



Hook-Up Wire Lead Cable High Temperature Cable Instrumentation Cable Tray Cable Control Cable Medium Voltage Power Cable Hou
 P Cable Building Wire Glands LifeGuard™ THHN XHHW-2 RHW-2 VFD Cable Aluminum Cable RHH USE-2 Low Smoke Zero Haloge
 wire® Portable Cord Voice, Data & Premise Wire Thermocouple Cable Armored Cable Fiber Optic Cable Electronic Cable Low Voltage Cable
 ogen Copper Cable Hook-Up Wire Lead Cable High Temperature Cable Instrumentation Cable Tray Cable Control Cable Medium Volt
 e DataGuard® Type P Cable Building Wire Glands LifeGuard™ THHN XHHW-2 RHW-2 VFD Cable Aluminum Cable RHH USE-2 L
 e Power Cable Houwire® Portable Cord Voice, Data & Premise Wire Thermocouple Cable Armored Cable Fiber Optic Cable Electronic Cable
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OIL & GAS

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ABOUT HOUSTON WIRE & CABLE COMPANY

Founded in 1975, Houston Wire & Cable Company is one of the largest providers of electrical and mechanical wire and cable in the U.S. market. With strategically located sales and distribution centers throughout the U.S., our mission is to provide customers a single-source solution for your wire and cable needs. With an extensive inventory from industry leading manufacturers, HWC has a product breadth that is unparalleled in the industry.

In addition to being your source for wire and cable products, HWC provides comprehensive value-added services including: standard same day shipping, application engineering support, custom cutting, labeling, paralleling, striping, inventory management programs, 24/7/365 customer service, and extremely.

Standing behind all of our products and services are our tenured sales professionals providing you support that is second to none in the industry. At HWC, we are dedicated to making certain that you have the *right product*, at *the right place*, at *the right time*.

We are proud to present you our latest electrical wire and cable product catalog. Over the years, both the printed and online version of this catalog have become valued and well-used reference tools by industry professionals, such as you, for wire and cable information, technical specifications, and industry standards.

To learn more, please visit us online at www.houwire.com or call us direct at 1-(800)-HOUWIRE. We value your business, and thank you for your trust and patronage.

Houston Wire & Cable Company

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HAWKE Glands

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Reference Chart

IEEE Color Code Chart 1580 Table 22	COLOR CODE
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Gexol® Insulated Oil & Gas Cables are the industry's standard for premium power, control and instrumentation performance. Gexol cables prove their value daily in the punishing operating environments of offshore drilling and petroleum facilities around the world.

Offshore applications challenge cable construction with relentless heat, vibration, salt corrosion, drilling mud and mechanical stress. And reliability is a huge issue – because it's a long, long way to the nearest cable warehouse. You can depend on Gexol® Insulated Oil & Gas cables for safe, reliable performance in the harshest operating conditions.

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AMPACITY RATING	
110°C (Free Air) Ratings	Based on IEEE 835 for isolated cables in free air with full sun, 2 ft/s air movement, and a 45°C ambient.
110°C Ratings	Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 110°C ampacities should be multiplied by 0.8.
100°C Ratings	Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 100°C ampacities should be multiplied by 0.8.
95°C Ratings	Based on 4-3-4/Table 10 of the 2006 ABS MODU rules and a 45°C ambient.
<ul style="list-style-type: none"> • Ampacities for four conductor cables are based on one conductor not acting as a normal current-carrying conductor (e.g., grounded neutral or grounding conductor). • For free air ratings, the IEEE 45 numbers can be divided by 0.85 	

BEND RADIUS			
	Unarmored	Armored	Armored & Sheathed
IEEE 45	6X Diameter	8X Diameter	8X Diameter
IEC 60092	<1" (23mm) 4 x Diameter	6X Diameter	8X Diameter
Transport Canada	>1" (25mm) 6X Diameter	6X Diameter	6X Diameter
• Diameter Conversion → (inches to millimeters): Multiply by 25.4			

INSULATED POWER, CONTROL & INSTRUMENTATION
Stranding Profile

Size AWG/kcmil	Number of Strands	Individual Strand Dia. (inches)	Closest IEEE 45 Size	Equivalent Metric Size (mm2)	Uninsulated Conductor Dia. (inches)
18	19	0.0100	2	0.96	0.049
16	19	0.0117	3	1.32	0.059
14	19	0.0147	4	2.08	0.074
12	19	0.0185	6	3.29	0.093
10	37	0.0167	10	5.23	0.113
8	37	0.0201	16	7.57	0.136
6	61	0.0201	26	12.49	0.175
4	133	0.0177	41	21.11	0.258
2	133	0.0223	66	33.51	0.324
1	209	0.0201	83	42.79	0.361
1/0	266	0.0201	106	54.45	0.407
2/0	342	0.0201	133	70.01	0.461
3/0	418	0.0201	168	85.57	0.510
4/0	532	0.0201	212	108.91	0.575
262	646	0.0201	262	132.25	0.654
313	777	0.0201	313	159.06	0.720
373	925	0.0201	373	189.36	0.785
444	1110	0.0201	444	227.23	0.860
535	1332	0.0201	535	272.68	0.941
646	1591	0.0201	646	325.70	1.029
777	1924	0.0201	777	393.87	1.132
1111	2745	0.0201	1111	561.94	1.354



Severe Cold Durability
 Exceeds CSA Cold Bend/
 Cold Impact (-40C/-35C)



Flame Retardant
 Certified to IEC 60332-3
 and IEEE 1202



Drilling Mud Resistant



Oil Resistant

HAWKE GLAND TYPES	UNARMORED	ARMORED & SHEATHED
Industrial & Safe Area (IP68)	121	153-X
Increased Safety "EExe"	501/421	501/453/U
Explosion Proof	710 Class I, Div. 2 Class I, Zone 2	753 Class I, Div. 1 Class I, Zone 1 & 2
Flameproof "EExd"	501/421 Zone 1 & 2	501/453/U (2 liter or < enclosures) ICG 653/U (2 liter or> enclosures) Zone 1 & 2



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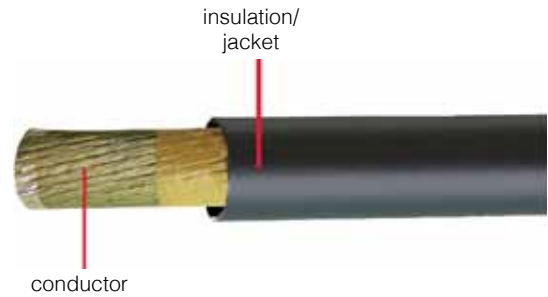
Type P Catalog. All data subject to change without notice.



SPECIFICATION
HW260

SINGLE CONDUCTOR
POWER CABLE

600V Unarmored 110°C
Gexol® Insulation
Made in the USA



SINGLE
CONDUCTOR

Catalog Number	Size AWG	Unarmored Diameter (inches)	Weight (lbs/Mft.)	Inductive Reactance (Ohms/k ft.)	Voltage Drop at 110°C (Volts/Amp/k ft.)	DC Resistance at 25° C (Volts/Amp/k ft.)	AC Resistance at 110°C (Ohms/k ft.)	Ampacity			
								Free Air 110°C	110°C	100°C	95°C
HW260 01801	18	0.143	16	0.046	13.560	7.210	9.763	30	17	16	20
HW260 01601	16	0.153	18	0.044	8.516	4.520	6.121	35	25	23	23
HW260 01401	14	0.168	25	0.041	5.383	2.850	3.859	41	40	37	32
HW260 01201	12	0.187	32	0.038	3.394	1.790	2.424	64	48	45	38
HW260 01001	10	0.207	51	0.036	2.155	1.130	1.530	85	62	58	51
HW260 00801	8	0.255	71	0.036	1.338	0.694	0.940	112	77	72	68
HW260 00601	6	0.295	108	0.034	0.852	0.436	0.590	148	103	96	91
HW260 00401	4	0.377	173	0.030	0.583	0.286	0.399	196	137	128	121
HW260 00201	2	0.443	242	0.029	0.368	0.175	0.244	259	181	169	162
HW260 00101	1	0.484	335	0.029	0.301	0.140	0.195	298	208	194	187
HW260 10101	1/0	0.548	420	0.029	0.246	0.111	0.156	344	243	227	217
HW260 20101	2/0	0.615	494	0.028	0.202	0.089	0.125	396	281	262	250
HW260 30101	3/0	0.663	734	0.028	0.167	0.070	0.100	457	321	300	289

* Unarmored 3/0 and smaller has a jacket per UL 1309 & IEEE 1580.

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance..

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION/JACKET:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110. 2000V/IEC 1000V.

RATINGS & APPROVALS:

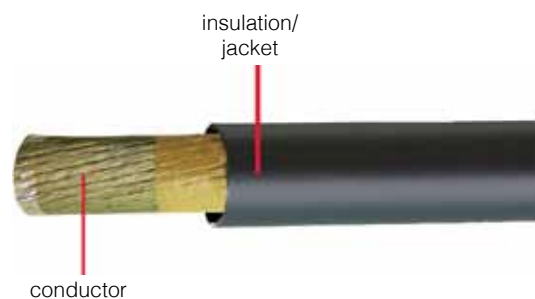
- NVE 95/1696, FAL
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- American Bureau of Shipping
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: 60332-3 Category A and IEEE 1202

**SINGLE CONDUCTOR
POWER CABLE**

**2kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



**SINGLE
CONDUCTOR**

Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	Inductive Reactance (Ohms/1000 ft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity			
									Free Air 110°C	110°C	100°C	95°C
HW261 01801	18	1.0	0.232	29	0.065	13.580	7.210	9.763	30	17	16	20
HW261 01601	16	1.3	0.245	34	0.062	8.535	4.520	6.121	35	25	23	23
HW261 01401	14	2.1	0.259	42	0.057	5.401	2.850	3.859	41	40	37	32
HW261 01201	12	3.3	0.281	53	0.053	3.410	1.790	2.424	64	48	45	38
HW261 01001	10	5.2	0.302	68	0.050	2.170	1.130	1.530	85	62	58	51
HW261 00801	8	7.6	0.354	95	0.048	1.351	0.694	0.940	112	77	72	68
HW261 00601	6	12.5	0.384	130	0.045	0.864	0.436	0.590	148	103	96	91
HW261 00401	4	21	0.484	210	0.039	0.593	0.286	0.399	196	137	128	121
HW261 00201	2	34	0.576	314	0.037	0.376	0.175	0.244	259	181	169	162
HW261 00101	1	43	0.629	3936	0.036	0.307	0.140	0.195	298	208	194	187
HW261 10101	1/0	54	0.687	485	0.035	0.253	0.111	0.156	344	243	227	217
HW261 20101	2/0	70	0.737	596	0.034	0.208	0.089	0.125	396	281	262	250
HW261 30101	3/0	86	0.788	709	0.034	0.174	0.070	0.100	457	321	300	289
HW261 40101	4/0	109	0.810	820	0.033	0.145	0.056	0.080	528	376	351	335
HW261 26201	262	132	0.888	945	0.034	0.127	0.046	0.067	599	436	407	382
HW261 31301	313	159	0.954	1113	0.033	0.112	0.038	0.056	604	487	455	427
HW261 37301	373	189	1.018	1419	0.032	0.099	0.032	0.047	674	553	516	476
HW261 44401	444	227	1.094	1578	0.031	0.089	0.027	0.041	750	630	588	531
HW261 53501	535	273	1.212	1976	0.031	0.081	0.022	0.035	839	709	630	597
HW261 64601	646	326	1.300	2348	0.031	0.073	0.019	0.030	937	783	731	671
HW261 77701	777	394	1.395	2795	0.030	0.067	0.015	0.026	1048	881	822	753
HW261 11111	1111	562	1.668	3982	0.030	0.056	0.011	0.018	1303	1098	1025	937

* Unarmored 3/0 and smaller has a jacket per UL 1309 & IEEE 1580.

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance..

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION/JACKET:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. 2000V/IEC 1000V.

RATINGS & APPROVALS:

- NVE 95/1696, FAL
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- American Bureau of Shipping (ABS)
- United States Coast Guard
- CSA listed as Marine Shipboard Cable
- UL listed as Marine Shipboard Cable

FEATURES:

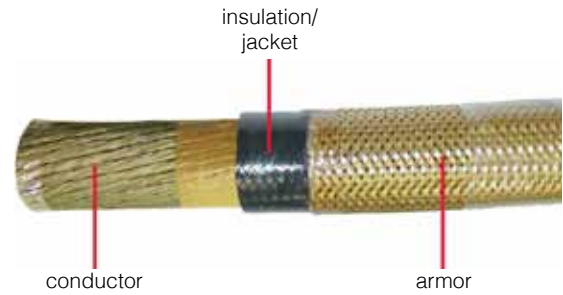
- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35°C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202



SPECIFICATION
HW262

SINGLE CONDUCTOR
POWER CABLE

2kV Armored 110°C
Gexol® Insulation
Made in the USA



SINGLE
CONDUCTOR

Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity			
							Free Air 110°C	110°C	100°C	95°C
HW262 01801	18	1.0	0.193	29	7.210	9.763	30	17	16	20
HW262 01601	16	1.3	0.203	32	4.520	6.121	35	25	23	23
HW262 01401	14	2.1	0.218	45	2.850	3.859	41	40	37	32
HW262 01201	12	3.3	0.237	58	1.790	2.424	64	48	45	38
HW262 01001	10	5.2	0.257	93	1.130	1.530	85	62	58	51
HW262 00801	8	7.6	0.305	116	0.694	0.940	112	77	72	68
HW262 00601	6	12.5	0.345	155	0.436	0.590	148	103	96	91
HW262 00401	4	21	0.427	230	0.286	0.399	196	137	128	121
HW262 00201	2	34	0.493	303	0.175	0.244	259	181	169	162
HW262 00101	1	43	0.534	406	0.140	0.195	298	208	194	187
HW262 10101	1/0	54	0.598	494	0.111	0.156	344	243	227	217
HW262 20101	2/0	70	0.665	579	0.089	0.125	396	281	262	250
HW262 30101	3/0	86	0.713	776	0.070	0.100	457	321	300	289
HW262 40101	4/0	109	0.860	889	0.056	0.080	528	376	351	335
HW262 26201	262	132	0.938	1147	0.046	0.067	599	436	407	382
HW262 31301	313	159	1.004	1332	0.038	0.056	604	487	455	427
HW262 37301	373	189	1.068	1576	0.032	0.047	674	553	516	476
HW262 44401	444	227	1.144	1816	0.027	0.041	750	630	588	531
HW262 53501	535	273	1.262	2246	0.022	0.035	839	709	630	597
HW262 64601	646	326	1.350	2559	0.019	0.030	937	783	731	671
HW262 77701	777	394	1.445	3013	0.015	0.026	1048	881	822	753
HW262 11111	1111	562	1.718	4129	0.011	0.018	1303	1098	1025	937

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

INSULATION/JACKET:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. 2000V/IEC 1000V.

ARMOR:

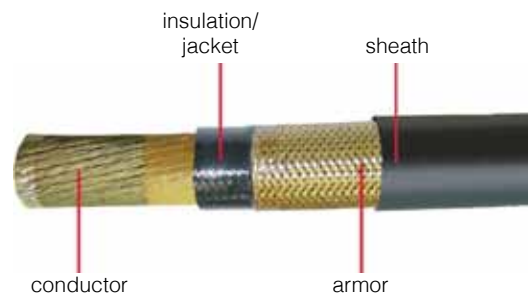
Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- NVE 95/1696, FAL
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- American Bureau of Shipping (ABS)

SINGLE CONDUCTOR POWER CABLE

**2kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



SINGLE
CONDUCTOR

Catalog Number	Size AWG/kcmil	mm ²	Unarmored Diameter (inches)	Weight (lbs/Mft.)	Diameter Under Armor (inches)	Weight (lbs/Mft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity			
									Free Air 110°C	110°C	100°C	95°C
HW263 01801	18	1.0	0.324	38	0.143	16	7.210	9.763	30	17	16	20
HW263 01601	16	1.3	0.334	42	0.153	18	4.520	6.121	35	25	23	23
HW263 01401	14	2.1	0.349	60	0.168	25	2.850	3.859	41	40	37	32
HW263 01201	12	3.3	0.368	80	0.187	32	1.790	2.424	64	48	45	38
HW263 01001	10	5.2	0.388	127	0.207	51	1.130	1.530	85	62	58	51
HW263 00801	8	7.6	0.436	159	0.255	71	0.694	0.940	112	77	72	68
HW263 00601	6	12.5	0.476	204	0.295	108	0.436	0.590	148	103	96	91
HW263 00401	4	21	0.558	296	0.377	173	0.286	0.399	196	137	128	121
HW263 00201	2	34	0.624	365	0.443	242	0.175	0.244	259	181	169	162
HW263 00101	1	43	0.665	468	0.484	335	0.140	0.195	298	208	194	187
HW263 10101	1/0	54	0.729	571	0.548	420	0.111	0.156	344	243	227	217
HW263 20101	2/0	70	0.796	662	0.615	494	0.089	0.125	396	281	262	250
HW263 30101	3/0	86	0.886	900	0.663	627	0.070	0.100	457	321	300	289
HW263 40101	4/0	109	1.038	1036	0.810	820	0.056	0.080	528	376	351	335
HW263 26201	262	132	1.111	1295	0.888	945	0.046	0.067	599	436	407	382
HW263 31301	313	159	1.177	1491	0.954	1113	0.038	0.056	604	487	455	427
HW263 37301	373	189	1.241	1741	1.018	1419	0.032	0.047	674	553	516	476
HW263 44401	444	227	1.317	1992	1.094	1578	0.027	0.041	750	630	588	531
HW263 53501	535	273	1.435	2425	1.212	1976	0.022	0.035	839	709	630	597
HW263 64601	646	326	1.523	2757	1.300	2348	0.019	0.030	937	783	731	671
HW263 77701	777	394	1.618	3205	1.395	2795	0.015	0.026	1048	881	822	753
HW263 11111	1111	562	1.954	4484	1.668	3982	0.011	0.018	1303	1098	1025	937

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION/JACKET:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. 2000V/IEC 1000V.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- NVE 95/1696, FAL
- Transport Canada
- Det Norske Veritas (DNV)

- Lloyd's Register of Shipping (LRS)
- American Bureau of Shipping (ABS)
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40°/-35°C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments
- Braided armor of bronze. Tinned Copper available by request.



SPECIFICATION
HW264

**TWO CONDUCTOR
POWER CABLE**

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	mm2	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Volts/Amp/k ft.)	AC Resistance at 110°C (Ohms/k ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity		
									110°C	100°C	95°C
HW264 01602	16	1.3	0.350	75	6.121	0.039	8.511	8.511	20	19	20
HW264 01402	14	2.1	0.380	84	2.859	0.036	5.379	5.379	33	31	27
HW264 01202	12	3.3	0.420	111	1.424	0.034	3.390	3.390	43	40	32
HW264 01002	10	5.2	0.460	146	0.530	0.032	2.151	2.151	53	49	43
HW264 00802	8	7.6	0.600	221	0.940	0.034	1.336	1.336	69	64	58
HW264 00602	6	12.5	0.680	308	0.590	0.032	0.850	0.850	91	85	77
HW264 00402	4	21	0.887	516	0.399	0.029	0.582	0.582	118	110	103
HW264 10102	1/0	54	1.243	1128	0.156	0.028	0.245	0.245	213	199	184
HW264 40102	4/0	109	1.593	2003	0.080	0.026	0.138	0.138	329	307	285

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. Color Code: Black-White. Sizes 1/0 and Larger: Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

FEATURES:

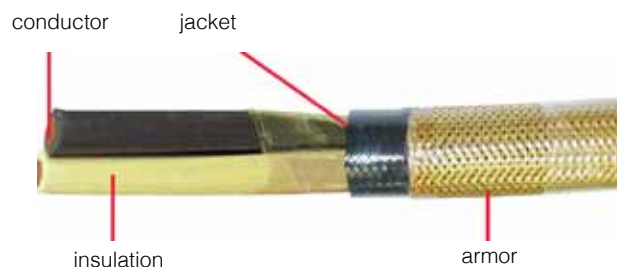
- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

TWO CONDUCTOR POWER CABLE

**0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Volts/Amp/k ft.)	AC Resistance at 110°C (Ohms/k ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity		
									110°C	100°C	95°C
HW265 01602	16	1.3	0.400	141	6.121	0.039	8.511	8.511	20	19	20
HW265 01402	14	2.1	0.430	165	2.859	0.036	5.379	5.379	33	31	27
HW265 01202	12	3.3	0.470	190	1.424	0.034	3.390	3.390	43	40	32
HW265 01002	10	5.2	0.510	230	0.530	0.032	2.151	2.151	53	49	43
HW265 00802	8	7.6	0.650	327	0.940	0.034	1.336	1.336	69	64	58
HW265 00602	6	12.5	0.730	424	0.590	0.032	0.850	0.850	91	85	77
HW265 00402	4	21	0.937	664	0.399	0.029	0.582	0.582	118	110	103
HW265 10102	1/0	54	1.293	1334	0.156	0.028	0.245	0.245	213	199	184
HW265 40102	4/0	109	1.643	2271	0.080	0.026	0.138	0.138	329	307	285

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code: Black-White. Sizes 1/0 and Larger: Black with Phase ID Imprint.*

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

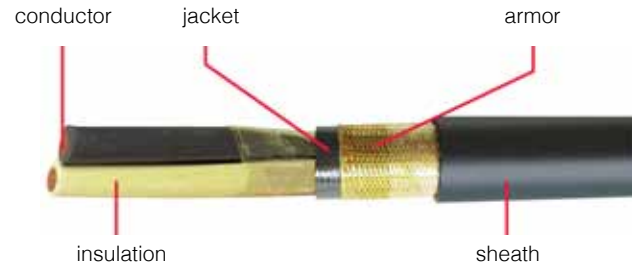
TWO
CONDUCTOR



SPECIFICATION
HW266

TWO CONDUCTOR
POWER CABLE

0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA



Catalog Number	Size AWG	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Volts/Amp/k ft.)	AC Resistance at 110°C (Ohms/k ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity		
									110°C	100°C	95°C
HW266 01602	16	1.3	0.540	202	6.121	0.039	8.511	8.511	20	19	20
HW266 01402	14	2.1	0.561	230	2.859	0.036	5.379	5.379	33	31	27
HW266 01202	12	3.3	0.601	263	1.424	0.034	3.390	3.390	43	40	32
HW266 01002	10	5.2	0.641	307	0.530	0.032	2.151	2.151	53	49	43
HW266 00802	8	7.6	0.781	416	0.940	0.034	1.336	1.336	69	64	58
HW266 00602	6	12.5	0.903	559	0.590	0.032	0.850	0.850	91	85	77
HW266 00402	4	21	1.110	835	0.399	0.029	0.582	0.582	118	110	103
HW266 10102	1/0	54	1.466	1562	0.156	0.028	0.245	0.245	213	199	184
HW266 40102	4/0	109	1.878	2680	0.080	0.026	0.138	0.138	329	307	285

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. Color Code: Black-White. Sizes 1/0 and Larger: Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)

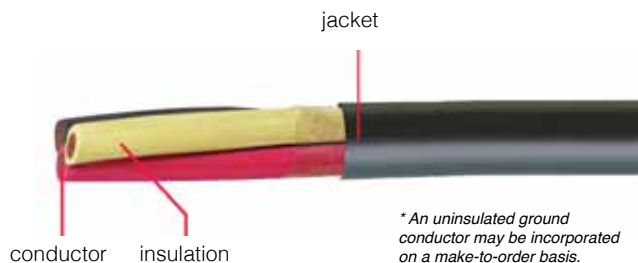
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

THREE CONDUCTOR POWER CABLE

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



* An uninsulated ground conductor may be incorporated on a make-to-order basis.

Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110°C	100°C	95°C
HW267 01603	16	1.3	0.369	65	4.610	6.121	0.039	8.511	-	17	16	16
HW267 01403	14	2.1	0.401	102	2.907	3.859	0.036	5.379	-	27	25	22
HW267 01203	12	3.3	0.445	133	1.826	2.424	0.034	3.390	-	33	31	27
HW267 01003	10	5.2	0.488	189	1.153	1.530	0.032	2.151	-	44	41	36
HW267 00803	8	7.6	0.637	274	0.708	0.940	0.034	1.336	-	56	52	48
HW267 00603	6	12.5	0.723	390	0.445	0.590	0.032	0.850	8	75	70	64
HW267 00403	4	21	0.945	678	0.300	0.399	0.029	0.582	8	99	92	85
HW267 00203	2	34	1.084	987	0.184	0.244	0.028	0.366	6	131	122	113
HW267 00103	1	43	1.206	1234	0.147	0.195	0.028	0.299	6	153	143	131
HW267 10103	1/0	54	1.326	1448	0.117	0.156	0.028	0.245	6	176	164	152
HW267 20103	2/0	70	1.422	1945	0.093	0.125	0.027	0.200	6	201	188	175
HW267 30103	3/0	86	1.528	2379	0.074	0.100	0.027	0.166	4	234	218	202
HW267 40103	4/0	109	1.765	2864	0.058	0.080	0.026	0.138	4	270	252	235
HW267 26203	262	132	1.980	3452	0.048	0.067	0.026	0.119	3	315	294	267
HW267 31303	313	159	2.131	4023	0.040	0.056	0.026	0.105	3	344	321	299
HW267 37303	373	189	2.231	4772	0.034	0.047	0.025	0.092	3	387	361	334
HW267 44403	444	227	2.394	5670	0.028	0.041	0.025	0.083	2	440	411	372
HW267 53503	535	273	2.637	6784	0.024	0.035	0.026	0.075	2	498	443	418
HW267 64603	646	326	2.958	7961	0.020	0.030	0.026	0.068	1	553	516	470
HW267 77703	777	394	3.168	9573	0.016	0.026	0.026	0.063	1	602	562	529

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red. (Black-White-Green on request) *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)



MADE IN AMERICA

1-(800)-HOUWIRE
www.houwire.com

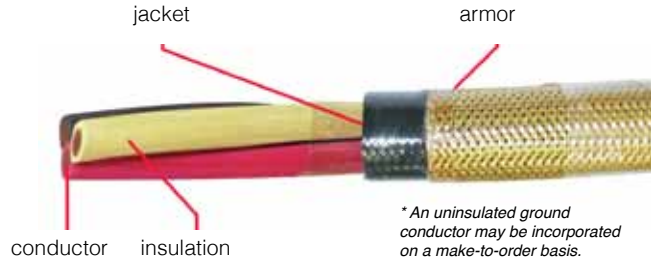
Type P Catalog. All data subject to change without notice.



SPECIFICATION
HW268

**THREE CONDUCTOR
POWER CABLE**

**0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110° C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110° C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110° C	100° C	95° C
HW268 01603	16	1.3	0.419	127	4.610	6.121	0.039	8.511	-	17	16	16
HW268 01403	14	2.1	0.151	176	2.907	3.859	0.036	5.379	-	27	25	22
HW268 01203	12	3.3	0.495	212	1.826	2.424	0.034	3.390	-	33	31	27
HW268 01003	10	5.2	0.538	281	1.153	1.530	0.032	2.151	-	44	41	36
HW268 00803	8	7.6	0.687	385	0.708	0.940	0.034	1.336	-	56	52	48
HW268 00603	6	12.5	0.773	519	0.445	0.590	0.032	0.850	8	75	70	64
HW268 00403	4	21	0.992	843	0.300	0.399	0.029	0.582	8	99	92	85
HW268 00203	2	34	1.134	1160	0.184	0.244	0.028	0.366	6	131	122	113
HW268 00103	1	43	1.256	1458	0.147	0.195	0.028	0.299	6	153	143	131
HW268 10103	1/0	54	1.376	1781	0.117	0.156	0.028	0.245	6	176	164	152
HW268 20103	2/0	70	1.482	2082	0.093	0.125	0.027	0.200	6	201	188	175
HW268 30103	3/0	86	1.578	2720	0.074	0.100	0.027	0.166	4	234	218	202
HW268 40103	4/0	109	1.815	3233	0.058	0.080	0.026	0.138	4	270	252	235
HW268 26203	262	132	2.030	3880	0.048	0.067	0.026	0.119	3	315	294	267
HW268 31303	313	159	2.181	4434	0.040	0.056	0.026	0.105	3	344	321	299
HW268 37303	373	189	2.281	5219	0.034	0.047	0.025	0.092	3	387	361	334
HW268 44403	444	227	2.444	6176	0.028	0.041	0.025	0.083	2	440	411	372
HW268 53503	535	273	2.687	7492	0.024	0.035	0.026	0.075	2	498	443	418
HW268 64603	646	326	3.008	8414	0.020	0.030	0.026	0.068	1	553	516	470
HW268 77703	777	394	3.218	10065	0.016	0.026	0.026	0.063	1	602	562	529

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red (Black-White-Green on request). *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)

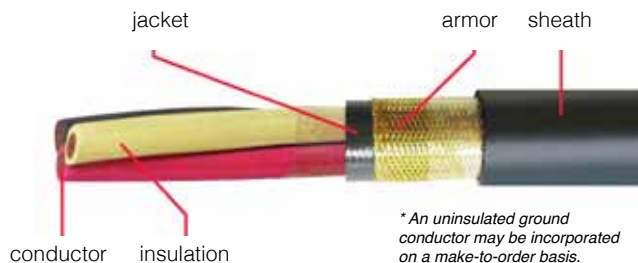
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

THREE CONDUCTOR POWER CABLE

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110°C	100°C	95°C
HW269 01603	16	1.3	0.519	181	4.610	6.121	0.039	8.511	-	17	16	16
HW269 01403	14	2.1	0.583	228	2.907	3.859	0.036	5.379	-	27	25	22
HW269 01203	12	3.3	0.626	276	1.826	2.424	0.034	3.390	-	33	31	27
HW269 01003	10	5.2	0.669	352	1.153	1.530	0.032	2.151	-	44	41	36
HW269 00803	8	7.6	0.818	477	0.708	0.940	0.034	1.336	-	56	52	48
HW269 00603	6	12.5	0.946	650	0.445	0.590	0.032	0.850	8	75	70	64
HW269 00403	4	21	1.165	1004	0.300	0.399	0.029	0.582	8	99	92	85
HW269 00203	2	34	1.307	1374	0.184	0.244	0.028	0.366	6	131	122	113
HW269 00103	1	43	1.431	1675	0.147	0.195	0.028	0.299	6	153	143	131
HW269 10103	1/0	54	1.550	2015	0.117	0.156	0.028	0.245	6	176	164	152
HW269 20103	2/0	70	1.645	2424	0.093	0.125	0.027	0.200	6	201	188	175
HW269 30103	3/0	86	1.814	3106	0.074	0.100	0.027	0.166	4	234	218	202
HW269 40103	4/0	109	2.050	3652	0.058	0.080	0.026	0.138	4	270	252	235
HW269 26203	262	132	2.266	4434	0.048	0.067	0.026	0.119	3	315	294	267
HW269 31303	313	159	2.418	4919	0.040	0.056	0.026	0.105	3	344	321	299
HW269 37303	373	189	2.517	5718	0.034	0.047	0.025	0.092	3	387	361	334
HW269 44403	444	227	2.680	6864	0.028	0.041	0.025	0.083	2	440	411	372
HW269 53503	535	273	2.986	8250	0.024	0.035	0.026	0.075	2	498	443	418
HW269 64603	646	326	3.301	9258	0.020	0.030	0.026	0.068	1	553	516	470
HW269 77703	777	394	3.511	10945	0.016	0.026	0.026	0.063	1	602	562	529

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. Color Code: Black-White-Red (Black-White-Green on request). Sizes 1/0 and Larger: Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

• American Bureau of Shipping (ABS)

- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

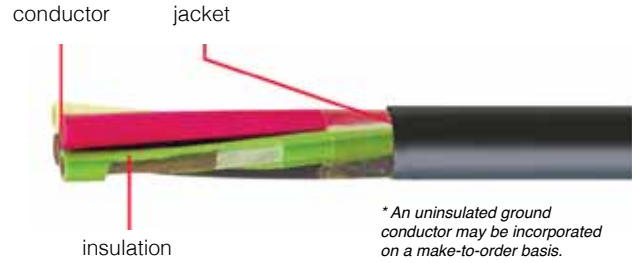
THREE
CONDUCTOR



SPECIFICATION
HW270

**FOUR CONDUCTOR
POWER CABLE**

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110°C	100°C	95°C
HW270 01604	16	1.3	0.402	99	4.610	6.121	0.042	8.514	-	17	16	16
HW270 01404	14	2.1	0.438	126	2.907	3.859	0.039	5.382	-	27	25	22
HW270 01204	12	3.3	0.486	168	1.826	2.424	0.037	3.393	-	33	31	27
HW270 01004	10	5.2	0.553	243	1.153	1.530	0.035	2.154	-	44	41	36
HW270 00804	8	7.6	0.698	355	0.708	0.940	0.037	1.339	-	56	52	48
HW270 00604	6	12.5	0.794	533	0.445	0.590	0.035	0.853	8	75	70	64
HW270 00404	4	21	1.035	879	0.300	0.399	0.032	0.585	8	99	82	85
HW270 00204	2	34	1.194	1120	0.184	0.244	0.030	0.369	6	131	122	113
HW270 00104	1	43	1.332	1602	0.147	0.195	0.031	0.302	6	153	143	131
HW270 10104	1/0	54	1.465	1907	0.117	0.156	0.030	0.248	6	176	164	152
HW270 20104	2/0	70	1.573	2535	0.093	0.125	0.030	0.203	6	201	188	175
HW270 30104	3/0	86	1.754	3206	0.074	0.100	0.029	0.168	4	234	218	202
HW270 40104	4/0	109	1.964	3765	0.058	0.080	0.029	0.140	4	270	252	235
HW270 26204	262	132	2.205	4625	0.048	0.067	0.029	0.122	3	315	294	267
HW270 31304	313	159	2.374	5537	0.040	0.056	0.028	0.107	3	344	321	299
HW270 37304	373	189	2.495	6462	0.034	0.047	0.028	0.095	3	387	361	334
HW270 44404	444	227	2.653	7560	0.028	0.041	0.028	0.086	2	440	411	372
HW270 53504	535	273	2.989	9284	0.024	0.035	0.028	0.077	2	463	443	418
HW270 64604	646	326	3.277	10571	0.020	0.030	0.029	0.071	1	553	516	470

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red-Green. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

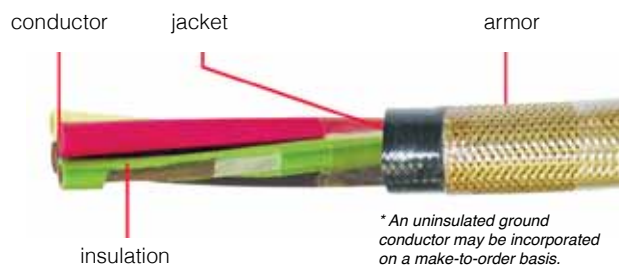
Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL

FOUR CONDUCTOR POWER CABLE

**0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110°C	100°C	95°C
HW271 01604	16	1.3	0.452	154	4.610	6.121	0.042	8.514	-	17	16	16
HW271 01404	14	2.1	0.488	213	2.907	3.859	0.039	5.382	-	27	25	22
HW271 01204	12	3.3	0.536	256	1.826	2.424	0.037	3.393	-	33	31	27
HW271 01004	10	5.2	0.603	313	1.153	1.530	0.035	2.154	-	44	41	36
HW271 00804	8	7.6	0.748	466	0.708	0.940	0.037	1.339	-	56	52	48
HW271 00604	6	12.5	0.844	669	0.445	0.590	0.035	0.853	8	75	70	64
HW271 00404	4	21	1.085	1062	0.300	0.399	0.032	0.585	8	99	82	85
HW271 00204	2	34	1.244	1345	0.184	0.244	0.030	0.369	6	131	122	113
HW271 00104	1	43	1.382	1909	0.147	0.195	0.031	0.302	6	153	143	131
HW271 10104	1/0	54	1.515	2180	0.117	0.156	0.030	0.248	6	176	164	152
HW271 20104	2/0	70	1.623	2665	0.093	0.125	0.030	0.203	6	201	188	175
HW271 30104	3/0	86	1.804	3578	0.074	0.100	0.029	0.168	4	234	218	202
HW271 40104	4/0	109	2.014	4214	0.058	0.080	0.029	0.140	4	270	252	235
HW271 26204	262	132	2.255	4795	0.048	0.067	0.029	0.122	3	315	294	267
HW271 31304	313	159	2.424	5868	0.040	0.056	0.028	0.107	3	344	321	299
HW271 37304	373	189	2.545	6853	0.034	0.047	0.028	0.095	3	387	361	334
HW271 44404	444	227	2.703	7987	0.028	0.041	0.028	0.086	2	440	411	372
HW271 53504	535	273	3.039	9762	0.024	0.035	0.028	0.077	2	463	443	418
HW271 64604	646	326	3.327	10946	0.020	0.030	0.029	0.071	1	553	516	470

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red-Green. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada

- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

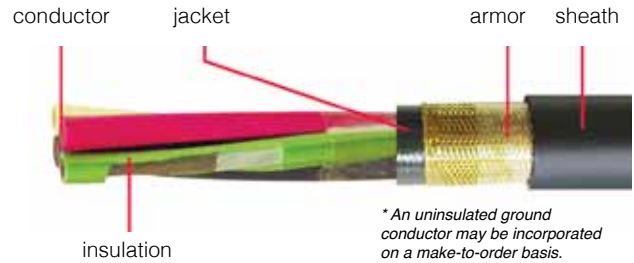
- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.



SPECIFICATION
HW272

**FOUR CONDUCTOR
POWER CABLE**

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
										110°C	100°C	95°C
HW272 01604	16	1.3	0.583	221	4.610	6.121	0.042	8.514	-	17	16	16
HW272 01404	14	2.1	0.619	262	2.907	3.859	0.039	5.382	-	27	25	22
HW272 01204	12	3.3	0.668	323	1.826	2.424	0.037	3.393	-	33	31	27
HW272 01004	10	5.2	0.734	390	1.153	1.530	0.035	2.154	-	44	41	36
HW272 00804	8	7.6	0.921	591	0.708	0.940	0.037	1.339	-	56	52	48
HW272 00604	6	12.5	1.017	808	0.445	0.590	0.035	0.853	8	75	70	64
HW272 00404	4	21	1.258	1236	0.300	0.399	0.032	0.585	8	99	82	85
HW272 00204	2	34	1.417	1677	0.184	0.244	0.030	0.369	6	131	122	113
HW272 00104	1	43	1.555	2144	0.147	0.195	0.031	0.302	6	153	143	131
HW272 10104	1/0	54	1.750	2434	0.117	0.156	0.030	0.248	6	176	164	152
HW272 20104	2/0	70	1.859	3050	0.093	0.125	0.030	0.203	6	201	188	175
HW272 30104	3/0	86	2.040	4003	0.074	0.100	0.029	0.168	4	234	218	202
HW272 40104	4/0	109	2.249	4670	0.058	0.080	0.029	0.140	4	270	252	235
HW272 26204	262	132	2.490	5610	0.048	0.067	0.029	0.122	3	315	294	267
HW272 31304	313	159	2.659	6395	0.040	0.056	0.028	0.107	3	344	321	299
HW272 37304	373	189	2.838	7576	0.034	0.047	0.028	0.095	3	387	361	334
HW272 44404	444	227	3.002	8760	0.028	0.041	0.028	0.086	2	440	411	372
HW272 53504	535	273	3.338	10570	0.024	0.035	0.028	0.077	2	463	443	418
HW272 64604	646	326	3.620	11840	0.020	0.030	0.029	0.071	1	553	516	470

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red-Green. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

• American Bureau of Shipping (ABS)

- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

FIVE CONDUCTOR POWER CABLE

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	mm2	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity		
									110°C	100°C	95°C
HW273 01805	18	1.0	0.418	95	7.350	9.763	0.044	13.558	11	10	11
HW273 01605	16	1.3	0.437	110	4.610	6.121	0.042	8.514	14	13	13
HW273 01405	14	2.1	0.479	149	2.907	3.859	0.039	5.382	21	20	18
HW273 01205	12	3.3	0.550	196	1.826	2.424	0.037	3.393	27	25	22
HW273 01005	10	5.2	0.604	296	1.153	1.530	0.035	2.154	358	33	29
HW273 00805	8	7.6	0.765	453	0.708	0.940	0.037	1.339	45	42	38
HW273 00605	6	12.5	0.914	653	0.445	0.590	0.035	0.853	60	56	51
HW273 00405	4	21	1.137	1073	0.300	0.399	0.032	0.585	79	74	68
HW273 00205	2	34	1.315	1361	0.184	0.244	0.030	0.369	105	98	90
HW273 00105	1	43	1.470	2130	0.147	0.195	0.031	0.302	122	114	105
HW273 10105	1/0	54	1.618	2550	0.117	0.156	0.030	0.248	140	131	122
HW273 20105	2/0	70	1.802	2954	0.093	0.125	0.030	0.203	161	150	140
HW273 40105	4/0	109	2.167	3615	0.058	0.080	0.029	0.140	216	202	188

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red-Green-Orange. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FIVE
CONDUCTOR



MADE IN AMERICA

1-(800)-HOUWIRE
www.houwire.com

Type P Catalog. All data subject to change without notice.



SPECIFICATION
HW274

FIVE CONDUCTOR
POWER CABLE

0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA



Catalog Number	Size AWG/kcmil	mm ²	Nominal Diameter (inches)	Weight (lbs./Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	Ampacity		
									110°C	100°C	95°C
HW274 01805	18	1.0	0.468	165	7.350	9.763	0.044	13.558	11	10	11
HW274 01605	16	1.3	0.487	189	4.610	6.121	0.042	8.514	14	13	13
HW274 01405	14	2.1	0.529	234	2.907	3.859	0.039	5.382	21	20	18
HW274 01205	12	3.3	0.600	266	1.826	2.424	0.037	3.393	27	25	22
HW274 01005	10	5.2	0.654	406	1.153	1.530	0.035	2.154	358	33	29
HW274 00805	8	7.6	0.815	569	0.708	0.940	0.037	1.339	45	42	38
HW274 00605	6	12.5	0.964	813	0.445	0.590	0.035	0.853	60	56	51
HW274 00405	4	21	1.187	1292	0.300	0.399	0.032	0.585	79	74	68
HW274 00205	2	34	1.365	1637	0.184	0.244	0.030	0.369	105	98	90
HW274 00105	1	43	1.520	2192	0.147	0.195	0.031	0.302	122	114	105
HW274 10105	1/0	54	1.668	2746	0.117	0.156	0.030	0.248	140	131	122
HW274 20105	2/0	70	1.852	3301	0.093	0.125	0.030	0.203	161	150	140
HW274 40105	4/0	109	2.217	3955	0.058	0.080	0.029	0.140	216	202	188

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. Color Code: Black-White-Red-Green-Orange. Sizes 1/0 and Larger: Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)

- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

FIVE CONDUCTOR POWER CABLE

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG/kcmil	mm2	Nominal Diameter (inches)	Weight (lbs/Mft.)	DC Resistance at 25° C (Ohms/1000 ft.)	AC Resistance at 110° C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110° C (Volts/Amp/1000 ft.)	Ampacity		
									110° C	100° C	95° C
HW275 01805	18	1.0	0.559	214	7.350	9.763	0.044	13.558	11	10	11
HW275 01605	16	1.3	0.619	264	4.610	6.121	0.042	8.514	14	13	13
HW275 01405	14	2.1	0.660	301	2.907	3.859	0.039	5.382	21	20	18
HW275 01205	12	3.3	0.744	334	1.826	2.424	0.037	3.393	27	25	22
HW275 01005	10	5.2	0.785	494	1.153	1.530	0.035	2.154	358	33	29
HW275 00805	8	7.6	0.988	704	0.708	0.940	0.037	1.339	45	42	38
HW275 00605	6	12.5	1.137	973	0.445	0.590	0.035	0.853	60	56	51
HW275 00405	4	21	1.360	1481	0.300	0.399	0.032	0.585	79	74	68
HW275 00205	2	34	1.538	1856	0.184	0.244	0.030	0.369	105	98	90
HW275 00105	1	43	1.756	2482	0.147	0.195	0.031	0.302	122	114	105
HW275 10105	1/0	54	1.903	3108	0.117	0.156	0.030	0.248	140	131	122
HW275 20105	2/0	70	2.088	3734	0.093	0.125	0.030	0.203	161	150	140
HW275 40105	4/0	109	2.453	4592	0.058	0.080	0.029	0.140	216	202	188

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Black-White-Red-Green-Orange. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

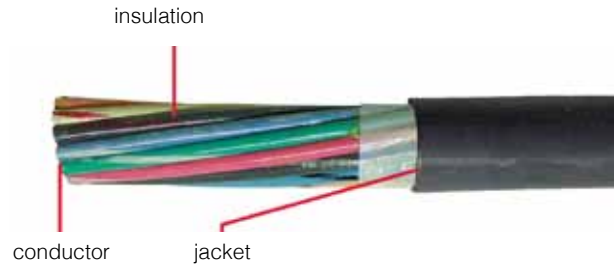
FIVE
CONDUCTOR



SPECIFICATION
HW276

**MULTI-CONDUCTOR
CONTROL CABLE**

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	Number of Conductors	Nominal Diameter (inches)	Weight (lbs/Mft.)	Ampacity		
					110°C	100°C	95°C
HW276 01607	16	7	0.475	155	12	11	11
HW276 01608	16	8	0.531	164	12	11	11
HW276 01610	16	10	0.631	206	9	8	11
HW276 01616	16	16	0.719	299	9	8	11
HW276 01620	16	20	0.794	360	9	8	11
HW276 01624	16	24	0.923	462	8	7	11
HW276 01637	16	37	1.048	658	6	6	8
HW276 01644	16	44	1.173	807	66	6	8
HW276 01660	16	60	1.298	1053	6	6	8
HW276 01691	16	91	1.548	1595	6	6	8
HW276 01406	14	6	0.539	182	21	20	18
HW276 01407	14	7	0.539	205	19	18	15
HW276 01410	14	10	0.691	280	14	13	15
HW276 01412	14	12	0.713	307	14	13	15
HW276 01414	14	14	0.749	415	14	13	15
HW276 01420	14	20	0.916	560	14	13	15
HW276 01424	14	24	1.013	615	12	11	15
HW276 01430	14	30	1.071	780	12	11	13
HW276 01437	14	37	1.153	876	11	10	13
HW276 01444	14	44	1.293	1087	10	9	11
HW276 01491	14	91	1.775	2200	10	9	11
HW276 01206	12	6	0.611	280	27	25	22
HW276 01210	12	10	0.771	369	17	16	19
HW276 01220	12	20	1.022	701	17	16	19
HW276 01224	12	24	1.133	861	15	14	19
HW276 01237	12	37	1.293	1262	13	12	16

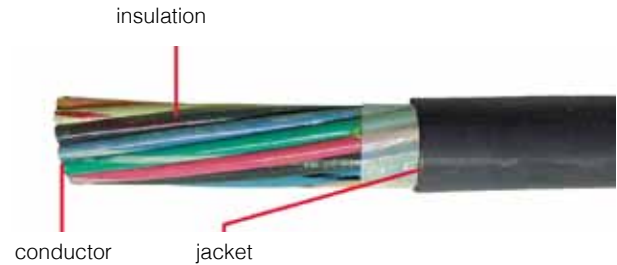
* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

MULTI
CONDUCTOR

MULTI-CONDUCTOR CONTROL CABLE

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Made in the USA**



APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* IEEE1580 Table 22. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)

- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

MULTI
CONDUCTOR

ABBREVIATED IEEE1580 TABLE 22 (Full chart on page 48):

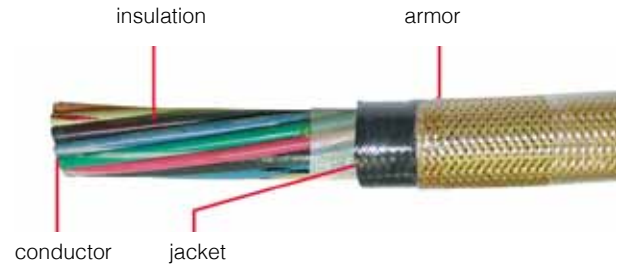
Conductor Number	Base Color	Tracer Color	Tracer Color	Conductor Number	Base Color	Tracer Color	Tracer Color
1	Black	-	-	20	Red	Green	-
2	White	-	-	21	Orange	Green	-
3	Red	-	-	22	Black	White	Red
4	Green	-	-	23	White	Black	Red
5	Orange	-	-	24	Red	Black	White
6	Blue	-	-	25	Green	Black	White
7	White	Black	-	26	Orange	Black	White
8	Red	Black	-	27	Blue	Black	White
9	Green	Black	-	28	Black	Red	Green
10	Orange	Black	-	29	White	Red	Green
11	Blue	Black	-	30	Red	Black	Green
12	Black	White	-	31	Green	Black	Orange
13	Red	White	-	32	Orange	Black	Green
14	Green	White	-	33	Blue	White	Orange
15	Blue	White	-	34	Black	White	Orange
16	Black	Red	-	35	White	Red	Orange
17	White	Red	-	36	Orange	White	Blue
18	Orange	Red	-	37	White	Red	Blue
19	Blue	Red	-	-	-	-	-



SPECIFICATION
HW277

**MULTI-CONDUCTOR
CONTROL CABLE**

**0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	Number of Conductors	Nominal Diameter (inches)	Weight (lbs/Mft.)	Ampacity		
					110°C	100°C	95°C
HW277 01607	16	7	0.525	255	12	11	11
HW277 01608	16	8	0.581	265	12	11	11
HW277 01610	16	10	0.681	366	9	8	11
HW277 01616	16	16	0.769	465	9	8	11
HW277 01620	16	20	0.844	560	9	8	11
HW277 01624	16	24	0.973	718	8	7	11
HW277 01637	16	37	1.098	819	6	6	8
HW277 01644	16	44	1.223	980	66	6	8
HW277 01660	16	60	1.348	1256	6	6	8
HW277 01691	16	91	1.598	1896	6	6	8
HW277 01406	14	6	0.589	264	21	20	18
HW277 01407	14	7	0.589	297	19	18	15
HW277 01410	14	10	0.741	406	14	13	15
HW277 01412	14	12	0.763	428	14	13	15
HW277 01414	14	14	0.799	540	14	13	15
HW277 01420	14	20	0.966	812	14	13	15
HW277 01424	14	24	1.063	892	12	11	15
HW277 01430	14	30	1.121	965	12	11	13
HW277 01437	14	37	1.203	1135	11	10	13
HW277 01444	14	44	1.343	1260	10	9	11
HW277 01491	14	91	1.825	2465	10	9	11
HW277 01206	12	6	0.661	405	27	25	22
HW277 01210	12	10	0.821	500	17	16	19
HW277 01220	12	20	1.072	890	17	16	19
HW277 01224	12	24	1.183	1167	15	14	19
HW277 01237	12	37	1.343	1467	13	12	16

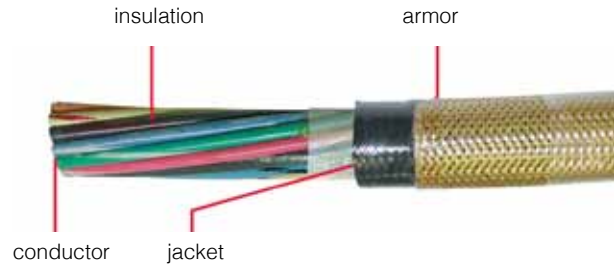
* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

MULTI
CONDUCTOR

MULTI-CONDUCTOR CONTROL CABLE

**0.6/1kV Armored 110°C
Gexol® Insulation
Made in the USA**



APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* IEEE1580 Table 22. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada

- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

MULTI
CONDUCTOR

ABBREVIATED IEEE1580 TABLE 22 (Full chart on page 48):

Conductor Number	Base Color	Tracer Color	Tracer Color	Conductor Number	Base Color	Tracer Color	Tracer Color
1	Black	-	-	20	Red	Green	-
2	White	-	-	21	Orange	Green	-
3	Red	-	-	22	Black	White	Red
4	Green	-	-	23	White	Black	Red
5	Orange	-	-	24	Red	Black	White
6	Blue	-	-	25	Green	Black	White
7	White	Black	-	26	Orange	Black	White
8	Red	Black	-	27	Blue	Black	White
9	Green	Black	-	28	Black	Red	Green
10	Orange	Black	-	29	White	Red	Green
11	Blue	Black	-	30	Red	Black	Green
12	Black	White	-	31	Green	Black	Orange
13	Red	White	-	32	Orange	Black	Green
14	Green	White	-	33	Blue	White	Orange
15	Blue	White	-	34	Black	White	Orange
16	Black	Red	-	35	White	Red	Orange
17	White	Red	-	36	Orange	White	Blue
18	Orange	Red	-	37	White	Red	Blue
19	Blue	Red	-	-	-	-	-



MADE IN AMERICA

1-(800)-HOUWIRE
www.houwire.com

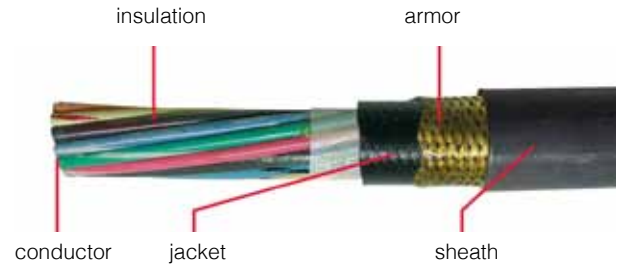
Type P Catalog. All data subject to change without notice.

HWC
HOUSTON WIRE & CABLE COMPANY

SPECIFICATION
HW278

**MULTI-CONDUCTOR
CONTROL CABLE**

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



Catalog Number	Size AWG	Number of Conductors	Nominal Diameter (inches)	Weight (lbs/Mft.)	Ampacity		
					110°C	100°C	95°C
HW278 01607	16	7	0.656	330	12	11	11
HW278 01608	16	8	0.712	340	12	11	11
HW278 01610	16	10	0.812	445	9	8	11
HW278 01616	16	16	0.942	602	9	8	11
HW278 01620	16	20	1.017	724	9	8	11
HW278 01624	16	24	1.146	809	8	7	11
HW278 01637	16	37	1.271	989	6	6	8
HW278 01644	16	44	1.396	1175	66	6	8
HW278 01660	16	60	1.521	1496	6	6	8
HW278 01691	16	91	1.833	2181	6	6	8
HW278 01406	14	6	0.720	335	21	20	18
HW278 01407	14	7	0.720	377	19	18	15
HW278 01410	14	10	0.914	515	14	13	15
HW278 01412	14	12	0.936	558	14	13	15
HW278 01414	14	14	0.972	665	14	13	15
HW278 01420	14	20	1.139	876	14	13	15
HW278 01424	14	24	1.236	1132	12	11	15
HW278 01430	14	30	1.294	1180	12	11	13
HW278 01437	14	37	1.376	1405	11	10	13
HW278 01444	14	44	1.516	1477	10	9	11
HW278 01491	14	91	2.060	2855	10	9	11
HW278 01206	12	6	0.792	500	27	25	22
HW278 01210	12	10	0.994	629	17	16	19
HW278 01220	12	20	1.245	1055	17	16	19
HW278 01224	12	24	1.356	1468	15	14	19
HW278 01237	12	37	1.516	1677	13	12	16

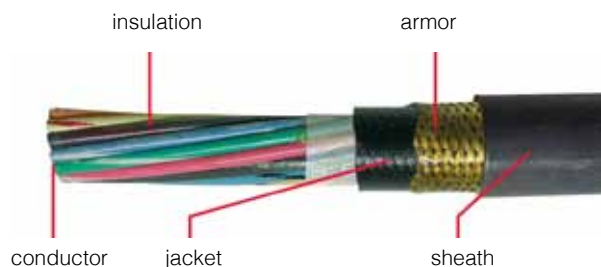
* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

MULTI
CONDUCTOR

MULTI-CONDUCTOR CONTROL CABLE

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Made in the USA**



APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* IEEE1580 Table 22. *Sizes 1/0 and Larger:* Black with Phase ID Imprint.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)

- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

ABBREVIATED IEEE1580 TABLE 22 (Full chart on page 48):

Conductor Number	Base Color	Tracer Color	Tracer Color	Conductor Number	Base Color	Tracer Color	Tracer Color
1	Black	-	-	20	Red	Green	-
2	White	-	-	21	Orange	Green	-
3	Red	-	-	22	Black	White	Red
4	Green	-	-	23	White	Black	Red
5	Orange	-	-	24	Red	Black	White
6	Blue	-	-	25	Green	Black	White
7	White	Black	-	26	Orange	Black	White
8	Red	Black	-	27	Blue	Black	White
9	Green	Black	-	28	Black	Red	Green
10	Orange	Black	-	29	White	Red	Green
11	Blue	Black	-	30	Red	Black	Green
12	Black	White	-	31	Green	Black	Orange
13	Red	White	-	32	Orange	Black	Green
14	Green	White	-	33	Blue	White	Orange
15	Blue	White	-	34	Black	White	Orange
16	Black	Red	-	35	White	Red	Orange
17	White	Red	-	36	Orange	White	Blue
18	Orange	Red	-	37	White	Red	Blue
19	Blue	Red	-	-	-	-	-



MADE IN AMERICA

1-(800)-HOUWIRE
www.houwire.com

Type P Catalog. All data subject to change without notice.

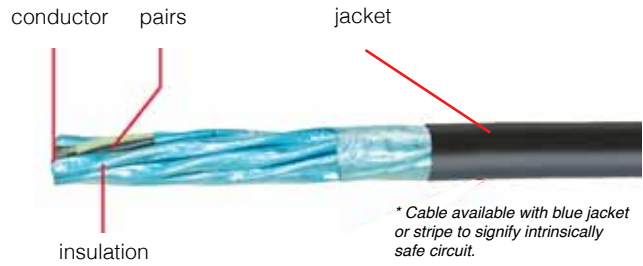


MULTI
CONDUCTOR

SPECIFICATION
HW279

SHIELDED PAIRS
INSTRUMENTATION CABLE

0.6/1kV Unarmored 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW279 01801	18	1	0.336	63
HW279 01802	18	2	0.551	131
HW279 01803	18	3	0.581	163
HW279 01804	18	4	0.630	195
HW279 01805	18	5	0.685	243
HW279 01807	18	7	0.742	340
HW279 01808	18	8	0.800	388
HW279 01810	18	10	0.976	495
HW279 01812	18	12	1.011	581
HW279 01816	18	16	1.121	748
HW279 01818	18	18	1.181	824
HW279 01824	18	24	1.382	1069
HW279 01601	16	1	0.356	77
HW279 01602	16	2	0.565	160
HW279 01603	16	3	0.617	200
HW279 01604	16	4	0.671	239
HW279 01605	16	5	0.730	297
HW279 01607	16	7	0.792	416
HW279 01608	16	8	0.896	475
HW279 01610	16	10	1.047	606
HW279 01612	16	12	1.081	711
HW279 01616	16	16	1.207	948
HW279 01618	16	18	1.265	1100
HW279 01620	16	20	1.327	1215
HW279 01624	16	24	1.482	1510
HW279 01401	14	1	0.386	97
HW279 01402	14	2	0.621	202
HW279 01403	14	3	0.658	251
HW279 01404	14	4	0.721	301
HW279 01405	14	5	0.791	374
HW279 01407	14	7	0.905	524
HW279 01408	14	8	0.979	498
HW279 01410	14	10	1.148	747
HW279 01412	14	12	1.186	896

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

Values:		
#18 Pairs Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)	#16 Pairs Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)	#14 Pairs Capacitance (nF/1000 feet) = 37 Inductance (mH/1000) = 0.19 Resistance (Ohms/1000 feet = 2.85 (@ 20°)

SHIELDED PAIRS INSTRUMENTATION CABLE

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

PAIRS:

Each pair is twisted with a bare tinned drain wire. Each pair is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Pair to pair isolation plus overall shield is provided.

Pair color code: Black-White.

INSULATION:

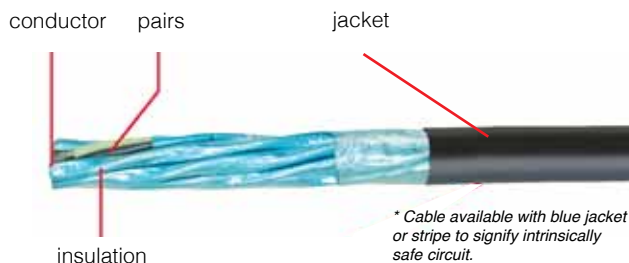
Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable



FEATURES:

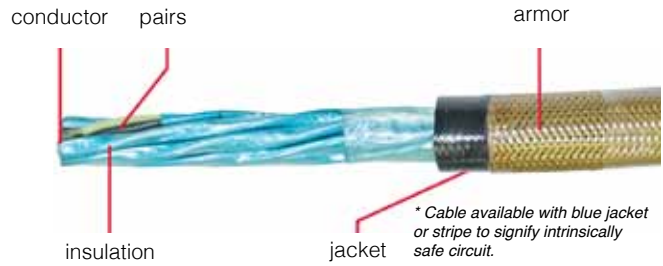
- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202



SPECIFICATION
HW280

**SHIELDED PAIRS
INSTRUMENTATION CABLE**

**0.6/1kV Armored 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA**



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW280 01801	18	1	0.386	123
HW280 01802	18	2	0.601	204
HW280 01803	18	3	0.631	265
HW280 01804	18	4	0.680	317
HW280 01805	18	5	0.735	395
HW280 01807	18	7	0.792	457
HW280 01808	18	8	0.850	521
HW280 01810	18	10	1.026	699
HW280 01812	18	12	1.061	780
HW280 01816	18	16	1.171	833
HW280 01818	18	18	1.231	1050
HW280 01824	18	24	1.432	1151
HW280 01601	16	1	0.406	120
HW280 01602	16	2	0.615	249
HW280 01603	16	3	0.667	311
HW280 01604	16	4	0.721	389
HW280 01605	16	5	0.780	483
HW280 01607	16	7	0.842	559
HW280 01608	16	8	0.946	638
HW280 01610	16	10	1.097	787
HW280 01612	16	12	1.131	923
HW280 01616	16	16	1.257	1231
HW280 01618	16	18	1.315	1260
HW280 01620	16	20	1.377	1476
HW280 01624	16	24	1.532	1625
HW280 01401	14	1	0.436	151
HW280 01402	14	2	0.671	315
HW280 01403	14	3	0.708	391
HW280 01404	14	4	0.771	469
HW280 01405	14	5	0.841	608
HW280 01407	14	7	0.955	704
HW280 01408	14	8	1.029	803
HW280 01410	14	10	1.198	1003
HW280 01412	14	12	1.236	1203

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

Values:		
#18 Pairs Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)	#16 Pairs Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)	#14 Pairs Capacitance (nF/1000 feet) = 37 Inductance (mH/1000) = 0.19 Resistance (Ohms/1000 feet = 2.85 (@ 20°)

SHIELDED PAIRS INSTRUMENTATION CABLE

**0.6/1kV Armored 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

PAIRS:

Each pair is twisted with a bare tinned drain wire. Each pair is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Pair to pair isolation plus overall shield is provided.

Pair color code: Black-White.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

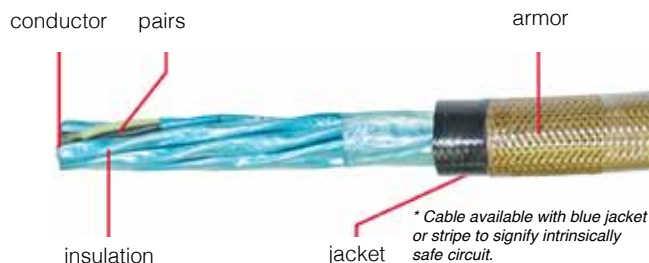
Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable



FEATURES:

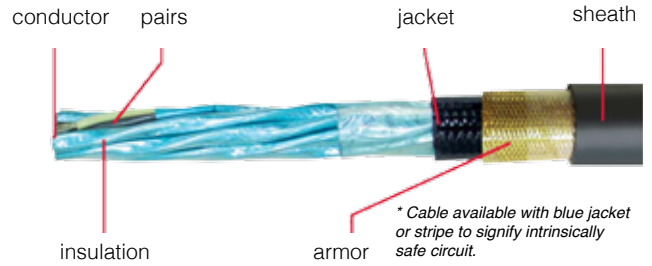
- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.



SPECIFICATION
HW281

**SHIELDED PAIRS
INSTRUMENTATION CABLE**

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA**



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW281 01801	18	1	0.486	176
HW281 01802	18	2	0.732	335
HW281 01803	18	3	0.762	343
HW281 01804	18	4	0.801	410
HW281 01805	18	5	0.900	511
HW281 01807	18	7	0.957	575
HW281 01808	18	8	1.015	752
HW281 01810	18	10	1.199	874
HW281 01812	18	12	1.234	982
HW281 01816	18	16	1.344	1182
HW281 01818	18	18	1.404	1300
HW281 01824	18	24	1.605	1720
HW281 01601	16	1	0.507	203
HW281 01602	16	2	0.751	377
HW281 01603	16	3	0.785	410
HW281 01604	16	4	0.886	569
HW281 01605	16	5	0.945	609
HW281 01607	16	7	1.007	703
HW281 01608	16	8	1.119	803
HW281 01610	16	10	1.270	1098
HW281 01612	16	12	1.304	1138
HW281 01616	16	16	1.422	1517
HW281 01618	16	18	1.488	1570
HW281 01620	16	20	1.552	1894
HW281 01624	16	24	1.767	2065
HW281 01401	14	1	0.537	199
HW281 01402	14	2	0.802	481
HW281 01403	14	3	0.881	515
HW281 01404	14	4	0.944	633
HW281 01405	14	5	1.013	787
HW281 01407	14	7	1.128	886
HW281 01408	14	8	1.202	1011
HW281 01410	14	10	1.371	1196
HW281 01412	14	12	1.409	1434

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Shielding Profile and Hawke Gland Info

Values:		
<p>#18 Pairs Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)</p>	<p>#16 Pairs Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)</p>	<p>#14 Pairs Capacitance (nF/1000 feet) = 37 Inductance (mH/1000) = 0.19 Resistance (Ohms/1000 feet = 2.85 (@ 20°)</p>

SHIELDED PAIRS INSTRUMENTATION CABLE

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Individually Shielded Pairs
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

PAIRS:

Each pair is twisted with a bare tinned drain wire. Each pair is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Pair to pair isolation plus overall shield is provided.

Pair color code: Black-White.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

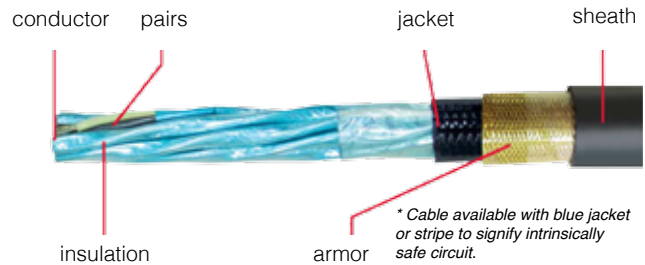
Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.



RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

SHIELDED
PAIRS



MADE IN AMERICA

1-(800)-HOUWIRE
www.houwire.com

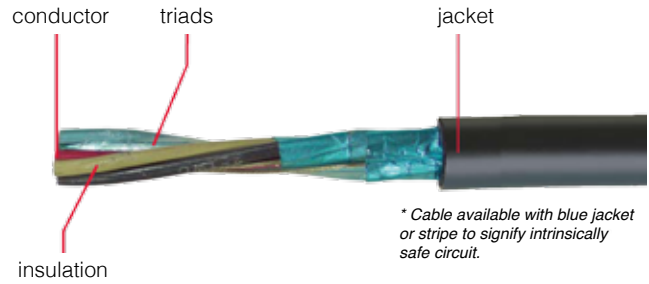
Type P Catalog. All data subject to change without notice.

HWC
HOUSTON WIRE & CABLE COMPANY

SPECIFICATION
HW282

**SHIELDED TRIADS
 INSTRUMENTATION CABLE**

**0.6/1kV Unarmored 110°C
 Gexol® Insulation
 Individually Shielded Triads
 Made in the USA**



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW282 01801	18	1	0.354	75
HW282 01802	18	2	0.649	183
HW282 01803	18	3	0.688	190
HW282 01804	18	4	0.755	281
HW282 01805	18	5	0.871	286
HW282 01807	18	7	0.947	409
HW282 01808	18	8	1.026	515
HW282 01810	18	12	1.244	766
HW282 01601	16	1	0.376	86
HW282 01603	16	3	0.735	218
HW282 01604	16	4	0.807	410
HW282 01606	16	6	1.012	630
HW282 01607	16	7	1.012	710
HW282 01608	16	8	1.090	729

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

Values:	
#18 Triads Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)	#16 Triads Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)

SHIELDED
 TRIADS

SHIELDED TRIADS INSTRUMENTATION CABLE

**0.6/1kV Unarmored 110°C
Gexol® Insulation
Individually Shielded Triads
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

TRIADS:

Each triad is twisted with a bare tinned drain wire. Each triad is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Triad to triad isolation plus overall shield is provided.

Triad Color Code: Black-White-Red.

INSULATION:

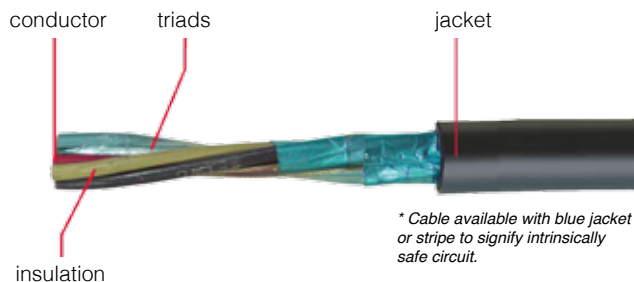
Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable



FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

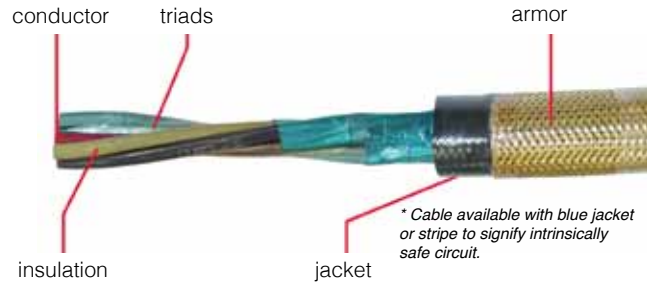


MADE IN AMERICA

SPECIFICATION
HW283

**SHIELDED TRIADS
INSTRUMENTATION CABLE**

**0.6/1kV Armored 110°C
Gexol® Insulation
Individually Shielded Triads
Made in the USA**



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW283 01801	18	1	0.404	144
HW283 01802	18	2	0.699	290
HW283 01803	18	3	0.738	305
HW283 01804	18	4	0.805	408
HW283 01805	18	5	0.921	419
HW283 01807	18	7	0.997	565
HW283 01808	18	8	1.076	680
HW283 01810	18	12	1.294	965
HW283 01601	16	1	0.426	155
HW283 01603	16	3	0.785	338
HW283 01604	16	4	0.857	530
HW283 01606	16	6	1.062	750
HW283 01607	16	7	1.062	835
HW283 01608	16	8	1.140	876

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

Values:	
<p>#18 Triads Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)</p>	<p>#16 Triads Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)</p>

SHIELDED
TRIADS

SHIELDED TRIADS INSTRUMENTATION CABLE

**0.6/1kV Armored 110°C
Gexol® Insulation
Individually Shielded Triads
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

TRIADS:

Each triad is twisted with a bare tinned drain wire. Each triad is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Triad to triad isolation plus overall shield is provided.

Triad Color Code: Black-White-Red.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

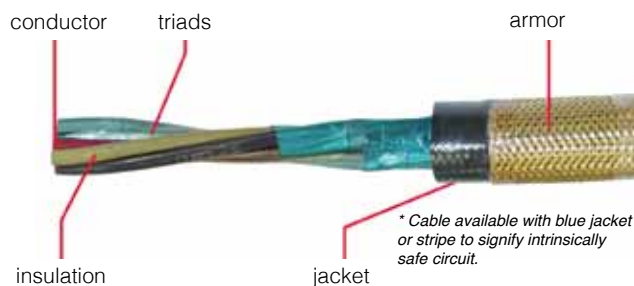
Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable



FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Braided armor of bronze. Tinned Copper available by request.

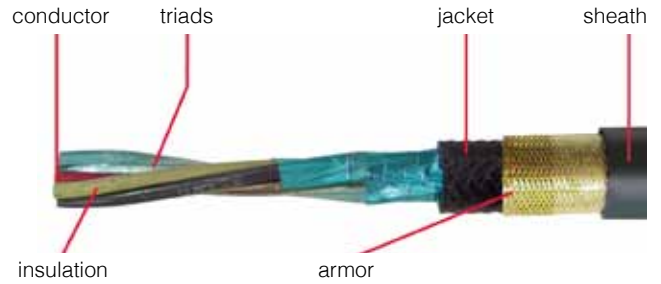


MADE IN AMERICA

SPECIFICATION
HW284

**SHIELDED TRIADS
INSTRUMENTATION CABLE**

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Individually Shielded Triads
Made in the USA**



Catalog Number	Size AWG	Number of Pairs	Nominal Diameter (inches)	Weight (lbs/Mft.)
HW284 01801	18	1	0.504	199
HW284 01802	18	2	0.872	380
HW284 01803	18	3	0.911	393
HW284 01804	18	4	0.978	551
HW284 01805	18	5	1.094	561
HW284 01807	18	7	1.170	724
HW284 01808	18	8	1.249	870
HW284 01810	18	12	1.467	1195
HW284 01601	16	1	0.558	213
HW284 01603	16	3	0.958	466
HW284 01604	16	4	1.030	700
HW284 01606	16	6	1.235	955
HW284 01607	16	7	1.235	1050
HW284 01608	16	8	1.330	1103

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

Values:	
<p>#18 Triads Capacitance (nF/1000 feet) = 28 Inductance (mH/1000) = 0.22 Resistance (Ohms/1000 feet = 7.21 (@ 20°)</p>	<p>#16 Triads Capacitance (nF/1000 feet) = 32 Inductance (mH/1000) = 0.20 Resistance (Ohms/1000 feet = 4.52 (@ 20°)</p>

SHIELDED
TRIADS

SHIELDED TRIADS INSTRUMENTATION CABLE

**0.6/1kV Armored & Sheathed 110°C
Gexol® Insulation
Individually Shielded Triads
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

TRIADS:

Each triad is twisted with a bare tinned drain wire. Each triad is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Triad to triad isolation plus overall shield is provided.

Triad Color Code: Black-White-Red.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245.

JACKET:

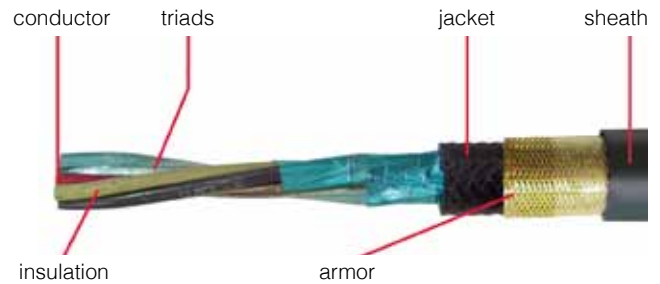
Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Bronze standard. Tinned copper available by request.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.



RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.
- Braided armor of bronze. Tinned Copper available by request.

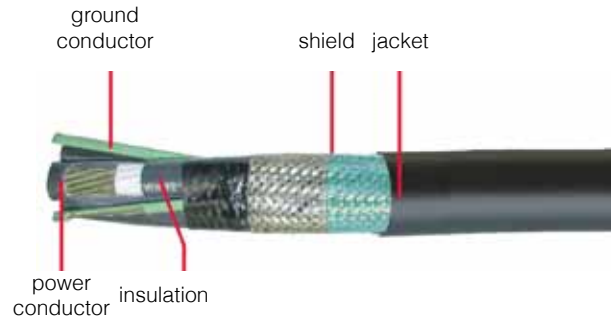
SHIELDED
TRIADS



SPECIFICATION
HW285

STANDARD VFD
POWER CABLE

2kV Unarmored 110°C
Gexol® Insulation
Three Conductor
Made in the USA



Catalog Number	Size AWG/kcmil	Nominal Diameter (inches)	Weight (lbs/Mft.)	Green Insulated Grounding Conductor (x3) Size (AWG)	Ampacity			
					110°C	100°C	90° C	75° C
HW285 01403	14	0.630	211	18	27	25	24	20
HW285 01203	12	0.675	282	18	33	31	29	24
HW285 01003	10	0.750	371	14	44	41	38	32
HW285 00803	8	0.805	463	14	56	52	48	41
HW285 00603	6	0.910	656	12	75	70	65	54
HW285 00403	4	1.094	925	12	99	92	83	70
HW285 00203	2	1.235	1271	10	131	122	111	93
HW285 00103	1	1.341	1585	10	153	143	131	110
HW285 10103	1/0	1.450	1869	10	176	164	150	126
HW285 20103	2/0	1.580	2311	10	201	188	173	145
HW285 40103	4/0	1.900	3457	8	270	252	232	194
HW285 26203	262	2.050	4177	6	315	294	273	228
HW285 31303	313	2.130	4786	6	344	321	298	249
HW285 37303	373	2.275	5521	6	387	361	332	277
HW285 44403	444	2.425	6440	6	440	411	382	319
HW285 53503	535	2.643	7848	6	498	443	407	340
HW285 64603	646	2.920	9213	4	553	516	474	396
HW285 77703	777	3.102	10909	4	602	562	516	431

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

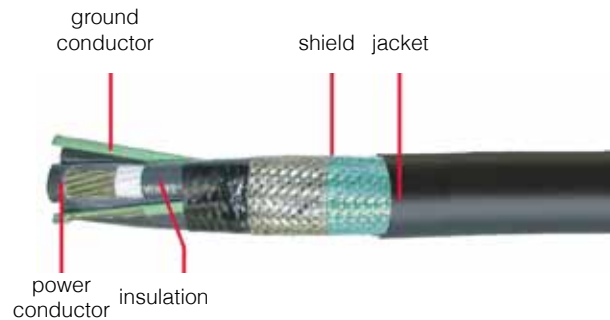
See page 5 for Stranding Profile and Hawke Gland Info

VFD Cable Ampacity Ratings				
<p>110°C Ratings</p> <p>Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 110°C ampacities should be multiplied by 0.8.</p>	<p>100°C Ratings</p> <p>Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 100°C ampacities should be multiplied by 0.8.</p>	<p>95°C Ratings</p> <p>Based on 4-3-4/Table 10 of the 2006 ABS MODU rules and a 45°C ambient.</p>	<p>90°C Ratings</p> <p>Based on IECA Table H-1 for a single isolated cable in air with a 40°C ambient. This ampacity is typically used for mining and other portable applications.</p>	<p>75°C Ratings</p> <p>Based on NEC Table 310.16 for cables in raceway and a 30°C ambient.</p>

STANDARD
VFD

STANDARD VFD POWER CABLE

**2kV Unarmored 110°C
Gexol® Insulation
Three Conductor
Made in the USA**



APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Dark gray with printed phase I.D. (Black-White-Red).

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

SHIELD:

Tinned copper basket weave wire armor per IEEE 1580 and UL 1309/CSA 245 plus aluminum/polyester tape providing 100% coverage.

RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202

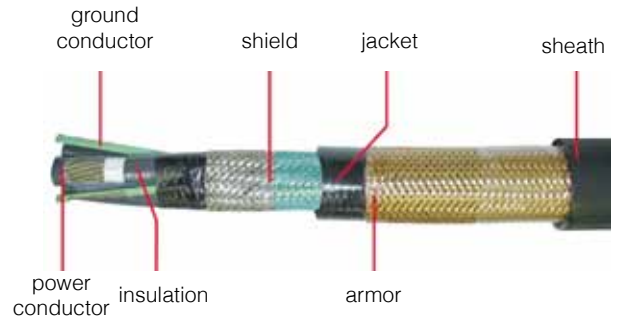


MADE IN AMERICA

SPECIFICATION
HW287

STANDARD VFD
POWER CABLE

2kV Armored & Sheathed 110°C
Gexol® Insulation
Three Conductor
Made in the USA



Catalog Number	Size AWG/kcmil	Nominal Diameter (inches)	Weight (lbs/Mft.)	Green Insulated Grounding Conductor (x3) Size (AWG)	Ampacity			
					110°C	100°C	90° C	75° C
HW287 01403	14	0.630	349	18	27	25	24	20
HW287 01203	12	0.795	383	18	33	31	29	24
HW287 01003	10	0.918	518	14	44	41	38	32
HW287 00803	8	0.973	616	14	56	52	48	41
HW287 00603	6	1.098	832	12	75	70	65	54
HW287 00403	4	1.262	1128	12	99	92	83	70
HW287 00203	2	1.393	1512	10	131	122	111	93
HW287 00103	1	1.580	1836	10	153	143	131	110
HW287 10103	1/0	1.615	2137	10	176	164	150	126
HW287 20103	2/0	1.792	2660	10	201	188	173	145
HW287 40103	4/0	2.101	3864	8	270	252	232	194
HW287 26203	262	2.258	4661	6	315	294	273	228
HW287 31303	313	2.354	5288	6	344	321	298	249
HW287 37303	373	2.483	6052	6	387	361	332	277
HW287 44403	444	2.633	6994	6	440	411	382	319
HW287 53503	535	2.931	8478	6	498	443	407	340
HW287 64603	646	3.178	9888	4	553	516	474	396
HW287 77703	777	3.390	11803	4	602	562	516	431

* Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance.

See page 5 for Stranding Profile and Hawke Gland Info

VFD Cable Ampacity Ratings				
110°C Ratings	100°C Ratings	95°C Ratings	90°C Ratings	75°C Ratings
Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 110°C ampacities should be multiplied by 0.8.	Based on IEEE 45 with a 45°C ambient and arranged in a single bank per hanger. For those instances where cable must be double banked, the 100°C ampacities should be multiplied by 0.8.	Based on 4-3-4/Table 10 of the 2006 ABS MODU rules and a 45°C ambient.	Based on IECA Table H-1 for a single isolated cable in air with a 40°C ambient. This ampacity is typically used for mining and other portable applications.	Based on NEC Table 310.16 for cables in raceway and a 30°C ambient.

STANDARD
VFD

STANDARD VFD POWER CABLE

**2kV Armored & Sheathed 110°C
Gexol® Insulation
Three Conductor
Made in the USA**

APPLICATION:

Designed and constructed for the demanding environments of offshore drilling and petroleum facilities located throughout the world.

CONDUCTOR:

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

INSULATION:

Flame Retardant Cross-linked Polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA C22.2 No. 245. *Color Code:* Dark gray with printed phase I.D. (Black-White-Red).

JACKET:

Black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

ARMOR:

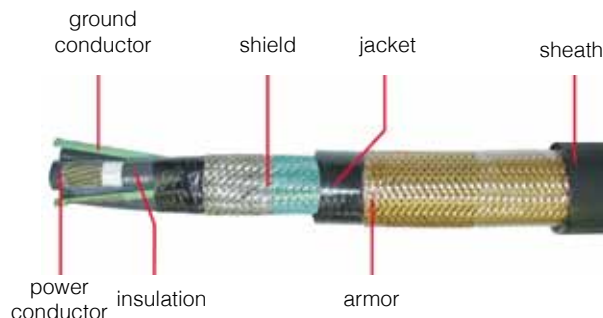
Basket weave wire armor per IEEE 1580 and UL 1309/CSA C22.2 No. 245. Tinned copper standard.

SHEATH:

A black, arctic grade, flame retardant, oil abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA C22.2 No. 245 and IEEE 1580.

SHIELD:

Tinned copper basket weave wire armor per IEEE 1580 and UL 1309/CSA 245 plus aluminum/polyester tape providing 100% coverage.



RATINGS & APPROVALS:

- American Bureau of Shipping (ABS)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- NVE 95/1696, FAL
- UL listed as Marine Shipboard Cable
- United States Coast Guard
- CSA listed as Marine Shipboard Cable

FEATURES:

- High strand count conductors make this product extremely flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Lower dielectric constant and higher insulation resistance reduces electrical losses.
- Excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In fire conditions, non chlorinated flame retardant system produces less toxic and less corrosive gasses.
- Dual certified IEEE 1580 Type P and UL 1309/CSA C22.2 No. 245 Type X110.
- Highest ampacity ratings: ABS 100°C, DNV 95°C, LRS 95°C, Transport Canada 95°C
- Severe cold durability: exceeds CSA cold bend/cold impact (-40/-35° C)
- Flame retardant: IEC 60332-3 Category A and IEEE 1202
- Suitable for use in Class I, Division 1 and Zone 1 environments.





HAWKE International

Hawke International has provided peace of mind to contractors, installers and end users for over 55 years. Our innovative range of cable connection and termination products, specifically designed with the customer in mind, have gained worldwide approval and credibility for the testing conditions of hazardous (classified) locations and hostile environments.

The customers requirements for sustained safety and reliability under extreme conditions are therefore Hawke's primary objectives. Furthermore our superior designs allow ease of installation, use long life materials and are manufactured to rigorous quality standards. All this provides the customer with unparalleled benefits of the lowest lifetime cost of purchase.



WHY CHOOSE HAWKE CABLE GLANDS?

The features and associated benefits of the Hawke International range of cable glands have numerous patented features which bring numerous benefits to owners, operators and installers alike.

Unique Rear Sealing System

This arrangement offers IP66, IP67, IP68 (20 metres for 7 days), NEMA 4X and Deluge (DTS01) Ingress Protection. The seal is manufactured from a silicone material, has LSFZH properties, is ozone and oil resistant and is suitable for use at both high and low temperatures. The Rear Sealing System covers the entire range of cable diameters with out the need for special seals and the cable acceptance range is stamped on the backnut for ease of inspection. The backnut can be hand tightened, with only one further spanner turn required to ensure IP66, IP67, IP68 and NEMA 4X.

Unique Inspectable Compound Chamber

The revolutionary Hawke compound chamber has been designed with inspectability in mind. The pre-lubricated compound chamber can be removed once the compound has fully cured, allowing full inspection of the flameproof seal. If required, minor surface voids can be repaired in-situ. This unique patented compound chamber now forms the compound as well as providing a flameproof seal.

Zero Cable Damage

The unique Hawke diaphragm sealing system does not damage cables which exhibit 'Cold Flow' characteristics. The diaphragm type seal is the only elastomeric seal to comply fully with IEC/EN 60079-14 and therefore suitable on effectively filled 'Cold Flow' cables which would otherwise require barrier style cable glands. The Hawke diaphragm seal is also unique in that it is the only flameproof elastomeric seal that can be visually inspected in operation - a real benefit to inspectors.

The Original Reversible Armour Clamp

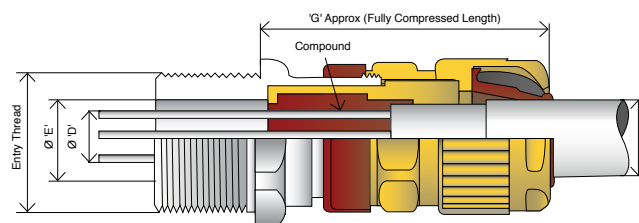
The original RAC clamping system was invented by Hawke over 10 years ago and is a well established proven performer in all conditions. Simply by reversing the clamping ring, the cable gland can adjust to accommodate all types of cable armour or braid. Unlike many of our competitors, the correct stamping orientation is marked clearly with the armor size and backed up by the presence of a groove in the component. Hawke's RAC clamping system is also fully inspectable when positioned on the cable.

Inspectable Deluge Seal

Hawke's Inspectable deluge seal offer IP66 and IP67 sealing and is certified as 'deluge proof' by ITS in accordance with DTS01. Indeed, Hawke's deluge seal is so good that it exceeds the expectations of the offshore industry by not only preventing ingress into the equipment, but also into the cable gland, which prevent corrosion of the cable armor.

HAWKE GLANDS NORTH AMERICAN CABLE GLANDS/CONNECTORS - 710

**Explosion Proof
IECEx and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR**



Catalog Number	Size Ref.	Entry Thread Size		Cable Acceptance Details					'G'	Hexagon Dimensions	
		NPT Standard or Option	Metric *	Inner Jacket / Cores			Outer Jacket 'B'			Across Flats	Across Corners
				Max. Over Cores 'D'	Max. Inner Jacket 'E'	Max. No. of Cores	Min.	Max.			
710OS-050	Os	½"	M20 ¹	0.35"	0.39"	6	0.22"	0.47"	2.55"	0.94"	1.04"
710O-050	O	½"	M20 ¹	0.35"	0.39"	6	0.37"	0.63"	2.55"	0.94"	1.04"
710A-050	A	½"	M20	0.43"	0.64"	10	0.49"	0.81"	2.59"	1.18"	1.28"
710A-075	A	¾"	M20	0.43"	0.64"	10	0.49"	0.81"	2.59"	1.18"	1.28"
710B-075	B	¾"	M25	0.64"	0.93"	21	0.66"	1.02"	2.80"	1.42"	1.56"
710B-100	B	1"	M25	0.64"	0.93"	21	0.66"	1.02"	2.80"	1.42"	1.56"
710C-100	C	1"	M32	0.86"	1.23"	42	0.87"	1.30"	2.99"	1.81"	1.99"
710C-125	C	1 ¼"	M32	0.86"	1.23"	42	0.87"	1.30"	2.99"	1.81"	1.99"
710C2-125	C2	1 ¼"	M40	1.04"	1.59"	60	1.10"	1.61"	3.18"	2.17"	2.36"
710C2-150	C2	1 ½"	M40	1.04"	1.59"	60	1.10"	1.61"	3.18"	2.17"	2.36"
710D-150	D	1 ½"	M50	1.46"	1.96"	80	1.42"	2.07"	3.60"	2.56"	2.79"
710D-200	D	2"	M50	1.46"	1.96"	80	1.42"	2.07"	3.60"	2.56"	2.79"
710E-200	E	2"	M63	1.88"	2.55"	100	1.81"	2.57"	3.59"	3.15"	3.46"
710E-250	E	2 ½"	M63	1.88"	2.55"	100	1.81"	2.57"	3.59"	3.15"	3.46"
710F-250	F	2 ½"	M75	2.32"	2.98"	120	2.24"	3.07"	3.99"	3.74"	4.09"
710F-300	F	3"	M75	2.32"	2.98"	120	2.24"	3.07"	3.99"	3.74"	4.09"
710H-350	H ²	3 ½"	M90	2.79"	3.12"	120	3.07"	3.52"	3.54"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer jacket diameter is 0.43".

² UL approved only.

APPLICATION:

- Outdoor or indoor use.
- For use with non-armoured cable, as permitted by the NEC.
- See technical section for installation rules and regulations.

TECHNICAL DATA:

- UL Listing No: E84940.
- Suitable for use in: • Class I, Division 2, Gas Groups A, B, C and D
- Class I, Zone 2, Gas Groups IIA, IIB and IIC • AExd IIC and AExe II Class I, Zone 2.
- Flameproof Exd, Increased Safety Exe II 2 GD and Restricted Breathing ExnR II 3G.
- Certificate No's: Sira 06ATEX1295X and IECEx SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to

+80°C (ATEX / IECEx).

- Assembly Instruction Sheet: AI 316 (UL) and AI 391 (ATEX / IECEx).
- Alternative certification options available:
 - DNV Marine Approval
 - ABS Marine Approval

FEATURES:

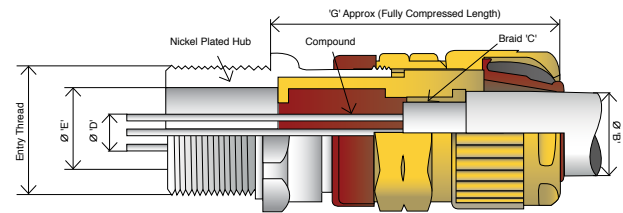
- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.
- Provides an outer deluge seal to prevent moisture ingress to the cable armor and enclosure. Deluge seal is coloured red to indicate Hazardous Location product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

GLANDS

SPECIFICATION
753

HAWKE GLANDS NORTH AMERICAN
CABLE GLANDS/CONNECTORS - 753

Explosion Proof
IECEx and ATEX Approved Flameproof Exd,
Increased Safety Exe and Restricted Breathing ExnR



Catalog Number	Size Ref.	Entry Thread Size		Cable Acceptance Details						Hexagon Dimensions		
		NPT Standard or Option	Metric *	Inner Jacket / Cores			Outer Jacket 'B'		Braid 'C'	'G'	Across Flats	Across Corners
				Max. Over Cores 'D'	Max. Inner Jacket 'E'	Max. No. of Cores	Min.	Max.				
753OS-050	Os	1/2"	M20 ²	0.35"	0.46"	6	0.22"	0.47"	0.008"/0.013"	2.61"	0.94"	1.09"
753O-050	O	1/2"	M20 ²	0.35"	0.46"	6	0.37"	0.63"	0.008"/0.013"	2.61"	0.94"	1.09"
753A-050	A	1/2"	M20	0.43"	0.49"	10	0.49"	0.81"	0.008"/0.013"	2.65"	1.18"	1.36"
753A-075	A	3/4"	M20	0.43"	0.49"	10	0.49"	0.81"	0.008"/0.013"	2.65"	1.18"	1.36"
753B-075	B	3/4"	M25	0.64"	0.72"	21	0.66"	1.02"	0.008"/0.013"	2.75"	1.42"	1.64"
753B-100	B	1"	M25	0.64"	0.72"	21	0.66"	1.02"	0.008"/0.013"	2.75"	1.42"	1.64"
753C-100	C	1"	M32	0.86"	0.97"	42	0.87"	1.30"	0.008"/0.013"	2.93"	1.81"	2.09"
753C-125	C	1 1/4"	M32	0.86"	0.97"	42	0.87"	1.30"	0.008"/0.013"	2.93"	1.81"	2.09"
753C2-125	C2	1 1/4"	M40	1.04"	1.16"	60	1.10"	1.61"	0.008"/0.013"	3.15"	2.17"	2.50"
753C2-150	C2	1 1/2"	M40	1.04"	1.16"	60	1.10"	1.61"	0.008"/0.013"	3.15"	2.17"	2.50"
753D-150	D	1 1/2"	M50	1.46"	1.64"	80	1.42"	2.07"	0.008"/0.013"	3.14"	2.56"	2.96"
753D-200	D	2"	M50	1.46"	1.64"	80	1.42"	2.07"	0.008"/0.013"	3.14"	2.56"	2.96"
753E-200	E	2"	M63	1.88"	2.11"	100	1.81"	2.57"	0.008"/0.013"	3.42"	3.15"	3.64"
753E-250	E	2 1/2"	M63	1.88"	2.11"	100	1.81"	2.57"	0.008"/0.013"	3.42"	3.15"	3.64"
753F-250	F	2 1/2"	M75	2.32"	2.61/2.57" ¹	120	2.24"	3.07"	0.008"/0.013"	3.61"	3.74"	4.31"
753F-300	F	3"	M75	2.32"	2.61/2.57" ¹	120	2.24"	3.07"	0.008"/0.013"	3.61"	3.74"	4.31"
753H-350	H ²	3 1/2"	M90	2.79"	3.05"	120	3.07"	3.52"	0.008"/0.013"	3.54"	4.18"	4.84"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Smaller value is applicable when selecting reduced NPT entry option.
² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable inner jacket diameter is 0.43".
³ UL approved only.

APPLICATION:

- Outdoor or indoor use.
- For use with braid armoured marine shipboard jacketed or non-jacketed cable.
- See technical section for installation rules and regulations.

TECHNICAL DATA:

- UL Listing No: E84941.
- Suitable for use in:
 - Class I, Division 1, Gas Groups A, B, C and D
 - Class I, Zone 2, Gas Groups IIA, IIB and IIC
 - AExd IIC and AExe II Class I, Zone 2.
- Flameproof Exd, Increased Safety Exe^{Ex} II 2 GD and Restricted Breathing ExnR^{Ex} II 3G.
- Certificate No's: Sira 06ATEX1295X and IECEx SIR 06.0082X.
- Suitable for use in Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC.
- Construction and Test Standards: UL 2225, IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-7, IEC/EN 60079-15, IEC/EN 61241-0 and IEC/EN 61241-1.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC 60529 and NEMA 4X.
- Deluge Protection to DTS01.

- Operating Temperature Range: -50°C to +60°C (UL) and -60°C to +80°C (ATEX / IECEx).
- Assembly Instruction Sheet: AI 318/339 (UL) and AI 373 (ATEX / IECEx).
- Alternative certifi cation options available:
 - DNV Marine Approval
 - ABS Marine Approval
 - GOST R-Exe IIU

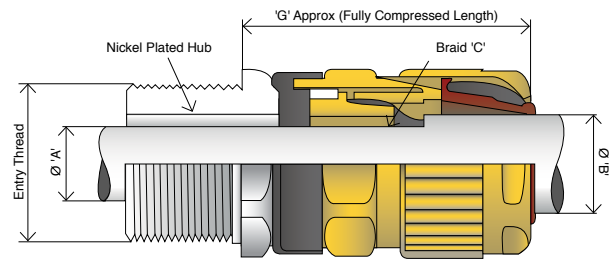
FEATURES:

- Provides a barrier seal between the individual insulated conductors within the cable and prevents entry of the products of an explosion into the cable.
- Assembly of the cable gland compresses and distributes the compound evenly to effect a barrier seal at the point of entry into the enclosure.
- Provides an outer deluge seal to prevent moisture ingress to the cable armor and enclosure. Deluge seal is coloured red to indicate Hazardous Location product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

GLANDS

HAWKE GLANDS NORTH AMERICAN CABLE GLANDS/CONNECTORS - 153/X

General Purpose



Catalog Number	Size Ref.	Entry Thread Size		Cable Acceptance Details						Hexagon Dimensions			
		NPT Standard or Option	Metric *	Standard Seal		Alternative Seal (S)		Outer Jacket 'B'		Braid 'C'	'G'	Across Flats	Across Corners
				Min.	Max.	Min.	Max.	Min.	Max.				
153XOS-050	Os	½"	M20 ²	0.12"	0.61"	-	-	0.22"	0.47"	0.008"/0.013"	2.04"	0.94"	1.04"
153XO-050	O	½"	M20 ²	0.30"	0.46"	-	-	0.37"	0.63"	0.008"/0.013"	2.04"	0.94"	1.04"
153XA-050	A	½"	M20	0.44"	0.56"	0.34"	0.52"	0.49"	0.81"	0.008"/0.013"	2.08"	1.18"	1.28"
153XA-075	A	¾"	M20	0.44"	0.56"	0.34"	0.52"	0.49"	0.81"	0.008"/0.013"	2.08"	1.18"	1.28"
153XB-075	B	¾"	M25	0.52"	0.79"	0.38"	0.60"	0.66"	1.02"	0.008"/0.013"	2.74"	1.42"	1.55"
153XB-100	B	1"	M25	0.52"	0.79"	0.38"	0.60"	0.66"	1.02"	0.008"/0.013"	2.74"	1.42"	1.55"
153XC-100	C	1"	M32	0.75"	1.04"	0.61"	0.83"	0.87"	1.30"	0.008"/0.013"	2.52"	1.81"	1.98"
153XC-125	C	1 ¼"	M32	0.75"	1.04"	0.61"	0.83"	0.87"	1.30"	0.008"/0.013"	2.52"	1.81"	1.98"
153XC2-125	C2	1 ¼"	M40	0.99"	1.27"	0.87"	1.10"	1.10"	1.61"	0.008"/0.013"	2.69"	2.17"	2.38"
153XC2-150	C2	1 ½"	M40	0.99"	1.27"	0.87"	1.10"	1.10"	1.61"	0.008"/0.013"	2.69"	2.17"	2.38"
153XD-150	D	1 ½"	M50	1.24"	1.74"/1.67" ¹	1.09"	1.37"	1.42"	2.07"	0.008"/0.013"	3.11"	2.56"	2.78"
153XD-200	D	2"	M50	1.24"	1.74"/1.67" ¹	1.09"	1.37"	1.42"	2.07"	0.008"/0.013"	3.11"	2.56"	2.78"
153XE-200	E	2"	M63	1.68"	2.21"/2.14" ¹	1.54"	1.83"	1.81"	2.57"	0.008"/0.013"	3.10"	3.15"	3.46"
153XE-250	E	2 ½"	M63	1.68"	2.21"/2.14" ¹	1.54"	1.83"	1.81"	2.57"	0.008"/0.013"	3.10"	3.15"	3.46"
153XF-250	F	2 ½"	M75	2.15"	2.67"/2.57" ¹	1.91"	2.29"	2.24"	3.07"	0.008"/0.013"	3.29"	3.74"	4.09"
153XF-300	F	3"	M75	2.15"	2.67"/2.57" ¹	1.91"	2.29"	2.24"	3.07"	0.008"/0.013"	3.29"	3.74"	4.09"
153XH-350	H ²	3 ½"	M90	2.64"	3.06"	-	-	2.96"	3.52"	0.008"/0.013"	4.80"	4.53"	5.23"

All dimensions in inches (except * where dimensions are in millimetres). Os - F size metric entry threads are 1.5mm pitch as standard, 15mm length of thread. For H size glands, a 2mm pitch is supplied as standard, 20mm length of thread (1.5mm pitch with 15mm length of thread can be supplied) please specify when ordering.

¹ Smaller value is applicable when selecting reduced NPT entry option.

² Sizes Os and O are available with an M16 thread size. For O size with M16 thread, the maximum cable outer jacket diameter is 0.43".

³ UL approved only.

APPLICATION:

- Outdoor or indoor use.
- For use with armoured marine shipboard jacketed or non-jacketed cable.
- See technical section for installation rules and regulations.

TECHNICAL DATA:

- UL Listed for use Wet Locations.
- UL Listing No: E218332.
- Construction and Test Standards: UL 514B.
- Ingress Protection: IP66, IP67 and IP 68 (30 metres for 7 days) to IEC/EN 60529 and NEMA 4X.
- Deluge Protection to DTS01.
- Operating Temperature Range: -50°C to +60°C.
- Assembly Instruction Sheet: AI 341.
- Alternative certification options available:
 - DNV Marine Approval
 - ABS Marine Approval

FEATURES:

- Provides armor clamping for marine shipboard cable.
- Provides a seal on the cables inner jacket.
- Provides an outer deluge seal to prevent moisture ingress to the cable armor and enclosure. Deluge seal is coloured black to indicate General Purpose product.
- Provides a cable retention and low smoke and fume, zero halogen seal onto the cables outer jacket.
- Manufactured in Brass (standard), Nickel Plated Brass, 316 Stainless Steel or Aluminium.
- Brass NPT entries are nickel plated as standard.

FULL COLOR CODE CHART

IEEE 1580 TABLE 22

Conductor Number	Base Color	Tracer Color	Tracer Color	Conductor Number	Base Color	Tracer Color	Tracer Color
1	Black	-	-	65	Green	Orange	Blue
2	White	-	-	66	Orange	White	Red
3	Red	-	-	67	Blue	White	Red
4	Green	-	-	68	Black	Green	Blue
5	Orange	-	-	69	White	Green	Blue
6	Blue	-	-	70	Red	Green	Blue
7	White	Black	-	71	Green	White	Red
8	Red	Black	-	72	Orange	Red	Black
9	Green	Black	-	73	Blue	Red	Black
10	Orange	Black	-	74	Black	Orange	Blue
11	Blue	Black	-	75	Red	Orange	Blue
12	Black	White	-	76	Green	Red	Black
13	Red	White	-	77	Orange	White	Green
14	Green	White	-	78	Blue	White	Green
15	Blue	White	-	79	Red	White	Orange
16	Black	Red	-	80	Green	White	Orange
17	White	Red	-	81	Blue	Black	Green
18	Orange	Red	-	82	Orange	White	-
19	Blue	Red	-	83	Green	Red	-
20	Red	Green	-	84	Black	Green	-
21	Orange	Green	-	85	White	Green	-
22	Black	White	Red	86	Blue	Green	-
23	White	Black	Red	87	Black	Orange	-
24	Red	Black	White	88	White	Orange	-
25	Green	Black	White	89	Red	Orange	-
26	Orange	Black	White	90	Green	Orange	-
27	Blue	Black	White	91	Blue	Orange	-
28	Black	Red	Green	92	Black	Blue	-
29	White	Red	Green	93	White	Blue	-
30	Red	Black	Green	94	Red	Blue	-
31	Green	Black	Orange	95	Green	Blue	-
32	Orange	Black	Green	96	Orange	Blue	-
33	Blue	White	Orange	97	Yellow	-	-
34	Black	White	Orange	98	Yellow	Black	-
35	White	Red	Orange	99	Yellow	White	-
36	Orange	White	Blue	100	Yellow	Red	-
37	White	Red	Blue	101	Yellow	Green	-
38	Black	White	Green	102	Yellow	Orange	-
39	White	Black	Green	103	Yellow	Blue	-
40	Red	White	Green	104	Black	Yellow	-
41	Green	White	Blue	105	White	Yellow	-
42	Orange	Red	Green	106	Red	Yellow	-
43	Blue	Red	Green	107	Green	Yellow	-
44	Black	White	Blue	108	Orange	Yellow	-
45	White	Black	Blue	109	Blue	Yellow	-
46	Red	White	Blue	110	Black	Yellow	Red
47	Green	Orange	Red	111	White	Yellow	Red
48	Orange	Red	Blue	112	Green	Yellow	Red
49	Blue	Red	Orange	113	Orange	Yellow	Red
50	Black	Orange	Red	114	Blue	Yellow	Red
51	White	Black	Orange	115	Black	Yellow	White
52	Red	Orange	Black	116	Red	Yellow	White
53	Green	Red	Blue	117	Green	Yellow	White
54	Orange	Black	Blue	118	Orange	Yellow	White
55	Blue	Black	Orange	119	Blue	Yellow	White
56	Black	Orange	Green	120	Black	Yellow	Green
57	White	Orange	Green	121	White	Yellow	Green
58	Red	Orange	Green	122	Red	Yellow	Green
59	Green	Black	Blue	123	Orange	Yellow	Green
60	Orange	Green	Blue	124	Blue	Yellow	Green
61	Blue	Green	Orange	125	Black	Yellow	Blue
62	Black	Red	Blue	126	White	Yellow	Blue
63	White	Orange	Blue	127	Red	Yellow	Blue
64	Red	Black	Blue	-	-	-	-

COLOR CODE



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en Copper Cable Hook-Up Wire Lead Cable High Temperature Cable Instrumentation Cable Tray Cable Control Cable Medium Voltag
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