03
	1.86	1.66	0.98	1.80	1.64	1.00
	1.91	1.71	0.99	1.86	1.64	0.97
	1.87	1.71	1.01	1.87	1.70	1.00
	1.91	1.73	1.00	1.84	1.68	1.00
	1.90	1.75	1.01	1.89	1.73	1.00
	1.90	1.75	1.01	1.88	1.75	1.02
	1.89	1.75	1.01	1.85	1.72	1.02
	1.84	1.69	1.01	1.84	1.67	1.00
	1.86	1.64	0.97	1.86	1.71	1.01
	1.87	1.67	0.98	1.84	1.67	1.00
	1.87	1.67	0.98	1.83	1.69	1.01
Mean	1.88	1.70	1.00	1.85	1.69	1.01
Std Dev	0.02	0.04	0.02	0.03	0.03	0.02

Joint Designation:	318J4			319J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.95	2.79	1.04	3.25	3.02	1.02
	2.97	2.81	1.04	3.30	3.02	1.01
	2.99	2.83	1.04	3.25	2.97	1.00
	2.96	2.76	1.03	3.26	3.03	1.02
	3.01	2.82	1.03	3.29	2.96	0.99
	2.96	2.80	1.04	3.27	2.94	0.99
	2.95	2.79	1.04	3.33	3.01	0.99
	3.00	2.80	1.03	3.34	2.97	0.98
	2.89	2.73	1.04	3.11	2.82	1.00
	2.91	2.75	1.04	3.13	2.85	1.00
	2.91	2.75	1.04	3.18	2.84	0.98
	2.92	2.78	1.05	3.15	2.86	1.00
Mean	2.95	2.78	1.04	3.24	2.94	1.00
Std Dev	0.04	0.03	0.01	0.08	0.08	0.01

Joint Designation:	365J4			366J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.75	3.54	1.04	3.70	3.64	1.08
	3.68	3.56	1.06	3.80	3.56	1.03
	3.68	3.52	1.05	3.75	3.51	1.03
	3.72	3.55	1.05	3.75	3.51	1.03
	3.69	3.53	1.05	3.84	3.65	1.04
	3.72	3.52	1.04	3.86	3.66	1.04
	3.74	3.54	1.04	3.85	3.76	1.07
	3.73	3.57	1.05	3.82	3.49	1.00
	3.58	3.39	1.04	3.64	3.43	1.03
	3.63	3.37	1.02	3.62	3.38	1.03
	3.63	3.42	1.04	3.64	3.40	1.03
	3.66	3.42	1.03	3.63	3.42	1.03
Mean	3.68	3.49	1.04	3.74	3.53	1.04
Std Dev	0.05	0.07	0.01	0.09	0.12	0.02

Joint Designation:	0J4			3J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.96	2.71	1.01	3.09	2.81	1.00
	2.95	2.75	1.03	3.00	2.67	0.98
	2.92	2.77	1.04	3.01	2.68	0.98
	2.96	2.76	1.03	3.03	2.80	1.02
	3.01	2.82	1.03	3.06	2.77	1.00
	3.05	2.79	1.00	3.04	2.78	1.01
	3.02	2.79	1.02	3.03	2.65	0.96
	3.02	2.79	1.02	3.05	2.73	0.98
	3.02	2.84	1.03	3.05	2.53	0.91
	3.03	2.77	1.01	3.08	2.80	1.00
	3.02	2.79	1.01	3.09	2.83	1.01
	3.04	2.78	1.01	3.07	2.79	1.00
Mean	3.00	2.78	1.02	3.05	2.74	0.99
Std Dev	0.04	0.03	0.01	0.03	0.09	0.03

	Joint Designation:	50J4		52J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.63	4.42	1.05	4.56	4.44	1.07
	4.61	4.41	1.05	4.54	4.52	1.09
	4.63	4.46	1.06	4.55	4.53	1.09
	4.58	4.42	1.06	4.59	4.43	1.06
	4.62	4.35	1.04	4.65	4.47	1.06
	4.68	4.40	1.04	4.64	4.55	1.08
	4.64	4.41	1.05	4.69	4.55	1.07
	4.64	4.41	1.05	4.67	4.56	1.07
	4.43	4.15	1.03	4.38	4.24	1.06
	4.49	4.25	1.04	4.44	4.27	1.06
	4.49	4.22	1.03	4.40	4.26	1.06
	4.53	4.26	1.04	4.42	4.29	1.07
Mean	4.58	4.35	1.04	4.54	4.43	1.07
Std Dev	0.08	0.10	0.01	0.11	0.12	0.01

Joint Designation:	95J4			96J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.61	2.41	1.01	2.56	2.47	1.06
	2.61	2.45	1.03	2.57	2.48	1.06
	2.61	2.41	1.01	2.57	2.44	1.04
	2.63	2.42	1.01	2.56	2.43	1.04
	2.77	2.49	0.99	2.68	2.54	1.04
	2.77	2.47	0.98	2.73	2.59	1.04
	2.83	2.50	0.97	2.70	2.56	1.04
	2.80	2.54	1.00	2.70	2.56	1.04
	2.76	2.50	1.00	2.69	2.53	1.03
	2.77	2.49	0.99	2.68	2.52	1.04
	2.79	2.53	1.00	2.69	2.53	1.03
	2.77	2.52	1.00	2.67	2.53	1.04
Mean	2.73	2.48	1.00	2.65	2.52	1.04
Std Dev	0.08	0.05	0.02	0.06	0.05	0.01

Joint Designation:	138J4			139J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.38	2.14	0.99	2.35	2.27	1.06
	2.39	2.19	1.01	2.38	2.21	1.02
	2.29	2.13	1.03	2.38	2.26	1.04
	2.38	2.13	0.99	2.33	2.21	1.04
	2.32	2.14	1.01	2.41	2.16	0.99
	2.25	2.13	1.04	2.42	2.17	0.99
	2.27	2.15	1.04	2.42	2.17	0.99
	2.31	2.19	1.05	2.44	2.19	0.99
	2.38	2.11	0.97	2.32	2.14	1.01
	2.34	2.09	0.98	2.23	2.12	1.05
	2.33	2.10	0.99	2.28	2.13	1.03
	2.40	2.12	0.97	2.25	2.15	1.05
Mean	2.34	2.13	1.01	2.35	2.18	1.02
Std Dev	0.05	0.03	0.03	0.07	0.05	0.03

Joint Designation:	184J4			185J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.11	2.01	1.05	2.17	2.05	1.04
	2.04	1.99	1.07	2.16	2.00	1.02
	2.11	2.01	1.05	2.22	2.04	1.01
	2.04	1.99	1.07	2.20	2.07	1.04
	2.33	2.01	0.95	2.31	2.11	1.00
	2.27	2.02	0.98	2.33	2.06	0.97
	2.29	2.01	0.96	2.32	2.05	0.97
	2.31	2.02	0.96	2.32	2.08	0.99
	2.28	2.06	0.99	2.25	2.04	0.99
	2.33	2.05	0.97	2.28	2.06	0.99
	2.36	2.08	0.97	2.30	2.06	0.98
	2.31	2.01	0.96	2.31	2.06	0.98
Mean	2.23	2.02	1.00	2.26	2.06	1.00
Std Dev	0.12	0.03	0.05	0.06	0.03	0.02

Joint Designation: 232J4 233J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.38	2.09	0.97	2.31	2.19	1.04
	2.43	2.13	0.97	2.30	2.14	1.02
	2.38	2.09	0.97	2.31	2.15	1.02
	2.38	2.09	0.97	2.32	2.11	1.00
	2.45	2.27	1.02	2.43	2.29	1.04
	2.46	2.16	0.97	2.47	2.27	1.01
	2.40	2.18	1.00	2.45	2.28	1.02
	2.42	2.23	1.01	2.42	2.28	1.04
	2.46	2.18	0.98	2.42	2.24	1.02
	2.49	2.18	0.97	2.42	2.24	1.02
	2.46	2.13	0.95	2.42	2.24	1.02
	2.46	2.19	0.98	2.44	2.29	1.03
Mean	2.43	2.16	0.98	2.39	2.23	1.02
Std Dev	0.04	0.06	0.02	0.06	0.06	0.01

Joint Designation:	277J4			278J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.35	2.10	0.99	2.36	2.15	1.00
	2.30	2.11	1.01	2.19	2.16	1.08
	2.39	2.14	0.99	2.28	2.17	1.04
	2.29	2.10	1.01	2.25	2.13	1.04
	2.38	2.14	0.99	2.43	2.29	1.04
	2.41	2.16	0.99	2.43	2.29	1.04
	2.41	2.16	0.99	2.48	2.31	1.02
	2.44	2.19	0.99	2.47	2.27	1.01
	2.39	2.16	1.00	2.35	2.20	1.03
	2.40	2.13	0.97	2.39	2.24	1.03
	2.41	2.13	0.97	2.42	2.22	1.01
	2.41	2.14	0.97	2.40	2.20	1.01
Mean	2.38	2.14	0.99	2.37	2.22	1.03
Std Dev	0.05	0.03	0.01	0.09	0.06	0.02

Joint Designation:	319J4			319J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.31	2.20	1.05	2.29	2.15	1.04
	2.31	2.16	1.03	2.36	2.20	1.02
	2.32	2.16	1.03	2.32	2.20	1.04
	2.32	2.17	1.03	2.37	2.15	1.00
	2.42	2.13	0.97	2.36	2.18	1.02
	2.40	2.25	1.03	2.39	2.18	1.00
	2.45	2.22	1.00	2.41	2.20	1.00
	2.40	2.21	1.01	2.44	2.24	1.01
	2.35	2.10	0.98	2.37	2.15	1.00
	2.36	2.11	0.98	2.38	2.15	1.00
	2.38	2.13	0.99	2.38	2.19	1.01
	2.36	2.11	0.98	2.39	2.16	1.00
Mean	2.37	2.16	1.01	2.37	2.18	1.01
Std Dev	0.05	0.05	0.03	0.04	0.03	0.02

	Joint Designation:	364J4		365J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.16	1.97	1.00	2.20	1.89	0.94
	2.13	1.99	1.03	2.19	1.93	0.97
	2.11	1.95	1.02	2.20	1.99	0.99
	2.16	1.96	1.00	2.22	2.00	0.99
	2.24	2.02	0.99	2.27	2.00	0.97
	2.25	2.03	0.99	2.28	2.01	0.97
	2.28	2.06	0.99	2.28	2.01	0.97
	2.25	1.99	0.98	2.28	2.01	0.97
	2.25	1.98	0.97	2.24	1.98	0.97
	2.25	2.01	0.98	2.22	1.99	0.99
	2.22	1.99	0.99	2.26	2.05	0.99
	2.24	2.02	0.99	2.24	2.02	0.99
Mean	2.21	2.00	0.99	2.24	1.99	0.98
Std Dev	0.06	0.03	0.02	0.03	0.04	0.02

	Joint Designation:	0J4		2J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.14	1.94	1.00	2.13	2.01	1.04
	2.18	1.98	1.00	2.17	2.00	1.02
	2.12	1.93	1.00	2.22	1.97	0.97
	2.11	1.92	1.00	2.22	2.04	1.01
	2.20	1.98	0.99	2.23	2.03	1.00
	2.27	2.02	0.98	2.21	2.07	1.03
	2.24	2.02	0.99	2.24	2.04	1.00
	2.24	2.02	0.99	2.29	2.05	0.99
	2.21	1.96	0.97	2.24	2.01	0.99
	2.15	1.95	1.00	2.25	2.00	0.98
	2.16	1.96	1.00	2.24	2.00	0.98
	2.16	1.94	0.99	2.26	2.01	0.98
Mean	2.18	1.97	0.99	2.23	2.02	1.00
Std Dev	0.05	0.03	0.01	0.04	0.03	0.02

	Joint Designation:	47J4		48J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.27	2.12	1.03	2.09	2.02	1.06
	2.32	2.08	0.99	2.33	2.07	0.98
	2.27	2.11	1.03	2.25	2.08	1.02
	2.30	2.06	0.99	2.28	2.11	1.02
	2.29	2.10	1.01	2.29	2.09	1.00
	2.30	2.08	0.99	2.31	2.07	0.99
	2.33	2.14	1.01	2.35	2.11	0.99
	2.34	2.12	1.00	2.34	2.10	0.99
	2.28	2.08	1.00	2.18	2.03	1.02
	2.25	2.03	0.99	2.20	2.03	1.01
	2.27	2.05	0.99	2.23	2.08	1.03
	2.24	2.04	1.00	2.20	2.07	1.04
Mean	2.29	2.08	1.00	2.26	2.07	1.01
Std Dev	0.03	0.04	0.01	0.08	0.03	0.02

	Joint Designation:	92J4		93J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.34	2.10	0.99	2.31	2.19	1.04
	2.41	2.16	0.99	2.35	2.13	1.00
	2.35	2.11	0.99	2.40	2.22	1.02
	2.40	2.11	0.97	2.30	2.18	1.04
	2.39	2.13	0.98	2.41	2.21	1.01
	2.40	2.14	0.98	2.39	2.18	1.00
	2.41	2.19	1.00	2.36	2.18	1.02
	2.40	2.14	0.98	2.40	2.23	1.02
	2.33	2.08	0.98	2.33	2.13	1.01
	2.35	2.07	0.97	2.34	2.12	1.00
	2.34	2.09	0.98	2.36	2.17	1.01
	2.37	2.10	0.97	2.30	2.12	1.01
Mean	2.37	2.12	0.98	2.36	2.17	1.01
Std Dev	0.03	0.04	0.01	0.04	0.04	0.02

Joint Designation:	138J4			141J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.28	2.17	1.05	2.35	2.13	1.00
	2.30	2.11	1.01	2.44	2.22	1.00
	2.37	2.21	1.03	2.46	2.24	1.00
	2.31	2.16	1.03	2.37	2.16	1.00
	2.46	2.21	0.99	2.47	2.20	0.98
	2.45	2.19	0.99	2.46	2.22	0.99
	2.47	2.18	0.97	2.49	2.25	1.00
	2.50	2.25	0.99	2.49	2.25	1.00
	2.38	2.16	1.00	2.44	2.20	0.99
	2.42	2.18	0.99	2.43	2.20	1.00
	2.38	2.18	1.01	2.46	2.22	0.99
	2.38	2.20	1.02	2.45	2.20	0.99
Mean	2.39	2.18	1.00	2.44	2.21	0.99
Std Dev	0.07	0.04	0.02	0.04	0.04	0.01

Joint Designation:	182J4			183J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.73	2.39	0.96	2.55	2.43	1.04
	2.73	2.39	0.96	2.59	2.46	1.05
	2.70	2.41	0.98	2.55	2.43	1.04
	2.78	2.49	0.98	2.52	2.39	1.04
	2.83	2.46	0.96	2.71	2.50	1.01
	2.85	2.47	0.96	2.74	2.50	1.00
	2.84	2.51	0.97	2.69	2.48	1.01
	2.84	2.51	0.97	2.74	2.50	1.00
	2.75	2.42	0.97	2.71	2.46	1.00
	2.74	2.42	0.97	2.65	2.43	1.01
	2.78	2.43	0.96	2.65	2.42	1.01
	2.75	2.42	0.97	2.68	2.46	1.01
Mean	2.78	2.44	0.97	2.65	2.45	1.02
Std Dev	0.05	0.04	0.01	0.08	0.03	0.02

Joint Designation:	227J4			228J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.73	2.57	1.04	2.85	2.68	1.03
	2.76	2.56	1.02	2.84	2.71	1.05
	2.75	2.60	1.04	2.88	2.75	1.05
	2.76	2.56	1.02	2.85	2.72	1.05
	2.94	2.68	1.00	2.89	2.71	1.03
	2.90	2.71	1.03	2.91	2.76	1.04
	2.90	2.60	0.99	2.91	2.73	1.03
	2.93	2.66	1.00	2.95	2.77	1.03
	2.88	2.57	0.98	2.88	2.70	1.03
	2.84	2.58	1.00	2.90	2.72	1.03
	2.89	2.63	1.00	2.90	2.69	1.02
	2.86	2.61	1.00	2.89	2.68	1.02
Mean	2.84	2.61	1.01	2.89	2.72	1.04
Std Dev	0.08	0.05	0.02	0.03	0.03	0.01

Joint Designation:	274J4			276J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.68	2.39	0.98	2.58	2.39	1.02
	2.64	2.39	1.00	2.63	2.40	1.00
	2.67	2.48	1.02	2.61	2.44	1.03
	2.61	2.36	1.00	2.56	2.43	1.04
	2.66	2.40	0.99	2.66	2.48	1.03
	2.68	2.45	1.01	2.73	2.51	1.01
	2.68	2.49	1.02	2.71	2.50	1.01
	2.71	2.45	0.99	2.67	2.46	1.01
	2.64	2.41	1.00	2.67	2.45	1.01
	2.66	2.41	1.00	2.69	2.44	1.00
	2.64	2.41	1.00	2.64	2.44	1.02
	2.66	2.40	1.00	2.68	2.46	1.01
Mean	2.66	2.42	1.00	2.65	2.45	1.02
Std Dev	0.03	0.04	0.01	0.05	0.04	0.01

Joint Designation:	319J4			320J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.89	2.63	1.00	2.80	2.67	1.05
	2.86	2.52	0.97	2.84	2.71	1.05
	2.91	2.65	1.00	2.74	2.66	1.06
	2.94	2.65	0.99	2.84	2.71	1.05
	3.03	2.62	0.95	2.84	2.66	1.03
	2.99	2.65	0.98	2.85	2.67	1.03
	2.99	2.66	0.98	2.85	2.67	1.03
	2.97	2.66	0.99	2.85	2.67	1.03
	2.90	2.62	0.99	2.80	2.62	1.03
	2.90	2.60	0.99	2.83	2.67	1.04
	2.87	2.59	0.99	2.82	2.66	1.04
	2.87	2.50	0.96	2.81	2.64	1.04
Mean	2.93	2.61	0.98	2.82	2.67	1.04
Std Dev	0.06	0.05	0.02	0.03	0.02	0.01

Joint Designation:	362J4			363J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.51	2.54	1.11	2.75	2.61	1.05
	2.55	2.50	1.08	2.75	2.66	1.07
	2.53	2.42	1.05	2.79	2.70	1.07
	2.58	2.33	0.99	2.80	2.65	1.04
	2.86	2.56	0.98	2.82	2.64	1.03
	2.81	2.59	1.01	2.82	2.64	1.03
	2.81	2.55	1.00	2.82	2.64	1.03
	2.85	2.55	0.98	2.83	2.65	1.03
	2.75	2.39	0.95	2.77	2.61	1.04
	2.67	2.42	1.00	2.76	2.60	1.04
	2.70	2.48	1.01	2.77	2.64	1.05
	2.68	2.48	1.02	2.78	2.60	1.03
Mean	2.69	2.48	1.02	2.79	2.64	1.04
Std Dev	0.13	0.08	0.04	0.03	0.03	0.01

Joint Designation:	0 J4			1 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.29	3.58	1.02	4.26	3.60	1.03
	4.27	3.56	1.02	4.21	3.60	1.04
	4.21	3.59	1.04	4.19	3.59	1.04
	4.06	3.54	1.06	4.19	3.65	1.06
	4.14	3.58	1.05	4.13	3.63	1.07
	4.09	3.54	1.06	4.17	3.63	1.06
	4.05	3.43	1.03	4.03	3.53	1.07
	4.04	3.44	1.04	4.10	3.51	1.04
	4.06	3.45	1.04	4.19	3.57	1.04
Mean	4.14	3.52	1.04	4.16	3.59	1.05
Std Dev	0.10	0.06	0.02	0.07	0.05	0.01

Joint Designation:	2 J4			3 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.40	2.99	1.07	3.34	2.99	1.09
	3.50	3.05	1.06	3.28	2.98	1.11
	3.48	3.03	1.06	3.32	2.98	1.09
	3.32	2.93	1.08	3.27	2.92	1.09
	3.45	3.00	1.06	3.26	2.90	1.09
	3.39	2.97	1.07	3.28	2.93	1.09
	3.31	2.86	1.06	3.20	2.82	1.08
	3.31	2.89	1.06	3.20	2.82	1.08
	3.31	2.88	1.06	3.17	2.84	1.09
Mean	3.39	2.96	1.07	3.26	2.91	1.09
Std Dev	0.08	0.07	0.01	0.06	0.07	0.01

Joint Designation:	4 J4			5 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.83	2.28	0.99	2.85	2.25	0.96
	2.83	2.28	0.99	2.86	2.34	1.00
	2.85	2.31	0.99	2.90	2.38	1.00
	2.72	2.25	1.01	2.80	2.34	1.02
	2.82	2.32	1.00	2.84	2.35	1.01
	2.77	2.26	1.00	2.90	2.38	1.00
	2.72	2.22	1.00	2.81	2.27	0.99
	2.75	2.25	1.00	2.85	2.25	0.96
	2.72	2.22	1.00	2.78	2.24	0.98
Mean	2.78	2.27	0.99	2.84	2.31	0.99
Std Dev	0.05	0.03	0.01	0.04	0.06	0.02

Joint Designation:	6 J4			7 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.68	2.97	0.99	3.55	3.00	1.03
	3.66	3.03	1.01	3.57	3.01	1.03
	3.62	2.99	1.01	3.58	3.07	1.04
	3.57	2.98	1.02	3.50	3.01	1.05
	3.60	3.01	1.02	3.53	3.04	1.05
	3.58	2.99	1.02	3.53	3.01	1.04
	3.50	2.92	1.02	3.50	2.96	1.03
	3.50	2.94	1.02	3.50	2.94	1.02
	3.52	2.94	1.02	3.50	2.98	1.04
Mean	3.58	2.98	1.01	3.53	3.00	1.04
Std Dev	0.06	0.04	0.01	0.03	0.04	0.01

Joint Designation:	8 J4			9 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.79	3.31	1.06	4.03	3.31	1.00
	3.79	3.34	1.08	3.96	3.27	1.01
	3.71	3.27	1.07	3.92	3.19	0.99
	3.70	3.26	1.07	3.92	3.13	0.98
	3.67	3.29	1.09	3.95	3.20	0.99
	3.67	3.29	1.09	3.96	3.18	0.98
	3.70	3.23	1.07	3.86	3.09	0.98
	3.68	3.21	1.07	3.84	3.08	0.98
	3.73	3.28	1.07	3.88	3.05	0.96
Mean	3.72	3.27	1.07	3.92	3.17	0.98
Std Dev	0.05	0.04	0.01	0.06	0.09	0.02

Joint Designation:	10 J4			11 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.22	2.90	1.10	3.54	2.85	0.98
	3.22	2.94	1.11	3.55	2.90	1.00
	3.21	2.93	1.11	3.55	2.85	0.98
	3.20	2.90	1.10	3.52	2.99	1.04
	3.22	2.92	1.11	3.51	2.93	1.02
	3.21	2.91	1.11	3.54	2.94	1.01
	3.18	2.89	1.11	3.53	2.94	1.02
	3.22	2.91	1.10	3.48	2.90	1.02
	3.20	2.89	1.10	3.48	2.90	1.02
Mean	3.21	2.91	1.11	3.52	2.91	1.01
Std Dev	0.02	0.02	0.01	0.03	0.05	0.02

	Joint Designation:	12 J4		13 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.48	2.91	1.02	3.24	2.89	1.09
	3.37	2.88	1.04	3.21	2.85	1.08
	3.45	2.96	1.05	3.21	2.85	1.08
	3.34	2.90	1.06	3.17	2.85	1.10
	3.37	2.90	1.05	3.20	2.85	1.09
	3.34	2.87	1.05	3.20	2.85	1.09
	3.29	2.89	1.07	3.19	2.84	1.08
	3.28	2.88	1.07	3.18	2.84	1.09
	3.31	2.88	1.06	3.17	2.84	1.09
Mean	3.36	2.90	1.05	3.20	2.85	1.09
Std Dev	0.07	0.03	0.02	0.02	0.01	0.00

Joint Designation:	14 J4			15 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	4.05	3.51	1.06	4.01	3.48	1.06
	4.04	3.50	1.06	4.08	3.64	1.09
	4.00	3.42	1.04	4.09	3.56	1.06
	3.96	3.42	1.06	4.00	3.41	1.04
	3.97	3.41	1.05	4.01	3.39	1.03
	3.95	3.39	1.05	4.02	3.37	1.02
	3.86	3.32	1.05	3.81	3.25	1.04
	3.89	3.28	1.03	3.93	3.30	1.02
	3.94	3.33	1.03	3.93	3.32	1.03
Mean	3.96	3.40	1.05	3.99	3.41	1.04
Std Dev	0.06	0.08	0.01	0.09	0.13	0.02

Joint Designation:	16 J4			17 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.32	2.91	1.07	3.26	2.97	1.11
	3.42	2.93	1.04	3.33	2.98	1.09
	3.47	2.97	1.05	3.38	2.99	1.08
	3.51	3.00	1.04	3.43	2.96	1.05
	3.47	2.97	1.04	3.42	3.00	1.07
	3.51	2.97	1.03	3.39	2.95	1.06
	3.37	2.89	1.05	3.33	2.88	1.06
	3.36	2.89	1.05	3.33	2.93	1.07
	3.39	2.89	1.04	3.40	2.93	1.05
Mean	3.42	2.94	1.05	3.37	2.95	1.07
Std Dev	0.07	0.04	0.01	0.05	0.04	0.02

Joint Designation:	18 J4			19 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.00	2.63	1.07	3.29	2.69	1.00
	3.01	2.64	1.07	3.37	2.65	0.96
	2.96	2.59	1.07	3.32	2.63	0.97
	3.03	2.67	1.07	3.22	2.60	0.99
	3.02	2.66	1.07	3.20	2.64	1.01
	3.01	2.66	1.07	3.20	2.62	1.00
	2.98	2.60	1.06	3.13	2.54	0.99
	2.95	2.57	1.06	3.10	2.49	0.98
	2.97	2.59	1.06	3.13	2.52	0.98
Mean	2.99	2.62	1.07	3.22	2.60	0.98
Std Dev	0.03	0.03	0.01	0.09	0.07	0.02

Joint Designation:	20 J4			21 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.26	2.71	1.02	3.06	2.71	1.08
	3.18	2.68	1.03	3.11	2.68	1.05
	3.09	2.72	1.07	3.11	2.68	1.05
	2.95	2.64	1.09	3.02	2.61	1.05
	2.94	2.64	1.09	3.04	2.69	1.08
	2.91	2.60	1.09	3.07	2.66	1.06
	2.91	2.62	1.10	2.99	2.59	1.06
	2.88	2.62	1.11	3.00	2.60	1.06
	2.89	2.62	1.11	2.94	2.56	1.06
Mean	3.00	2.65	1.08	3.04	2.64	1.06
Std Dev	0.14	0.04	0.03	0.05	0.05	0.01

Joint Designation:	22 J4			23 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.05	2.55	1.02	3.10	2.50	0.98
	3.03	2.54	1.02	3.13	2.49	0.97
	3.04	2.54	1.02	3.13	2.58	1.00
	2.96	2.51	1.03	3.16	2.51	0.97
	3.00	2.52	1.03	3.11	2.50	0.98
	2.97	2.49	1.02	3.08	2.44	0.97
	2.93	2.48	1.03	3.09	2.46	0.97
	2.93	2.52	1.05	3.11	2.50	0.98
	2.96	2.50	1.03	3.08	2.50	0.99
Mean	2.98	2.52	1.03	3.11	2.50	0.98
Std Dev	0.05	0.02	0.01	0.03	0.04	0.01

	Joint Designation:	24 J4		25 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.22	2.58	0.98	3.08	2.52	1.00
	3.04	2.62	1.05	3.18	2.65	1.02
	3.00	2.58	1.05	3.18	2.61	1.00
	3.02	2.66	1.07	3.05	2.61	1.04
	3.00	2.60	1.06	3.06	2.62	1.05
	3.04	2.66	1.06	3.09	2.62	1.04
	3.02	2.61	1.05	3.07	2.60	1.03
	3.01	2.60	1.05	3.08	2.54	1.01
	3.03	2.60	1.05	3.05	2.60	1.04
Mean	3.04	2.61	1.05	3.09	2.60	1.02
Std Dev	0.07	0.03	0.03	0.05	0.04	0.02

Joint Designation:	26 J4			27 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.76	2.43	1.07	2.98	2.45	1.00
	2.76	2.43	1.07	3.03	2.51	1.01
	2.73	2.44	1.09	2.97	2.43	1.00
	2.83	2.47	1.06	3.03	2.52	1.02
	2.85	2.49	1.07	2.98	2.54	1.04
	2.91	2.41	1.01	2.96	2.51	1.04
	2.93	2.45	1.02	2.92	2.49	1.04
	2.95	2.47	1.02	2.94	2.51	1.04
	2.95	2.45	1.01	2.97	2.51	1.03
Mean	2.85	2.45	1.05	2.98	2.50	1.02
Std Dev	0.09	0.02	0.03	0.04	0.03	0.02

Joint Designation:	28 J4			29 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.18	2.60	1.00	2.96	2.53	1.04
	3.20	2.69	1.03	2.98	2.54	1.04
	3.18	2.60	1.00	3.02	2.50	1.01
	3.14	2.60	1.01	3.01	2.51	1.02
	3.14	2.60	1.01	3.02	2.49	1.01
	3.10	2.59	1.02	3.02	2.52	1.02
	3.17	2.60	1.00	2.97	2.43	1.00
	3.18	2.63	1.01	2.99	2.44	1.00
	3.11	2.61	1.02	2.97	2.47	1.02
Mean	3.16	2.61	1.01	2.99	2.49	1.02
Std Dev	0.04	0.03	0.01	0.02	0.04	0.02

Joint Designation:	30 J4			31 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.94	2.28	0.95	2.65	2.18	1.00
	2.92	2.27	0.95	2.68	2.21	1.01
	2.84	2.19	0.94	2.68	2.17	0.99
	2.87	2.23	0.95	2.65	2.21	1.02
	2.87	2.26	0.96	2.69	2.25	1.02
	2.85	2.23	0.96	2.68	2.22	1.01
	2.87	2.23	0.95	2.67	2.23	1.02
	2.82	2.23	0.96	2.65	2.21	1.02
	2.85	2.23	0.96	2.63	2.21	1.02
Mean	2.87	2.24	0.95	2.67	2.21	1.01
Std Dev	0.04	0.03	0.01	0.02	0.02	0.01

Joint Designation:	32 J4			33 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.69	2.05	0.93	2.50	2.01	0.98
	2.67	2.00	0.91	2.50	2.01	0.98
	2.74	2.06	0.92	2.51	2.01	0.98
	2.64	2.07	0.96	2.54	2.07	0.99
	2.66	2.06	0.95	2.54	2.07	0.99
	2.66	2.09	0.96	2.51	2.07	1.01
	2.68	2.07	0.94	2.46	2.01	1.00
	2.64	2.04	0.94	2.47	2.02	1.00
	2.64	2.04	0.94	2.47	2.02	1.00
Mean	2.67	2.05	0.94	2.50	2.03	0.99
Std Dev	0.03	0.02	0.02	0.03	0.03	0.01

Joint Designation:	34 J4			35 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.62	1.99	0.93	2.48	2.13	1.05
	2.62	2.04	0.95	2.53	2.13	1.03
	2.64	2.05	0.95	2.57	2.13	1.01
	2.58	2.02	0.96	2.53	2.15	1.04
	2.61	2.04	0.96	2.51	2.10	1.02
	2.61	2.07	0.97	2.53	2.15	1.04
	2.59	2.07	0.97	2.48	2.10	1.04
	2.57	2.04	0.97	2.48	2.08	1.02
	2.54	2.04	0.98	2.48	2.09	1.02
Mean	2.60	2.04	0.96	2.51	2.12	1.03
Std Dev	0.03	0.02	0.02	0.03	0.03	0.01

Joint Designation:	36 J4			37 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.68	2.09	0.95	2.64	2.08	0.96
	2.65	2.05	0.95	2.64	2.04	0.94
	2.73	2.09	0.94	2.59	1.98	0.93
	2.62	2.08	0.97	2.58	2.06	0.98
	2.62	2.11	0.98	2.62	2.07	0.96
	2.61	2.08	0.97	2.62	2.06	0.96
	2.62	2.10	0.98	2.59	2.00	0.94
	2.65	2.10	0.97	2.61	2.01	0.94
	2.62	2.13	0.99	2.59	2.03	0.96
Mean	2.64	2.09	0.97	2.61	2.04	0.95
Std Dev	0.04	0.02	0.02	0.02	0.04	0.01

Joint Designation:	38 J4			39 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.64	2.13	0.99	2.78	2.14	0.94
	2.64	2.13	0.99	2.73	2.10	0.94
	2.63	2.13	0.99	2.75	2.11	0.94
	2.59	2.14	1.01	2.70	2.15	0.97
	2.62	2.14	0.99	2.75	2.12	0.94
	2.64	2.17	1.00	2.75	2.14	0.95
	2.58	2.11	1.00	2.72	2.09	0.94
	2.60	2.11	0.99	2.68	2.09	0.95
	2.58	2.11	1.00	2.69	2.09	0.95
Mean	2.61	2.13	0.99	2.73	2.11	0.95
Std Dev	0.03	0.02	0.01	0.03	0.02	0.01

Joint Designation:	40 J4			41 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.81	2.09	0.91	2.56	2.04	0.97
	2.75	2.04	0.90	2.52	2.04	0.99
	2.71	2.04	0.92	2.48	1.99	0.98
	2.67	2.07	0.95	2.50	2.04	0.99
	2.72	2.07	0.93	2.50	2.04	0.99
	2.72	2.07	0.93	2.55	2.06	0.99
	2.69	2.03	0.92	2.54	2.05	0.99
	2.72	2.04	0.91	2.56	2.10	1.00
	2.74	2.06	0.92	2.58	2.05	0.97
Mean	2.73	2.06	0.92	2.53	2.05	0.99
Std Dev	0.04	0.02	0.01	0.03	0.03	0.01

Joint Designation:	42 J4			43 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.30	1.93	1.02	2.84	1.96	0.84
	2.30	1.97	1.04	2.77	1.95	0.86
	2.31	1.93	1.02	2.73	1.91	0.85
	2.27	1.97	1.06	2.70	1.89	0.85
	2.32	1.94	1.02	2.72	1.92	0.86
	2.27	1.90	1.02	2.72	1.92	0.86
	2.31	1.95	1.03	2.63	1.91	0.89
	2.34	1.95	1.02	2.67	1.96	0.89
	2.36	1.98	1.02	2.62	1.95	0.91
Mean	2.31	1.95	1.03	2.71	1.93	0.87
Std Dev	0.03	0.02	0.01	0.07	0.03	0.02

Joint Designation:	44 J4			45 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.71	2.16	0.97	2.94	2.16	0.90
	2.71	2.16	0.97	2.95	2.17	0.90
	2.72	2.17	0.97	2.88	2.14	0.91
	2.66	2.19	1.00	2.83	2.06	0.89
	2.72	2.22	0.99	2.86	2.17	0.92
	2.67	2.19	1.00	2.90	2.20	0.93
	2.70	2.18	0.99	2.88	2.14	0.91
	2.68	2.20	1.00	2.89	2.21	0.94
	2.70	2.21	1.00	2.88	2.19	0.93
Mean	2.70	2.19	0.99	2.89	2.16	0.91
Std Dev	0.02	0.02	0.01	0.04	0.05	0.02

Joint Designation:	46 J4			47 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.97	2.34	0.96	2.78	2.34	1.03
	2.98	2.31	0.94	2.78	2.13	0.94
	2.94	2.27	0.94	2.78	2.09	0.92
	2.95	2.36	0.97	2.81	2.10	0.91
	2.98	2.36	0.97	2.83	2.39	1.03
	3.01	2.40	0.97	2.83	2.40	1.03
	2.97	2.36	0.97	2.77	2.28	1.00
	2.98	2.35	0.96	2.78	2.26	0.99
	2.94	2.37	0.98	2.77	2.30	1.01
Mean	2.97	2.35	0.96	2.79	2.25	0.99
Std Dev	0.02	0.04	0.01	0.03	0.12	0.05

Joint Designation:	48 J4			49 J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.26	1.79	0.97	2.32	1.79	0.95
	2.30	1.79	0.95	2.39	1.83	0.93
	2.34	1.88	0.98	2.51	1.85	0.90
	2.33	1.85	0.97	2.39	1.81	0.92
	2.30	1.82	0.97	2.38	1.83	0.94
	2.30	1.82	0.97	2.44	1.86	0.93
	2.28	1.85	0.99	2.40	1.82	0.93
	2.30	1.83	0.97	2.38	1.87	0.96
	2.33	1.87	0.98	2.40	1.84	0.94
Mean	2.30	1.83	0.97	2.40	1.83	0.93
Std Dev	0.03	0.03	0.01	0.05	0.02	0.02

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	Joint Designation:	0J4		1J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.74	2.23	0.90	2.64	2.24	0.93
	2.71	2.19	0.89	2.77	2.28	0.90
	2.67	2.19	0.90	2.73	2.28	0.92
	2.67	2.19	0.90	2.71	2.26	0.92
	2.72	2.25	0.91	2.76	2.30	0.92
	2.73	2.21	0.89	2.77	2.32	0.92
	2.71	2.24	0.91	2.74	2.35	0.94
	2.76	2.24	0.89	2.77	2.31	0.92
	2.76	2.28	0.91	2.66	2.33	0.96
	2.76	2.27	0.91	2.67	2.34	0.96
	2.76	2.27	0.91	2.65	2.34	0.97
	2.74	2.25	0.90	2.69	2.34	0.96
Mean	2.73	2.23	0.90	2.71	2.31	0.94
Std Dev	0.03	0.03	0.01	0.05	0.04	0.02

Joint Designation:	45J4			47J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.68	1.59	1.04	1.77	1.58	0.98
	1.68	1.55	1.01	1.81	1.66	1.01
	1.64	1.50	1.01	1.81	1.65	1.01
	1.65	1.59	1.07	1.77	1.58	0.98
	1.67	1.57	1.03	1.85	1.62	0.97
	1.66	1.59	1.05	1.84	1.58	0.95
	1.71	1.66	1.07	1.86	1.61	0.95
	1.66	1.68	1.12	1.80	1.59	0.97
	1.70	1.68	1.09	1.77	1.52	0.94
	1.66	1.51	1.00	1.75	1.57	0.98
	1.66	1.49	0.99	1.77	1.54	0.96
	1.66	1.58	1.05	1.79	1.59	0.98
Mean	1.67	1.58	1.04	1.80	1.59	0.97
Std Dev	0.02	0.07	0.04	0.03	0.04	0.02

Joint Designation:	89J4			90J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.06	2.74	0.99	3.15	2.77	0.97
	3.03	2.75	1.00	3.11	2.73	0.97
	3.03	2.79	1.01	3.18	2.80	0.97
	3.04	2.80	1.01	3.16	2.82	0.98
	3.19	2.85	0.98	3.18	2.81	0.97
	3.22	2.83	0.97	3.23	2.89	0.98
	3.18	2.80	0.97	3.25	2.85	0.97
	3.22	2.84	0.97	3.22	2.85	0.97
	3.08	2.81	1.00	3.20	2.87	0.99
	3.07	2.78	1.00	3.20	2.90	1.00
	3.07	2.78	1.00	3.23	2.88	0.98
	3.07	2.81	1.00	3.21	2.88	0.99
Mean	3.11	2.80	0.99	3.19	2.84	0.98
Std Dev	0.07	0.03	0.02	0.04	0.05	0.01

	Joint Designation:	135J4		136J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.95	2.45	0.91	3.31	2.45	0.81
	2.96	2.51	0.93	3.29	2.43	0.81
	2.95	2.50	0.93	3.30	2.48	0.83
	2.97	2.52	0.93	3.34	2.56	0.84
	3.16	2.55	0.89	3.41	2.57	0.83
	3.15	2.51	0.88	3.42	2.58	0.83
	3.20	2.55	0.88	3.43	2.57	0.82
	3.20	2.56	0.88	3.44	2.57	0.82
	3.07	2.55	0.91	3.42	2.65	0.85
	3.10	2.53	0.90	3.39	2.65	0.86
	3.08	2.53	0.91	3.41	2.65	0.85
	3.12	2.56	0.90	3.43	2.64	0.85
Mean	3.08	2.53	0.90	3.38	2.57	0.83
Std Dev	0.10	0.03	0.02	0.06	0.08	0.02

	Joint Designation:	182J4			184J5	
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.09	1.95	1.03	2.17	2.01	1.02
	2.05	1.90	1.02	2.09	1.97	1.04
	2.04	1.99	1.07	2.16	1.96	1.00
	2.15	2.00	1.02	2.13	1.93	0.99
	2.16	1.97	1.01	2.13	1.97	1.02
	2.20	1.93	0.96	2.12	1.95	1.02
	2.15	1.89	0.97	2.15	1.99	1.02
	2.18	1.97	0.99	2.08	1.95	1.03
	2.07	1.88	1.00	2.07	1.90	1.01
	2.08	1.88	1.00	2.07	1.90	1.01
	2.10	1.88	0.99	2.07	1.90	1.01
	2.05	1.88	1.01	2.07	1.90	1.01
Mean	2.11	1.93	1.01	2.11	1.94	1.01
Std Dev	0.05	0.05	0.03	0.04	0.04	0.01

	Joint Designation:	227J4			228J5	
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.21	2.06	1.03	2.13	2.05	1.06
	2.24	2.09	1.03	2.16	2.09	1.06
	2.25	2.14	1.05	2.15	2.03	1.04
	2.25	2.10	1.03	2.12	2.03	1.06
	2.21	2.02	1.01	2.23	2.03	1.00
	2.22	2.04	1.01	2.27	2.07	1.00
	2.19	2.01	1.01	2.24	2.08	1.02
	2.19	2.01	1.01	2.28	2.04	0.99
	2.12	1.93	1.00	2.19	1.97	0.99
	2.17	1.95	0.99	2.19	1.97	0.99
	2.16	1.93	0.99	2.18	1.96	0.99
	2.16	1.93	0.99	2.21	2.01	1.00
Mean	2.20	2.02	1.01	2.19	2.03	1.02
Std Dev	0.04	0.07	0.02	0.05	0.04	0.03

	Joint Designation:	270J4		272J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.07	1.92	1.02	2.15	1.99	1.02
	2.06	1.95	1.04	2.20	1.98	0.99
	2.06	1.91	1.02	2.15	1.99	1.02
	2.06	1.91	1.02	2.10	1.98	1.04
	2.24	1.92	0.94	2.11	1.97	1.03
	2.26	1.94	0.94	2.11	1.94	1.01
	2.21	1.89	0.94	2.12	1.99	1.03
	2.22	1.90	0.94	2.15	1.99	1.02
	2.00	1.80	0.99	2.01	1.84	1.01
	2.05	1.87	1.00	2.03	1.88	1.02
	2.00	1.80	0.99	2.02	1.85	1.01
	2.02	1.82	0.99	2.05	1.91	1.02
Mean	2.10	1.89	0.99	2.10	1.94	1.02
Std Dev	0.10	0.05	0.04	0.06	0.06	0.01

Joint Designation:	315J4			317J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	3.54	1.73	0.54	3.47	1.98	0.63
	3.58	1.83	0.56	3.47	2.03	0.64
	3.56	1.76	0.55	3.53	1.99	0.62
	3.56	1.76	0.55	3.47	1.94	0.61
	3.46	1.87	0.59	3.47	2.10	0.66
	3.48	1.90	0.60	3.46	2.03	0.64
	3.48	1.87	0.59	3.48	2.07	0.65
	3.48	1.87	0.59	3.50	2.06	0.65
	3.30	1.90	0.63	3.35	2.10	0.69
	3.35	1.90	0.62	3.33	2.10	0.69
	3.32	1.87	0.62	3.33	2.09	0.69
	3.33	1.86	0.61	3.34	2.11	0.69
Mean	3.45	1.84	0.59	3.43	2.05	0.66
Std Dev	0.10	0.06	0.03	0.07	0.06	0.03

Joint Designation:	362J4			364J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	1.99	1.80	0.99	2.13	1.92	0.99
	1.99	1.84	1.02	2.12	1.92	0.99
	1.99	1.80	0.99	2.03	1.86	1.01
	2.07	1.84	0.98	2.13	1.92	0.99
	2.09	1.90	1.00	2.05	1.89	1.01
	2.10	1.92	1.00	2.01	1.85	1.01
	2.11	1.83	0.95	2.00	1.88	1.03
	2.11	1.86	0.97	2.04	1.87	1.01
	1.98	1.78	0.99	2.00	1.80	0.99
	1.96	1.81	1.02	1.98	1.81	1.01
	2.00	1.80	0.99	1.98	1.79	0.99
	1.95	1.76	0.99	1.98	1.81	1.01
Mean	2.03	1.83	0.99	2.04	1.86	1.00
Std Dev	0.06	0.05	0.02	0.06	0.05	0.01

Joint Designation: 0J4 2J5

	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.09	1.90	1.00	2.09	1.97	1.04
	2.14	1.90	0.98	2.04	1.92	1.04
	2.17	1.93	0.98	2.12	2.01	1.04
	2.18	1.93	0.98	2.13	2.01	1.04
	2.09	1.87	0.99	2.11	1.94	1.01
	2.10	1.88	0.99	2.10	1.93	1.01
	2.07	1.91	1.02	2.13	1.93	1.00
	2.09	1.91	1.00	2.17	1.97	1.00
	2.05	1.85	0.99	2.02	1.88	1.02
	2.03	1.83	0.99	2.04	1.90	1.02
	2.06	1.84	0.98	2.06	1.92	1.02
	2.03	1.83	0.99	2.05	1.89	1.01
Mean	2.09	1.88	0.99	2.09	1.94	1.02
Std Dev	0.05	0.04	0.01	0.04	0.04	0.02

Joint Designation:	49J4			49J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.58	2.43	1.04	2.85	2.45	0.95
	2.56	2.45	1.05	2.86	2.46	0.95
	2.55	2.39	1.03	2.81	2.45	0.96
	2.55	2.35	1.01	2.82	2.37	0.92
	2.64	2.41	1.01	2.77	2.49	0.99
	2.59	2.37	1.01	2.78	2.50	0.99
	2.64	2.39	0.99	2.81	2.53	0.99
	2.64	2.41	1.01	2.79	2.45	0.96
	2.56	2.36	1.01	2.70	2.39	0.97
	2.56	2.33	1.00	2.75	2.43	0.97
	2.58	2.33	0.99	2.75	2.43	0.97
	2.58	2.33	0.99	2.78	2.44	0.96
Mean	2.59	2.38	1.01	2.79	2.45	0.97
Std Dev	0.04	0.04	0.02	0.04	0.04	0.02

Joint Designation:	92J4			94J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.90	2.25	0.85	3.06	2.21	0.80
	2.83	2.19	0.85	3.06	2.22	0.80
	2.83	2.20	0.85	3.03	2.18	0.79
	2.79	2.19	0.87	3.07	2.22	0.80
	2.87	2.24	0.86	3.05	2.30	0.83
	2.84	2.26	0.87	3.08	2.29	0.82
	2.86	2.24	0.86	3.08	2.26	0.81
	2.85	2.27	0.87	3.04	2.22	0.80
	2.88	2.24	0.86	2.94	2.20	0.82
	2.85	2.17	0.83	2.96	2.22	0.83
	2.83	2.21	0.86	2.98	2.24	0.83
	2.84	2.17	0.84	2.97	2.24	0.83
Mean	2.85	2.22	0.86	3.03	2.23	0.81
Std Dev	0.03	0.04	0.01	0.05	0.03	0.01

Joint Designation:	137J4			138J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.43	2.23	1.01	2.50	2.24	0.99
	2.37	2.08	0.97	2.43	2.13	0.97
	2.42	2.09	0.95	2.43	2.18	0.98
	2.39	2.19	1.01	2.44	2.15	0.97
	2.43	2.14	0.97	2.45	2.25	1.01
	2.38	2.12	0.98	2.46	2.23	1.00
	2.39	2.17	1.00	2.44	2.24	1.01
	2.38	2.16	1.00	2.46	2.22	1.00
	2.33	2.13	1.01	2.42	2.17	0.99
	2.33	2.09	0.99	2.45	2.18	0.98
	2.34	2.12	1.00	2.43	2.17	0.98
	2.31	2.06	0.98	2.45	2.16	0.97
Mean	2.38	2.13	0.99	2.45	2.19	0.99
Std Dev	0.04	0.05	0.02	0.02	0.04	0.02

Joint Designation:	181J4			183J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.10	1.86	0.98	2.11	1.89	0.99
	2.06	1.87	1.00	2.21	1.99	0.99
	2.05	1.94	1.04	2.11	1.95	1.02
	2.06	1.96	1.04	2.20	2.03	1.01
	2.10	1.91	1.00	2.10	1.96	1.03
	2.10	1.91	1.00	2.10	2.00	1.05
	2.08	1.89	1.00	2.12	1.88	0.98
	2.03	1.89	1.02	2.08	1.95	1.03
	1.97	1.80	1.00	2.07	1.88	1.00
	1.98	1.81	1.00	2.08	1.86	0.98
	1.98	1.80	1.00	2.07	1.83	0.97
	1.98	1.80	1.00	2.08	1.86	0.98
Mean	2.04	1.87	1.01	2.11	1.92	1.00
Std Dev	0.05	0.06	0.02	0.05	0.07	0.02

Joint Designation:	226J4			227J5		
	Deflection At Load	Deflection At +12"	LTE	Deflection At Load	Deflection At -12"	LTE
	2.02	1.87	1.02	2.06	1.92	1.03
	2.03	1.83	0.99	2.10	1.93	1.01
	2.03	1.83	0.99	2.11	1.89	0.98
	2.02	1.83	0.99	2.14	1.92	0.99
	2.04	1.82	0.98	2.07	1.93	1.03
	2.04	1.82	0.98	2.11	1.94	1.01
	2.09	1.82	0.96	2.05	1.91	1.03
	2.04	1.82	0.98	2.03	1.90	1.03
	2.01	1.78	0.98	2.03	1.88	1.02
	1.97	1.77	0.99	2.07	1.89	1.01
	2.00	1.77	0.98	2.09	1.91	1.01
	2.00	1.77	0.98	2.06	1.89	1.01
Mean	2.02	1.81	0.98	2.08	1.91	1.01
Std Dev	0.03	0.03	0.01	0.03	0.02	0.02

SECTION 4A441, STATE No. 1						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	4.77	2.90	0.67	6.12	2.18	0.40
4	4.36	2.78	0.70	4.10	3.29	0.88
7	3.93	2.18	0.61	4.09	2.22	0.60
10	2.16	1.97	1.00	2.14	2.00	1.02
13	2.30	2.13	1.02	2.32	2.17	1.03
16	4.69	2.30	0.54	4.86	2.29	0.52
19	2.34	2.16	1.02	2.39	2.24	1.03
22	3.00	2.42	.089	3.12	2.37	0.84
25	2.19	1.97	0.99	2.20	2.06	1.03

Table F-2 Load Transfer Efficiency

SECTION 4A410, SHRP No. 2						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.65	1.94	0.81	3.03	2.04	0.74
4	2.58	2.44	1.04	2.80	2.54	1.00
7	2.77	2.54	1.01	2.94	2.58	.096
10	2.41	2.30	1.05	2.40	2.22	1.02
13	2.25	2.16	1.05	2.38	2.21	1.02
16	2.54	2.39	1.04	2.49	2.38	1.05
19	2.65	2.55	1.06	2.95	2.63	0.98
22	2.54	2.44	1.05	2.72	2.52	1.02
25	2.60	2.43	1.03	2.68	2.46	1.01
28	2.20	2.04	1.02	2.26	2.06	1.00
31	3.13	2.93	1.03	3.02	2.92	1.06
34	2.29	2.15	1.04	2.41	2.22	1.01

SECTION 4A430, SHRP No. 3						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.32	2.21	1.05	2.46	2.32	1.04
4	2.35	2.19	1.03	2.45	2.21	0.99
7	2.08	1.96	1.04	2.16	1.97	1.00
10	2.35	2.20	1.03	2.42	2.19	0.99
13	2.31	2.13	1.02	2.40	2.21	1.02
16	2.55	2.33	1.01	2.52	2.34	1.02
19	2.25	2.09	1.02	2.34	2.14	1.01
22	2.41	2.24	1.02	2.47	2.29	1.02
25	1.99	1.80	0.99	2.05	1.90	1.02
28	2.56	2.35	1.01	2.61	2.47	1.04
31	2.22	2.04	1.01	2.29	2.07	1.00
34	2.65	2.43	1.01	2.75	2.48	0.99
37	2.32	2.11	1.00	2.33	2.12	1.00

SECTION 4A442, STATE No. 4						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.17	1.94	0.98	2.13	1.98	1.03
4	3.64	1.81	0.55	3.31	2.03	0.67
7	2.25	2.03	0.99	2.25	2.06	1.00
10	2.40	2.14	0.98	2.33	2.14	1.01
13	2.46	2.27	1.01	2.46	2.33	1.04
16	2.41	2.18	0.99	2.40	2.22	1.02
19	3.45	2.66	0.85	3.23	2.85	0.97
22	4.13	2.03	0.54	3.96	2.21	0.61
25	2.38	2.19	1.01	2.39	2.25	1.03

SECTION 4A443, STATE No. 5						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.91	2.47	1.03	3.10	2.48	0.98
2	2.79	2.36	1.03	2.85	2.32	0.99
3	3.05	2.47	0.99	2.86	2.52	1.08
4	2.85	2.32	0.99	2.86	2.29	0.98
5	2.78	2.18	0.96	2.68	2.11	0.96
6	2.82	2.39	1.03	2.84	2.31	0.99
7	2.89	2.38	1.00	2.86	2.38	1.02
8	2.73	2.31	1.03	2.79	2.19	0.96
9	3.33	2.60	0.95	2.98	2.58	1.05
10	3.28	2.63	0.98	3.07	2.70	1.07
11	3.00	2.57	1.05	3.13	2.56	1.00
12	3.10	2.75	1.08	3.31	2.69	0.99
13	3.19	2.60	0.99	2.98	2.61	1.07
14	3.35	2.86	1.04	3.50	2.91	1.01
15	2.62	2.14	1.00	2.52	2.14	1.04

SECTION 4A443, STATE No. 5 (Continued)						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
16	3.27	2.86	1.06	3.25	2.85	1.07
17	2.98	2.56	1.05	2.97	2.57	1.06
18	3.02	2.61	1.05	3.14	2.57	1.00
19	3.20	2.74	1.04	3.26	2.73	1.02
20	3.17	2.73	1.05	3.19	2.85	1.09
21	3.00	2.63	1.07	3.21	2.44	0.92
22	3.33	2.82	1.03	3.42	2.80	1.10
23	3.50	3.11	1.01	3.53	3.07	1.06
24	3.52	3.11	1.08	3.81	3.18	1.02

SECTION 4A444, STATE No. 6						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.62	2.35	0.99	2.66	2.42	1.00
4	2.87	2.60	1.00	2.93	2.66	1.00
7	2.97	2.72	1.01	2.99	2.76	1.01
10	2.49	2.31	1.02	2.50	2.36	1.04
13	2.93	2.62	0.99	2.87	2.67	1.03
16	2.80	2.61	1.03	2.78	2.49	0.99
19	2.37	2.20	1.02	2.43	2.24	1.01
22	2.35	2.16	1.01	2.43	2.23	1.01
25	2.30	2.12	1.01	2.32	2.19	1.04

SECTION 4A445, STATE No. 7						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.96	2.70	1.00	3.04	2.78	1.01
4	2.87	2.58	0.99	2.84	2.61	1.01
7	2.71	2.49	1.01	2.80	2.56	1.01
10	2.41	2.14	0.98	2.37	2.17	1.01
13	2.77	2.54	1.01	2.78	2.60	1.03
16	2.68	2.52	1.03	2.70	2.51	1.02
19	2.40	2.14	0.98	2.40	2.23	1.02
22	2.35	2.16	1.02	2.41	2.22	1.01
25	2.61	2.41	1.02	2.68	2.45	1.01

SECTION 4A446, STATE No. 8						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.49	2.30	1.02	2.53	2.37	1.03
4	2.34	2.13	1.00	2.37	2.20	1.02
7	2.59	2.31	0.98	2.59	2.35	1.00
10	2.85	2.52	0.97	2.78	2.60	1.03
13	2.45	2.24	1.00	2.53	2.32	1.01
16	2.76	2.51	1.00	2.77	2.60	1.03
19	2.84	2.51	0.97	2.78	2.60	1.03
22	2.62	2.36	0.99	2.53	2.38	1.04
27	2.51	2.33	1.02	2.55	2.40	1.04

SECTION 4A447, STATE No. 9						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.72	2.59	1.05	2.88	2.66	1.02
4	2.24	2.08	1.02	2.27	2.11	1.02
7	2.36	2.16	1.01	2.36	2.19	1.02
10	2.33	2.12	1.00	2.36	2.16	1.01
13	3.34	2.48	0.82	3.28	2.96	0.99
16	3.33	3.13	1.03	3.44	3.26	1.04
19	3.59	1.98	0.61	3.24	2.34	0.79
22	2.06	1.91	1.02	2.14	1.95	1.00
25	2.47	1.93	0.86	2.59	1.95	0.83

SECTION 4A448, STATE No. 10						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.11	1.94	1.01	2.14	1.99	1.02
4	2.44	2.22	1.00	2.42	2.23	1.01
7	2.45	2.14	0.96	2.55	2.19	0.94
10	2.63	2.41	1.01	2.63	2.46	1.03
13	2.48	2.31	1.02	2.54	2.36	1.02
16	2.29	2.01	0.96	2.31	2.06	0.98
19	2.66	2.49	1.03	2.73	2.52	1.02
22	2.50	2.32	1.02	2.65	2.42	1.00
25	2.46	2.29	1.02	2.56	2.31	0.99

SECTION 4A449, STATE No. 11						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.71	2.50	1.02	2.79	2.56	1.01
4	2.70	2.56	1.04	2.87	2.64	1.01
7	2.90	2.71	1.03	3.06	2.74	0.99
10	2.80	2.62	1.03	2.91	2.68	1.01
13	2.83	2.63	1.02	3.02	2.75	1.00
16	2.71	2.51	1.02	2.85	2.51	0.97
19	2.33	2.10	0.99	2.35	2.12	0.99
22	2.29	2.11	1.02	2.41	2.18	1.00
25	2.44	2.21	1.00	2.53	2.31	1.01

SECTION 4A450, STATE No. 12						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.12	1.89	0.98	2.14	1.93	0.99
4	2.22	2.00	0.99	2.20	2.02	1.01
7	2.53	2.29	1.00	2.51	2.29	1.00
10	2.69	2.52	1.03	2.82	2.60	1.01
13	2.08	1.95	1.03	2.11	1.96	1.02
16	2.21	2.12	1.06	2.46	2.26	1.01
19	2.31	2.10	1.00	2.49	2.23	0.99
22	2.45	2.19	0.98	2.51	2.36	1.04
25	2.48	2.28	1.01	2.48	2.32	1.03

SECTION 4A451, STATE No. 13						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.16	1.93	0.98	2.13	1.94	1.00
4	2.42	2.20	1.00	2.40	2.25	1.03
7	2.26	2.10	1.03	2.33	2.14	1.01
10	2.64	2.44	1.02	2.65	2.50	1.04
13	1.94	1.75	0.99	1.91	1.81	1.04
16	1.67	1.49	0.98	1.67	1.55	1.02
19	2.15	1.96	1.00	2.14	2.01	1.03
22	2.10	1.93	1.01	2.09	1.94	1.02
25	1.87	1.75	1.03	1.95	1.74	0.98

SECTION 4A452, STATE No. 14						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	3.06	2.53	0.91	3.55	2.44	0.76
4	2.66	2.51	1.04	2.84	2.56	0.99
7	3.51	1.78	0.56	2.93	2.17	0.82
10	2.49	2.30	1.02	2.54	2.37	1.03
13	1.87	1.64	0.96	1.86	1.68	0.99
16	2.67	1.69	0.69	2.40	1.97	0.91
19	2.82	1.83	0.71	2.75	2.03	0.81
22	3.58	1.40	0.43	3.38	1.67	0.54
25	2.81	1.90	0.74	2.74	1.99	0.80

SECTION 4A453, STATE No. 15						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.00	1.75	0.97	1.96	1.75	0.98
4	1.79	1.61	0.99	1.82	1.65	1.00
7	2.09	1.87	0.98	2.06	1.90	1.02
10	1.96	1.77	0.99	1.97	1.79	1.00
13	2.58	2.17	0.93	2.60	2.16	0.91
16	3.45	1.66	0.53	3.33	1.65	0.55
19	2.24	1.87	0.92	2.26	1.92	0.93
22	1.91	1.71	0.98	1.94	1.77	1.00
25	1.76	1.57	0.99	1.72	1.58	1.01

SECTION 4A454, STATE No. 16						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	1.81	1.67	1.01	1.93	1.71	0.97
4	2.03	1.93	1.05	2.11	1.88	0.98
7	1.81	1.65	1.00	1.86	1.69	1.00
10	1.78	1.58	0.98	1.77	1.61	1.00
13	2.18	2.01	1.02	2.28	2.08	1.00
16	2.09	1.87	0.98	2.05	1.90	1.02
19	2.63	2.36	0.99	2.66	2.43	1.01
22	2.18	1.98	1.00	2.21	2.03	1.01
25	2.41	2.07	0.94	2.32	2.14	1.01

SECTION 4A455, STATE No. 17						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.08	1.90	1.01	2.10	1.93	1.01
4	1.91	1.65	0.95	1.92	1.67	0.96
7	2.12	1.86	0.97	2.07	1.89	1.01
10	1.91	1.71	0.99	1.91	1.77	1.02
13	2.31	2.12	1.01	2.38	2.15	0.99
16	2.38	2.17	1.00	2.43	2.26	1.02
19	2.63	2.47	1.03	2.67	2.50	1.03
22	2.26	2.04	0.99	2.20	2.03	1.01
25	2.30	2.08	1.00	2.23	2.06	1.02

SECTION 4A456, STATE No. 18						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.27	2.04	0.99	2.28	2.06	0.99
4	2.37	2.20	1.02	2.47	2.24	1.00
7	2.05	1.85	0.99	2.00	1.85	1.02
10	2.44	2.19	0.99	2.38	2.22	1.03
13	2.47	2.34	1.04	2.57	2.44	1.04
16	2.34	2.09	0.98	2.33	2.13	1.00
19	2.65	2.45	1.02	2.69	2.56	1.05
22	1.98	1.80	1.00	2.00	1.85	1.02
25	2.98	2.80	1.03	3.08	2.86	1.02

SECTION 4A457, STATE No. 19						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.22	1.95	0.96	2.22	1.98	0.98
4	2.37	2.12	0.98	2.36	2.13	0.99
7	2.40	2.21	1.01	2.41	2.25	1.03
10	2.61	2.42	1.02	2.68	2.45	1.01
13	3.14	2.92	1.02	3.12	2.91	1.02
16	2.31	2.11	1.00	2.32	2.13	1.01
19	1.88	1.70	1.00	1.85	1.69	1.01
22	2.95	2.78	1.04	3.24	2.94	1.00
25	3.68	3.49	1.04	3.74	3.53	1.04

SECTION 4A458, STATE No. 20						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	3.00	2.78	1.02	3.05	2.74	0.99
4	4.58	4.35	1.04	4.54	4.43	1.07
7	2.73	2.48	1.00	2.65	2.52	1.04
10	2.34	2.13	1.01	2.35	2.18	1.02
13	2.23	2.02	1.00	2.26	2.06	1.00
16	2.43	2.16	0.98	2.39	2.23	1.02
19	2.38	2.14	0.99	2.37	2.22	1.03
22	2.37	2.16	1.01	2.37	2.18	1.01
25	2.21	2.00	0.99	2.24	1.99	0.98

SECTION 4A459, STATE No. 21						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.18	1.97	0.99	2.23	2.02	1.00
4	2.29	2.08	1.00	2.26	2.07	1.01
7	2.37	2.12	0.98	2.36	2.17	1.01
10	2.39	2.18	1.00	2.44	2.21	0.99
13	2.78	2.44	0.97	2.65	2.45	1.02
16	2.84	2.61	1.01	2.89	2.72	1.04
19	2.66	2.42	1.00	2.65	2.45	1.02
22	2.93	2.61	0.98	2.82	2.67	1.04
25	2.69	2.48	1.02	2.79	2.64	1.04

SECTION 4A460, STATE No. 22						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	4.14	3.52	1.04	4.16	3.59	1.05
2	3.39	2.96	1.07	3.26	2.91	1.09
3	2.78	2.27	0.99	2.84	2.31	0.99
4	3.58	2.98	1.01	3.53	3.00	1.04
5	3.72	3.27	1.07	3.92	3.17	0.98
6	3.21	2.91	1.11	3.52	2.91	1.01
7	3.36	2.90	1.05	3.20	2.85	1.09
8	3.96	3.40	1.05	3.99	3.41	1.04
9	3.42	2.94	1.05	3.37	2.93	1.07
10	2.99	2.62	1.07	3.22	2.60	0.98
11	3.00	2.65	1.08	3.04	2.64	1.06
12	2.98	2.52	1.03	3.11	2.50	0.98
13	3.04	2.61	1.05	3.09	2.60	1.02
14	2.85	2.45	1.05	2.98	2.50	1.02
15	3.16	2.61	1.01	2.99	2.49	1.02

SECTION 4A460, STATE No. 22 (Continued)						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
16	2.87	2.24	0.95	2.67	2.21	1.01
17	2.67	2.05	0.94	2.50	2.03	0.99
18	2.60	2.04	0.96	2.51	2.12	1.03
19	2.64	2.09	0.97	2.61	2.04	0.95
20	2.61	2.13	0.99	2.73	2.11	0.95
21	2.73	2.06	0.92	2.53	2.05	0.99
22	2.31	1.95	1.03	2.71	1.93	0.87
23	2.70	2.19	0.99	2.89	2.16	0.91
24	2.97	2.35	0.96	2.79	2.25	0.99
25	2.30	1.83	0.97	2.40	1.83	0.93

SECTION 4A461, STATE No. 23						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.73	2.23	0.90	2.71	2.31	0.94
4	1.67	1.58	1.04	1.80	1.59	0.97
7	3.11	2.80	0.99	3.19	2.84	0.98
10	3.08	2.53	0.90	3.38	2.57	0.83
13	2.11	1.93	1.01	2.11	1.94	1.01
16	2.20	2.02	1.01	2.19	2.03	1.02
19	2.10	1.89	0.99	2.10	1.94	1.02
22	3.45	1.84	0.59	3.43	2.05	0.66
25	2.03	1.83	0.99	2.04	1.86	1.00

SECTION 4A462, STATE No. 24						
	J4			J5		
Joint No.	Deflection @ Load	Deflection @ + 12	LTE	Deflection @ Load	Deflection @ - 12	LTE
1	2.09	1.88	0.99	2.09	1.94	1.02
4	2.59	2.38	1.01	2.79	2.45	0.97
7	2.85	2.22	0.86	3.03	2.23	0.81
10	2.38	2.13	0.99	2.45	2.19	0.99
13	2.04	1.87	1.01	2.11	1.92	1.00
16	2.02	1.81	0.98	2.08	1.91	1.01

SECTION 4A441, STATE NO. 1					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.1875	C	0.67	0.40	0.54
4	4.125	NC	0.70	0.88	0.79
7	4.25	C	0.61	0.60	0.60
10	3.8125	NC	1.00	1.02	1.01
13	4.0	NC	1.02	1.03	1.02
16	4.25	C	0.54	0.52	0.53
19	4.25	NC	1.02	1.03	1.02
22	3.75	C	0.89	0.84	0.86
25	3.9375	NC	0.99	1.03	1.01
Mean	4.0625	Mean, cracked	0.68	0.59	0.63
Std. Dev.	0.1952	Std. Dev., cracked	0.15	0.19	0.15
		Mean, uncracked	0.95	1.00	0.97
		Std. Dev., uncracked	0.14	0.07	0.10

Linear Regression: LTE = 3.37 - 0.6277d, d is Sawcut Depth, r^2 = 0.328

Table F-3 Load Transfer Efficiency Cracked and Uncracked Sections

SECTION 4A410, SHRP NO. 2					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.0	NC	0.81	0.74	0.78
4	4.25	NC	1.04	1.00	1.02
7	4.25	C	1.01	0.96	0.98
10	4.125	NC	1.05	1.02	1.04
13	4.875	NC	1.05	1.02	1.04
16	4.5	NC	1.04	1.05	1.04
19	4.25	C	1.06	0.98	1.02
22	4.0	NC	1.05	1.02	1.04
25	4.0625	C	1.03	1.01	1.02
28	3.9375	NC	1.02	1.00	1.01
31	4.125	NC	1.03	1.06	1.04
34	4.0	C	1.04	1.01	1.02
Mean	4.1979	Mean, cracked	1.04	1.00	1.01
Std. Dev.	0.2649	Std. Dev., cracked	0.02	0.04	0.02
		Mean, uncracked	1.01	0.99	1.00
		Std. Dev., uncracked	0.08	0.10	0.09

Linear Regression: LTE = 1.00 + 0.0787d, d is Sawcut Depth, r^2 = 0.082

SECTION 4A430, SHRP NO. 3					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	No Data	C	1.05	1.04	1.04
4	No Data	NC	1.03	0.99	1.01
7	No Data	C	1.04	1.00	1.02
10	No Data	NC	1.03	0.99	1.01
13	No Data	NC	1.02	1.02	1.02
16	No Data	NC	1.01	1.02	1.02
19	No Data	NC	1.02	1.01	1.02
22	No Data	NC	1.02	1.02	1.02
25	No Data	C	0.99	1.02	1.00
28	No Data	NC	1.01	1.04	1.02
31	No Data	NC	1.01	1.00	1.00
34	No Data	NC	1.01	0.99	1.00
37	No Data	NC	1.00	1.00	1.00
		Mean, cracked	1.03	1.02	1.02
		Std. Dev., *cracked*	0.03	0.02	0.02
		Mean, uncracked	1.02	1.01	1.01
		Std. Dev., uncracked	0.01	0.02	0.01

SECTION 4A442, STATE NO. 4					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	3.25	NC	0.98	1.03	1.00
4	4.125	C	0.55	0.67	0.61
7	4.375	NC	0.99	1.00	1.00
10	3.25	NC	0.98	1.01	1.00
13	4.3125	NC	1.01	1.04	1.02
16	4.3125	NC	0.99	1.02	1.00
19	4.3125	C	0.85	0.97	0.91
22	4.3125	C	0.54	0.61	0.58
25	4.3125	NC	1.01	1.03	1.02
Mean	4.0625	Mean, cracked	0.65	0.75	0.70
Std. Dev.	0.4656	Std. Dev., cracked	0.18	0.19	0.18
		Mean, uncracked	0.99	1.02	1.01
		Std. Dev., uncracked	0.01	0.01	0.01

Linear Regression: LTE = 1.24 - 0.0818d, d is Sawcut Depth, r^2 = 0.045

SECTION 4A443, STATE NO. 5					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	No Data	C	1.03	0.98	1.00
2	No Data	NC	1.03	0.99	1.01
3	No Data	C	0.99	1.08	1.04
4	No Data	C	0.99	0.98	0.98
5	No Data	NC	0.96	0.96	0.96
6	No Data	C	1.03	0.99	1.01
7	No Data	NC	1.00	1.02	1.01
8	No Data	NC	1.03	0.96	1.00
9	No Data	C	0.95	1.05	1.00
10	No Data	NC	0.98	1.07	1.02
11	No Data	C	1.05	1.00	1.02
12	No Data	NC	1.08	0.99	1.04
13	No Data	C	0.99	1.07	1.03
14	No Data	C	1.04	1.01	1.02
15	No Data	C	1.00	1.04	1.02

SECTION 4A443, STATE NO. 5 (Continued)					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
16	No Data	C	1.06	1.07	1.06
17	No Data	C	1.05	1.06	1.06
18	No Data	NC	1.05	1.00	1.02
19	No Data	C	1.04	1.02	1.03
20	No Data	NC	1.05	1.09	1.07
21	No Data	C	1.07	0.92	1.00
22	No Data	NC	1.03	1.00	1.02
23	No Data	C	1.09	1.06	1.08
24	No Data	NC	1.08	1.02	1.05
		Mean, cracked	1.03	1.02	1.02
		Std. Dev., cracked	0.04	0.05	0.03
		Mean, uncracked	1.03	1.01	1.02
		Std., Dev., uncracked	0.04	0.04	0.03

SECTION 4A444, STATE NO. 6					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.5	C	0.99	1.00	1.00
4	4.0	C	1.00	1.00	1.00
7	4.0	C	1.01	1.01	1.01
10	4.25	NC	1.02	1.04	1.03
13	4.875	C	0.99	1.03	1.01
16	4.25	C	1.03	0.99	1.01
19	4.0	C	1.02	1.01	1.02
22	4.0	NC	1.01	1.01	1.01
25	4.125	NC	1.01	1.04	1.02
Mean	4.2222	Mean, cracked	1.00	1.01	1.01
Std. Dev.	0.2983	Std. Dev., cracked	0.02	0.02	0.01
		Mean, uncracked	1.02	1.02	1.02
		Std. Dev., uncracked	0.01	0.02	0.01

Linear Regression: LTE = 1.03 - 0.0045d, d is Sawcut Depth, r^2 = 0.019

SECTION 4A445, STATE NO. 7					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.1875	C	1.00	1.01	1.00
4	4.5	C	0.99	1.01	1.00
7	4.25	C	1.01	1.01	1.01
10	4.25	NC	0.98	1.01	1.00
13	4.25	NC	1.01	1.03	1.02
16	4.5	NC	1.03	1.02	1.02
19	4.25	C	0.98	1.02	1.00
22	4.25	NC	1.02	1.01	1.02
25	4.5	NC	1.02	1.01	1.02
Mean	4.3264	Mean, cracked	1.00	1.01	1.00
Std. Dev.	0.1318	Std. Dev., cracked	0.01	0.01	0.01
		Mean, uncracked	1.01	1.02	1.02
		Std. Dev., uncracked	0.02	0.01	0.01

Linear Regression: LTE = 0.91 + 0.0225d, d is Sawcut Depth, r^2 = 0.088

SECTION 4A446, STATE NO. 8					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.0	NC	1.02	1.03	1.02
4	4.0	NC	1.00	1.02	1.01
7	4.0625	C	0.98	1.00	0.99
10	4.0	C	0.97	1.03	1.00
13	3.875	NC	1.00	1.01	1.00
16	4.25	C	1.00	1.03	1.02
19	4.1875	C	0.97	1.03	0.99
22	4.1875	C	0.99	1.04	1.02
Mean	4.0703	Mean, cracked	0.98	1.03	1.00
Std. Dev.	0.1269	Std. Dev., cracked	0.01	0.02	0.02
		Mean, uncracked	1.01	1.02	1.01
		Std. Dev., uncracked	0.01	0.01	0.01

Linear Regression: LTE = 0.91 + 0.0242d, d is Sawcut Depth, r^2 = 0.056

SECTION 4A447, STATE NO. 9					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.0625	C	1.05	1.02	1.04
4	4.0	C	1.02	1.02	1.02
7	3.75	NC	1.01	1.02	1.02
10	4.25	C	1.00	1.01	1.00
13	4.375	C	0.82	0.99	0.90
16	4.375	C	1.03	1.04	1.04
19	4.3125	C	0.61	0.79	0.70
22	4.3125	NC	1.02	1.00	1.01
25	4.0	C	0.86	0.83	0.84
Mean	4.1597	Mean, cracked	0.91	0.96	0.93
Std. Dev.	0.2168	Std. Dev., cracked	0.16	0.10	0.13
		Mean, uncracked	1.02	1.01	1.02
		Std. Dev., uncracked	0.01	0.01	0.01

Linear Regression: LTE = 1.47 - 0.1249d, d is Sawcut Depth, r^2 = 0.054

SECTION 4A448, STATE NO. 10					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.25	NC	1.01	1.02	1.02
4	4.125	C	1.00	1.01	1.00
7	4.1875	C	0.96	0.94	0.95
10	3.9375	NC	1.01	1.03	1.02
13	4.75	NC	1.02	1.02	1.02
16	4.125	C	0.96	0.98	0.97
19	4.125	C	1.03	1.02	1.02
22	4.1875	C	1.02	1.00	1.01
25	4.25	NC	1.02	0.99	1.00
Mean	4.2153	Mean, cracked	0.99	0.99	0.99
Std. Dev.	0.2212	Std. Dev., cracked	0.03	0.03	0.03
		Mean, uncracked	1.02	1.02	1.02
		Std. Dev., uncracked	0.01	0.02	0.01

Linear Regression: LTE = 0.92 + 0.0200d, d is Sawcut Depth, r^2 = 0.031

SECTION 4A449, STATE NO. 11					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.25	C	1.02	1.01	1.02
4	4.125	NC	1.04	1.01	1.02
7	4.125	NC	1.03	0.99	1.01
10	4.0	C	1.03	1.01	1.02
13	3.875	NC	1.02	1.00	1.01
16	4.25	C	1.02	0.97	1.00
19	4.25	NC	0.99	0.99	0.99
22	4.125	C	1.02	1.00	1.01
25	4.0	C	1.00	1.01	1.00
Mean	4.1111	Mean, cracked	1.02	1.00	1.01
Std. Dev.	0.1318	Std. Dev., cracked	0.01	0.02	0.01
		Mean, uncracked	1.02	1.00	1.01
		Std. Dev., uncracked	0.02	0.01	0.01

Linear Regression: LTE = 1.09 - 0.0190d, d is Sawcut Depth, r^2 = 0.056

SECTION 4A450, STATE NO. 12					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	3.9375	C	0.98	0.99	0.98
4	4.0	NC	0.99	1.01	1.00
7	3.9375	C	1.00	1.00	1.00
10	4.375	C	1.03	1.01	1.02
13	4.0625	NC	1.03	1.02	1.02
16	4.25	NC	1.06	1.01	1.04
19	4.25	C	1.00	0.99	1.00
22	4.25	C	0.98	1.04	1.01
25	4.25	NC	1.01	1.03	1.02
Mean	4.1458	Mean, cracked	1.00	1.02	1.00
Std. Dev.	0.1624	Std. Dev., cracked	0.02	0.05	0.01
		Mean, uncracked	1.02	1.02	1.02
		Std. Dev., uncracked	0.03	0.01	0.02

Linear Regression: LTE = 0.73 + 0.0681d, d is Sawcut Depth, r^2 = 0.408

SECTION 4A451, STATE NO. 13					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.25	?	0.98	1.00	0.99
4	4.25	C	1.00	1.03	1.02
7	4.25	C	1.03	1.01	1.02
10	4.25	NC	1.02	1.04	1.03
13	4.125	C	0.99	1.04	1.02
16	4.5	NC	0.98	1.02	1.00
19	4.4375	NC	1.00	1.03	1.02
22	4.375	C	1.01	1.02	1.02
25	4.0	C	1.03	0.98	1.00
Mean	4.2708	Mean, cracked	1.01	1.02	1.02
Std. Dev.	0.1531	Std. Dev., cracked	0.02	0.02	0.01
		Mean, uncracked	1.00	1.03	1.02
		Std. Dev., uncracked	0.02	0.01	0.02

Linear Regression: LTE = 0.98 + 0.0067d, d is Sawcut Depth, r^2 = 0.006

SECTION 4A452, STATE NO. 14					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.3125	C	0.91	0.76	0.84
4	4.4375	NC	1.04	0.99	1.02
7	4.5	C	0.56	0.82	0.69
10	4.625	NC	1.02	1.03	1.02
13	4.4375	NC	0.96	0.99	0.98
16	4.5	C	0.69	0.91	0.80
19	4.5	C	0.71	0.81	0.76
22	4.5	C	0.43	0.54	0.48
25	4.5	C	0.74	0.80	0.77
Mean	4.4792	Mean, cracked	0.67	0.77	0.72
Std. Dev.	0.0827	Std. Dev., cracked	0.16	0.12	0.13
		Mean, uncracked	1.01	1.00	1.01
		Std. Dev., uncracked	0.04	0.02	0.02

Linear Regression: LTE = 0.95 - 0.0305d, d is Sawcut Depth, r^2 = 0.000

SECTION 4A453, STATE NO. 15					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.5625	NC	0.97	0.98	0.98
4	4.0	NC	0.99	1.00	1.00
7	4.5	NC	0.98	1.02	1.00
10	4.625	NC	0.99	1.00	1.00
13	4.5	C	0.93	0.91	0.92
16	4.5	C	0.53	0.55	0.54
19	4.125	C	0.92	0.93	0.92
22	4.5	NC	0.98	1.00	0.99
25	4.25	NC	0.99	1.01	1.00
Mean	4.3958	Mean, cracked	0.79	0.80	0.79
Std. Dev.	0.2165	Std. Dev., cracked	0.23	0.22	0.22
		Mean, uncracked	0.98	1.00	1.00
		Std. Dev., uncracked	0.01	0.01	0.01

Linear Regression: LTE = 1.38 - 0.1039d, d is Sawcut Depth, r^2 = 0.023

SECTION 4A454, STATE NO. 16					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.5625	NC	1.01	0.97	0.99
4	4.5625	C	1.05	0.98	1.02
7	4.5625	?	1.00	1.00	1.00
10	4.3125	?	0.98	1.00	0.99
13	4.5	?	1.02	1.00	1.01
16	4.5	?	0.98	1.02	1.00
19	4.5	C	0.99	1.01	1.00
22	4.4375	?	1.00	1.01	1.00
25	4.5	C	0.94	1.01	0.98
Mean	4.4931	Mean, cracked	0.99	1.00	1.00
Std. Dev.	0.0793	Std. Dev., cracked	0.06	0.02	0.02
		Mean, uncracked	1.01	0.97	0.99
		Std. Dev., uncracked	----	----	----

Linear Regression: LTE = 0.7820 + 0.0483d, d is Sawcut Depth, r^2 = 0.108

SECTION 4A455, STATE NO. 17					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	No Data	NC	1.01	1.01	1.01
4	No Data	NC	0.95	0.96	0.96
7	No Data	NC	0.97	1.01	0.99
10	No Data	NC	0.99	1.02	1.00
13	No Data	NC	1.01	0.99	1.00
16	No Data	C	1.00	1.02	1.01
19	No Data	NC	1.03	1.03	1.03
22	No Data	NC	0.99	1.01	1.00
25	No Data	NC	1.00	1.02	1.01
		Mean, cracked	1.00	1.02	1.01
		Std. Dev., cracked	----	----	----
		Mean, uncracked	0.99	1.01	1.00
		Std. Dev., uncracked	0.03	0.02	0.02

SECTION 4A456, STATE NO. 18					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.375	NC	0.99	0.99	0.99
4	4.0	NC	1.02	1.00	1.01
7	3.625	NC	0.99	1.02	1.00
10	3.625	C	0.99	1.03	1.01
13	3.875	C	1.04	1.04	1.04
16	4.3125	NC	0.98	1.00	0.99
19	3.5625	NC	1.02	1.05	1.04
22	4.1875	NC	1.00	1.02	1.01
25	----	NC	1.03	1.02	1.02
Mean	3.9453	Mean, cracked	1.02	1.04	1.03
Std. Dev.	0.3246	Std. Dev., cracked	0.02	0.01	0.02
		Mean, uncracked	1.00	1.01	1.01
		Std. Dev., uncracked	0.02	0.02	0.02

Linear Regression: LTE = 1.15 - 0.0357d, d is Sawcut Depth, r^2 = 0.350

SECTION 4A457, STATE NO. 19					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.1875	C	0.96	0.98	0.97
4	4.5	C	0.98	0.99	0.98
7	3.75	NC	1.01	1.03	1.02
10	4.25	NC	1.02	1.01	1.02
13	4.25	NC	1.02	1.02	1.02
16	4.375	NC	1.00	1.01	1.00
19	4.0	NC	1.00	1.01	1.00
22	4.5	NC	1.04	1.00	1.02
25	3.9375	NC	1.04	1.04	1.04
Mean	4.1944	Mean, cracked	0.97	0.98	0.98
Std. Dev.	0.2566	Std. Dev., cracked	0.01	0.01	0.01
		Mean, uncracked	1.02	1.02	1.02
		Std. Dev., uncracked	0.02	0.01	0.01

Linear Regression: LTE = 1.14 - 0.0318d, d is Sawcut Depth, r^2 = 0.134

SECTION 4A458, STATE NO. 20					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.25	NC	1.02	0.99	1.00
4	3.875	C	1.04	1.07	1.06
7	4.4375	NC	1.00	1.04	1.02
10	4.0625	C	1.01	1.02	1.02
13	4.4375	NC	1.00	1.00	1.00
16	4.0	NC	0.98	1.02	1.00
19	4.125	NC	0.99	1.03	1.01
22	4.25	C	1.01	1.01	1.01
25	4.25	?	0.99	0.98	0.98
Mean	4.1875	Mean, cracked	1.02	1.03	1.03
Std. Dev.	0.1901	Std. Dev., cracked	0.02	0.03	0.03
		Mean, uncracked	1.00	1.02	1.01
		Std. Dev., uncracked	0.01	0.02	0.01

Linear Regression: LTE = 1.26 - 0.0605d, d is Sawcut Depth, r^2 = 0.272

SECTION 4A459, STATE NO. 21					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.5	NC	0.99	1.00	1.00
4	4.375	NC	1.00	1.01	1.00
7	4.125	C	0.98	1.01	1.00
10	4.25	C	1.00	0.99	1.00
13	4.5	C	0.97	1.02	1.00
16	4.5	NC	1.01	1.04	1.02
19	4.375	NC	1.00	1.02	1.01
22	4.4375	NC	0.98	1.04	1.01
25	4.3125	?	1.02	1.04	1.03
Mean	4.3750	Mean, cracked	0.98	1.01	1.00
Std. Dev.	0.1288	Std. Dev., cracked	0.02	0.02	0.00
		Mean, uncracked	1.00	1.02	1.01
		Std. Dev., uncracked	0.01	0.02	0.01

Linear Regression: LTE = 0.97 + 0.0094d, d is Sawcut Depth, r^2 = 0.012

SECTION 4A460, STATE NO. 22					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.25	?	1.04	1.05	1.04
2	3.625	?	1.07	1.09	1.08
3	3.4375	?	0.99	0.99	0.99
4	3.5	?	1.01	1.04	1.02
5	4.0	?	1.07	0.98	1.02
6	3.75	?	1.11	1.01	1.06
7	4.0	?	1.05	1.09	1.02
8	4.1875	NC	1.05	1.04	1.04
9	3.5	NC	1.05	1.07	1.06
10	4.25	NC	1.07	0.98	1.02
11	4.125	NC	1.08	1.06	1.07
12	3.25	NC	1.03	0.98	1.00
13	3.75	C	1.05	1.02	1.04
14	4.0	NC	1.05	1.02	1.04
15	3.75	NC	1.01	1.02	1.02

SECTION 4A460, STATE NO. 22 (Continued)					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
16	4.0	C	0.95	1.01	0.98
17	4.25	NC	0.94	0.99	0.96
18	3.75	C	0.96	1.03	1.00
19	3.75	NC	0.97	0.95	0.96
20	3.875	NC	0.99	0.95	0.97
21	3.125	C	0.92	0.99	0.96
22	3.25	NC	1.03	0.87	0.95
23	3.75	C	0.99	0.91	0.95
24	3.25	NC	0.96	0.99	0.98
25	4.0	C	0.97	0.93	0.95
Mean	3.7750	Mean, cracked	0.97	0.98	0.98
Std. Dev.	0.3399	Std. Dev., cracked	0.04	0.05	0.04
		Mean, uncracked	1.02	0.99	1.01
		Std., Dev., uncracked	0.05	0.05	0.04

Linear Regression: LTE = 0.90 + 0.0293d, d is Sawcut Depth, r^2 = 0.060

SECTION 4A461, STATE NO. 23					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.375	NC	0.90	0.94	0.92
4	4.4375	C	1.04	0.97	1.00
7	4.25	C	0.99	0.98	0.98
10	4.25	NC	0.90	0.83	0.86
13	4.5	NC	1.01	1.01	1.01
16	4.25	NC	1.01	1.02	1.02
19	4.25	C	0.99	1.02	1.00
22	4.375	NC	0.59	0.66	0.62
25	4.5	NC	0.99	1.00	1.00
Mean	4.3542	Mean, cracked	1.01	0.99	0.99
Std. Dev.	0.1083	Std. Dev., cracked	0.03	0.03	0.01
		Mean, uncracked	0.90	0.91	0.90
		Std. Dev., uncracked	0.16	0.14	0.15

Linear Regression: LTE = 0.63 + 0.0689d, d is Sawcut Depth, r^2 = 0.003

SECTION 4A462, STATE NO. 24					
			Load Transfer Efficiency (LTE)		
Joint No.	Sawcut Depth, in.	Cracked or Not	J4	J5	Mean
1	4.375	C	0.99	1.02	1.00
4	3.875	C	1.01	0.97	0.99
7	4.3125	?	0.86	0.81	0.84
10	4.375	?	0.99	0.99	0.99
13	4.375	?	1.01	1.00	1.00
16	3.5	C	0.98	1.01	1.00
Mean	4.1354	Mean, cracked	0.99	1.00	1.00
Std. Dev.	0.3675	Std. Dev., cracked	0.02	0.03	0.01
		Mean, uncracked	----	----	----
		Std. Dev., uncracked	----	----	----

Linear Regression: LTE = 1.14 - 0.0417d, d is Sawcut Depth, r^2 = 0.057