

Gexol®

World Class Oil & Gas Cables

*Mission-critical
Oil & Gas Cables designed
for safe, reliable performance
in extremely hazardous
operating environments*

- Power
- Control
- Instrumentation
- VFD
- MMV
- Assembly Solutions



AmerCable
INCORPORATED

The Global Cable Solutions Company



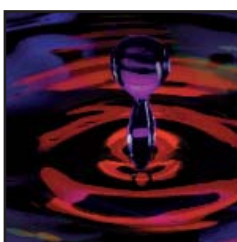
Severe Cold Durability
Exceeds CSA Cold Bend /
Cold Impact (-40°C/-35°C)



Flame Retardant
Certified to IEC 92-3 (332-3A)
and IEEE 1580



Drilling Mud Resistant



Oil Resistant

■ Fastest Lead Times

- Standard 8 - 10 weeks
- Emergency 2 - 4 weeks

■ Best On-Time Delivery Rate

(99%+ in the last 36 months)*

■ Highest Ampacity Ratings

- DNV: 95°C
- ABS: 100°C
- Lloyd's: 95°C

■ Extremely Flexible

*Visit www.AmerCable.com for our most current on time delivery rate

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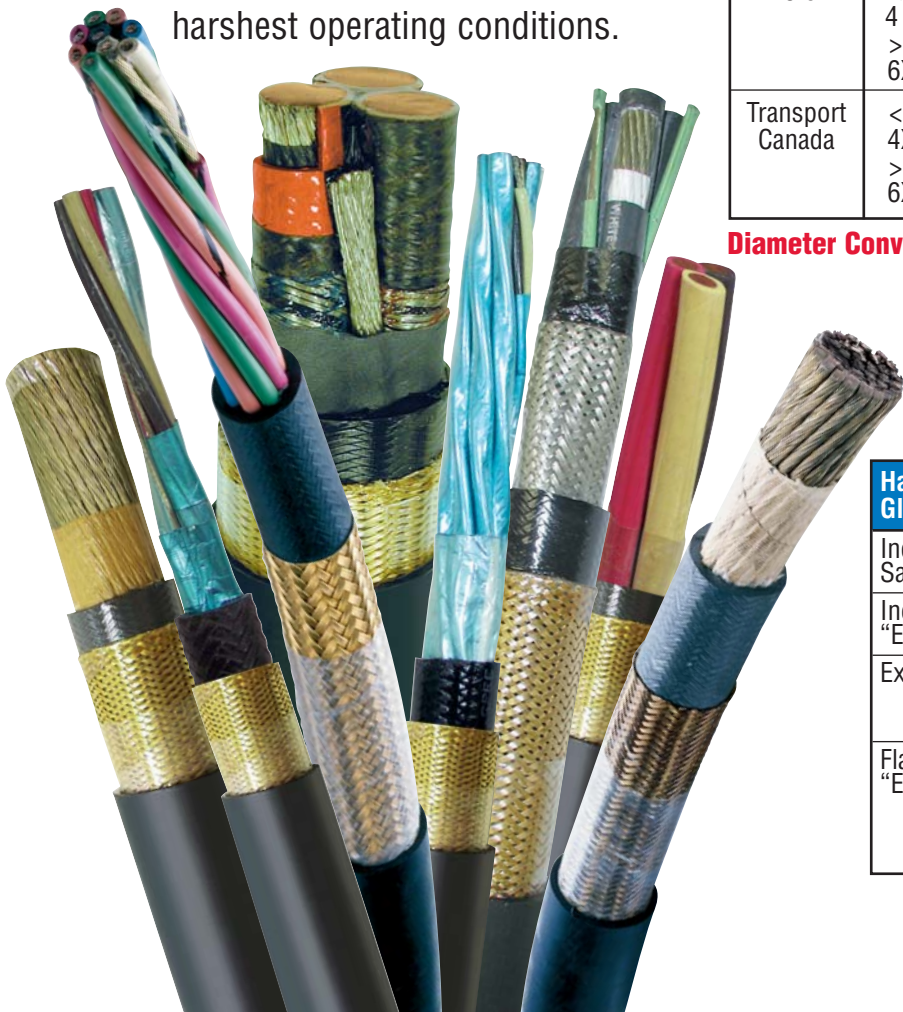


AmerCable

INCORPORATED

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.



Ampacity Ratings	
110°C (Free Air) Ratings	Based on IEEE Std. 835-1994 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 Std. 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 Std. 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 Table 4/3C.10 of the 1997 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 Std. 45 numbers can be divided by 0.85 	

Bend Radius			
	Unarmored	Armored	Armored & Sheathed
IEEE 45	6X Diameter	8X Diameter	8X Diameter
IEC 92	<1" (25mm) 4 x Diameter >1" (25mm) 6X Diameter	6X Diameter	8X Diameter
Transport Canada	<1" (25mm) 4X Diameter >1" (25mm) 6X Diameter	6X Diameter	6X Diameter

Diameter Conversion → (inches to millimeters): Multiply by 25.4

Hawke Gland Types

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

Size AWG/kcmil	Number of Strands	Individual Strand Dia. (inches)	Closest IEEE 45 Std. Size	Equivalent Metric Size (mm ²)	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 (-40°C/-35°C)



Flame Retardant
Certified to IEC 92-3 (332-3A)
and IEEE 1580



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

Single Conductor Power Cable

Gexol® Insulated

Extremely Flexible • 600V or 2kV • Rated 110°C

Conductor

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

Insulation/Jacket

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 2000V/IEC 1000V.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.



Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- NVE 95/1696, FAL
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- American Bureau of Shipping (ABS) 99-BT5905-X
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

600V Unarmored

(2kV on next page)

Size AWG/ kcmil	Part No. 37-102	Unarmored Diameter (inches)	Weight (lbs/Mft.)	Inductive Reactance (Ohms/k ft.)	Voltage Drop at 110°C (Volts/Amp/kft.)	DC Resistance at 25°C (Volts/Amp/kft.)	AC Resistance at 110°C, 60 Hz (Ohms/k ft.)	Ampacity			
								Free Air 110°C	110°C	100°C	95°C
18	-151	0.143	16	0.046	13.560	7.210	9.763	30	17	16	20
16	-153	0.153	18	0.044	8.516	4.520	6.121	35	25	23	23
14	-154	0.168	25	0.041	5.383	2.850	3.859	41	40	37	32
12	-156	0.187	32	0.038	3.394	1.790	2.424	64	48	45	38
10	-158	0.207	51	0.036	2.155	1.130	1.530	85	62	58	51
8	-159	0.255	71	0.036	1.338	0.694	0.940	112	77	72	68
6	-160	0.295	108	0.034	0.852	0.436	0.590	148	103	96	91
4	-162	0.377	173	0.030	0.583	0.286	0.399	196	137	128	121
2	-164	0.443	242	0.029	0.368	0.175	0.244	259	181	169	162
1	-165	0.484	335	0.029	0.301	0.140	0.195	298	208	194	187
1/0	-166	0.548	420	0.029	0.246	0.111	0.156	344	243	227	217
2/0	-167	0.615	494	0.028	0.202	0.089	0.125	396	281	262	250
3/0	-168	0.663	734	0.028	0.167	0.070	0.100	457	321	300	289

2kV – Flexible Power Cable – Single Conductor

Unarmored				Armored (B)			Armored and Sheath (BS)										
Size AWG/ kcmil	Part No. 37-102	Unarmored Diameter (inches)	Weight (lbs/Mft.)	Diameter Under Armor (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop at 110°C (Volts/Amp/1000 ft.)	DC Resistance at 25°C (Ohms/1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/1000 ft.)	Free Air 110°C	Ampacity		
															110°C	100°C	95°C
18	1.0	0.232*	29	0.143	16	0.193	29	0.324	38	0.065	13.580	7.210	9.763	30	17	16	20
16	1.3	0.245*	34	0.153	18	0.203	32	0.334	42	0.062	8.535	4.520	6.121	35	25	23	23
14	2.1	0.259*	42	0.168	25	0.218	45	0.349	60	0.057	5.401	2.850	3.859	41	40	37	32
12	3.3	0.281*	53	0.187	32	0.237	58	0.368	80	0.053	3.410	1.790	2.424	64	48	45	38
10	5.2	0.302*	68	0.207	51	0.257	93	0.388	127	0.050	2.170	1.130	1.530	85	62	58	51
8	7.6	0.354*	95	0.255	71	0.305	116	0.436	159	0.048	1.351	0.694	0.940	112	77	72	68
6	12.5	0.384*	130	0.295	108	0.345	155	0.476	204	0.045	0.864	0.436	0.590	148	103	96	91
4	21	0.484*	210	0.377	173	0.427	230	0.558	296	0.039	0.593	0.286	0.399	196	137	128	121
2	34	0.576*	314	0.443	242	0.493	303	0.624	365	0.037	0.376	0.175	0.244	259	181	169	162
1	43	0.629*	393	0.494	335	0.534	406	0.665	468	0.036	0.307	0.140	0.195	298	208	194	187
1/0	54	0.687*	485	0.548	420	0.598	494	0.729	571	0.035	0.253	0.111	0.156	344	243	227	217
2/0	70	0.737*	596	0.615	494	0.665	579	0.796	662	0.034	0.208	0.089	0.125	396	281	262	250
3/0	86	0.788*	709	0.663	627	0.713	776	0.886	900	0.034	0.174	0.070	0.100	457	321	300	289
4/0	109	0.810	820	0.810	820	0.860	889	1.038	1036	0.033	0.145	0.056	0.080	528	376	351	335
262	132	0.888	945	0.888	945	0.938	1147	1.111	1295	0.034	0.127	0.046	0.067	599	436	407	382
313	159	0.954	1113	0.954	1113	1.004	1332	1.177	1491	0.033	0.112	0.038	0.056	604	487	455	427
373	189	1.018	1419	1.018	1419	1.068	1576	1.241	1741	0.032	0.099	0.032	0.047	674	553	516	476
444	227	1.094	1578	1.094	1578	1.144	1816	1.317	1992	0.031	0.089	0.027	0.041	750	630	588	531
535	273	1.212	1976	1.212	1976	1.262	2246	1.435	2425	0.031	0.081	0.022	0.035	839	709	630	597
646	326	1.300	2348	1.300	2348	1.350	2559	1.523	2757	0.031	0.073	0.019	0.030	937	783	731	671
777	394	1.395	2795	1.395	2795	1.445	3013	1.618	3205	0.030	0.067	0.015	0.026	1048	881	822	753
1111	562	1.668	3982	1.668	3982	1.718	4129	1.954	4484	0.030	0.056	0.011	0.018	1303	1098	1025	937

*Unarmored 3/0 and smaller has a jacket per UL1309 & IEEE1580

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

Ordering Gexol Oil & Gas Cables

Example:

- Single conductor power cable
- 2kV 100%
- 535 kcmil
- bronze armored & sheathed

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

37-102 - 124

BS

Armor Requirement
BS – armored &
sheathed
Blank – no armor

[See page 2 for Stranding Profile](#)

GEXOL® is a registered trademark of
AmerCable Incorporated

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10633 West Little York • Bldg. #1 • Suite #100 • Houston, TX 77041 • www.amercable.com

Two Conductor Power Cable

Gexol® Insulated

Extremely Flexible • 0.6/1kV • Rated 110°C

Insulation

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Color code:
Black-White

Conductor

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

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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

Flexible Power Cable – Two Conductor

Size AWG/ mm ²	Part No. 37-102	Unarmored		Armored (B)		Armored and Sheath (BS)		DC Resistance at 25°C (Ohms/1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms /1000 ft.)	Voltage Drop 110°C (Volts/Amp/1000 ft.)	Ampacity	
		Nominal Diameter (inches)	Weight (lbs/MFT.)	Nominal Diameter (inches)	Weight (lbs/MFT.)	Nominal Diameter (inches)	Weight (lbs/MFT.)					110°C	95°C
16	1.3	0.350	75	0.400	141	0.540	202	4.610	6.121	0.039	8.511	20	19
14	2.1	0.380	84	0.430	165	0.561	230	2.907	3.859	0.036	5.379	33	31
12	3.3	0.420	111	0.470	190	0.601	263	1.826	2.424	0.034	3.390	43	40
10	5.2	0.460	146	0.510	230	0.641	307	1.153	1.530	0.032	2.151	53	49
8	7.6	0.600	221	0.650	327	0.781	416	0.708	0.940	0.034	1.336	69	64
6	12.5	0.680	308	0.730	424	0.903	559	0.445	0.590	0.032	0.850	91	85
4	21	0.887	516	0.937	664	1.110	835	0.300	0.399	0.029	0.582	118	110
1/0	54	1.243	1128	1.293	1334	1.466	1562	0.117	0.156	0.028	0.245	213	199
4/0	109	1.593	2003	1.643	2271	1.878	2680	0.059	0.080	0.026	0.138	329	307

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

*See page 2 for
Stranding Profile*

Ordering Gexol Oil & Gas Cables

Example:

- 2 conductor power cable
- 0.6/1kV
- #4 AWG
- bronze armored & sheathed

37-102 - 594

BS

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

Armor Requirement
BS – armored &
sheathed
Blank – no armor

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AmerCable Incorporated

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Three Conductor Power Cable

Gexol® Insulated

Extremely Flexible • 0.6/1kV • Rated 110°C

Conductor

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

Insulation

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Color code:

Black-White-Red

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.



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

Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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

Flexible Power Cable – Three Conductor

Size AWG/ kcmil	Part No. 37-102	Unarmored		Armored (B)		Armored and Sheath (BS)		DC Resistance at 25°C (Ohms/1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms / 1000 ft.)	Voltage Drop 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
		Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)						110°C	100°C	95°C
16	1.3	0.369	65	0.419	127	0.519	181	4.610	6.121	0.039	8.511	—	17	16	16
14	2.1	0.401	102	0.451	176	0.583	228	2.907	3.859	0.036	5.379	—	27	25	22
12	3.3	0.445	133	0.495	212	0.626	276	1.826	2.424	0.034	3.390	—	33	31	27
10	5.2	0.488	189	0.538	281	0.669	352	1.153	1.530	0.032	2.151	—	44	41	36
8	7.6	0.637	274	0.687	385	0.818	477	0.708	0.940	0.034	1.336	—	56	52	48
6	12.5	0.723	390	0.773	519	0.946	650	0.445	0.590	0.032	0.850	8	75	70	64
4	21	0.942	678	0.992	843	1.165	1004	0.300	0.399	0.029	0.582	8	99	92	85
2	34	1.084	987	1.134	1160	1.307	1374	0.184	0.244	0.028	0.366	6	131	122	113
1	43	1.206	1234	1.256	1458	1.431	1675	0.147	0.195	0.028	0.299	6	153	143	131
1/0	54	1.326	1448	1.376	1781	1.550	2015	0.117	0.156	0.028	0.245	6	176	164	152
2/0	70	1.422	1945	1.472	2082	1.645	2424	0.093	0.125	0.027	0.200	6	201	188	175
3/0	86	1.528	2379	1.578	2720	1.814	3106	0.074	0.100	0.027	0.166	4	234	218	202
4/0	109	1.765	2864	1.815	3233	2.050	3652	0.058	0.080	0.026	0.138	4	270	252	235
262	132	1.980	3452	2.030	3880	2.266	4434	0.048	0.067	0.026	0.119	3	315	294	267
313	159	2.131	4023	2.181	4434	2.418	4919	0.040	0.056	0.026	0.105	3	344	321	299
373	189	2.231	4772	2.281	5219	2.517	5718	0.034	0.047	0.025	0.092	3	387	361	334
444	227	2.394	5670	2.444	6176	2.680	6864	0.028	0.041	0.025	0.083	2	440	411	372
535	273	2.637	6784	2.687	7492	2.986	8250	0.024	0.035	0.026	0.075	2	498	443	418
646	326	2.958	7961	3.008	8414	3.301	9258	0.020	0.030	0.026	0.068	1	553	516	470
777	394	3.168	9573	3.218	10065	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 2 for
Stranding Profile

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Ordering Gexol Oil & Gas Cables

Example:

- 3 conductor power cable
- 0.6/1kV
- bronze armored & sheathed
- with ground

37-102 - 320

BS

G

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

Armor Requirement
BS – armored &
sheathed
Blank – no armor

Ground Conductor
G – with ground
Blank – no ground

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Four Conductor Power Cable

Gexol® Insulated

Extremely Flexible • 0.6/1kV • Rated 110°C

Insulation

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Color code:

Black-White-Red-Green

Conductor

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

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

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

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

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

Flexible Power Cable – Four Conductor

Size AWG/ kcmil	Part No.	Unarmored		Armored (B)		Armored and Sheath (BS)		DC Resistance at 25°C (Ohms/1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop 110°C (Volts/Amp/1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity	
		Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)						110°C	95°C
16	1.3	0.402	99	0.452	154	0.583	221	4.610	6.121	0.042	8.514	–	17	16
14	2.1	0.438	126	0.488	213	0.619	262	2.907	3.859	0.039	5.382	–	27	25
12	3.3	0.486	168	0.536	256	0.668	323	1.826	2.424	0.037	3.393	–	33	31
10	5.2	0.553	243	0.603	313	0.734	390	1.153	1.530	0.035	2.154	–	44	41
8	7.6	0.698	355	0.748	466	0.921	591	0.708	0.940	0.037	1.339	–	56	52
6	12.5	0.794	533	0.844	669	1.017	808	0.445	0.590	0.035	0.853	8	75	70
4	21	1.035	879	1.085	1062	1.258	1236	0.300	0.399	0.032	0.585	8	99	92
2	34	1.194	1120	1.244	1345	1.417	1677	0.184	0.244	0.030	0.369	6	131	122
1	43	1.332	1602	1.382	1909	1.555	2144	0.147	0.195	0.031	0.302	6	153	143
1/0	54	1.465	1907	1.515	2180	1.750	2434	0.117	0.156	0.030	0.248	6	176	164
2/0	70	1.573	2535	1.623	2665	1.859	3050	0.093	0.125	0.030	0.203	6	201	188
3/0	86	1.754	3206	1.804	3578	2.040	4003	0.074	0.100	0.029	0.168	4	234	218
4/0	109	1.964	3765	2.014	4214	2.249	4670	0.058	0.080	0.029	0.140	4	270	252
262	132	2.205	4625	2.255	4795	2.490	5610	0.048	0.067	0.029	0.122	3	315	294
313	159	2.374	5367	2.424	5868	2.659	6395	0.040	0.056	0.028	0.107	3	344	321
373	189	2.495	6462	2.545	6853	2.838	7576	0.034	0.047	0.028	0.095	3	387	361
444	227	2.653	7560	2.703	7987	3.002	8760	0.028	0.041	0.028	0.086	2	440	411
535	273	2.989	9284	3.039	9762	3.338	10570	0.024	0.035	0.028	0.077	2	463	443
646	326	3.277	10571	3.327	10946	3.620	11840	0.020	0.030	0.029	0.071	1	553	516

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

See page 2 for
Stranding Profile

Ordering Gexol Oil & Gas Cables

Example:

- 4 conductor power cable
- 0.6/1kV
- #6 AWG
- bronze armored & sheathed
- with ground

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

37-102 – 410

BS

G

Armor Requirement
BS – armored &
sheathed
Blank – no armor

Ground Conductor
G – with ground
Blank – no ground

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Five Conductor Power Cable

Gexol® Insulated

Extremely Flexible • 0.6/1kV • Rated 110°C

Conductors

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

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Insulation

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Color code:
Black-White-Red-Green-Orange

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.



Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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

Flexible Power Cable – Five Conductor

Size AWG/ kcmil	mm2	Part No. 37-102	Unarmored			Armored (B)			Armored and Sheath (BS)			AC Resistance 110°C, 60 Hz (Ohms/1000 ft.)			Inductive Reactance (Ohms/1000 ft.)			Voltage Drop 110°C (Volts/Amp/1000 ft.)			Ampacity		
			Nominal Diameter (inches)	Weight (lbs/MFT.)	Nominal Diameter (inches)	Weight (lbs/MFT.)	Nominal Diameter (inches)	Weight (lbs/MFT.)	Nominal Diameter (inches)	Weight (lbs/MFT.)	DC Resistance at 25°C (Ohms/1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/1000 ft.)	Inductive Reactance (Ohms/1000 ft.)	Voltage Drop 110°C (Volts/Amp/1000 ft.)	110°C	100°C	95°C						
18	1.0	-558	0.418	95	0.468	165	0.599	214	0.599	214	7.350	9.763	0.044	13.558	11	10	11						
16	1.3	-559	0.437	110	0.487	189	0.619	264	0.619	264	4.610	6.121	0.042	8.514	14	13	13						
14	2.1	-510	0.479	149	0.529	234	0.660	301	0.660	301	2.907	3.859	0.039	5.382	21	20	18						
12	3.3	-560	0.550	196	0.600	266	0.744	334	0.744	334	1.826	2.424	0.037	3.393	27	25	22						
10	5.2	-561	0.604	296	0.654	406	0.785	494	0.785	494	1.153	1.530	0.035	2.154	35	33	29						
8	7.6	-562	0.765	453	0.815	569	0.988	704	0.988	704	0.708	0.940	0.037	1.339	45	42	38						
6	12.5	-563	0.914	653	0.964	813	1.137	973	1.137	973	0.445	0.590	0.035	0.853	60	56	51						
4	21	-565	1.137	1073	1.187	1292	1.360	1481	1.360	1481	0.300	0.399	0.032	0.585	79	74	68						
2	34	-566	1.315	1361	1.365	1637	1.538	1856	1.538	1856	0.184	0.244	0.030	0.369	105	98	90						
1	43	-567	1.470	2130	1.520	2192	1.756	2482	1.756	2482	0.147	0.195	0.031	0.302	122	114	105						
1/0	54	-568	1.618	2550	1.668	2746	1.903	3108	1.903	3108	0.117	0.156	0.030	0.248	140	131	122						
2/0	70	-569	1.802	2954	1.852	3301	2.088	3734	2.088	3734	0.093	0.125	0.030	0.203	161	150	140						
4/0	109	-746	2.167	3615	2.217	3955	2.453	4592	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 2 for
Stranding Profile

Ordering Gexol Oil & Gas Cables

Example:

- 5 conductor power cable
- 0.6/1kV
- #2 AWG
- bronze armored & sheathed

37-102 – **566**

BS

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

Armor Requirement
BS – armored &
sheathed
Blank – no armor

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Multi-Conductor Control Cable

Gexol® Insulated

Extremely Flexible • 0.6/1kV • Rated 110°C

Conductors

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

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Color code:

IEEE 1580 Table 22

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Color code:

IEEE 1580 Table 22

Insulation

GEXOL® cross-linked, flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.



Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1, and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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

Flexible Control Cable – Multi-Conductor

			Unarmored		Armored (B)		Armored and Sheath (BS)				
Size AWG	Number of Conductors	Part No. 37-102	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Ampacity		
									110°C	100°C	95°C
16	4	-529	0.402	99	0.452	154	0.583	227	17	16	16
16	5	-559	0.437	110	0.487	189	0.619	264	14	13	13
16	7	-505	0.475	155	0.525	255	0.656	330	12	11	11
16	8	-503	0.531	164	0.581	265	0.712	340	12	11	11
16	10	-504	0.631	206	0.681	366	0.812	445	9	8	11
16	16	-546	0.719	299	0.769	465	0.942	602	9	8	11
16	20	-687	0.794	360	0.844	560	1.017	724	9	8	11
16	24	-525	0.923	462	0.973	718	1.146	809	8	7	11
16	37	-526	1.048	658	1.098	819	1.271	989	6	6	8
16	44	-577	1.173	807	1.223	980	1.396	1175	6	6	8
16	60	-527	1.298	1053	1.348	1256	1.521	1496	6	6	8
16	91	-581	1.548	1595	1.598	1896	1.833	2181	6	6	8
14	4	-509	0.438	126	0.488	213	0.619	262	27	25	22
14	5	-510	0.479	149	0.529	234	0.660	301	21	20	18
14	6	-511	0.539	182	0.589	264	0.720	335	21	20	18
14	7	-521	0.539	205	0.589	297	0.720	377	19	18	15
14	10	-512	0.691	280	0.741	406	0.914	515	14	13	15
14	12	-585	0.713	307	0.763	428	0.936	558	14	13	15
14	14	-523	0.749	415	0.799	540	0.972	665	14	13	15
14	20	-513	0.916	560	0.966	812	1.139	876	14	13	15
14	24	-571	1.013	615	1.063	892	1.236	1132	12	11	15
14	30	-573	1.071	780	1.121	965	1.294	1180	12	11	13
14	37	-514	1.153	876	1.203	1135	1.376	1405	11	10	13
14	44	-574	1.293	1087	1.343	1260	1.516	1477	10	9	11
14	91	-582	1.775	2200	1.825	2465	2.060	2855	10	9	11
12	4	-517	0.486	168	0.536	256	0.668	323	33	31	27
12	5	-560	0.550	196	0.600	266	0.744	334	27	25	22
12	6	-547	0.611	280	0.661	405	0.792	500	27	25	22
12	10	-518	0.771	369	0.821	500	0.994	629	17	16	19
12	20	-519	1.022	701	1.072	890	1.245	1055	17	16	19
12	24	-572	1.133	861	1.183	1167	1.356	1468	15	14	19
12	37	-520	1.293	1262	1.343	1467	1.516	1677	13	12	16

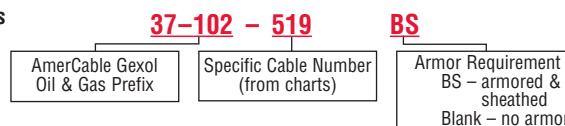
Cable diameters shown as nominal are subject to a ±5% manufacturing tolerance

See page 2 for
Stranding Profile

Ordering Gexol Oil & Gas Cables

Example:

- Multi-Conductor control cable
- 0.6/1kV
- #12 AWG
- bronze armored & sheathed



Shielded Pairs Instrumentation Cable – Gexol® Insulated

Extremely Flexible • Individually Shielded Pairs • 0.6/1kV • Rated 110°C

Insulation

GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

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

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Cable available with blue jacket or stripe to signify intrinsically safe circuit.

Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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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Shielded Pairs Instrumentation Cable – Gexol® Insulated

Extremely Flexible • Individually Shielded Pairs • 0.6/1kV • Rated 110°C

Flexible Instrumentation Cable – Individually Shielded Pairs

Size AWG	Number of Pairs	Part No. 37-102	Unarmored		Armored (B)		Armored and Sheath (BS)	
			Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)
18	1	-601	0.336	63	0.386	123	0.486	176
18	2	-602	0.551	131	0.601	204	0.732	335
18	3	-603	0.581	163	0.631	265	0.762	343
18	4	-604	0.630	195	0.680	317	0.801	410
18	5	-605	0.685	243	0.735	395	0.900	511
18	7	-606	0.742	340	0.792	457	0.957	575
18	8	-607	0.800	388	0.850	521	1.015	752
18	10	-608	0.976	495	1.026	699	1.199	874
18	12	-609	1.011	581	1.061	780	1.234	982
18	16	-645	1.121	748	1.171	833	1.344	1182
18	18	-641	1.181	824	1.231	1050	1.404	1300
18	24	-646	1.382	1069	1.432	1151	1.605	1720
16	1	-610	0.356	77	0.406	120	0.507	203
16	2	-611	0.565	160	0.615	249	0.751	377
16	3	-612	0.617	200	0.667	311	0.785	410
16	4	-613	0.671	239	0.721	389	0.886	569
16	5	-614	0.730	297	0.780	483	0.945	609
16	7	-615	0.792	416	0.842	559	1.007	703
16	8	-616	0.896	475	0.946	638	1.119	803
16	10	-617	1.047	606	1.097	787	1.270	1098
16	12	-618	1.081	711	1.131	923	1.304	1138
16	16	-619	1.207	948	1.257	1231	1.422	1517
16	18	-626	1.265	1100	1.315	1260	1.488	1570
16	20	-688	1.327	1215	1.377	1476	1.552	1894
16	24	-699	1.482	1510	1.532	1625	1.767	2065
14	1	-620	0.386	97	0.436	151	0.537	199
14	2	-621	0.621	202	0.671	315	0.802	481
14	3	-622	0.658	251	0.708	391	0.881	515
14	4	-623	0.721	301	0.771	469	0.944	633
14	5	-624	0.791	374	0.841	608	1.013	787
14	7	-625	0.905	524	0.955	704	1.128	886
14	8	-630	0.979	498	1.029	803	1.202	1011
14	10	-627	1.148	747	1.198	1003	1.371	1196
14	12	-628	1.186	896	1.236	1203	1.409	1434

See page 2 for
Stranding
Profile

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

VALUES:

#18 Pairs

Capacitance (nF/1000 feet) = 28
Inductance (mH/1000) = 0.22
Resistance (Ohms/1000 feet) = 7.21 (@ 20°C)

#16 Pairs

Capacitance (nF/1000 feet) = 32
Inductance (mH/1000) = 0.20
Resistance (Ohms/1000 feet) = 4.52 (@ 20°C)

#14 Pairs

Capacitance (nF/1000 feet) = 37
Inductance (mH/1000) = 0.19
Resistance (Ohms/1000 feet) = 2.85 (@ 20°C)

Ordering Gexol Oil & Gas Cables

Example:

- Instrumentation cable
- 0.6/1kV
- #14 AWG
- bronze armored & sheathed

37-102 - 620

BS

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

Armor Requirement
BS – armored &
sheathed
Blank – no armor

GEXOL® is a registered trademark of
AmerCable Incorporated

Shielded Triads Instrumentation Cable – Gexol® Insulated

Extremely Flexible • Individually Shielded Triads • 0.6/1kV • Rated 110°C

Insulation

GEXOL® cross-linked, flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

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 shielding is provided.

Triad color code:
Black-White-Red

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.



Cable available with blue jacket or stripe to signify intrinsically safe circuit.

Application

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

Features

- High strand count conductors make this product much more flexible, easier to install and more resistant to vibration than Type MC, IEC spec or commercial cables.
- Gexol's lower dielectric constant and higher insulation resistance reduces electrical losses.
- Gexol's excellent resistance to moisture produces stable electrical properties throughout the life of the cable.
- In a fire condition, Gexol's nonchlorinated flame retardant system produces less toxic and less corrosive gases.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1, and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS) 99-BT5905-X
- Transport Canada 8700-20-2
- Det Norske Veritas (DNV) E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS) 91/60333 (E6)
- NVE 95/1696, FAL
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

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

Flexible Instrumentation Cable – Individually Shielded Triads

Size AWG	Number of Triads	Part No. 37-102	Unarmored		Armored (B)		Armored and Sheath (BS)	
			Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)
18	1	-647	0.354	75	0.404	144	0.504	199
18	2	-681	0.649	183	0.699	290	0.872	380
18	3	-648	0.688	190	0.738	305	0.911	393
18	4	-682	0.755	281	0.805	408	0.978	551
18	5	-649	0.871	286	0.921	419	1.094	561
18	7	-650	0.947	409	0.997	565	1.170	724
18	8	-683	1.026	515	1.076	680	1.249	870
18	12	-640	1.244	766	1.294	965	1.467	1195
16	1	-668	0.376	86	0.426	155	0.558	213
16	3	-669	0.735	218	0.785	338	0.958	466
16	4	-698	0.807	410	0.857	530	1.030	700
16	6	-676	1.012	630	1.062	750	1.235	955
16	7	-670	1.012	710	1.062	835	1.235	1050
16	8	-677	1.090	729	1.140	876	1.330	1103

See page 2 for
Stranding Profile

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

VALUES:

#18 Triads

Capacitance – (nF/1000 feet) = 28

Inductance – (mH/1000) = 0.22

Resistance – (Ohms/1000 feet) = 7.21 (@ 20°C)

#16 Triads

Capacitance – (nF/1000 feet) = 32

Inductance – (mH/1000) = 0.20

Resistance – (Ohms/1000 feet) = 4.52 (@ 20°C)

Ordering Gexol Oil & Gas Cables

Example:

- Instrumentation cable
- 0.6/1kV
- #18 AWG
- bronze armored & sheathed

37-102 - 682

AmerCable Gexol
Oil & Gas Prefix

Specific Cable Number
(from charts)

BS

Armor Requirement
BS – armored &
sheathed
Blank – no armor

Type VFD Power Cable

Gexol® Insulated

Three Conductor • 2kV • Rated 110°C

Power Conductors (x3)

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

Insulation (2kV)

Gexol® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245.

Color: Gray with printed phase I.D. (Black-White-Red)

Armor (Optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Termination Kits

AmerCable Systems offers pre-sized and pre-formed termination kit packages specifically for VFD cable constructions

Ground Conductors (x3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11. Gexol® insulation sized per UL 1277. Color: Green

Shield

Overall tinned copper braid plus aluminum/polyester tape providing 100% coverage.

Jacket

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Gexol insulation has low capacitance for superior performance in VFD applications!

Ratings & Approvals (Other certifications pending)

- 110°C Temperature Rating
- American Bureau of Shipping (ABS): 99-BT5905-X
- Transport Canada: 8700-20-2
- Det Norske Veritas (DNV): E-6669, E-6388, E-6390, E-6391
- Lloyd's Register of Shipping (LRS): 91/60333 (E6)
- NVE: 95/1696, FAL
- UL Listed as Marine Shipboard Cable: (E111461)
- UL Listed as Type TC (E123629) available by request
- United States Coast Guard: November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable (82346)

Application

A flexible, braid and foil shielded, 2kV power cable specifically engineered for use in variable frequency AC motor drive (VFD) applications.

Features

- Specially engineered cable design produces a longer cable life in VFD applications.
- Overall braid and foil shield provides 100% coverage containing VFD EMI emissions.
- Symmetrical insulated ground conductors reduce induced voltage imbalances and carry common mode noise back to the drive.
- High strand count conductors and braid shield design is much more flexible, easier to install and more resistant to vibration than Type MC cable.
- Gexol's lower dielectric constant (standard XLPEs, EPRs and other Type P insulation materials have higher dielectric constants) reduces reflected wave peak voltage magnitudes. This allows for longer output cable distances and minimizes the effect of high frequency noise induced into the plant ground system.
- 2kV insulation thickness resists the repetitive 2x voltage spikes from 600V VFDs and reduces drive over current trip problems due to cable charging current.
- Dual certified IEEE 1580 Type P and UL 1309/CSA 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°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).
- Optional braid armor of bronze or tinned copper.

	Unarmored			Armored			Armored & Sheathed (BS)								
Size AWG/ kcmil	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Per 1000 Ft.	Green Insulated Grounding Conductor (x3) Size (AWG)	Ampacity				
											110°C	100°C	95°C	90°C	75°C
14	-508VFD	0.540	194	-508BVFD	0.590	281	-508BSVFD	0.725	356	18	27	25	22	-	18
12	-516VFD	0.590	224	-516BVFD	0.646	321	-516BSVFD	0.772	401	18	33	31	27	-	24
10	-308VFD	0.633	308	-308BVFD	0.694	412	-308BSVFD	0.820	497	14	44	41	36	-	33
8	-309VFD	0.764	441	-309BVFD	0.820	565	-309BSVFD	0.988	702	14	56	52	48	-	43
6	-310VFD	0.865	570	-310BVFD	0.925	708	-310BSVFD	1.090	865	12	75	70	64	93	58
4	-312VFD	1.072	886	-312BVFD	1.125	1061	-312BSVFD	1.295	1243	12	99	92	85	122	79
2	-314VFD	1.215	1421	-314BVFD	1.271	1618	-314BSVFD	1.440	1822	10	131	122	113	159	105
1	-315VFD	1.340	1517	-315BVFD	1.395	1743	-315BSVFD	1.560	1966	10	153	143	131	184	121
1/0	-316VFD	1.443	1803	-316BVFD	1.493	2027	-316BSVFD	1.666	2327	10	176	164	152	211	145
2/0	-317VFD	1.572	2153	-317BVFD	1.622	2399	-317BSVFD	1.854	2840	10	201	188	175	243	166
4/0	-319VFD	2.053	3463	-319BVFD	2.103	3785	-319BSVFD	2.335	4347	8	270	252	235	321	223
262	-320VFD	2.193	4175	-320BVFD	2.243	4522	-320BSVFD	2.475	5120	6	315	294	267	365	254
313	-321VFD	2.370	4727	-321BVFD	2.420	5104	-321BSVFD	2.652	5747	6	344	321	299	408	287
373	-322VFD	2.501	5415	-322BVFD	2.551	5809	-322BSVFD	2.845	6674	6	387	361	334	451	315
444	-323VFD	2.670	6707	-323BVFD	2.721	7141	-323BSVFD	3.014	8059	6	440	411	372	499	350
535	-324VFD	2.972	7483	-324BVFD	3.022	2966	-324BSVFD	3.316	8981	6	498	443	418	-	390
646	-326VFD	3.164	8916	-326BVFD	3.214	9428	-326BSVFD	3.508	10504	4	553	516	470	-	431
777	-327VFD	3.388	10395	-327BVFD	3.438	10940	-327BSVFD	3.732	12088	4	602	562	529	-	473

*Cable diameters are subject to a +/- 5% manufacturing tolerance

See page 2 for
Stranding Profile



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AmerCable Incorporated

VFD Cable Ampacity Ratings

110°C Ratings

Based on IEEE Std. 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 Std. 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 2001 ABS MODU rules and a 45°C ambient.

90°C Ratings

Based on ICEA S-75-381 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.

75°C Ratings

Based on Table B.310.1 of the 2005 NEC for cables in raceway and a 30°C ambient.

Type MMV Medium Power Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Conductors

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

Insulation

Extruded thermosetting 90°C Ethylene Propylene Rubber (EPR), meeting UL 1309 (Type E), IEEE 1580 (Type E), ICEA S-68-516 and UL 1072.

Metallic Shield

Composite shield consisting of 0.0126" tinned copper braided with nylon providing 60% copper shielded coverage meeting UL 1309, IEEE Std. 1580, ICEA S-68-516 and UL 1072. The nylon is colored for easy phase identification (three conductor = black, blue, red) without the need to remove the shield to find an underlying colored tape.

Conductor Shield

A combination of semi-conducting tape and extruded thermosetting semi-conducting material meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL1072.

Insulation Shield

Semi-conducting tape, with overlap, for fast and easy termination meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL 1072.

Grounding Conductor (optional)

One uninsulated soft annealed flexible stranded tinned copper conductor per ASTM B 33 and sized according to Table 21.1 of UL 1072.

Jacket

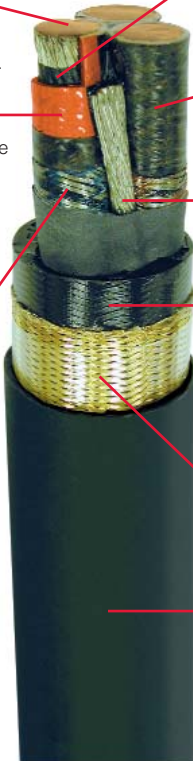
A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL 1072. Colored jackets for signifying different voltage levels are also available on special request (ie. yellow = 5kV, orange = 8kV and red = 15kV).

Armor (optional)

(Optional) 0.0126" bronze braid providing 88% minimum coverage meeting UL 1309 and IEEE Std. 45-1998.

Sheath (optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical, and sunlight resistant thermosetting compound meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL 1072. Colored jackets for signifying different voltage levels is also available on special request (ie. yellow = 5kV, orange = 8kV and red = 15kV).



Ratings & Approvals

- UL Listed as Marine Shipboard Cable (E111461)
- American Bureau of Shipping (ABS)
- Det Norske Veritas (DNV) Pending
- Lloyd's Register of Shipping (LRS) Pending
- 90°C Temperature Rating
- Voltage Rating – 5kV to 15kV (25kV available on request)

Termination Kits

AmerCable recommends Raychem's HVT series terminations for single conductor constructions and HVT-M series terminations for multi-conductor constructions.

Applications

AmerCable's Type MMV marine medium voltage cables are for use aboard commercial ships, mobile offshore drilling units (MODUs), and fixed or floating offshore facilities.

Features

- These cables utilize flexible stranded conductors, braided shields and a braided armor (when armored) which make them very suitable for applications involving repeated flexing and high vibration.
- These cables have a small minimum bending radius (6xOD for unarmored cables and 8xOD for armored cables) for easy installation.
- Optional uninsulated grounding conductors sized per UL 1072.
- The increased flexibility of this cable allows for termination of one end and coiling on multiple module offshore platforms. Then coiling and terminating other end when modules are mated at sea thereby reducing installation time.
- Passes IEC 332-3 Category A and IEEE 1202 flame tests.

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

Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C



Single Conductor Type MMV Marine Medium Voltage – 5kV, 100/133% Insulation Level

Size AWG/ kcmil	mm2	Part No. 37-105	Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	In Free Air (amps)	Triangular Configuration (amps)	Single Banked in Tray (amps)		
8	7.6	-101	0.564	204	0.054	1.282	0.751	401	0.061	1.288	80	69	68	0.694	0.885
6	12.5	-102	0.604	252	0.050	0.822	0.836	502	0.058	0.830	107	92	91	0.436	0.556
4	21	-103	0.686	344	0.044	0.566	0.918	622	0.051	0.573	141	121	120	0.286	0.376
2	34	-104	0.750	449	0.041	0.361	0.981	748	0.047	0.367	186	159	158	0.175	0.230
1	43	-105	0.790	528	0.040	0.296	1.064	894	0.047	0.303	214	184	182	0.140	0.184
1/0	54	-106	0.877	659	0.039	0.245	1.108	1004	0.045	0.250	247	212	210	0.111	0.147
2/0	70	-107	0.937	787	0.038	0.202	1.168	1160	0.043	0.207	285	244	242	0.089	0.117
3/0	86	-108	0.980	910	0.037	0.278	1.212	1298	0.042	0.173	328	281	279	0.070	0.094
4/0	109	-109	1.042	1086	0.035	0.141	1.274	1496	0.040	0.146	381	325	324	0.056	0.075
262	132	-110	1.121	1272	0.034	0.122	1.353	1708	0.038	0.127	435	371	370	0.046	0.063
313	159	-111	1.187	1467	0.033	0.108	1.419	1926	0.037	0.112	486	413	413	0.038	0.053
373	189	-112	1.252	1692	0.032	0.095	1.484	2174	0.036	0.099	544	460	462	0.032	0.045
444	227	-113	1.327	1968	0.032	0.086	1.559	2476	0.035	0.090	606	510	515	0.027	0.039
535	273	-114	1.408	2294	0.031	0.077	1.706	2949	0.035	0.082	682	570	580	0.022	0.033
646	326	-115	1.496	2672	0.030	0.070	1.793	3361	0.034	0.075	767	635	652	0.019	0.028
777	394	-116	1.599	3154	0.030	0.065	1.881	3859	0.033	0.069	865	709	735	0.015	0.025
1111	562	-117	1.883	4414	0.029	0.054	2.169	5255	0.033	0.057	1084	853	921	0.011	0.017

Single Conductor Type MMV Marine Medium Voltage – 8kV, 100% Insulation Level

See page 29
for MMV
Stranding Profile

Size AWG/ kcmil	mm2	Part No. 37-105	Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	In Free Air (amps)	Triangular Configuration (amps)	Single Banked in Tray (amps)		
6	12.5	-118	0.656	283	0.052	0.824	0.888	549	0.059	0.831	107	92	91	0.436	0.556
4	21	-119	0.738	378	0.046	0.567	0.970	673	0.052	0.574	141	121	120	0.286	0.376
2	34	-120	0.801	486	0.043	0.362	1.033	806	0.048	0.368	186	159	158	0.175	0.230
1	43	-121	0.884	604	0.042	0.298	1.108	942	0.047	0.304	214	184	182	0.140	0.184
1/0	54	-122	0.929	702	0.041	0.246	1.160	1072	0.046	0.251	247	212	210	0.111	0.147
2/0	70	-123	0.989	835	0.039	0.203	1.220	1226	0.044	0.208	285	244	242	0.089	0.117
3/0	86	-124	1.032	956	0.038	0.169	1.264	1363	0.043	0.174	328	281	279	0.070	0.094
4/0	109	-125	1.094	1135	0.036	0.142	1.326	1563	0.041	0.147	381	325	324	0.056	0.075
262	132	-126	1.173	1324	0.035	0.123	1.405	1779	0.039	0.128	435	371	370	0.046	0.063
313	159	-127	1.239	1522	0.034	0.109	1.471	1999	0.038	0.113	486	413	413	0.038	0.053
373	189	-128	1.304	1750	0.033	0.096	1.536	2250	0.037	0.100	544	460	462	0.032	0.045
444	227	-129	1.379	2029	0.033	0.087	1.603	2538	0.036	0.091	606	510	515	0.027	0.039
535	273	-130	1.460	2359	0.032	0.078	1.746	3012	0.036	0.082	682	570	580	0.022	0.033
646	326	-131	1.548	2741	0.031	0.071	1.833	3428	0.035	0.075	767	635	652	0.019	0.028
777	394	-132	1.651	3186	0.030	0.066	1.949	3944	0.034	0.070	865	709	735	0.015	0.025
1111	562	-133	1.935	4498	0.030	0.055	2.233	5388	0.033	0.058	1084	853	921	0.011	0.017

Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C
Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Single Conductor Type MMV Marine Medium Voltage – 8kV, 133% Insulation Level

Size AWG/ kcmil	mm ²	Part No. 37-105	Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	In Free Air (amps)	Triangular Configuration (amps)	Single Banked in Tray (amps)		
6	12.5	-134	0.710	317	0.054	0.826	0.942	603	0.060	0.832	107	92	91	0.436	0.556
4	21	-135	0.792	417	0.047	0.569	1.016	725	0.053	0.575	141	121	120	0.286	0.376
2	34	-136	0.898	565	0.045	0.365	1.129	916	0.050	0.370	186	159	158	0.175	0.230
1	43	-137	0.938	648	0.044	0.300	1.170	1022	0.049	0.305	214	184	182	0.140	0.184
1/0	54	-138	0.983	751	0.042	0.247	1.214	1140	0.047	0.252	247	212	210	0.111	0.147
2/0	70	-139	1.043	884	0.040	0.204	1.274	1293	0.045	0.209	285	244	242	0.089	0.117
3/0	86	-140	1.086	1007	0.039	0.171	1.318	1432	0.044	0.175	328	281	279	0.070	0.094
4/0	109	-141	1.148	1189	0.038	0.143	1.380	1635	0.042	0.148	381	325	324	0.056	0.075
262	132	-142	1.227	1381	0.036	0.124	1.459	1854	0.040	0.129	435	371	370	0.046	0.063
313	159	-143	1.293	1584	0.035	0.110	1.524	2081	0.039	0.114	486	413	413	0.038	0.053
373	189	-144	1.358	1813	0.034	0.097	1.582	2318	0.038	0.101	544	460	462	0.032	0.045
444	227	-145	1.433	2095	0.033	0.088	1.719	2734	0.038	0.093	606	510	515	0.027	0.039
535	273	-146	1.460	2359	0.032	0.078	1.758	3034	0.036	0.083	682	570	580	0.022	0.033
646	326	-147	1.602	2814	0.032	0.072	1.888	3529	0.036	0.076	767	635	652	0.019	0.028
777	394	-148	1.767	3376	0.032	0.067	2.065	4181	0.036	0.071	865	709	735	0.015	0.025
1111	562	-149	1.989	4587	0.031	0.055	2.275	5470	0.034	0.058	1084	853	921	0.011	0.017

See page 29

for MMV

Stranding Profile

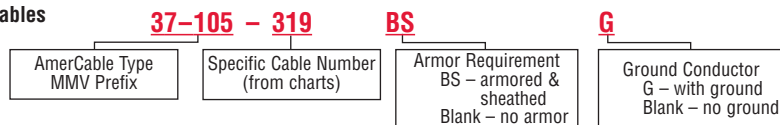
Single Conductor Type MMV Marine Medium Voltage – 15kV, 100% Insulation Level

Size AWG/ kcmil	mm ²	Part No. 37-105	Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	In Free Air (amps)	Triangular Configuration (amps)	Single Banked in Tray (amps)		
2	34	-150	1.050	692	0.049	0.369	1.269	1088	0.053	0.373	186	164	158	0.175	0.230
1	43	-151	1.088	778	0.047	0.303	1.308	1186	0.051	0.308	214	189	182	0.140	0.184
1/0	54	-152	1.133	883	0.045	0.251	1.352	1301	0.049	0.255	247	217	210	0.111	0.147
2/0	70	-153	1.191	1024	0.044	0.208	1.410	1462	0.047	0.212	284	250	241	0.089	0.117
3/0	86	-154	1.236	1154	0.042	0.174	1.456	1608	0.046	0.178	327	288	278	0.070	0.094
4/0	109	-155	1.298	1343	0.040	0.146	1.518	1817	0.044	0.150	378	332	321	0.056	0.075
262	132	-156	1.397	1568	0.039	0.128	1.616	2077	0.042	0.131	431	377	366	0.046	0.063
313	159	-157	1.463	1778	0.038	0.113	1.744	2422	0.042	0.117	481	418	409	0.038	0.053
373	189	-158	1.528	2015	0.037	0.100	1.809	2685	0.041	0.104	536	464	456	0.032	0.045
444	227	-159	1.603	2313	0.036	0.091	1.884	3014	0.040	0.095	598	514	508	0.027	0.039
535	273	-160	1.742	2762	0.036	0.082	2.024	3520	0.039	0.086	672	574	571	0.022	0.033
646	326	-161	1.830	3165	0.035	0.075	2.112	3960	0.038	0.079	754	638	641	0.019	0.028
777	394	-162	1.965	3729	0.034	0.070	2.246	4578	0.037	0.073	848	709	721	0.015	0.025
1111	562	-163	2.187	4930	0.033	0.057	2.468	5870	0.036	0.060	1061	857	902	0.011	0.017

Ordering Type MMV Medium Voltage Cables

Example:

- 3 conductor power cable
- 8kV 100%
- #2 AWG
- ground
- bronze armored & sheathed



Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C



Single Conductor Type MMV Marine Medium Voltage – 15kV, 133% Insulation Level

Size AWG/ kcmil	mm2	Part No. 37-105	Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts/amp/ 1000 ft.)	In Free Air (amps)	Triangular Configuration (amps)	Single Banked in Tray (amps)		
2	34	-164	1.132	771	0.050	0.370	1.352	1194	0.055	0.375	186	164	158	0.175	0.230
1	43	-165	1.170	863	0.049	0.305	1.390	1299	0.053	0.309	214	189	182	0.140	0.184
1/0	54	-166	1.215	970	0.047	0.252	1.434	1416	0.051	0.256	247	217	210	0.111	0.147
2/0	70	-167	1.273	1112	0.045	0.209	1.492	1578	0.049	0.213	284	250	241	0.089	0.117
3/0	86	-168	1.338	1267	0.044	0.176	1.558	1756	0.047	0.179	327	288	278	0.070	0.094
4/0	109	-169	1.400	1461	0.042	0.148	1.620	1971	0.046	0.151	378	332	321	0.056	0.075
262	132	-170	1.479	1670	0.040	0.129	1.761	2320	0.044	0.133	431	377	366	0.046	0.063
313	159	-171	1.545	1884	0.039	0.114	1.827	2561	0.043	0.118	481	418	409	0.038	0.053
373	189	-172	1.610	2132	0.038	0.101	1.892	2836	0.042	0.105	536	464	456	0.032	0.045
444	227	-173	1.747	2541	0.038	0.093	2.029	3301	0.041	0.096	598	514	508	0.027	0.039
535	273	-174	1.824	2889	0.037	0.084	2.106	3680	0.040	0.087	672	574	571	0.022	0.033
646	326	-175	1.944	3350	0.036	0.077	2.226	4191	0.039	0.080	754	638	641	0.019	0.028
777	394	-176	2.047	3870	0.035	0.071	2.329	4753	0.038	0.074	848	709	721	0.015	0.025
1111	562	-177	2.269	5083	0.034	0.058	2.551	6057	0.036	0.061	1061	857	902	0.011	0.017

See page 29
for MMV
Stranding Profile

Three Conductor Type MMV Marine Medium Voltage – 5kV, 100/133% Insulation Level

Size AWG/ kcmil	mm2	Part No. 37-105	Unarmored		Armored & Sheathed (BS)		Ampacity		DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Optional Grounding Conductor
			Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)					
8	7.6	-301	1.137	781	1.369	1218	66	56	0.708	0.885	0.048	1.275	8
6	12.5	-302	1.226	955	1.457	1424	88	75	0.445	0.556	0.044	0.815	6
4	21	-303	1.402	1307	1.625	1824	116	99	0.300	0.376	0.039	0.560	6
2	34	-304	1.538	1690	1.824	2372	152	129	0.184	0.230	0.036	0.356	6
1	43	-305	1.626	1974	1.911	2692	175	149	0.147	0.184	0.035	0.291	4
1/0	54	-306	1.783	2423	2.081	3232	201	171	0.117	0.147	0.034	0.239	4
2/0	70	-307	1.913	2884	2.210	3749	232	197	0.093	0.117	0.033	0.196	4
3/0	86	-308	2.007	3315	2.305	4220	266	226	0.074	0.094	0.032	0.163	3
4/0	109	-309	2.140	3937	2.438	4899	306	260	0.058	0.075	0.031	0.136	3
262	132	-310	2.310	4619	2.608	5654	348	296	0.048	0.063	0.030	0.118	3
313	159	-311	2.453	5319	2.796	6549	386	328	0.040	0.053	0.029	0.104	2
373	189	-312	2.589	6107	3.000	7402	429	365	0.034	0.045	0.029	0.092	2
444	227	-313	2.818	7280	3.161	8684	455	387	0.028	0.039	0.028	0.083	1
535	273	-314	2.974	8463	3.317	9964	528	449	0.024	0.033	0.028	0.074	1
646	326	-315	3.164	9814	3.507	11407	584	496	0.020	0.028	0.027	0.067	1
777	394	-316	3.385	11526	3.729	13226	647	550	0.016	0.025	0.027	0.062	1/0

Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C



Three Conductor Type MMV Marine Medium Voltage – 8kV, 100% Insulation Level

			Unarmored		Armored & Sheathed (BS)		Ampacity						
Size AWG/ kcmil	mm ²	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Optional Grounding Conductor
6	12.5	-317	1.338	1094	1.561	1589	88	75	0.445	0.556	0.046	0.818	6
4	21	-318	1.514	1462	1.799	2134	116	99	0.300	0.376	0.041	0.562	6
2	34	-319	1.650	1970	1.998	2725	152	129	0.184	0.230	0.038	0.357	6
1	43	-320	1.800	2263	2.085	3054	175	149	0.147	0.184	0.037	0.293	4
1/0	54	-321	1.895	2617	2.181	3454	201	171	0.117	0.147	0.036	0.241	4
2/0	70	-322	2.025	3100	2.310	3989	232	197	0.093	0.117	0.034	0.198	4
3/0	86	-323	2.119	3531	2.404	4458	266	226	0.074	0.094	0.033	0.165	3
4/0	109	-324	2.252	4162	2.537	5140	306	260	0.058	0.075	0.032	0.138	3
262	132	-325	2.422	4864	2.707	5913	348	296	0.048	0.063	0.031	0.119	3
313	159	-326	2.565	5581	2.914	6884	386	328	0.040	0.053	0.030	0.105	2
373	189	-327	2.704	6392	3.054	7760	429	365	0.034	0.045	0.030	0.093	2
444	227	-328	2.930	7582	3.280	9059	455	387	0.028	0.039	0.029	0.084	1
535	273	-329	3.096	8806	3.439	10366	528	449	0.024	0.033	0.029	0.075	1
646	326	-330	3.267	10137	3.611	11780	584	496	0.020	0.028	0.028	0.068	1
777	394	-331	3.512	11959	3.855	13708	647	550	0.016	0.025	0.028	0.063	1/0

Three Conductor Type MMV Marine Medium Voltage – 8kV, 133% Insulation Level

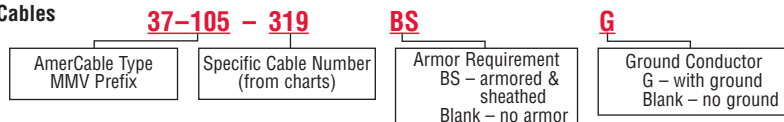
See page 29
for MMV
Stranding Profile

			Unarmored		Armored & Sheathed (BS)		Ampacity						
Size AWG/ kcmil	mm ²	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Optional Grounding Conductor
6	12.5	-332	1.454	1249	1.740	1896	88	75	0.445	0.556	0.048	0.820	6
4	21	-333	1.630	1639	1.916	2359	116	99	0.300	0.376	0.043	0.564	6
2	34	-334	1.829	2162	2.114	2964	152	129	0.184	0.230	0.040	0.359	6
1	43	-335	1.916	2467	2.202	3306	175	149	0.147	0.184	0.038	0.294	4
1/0	54	-336	2.012	2838	2.297	3717	201	171	0.117	0.147	0.037	0.242	4
2/0	70	-337	2.141	3327	2.427	4259	232	197	0.093	0.117	0.036	0.199	4
3/0	86	-338	2.236	3763	2.521	4734	266	226	0.074	0.094	0.035	0.166	3
4/0	109	-339	2.369	4417	2.654	5443	306	260	0.058	0.075	0.033	0.139	3
262	132	-340	2.539	5133	2.888	6422	348	296	0.048	0.063	0.032	0.121	3
313	159	-341	2.680	5870	3.031	7227	386	328	0.040	0.053	0.032	0.106	2
373	189	-342	2.885	6884	3.235	8340	429	365	0.034	0.045	0.031	0.094	2
444	227	-343	3.036	7959	3.380	9491	455	387	0.028	0.039	0.030	0.085	1
535	273	-344	3.210	9167	3.552	10782	528	449	0.024	0.033	0.030	0.076	1
646	326	-345	3.400	10554	3.742	12261	584	496	0.020	0.028	0.029	0.069	1

Ordering Type MMV Medium Voltage Cables

Example:

- 3 conductor power cable
- 8kV 100%
- #2 AWG
- ground
- bronze armored & sheathed



Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Three Conductor Type MMV Marine Medium Voltage – 15kV, 100% Insulation Level

			Unarmored		Armored & Sheathed (BS)		Ampacity						
Size AWG/ kcmil	mm ²	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Optional Grounding Conductor
2	34	-346	2.157	2759	2.443	3697	156	133	0.184	0.230	0.042	0.361	6
1	43	-347	2.239	3073	2.524	4045	178	151	0.147	0.184	0.040	0.296	4
1/0	54	-348	2.335	3466	2.620	4477	205	174	0.117	0.147	0.039	0.244	4
2/0	70	-349	2.461	3991	2.810	5242	234	199	0.093	0.117	0.037	0.201	4
3/0	86	-350	2.559	4466	2.910	5764	269	229	0.074	0.094	0.036	0.168	3
4/0	109	-351	2.691	5150	3.041	6513	309	263	0.058	0.075	0.035	0.141	3
262	132	-352	2.749	5749	3.152	7348	352	299	0.048	0.063	0.034	0.122	3
313	159	-353	2.881	6483	3.287	8184	389	331	0.040	0.053	0.033	0.107	2
373	189	-354	3.021	7331	3.365	8856	432	367	0.034	0.045	0.032	0.095	2
444	227	-355	3.183	8380	3.527	9983	456	388	0.028	0.039	0.031	0.086	1
535	273	-356	3.357	9599	3.701	11285	528	449	0.024	0.033	0.031	0.077	1

Three Conductor Type MMV Marine Medium Voltage – 15kV, 133% Insulation Level

See page 29

for MMV

Stranding Profile

			Unarmored		Armored & Sheathed (BS)		Ampacity						
Size AWG/ kcmil	mm ²	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Optional Grounding Conductor
2	34	-357	2.334	3125	2.619	4137	156	133	0.184	0.230	0.044	0.364	6
1	43	-358	2.416	3470	2.701	4515	178	151	0.147	0.184	0.043	0.299	4
1/0	54	-359	2.512	3874	2.861	5150	205	174	0.117	0.147	0.041	0.246	4
2/0	70	-360	2.637	4411	2.987	5748	234	199	0.093	0.117	0.039	0.203	4
3/0	86	-361	2.842	5206	3.192	6640	269	229	0.074	0.094	0.038	0.170	3
4/0	109	-362	2.976	5930	3.325	7430	309	263	0.058	0.075	0.037	0.142	3
262	132	-363	2.989	6412	3.340	7831	352	299	0.048	0.063	0.035	0.124	3
313	159	-364	3.091	6990	3.394	8529	389	331	0.040	0.053	0.034	0.109	2
373	189	-365	3.204	7897	3.548	9510	432	367	0.034	0.045	0.034	0.097	2
444	227	-366	3.347	8879	3.690	10560	456	388	0.028	0.039	0.033	0.088	1
535	273	-367	3.521	10144	3.865	11910	528	449	0.024	0.033	0.033	0.079	1

Ordering Type MMV Medium Voltage Cables

Example:

- 3 conductor power cable
- 8kV 100%
- #2 AWG
- ground
- bronze armored & sheathed

37-105 – 319**BS****G**AmerCable Type
MMV PrefixSpecific Cable Number
(from charts)Armor Requirement
BS – armored &
sheathed
Blank – no armorGround Conductor
G – with ground
Blank – no ground

Type MMV-VFD Power Cable

Three Conductor: 8kV – 15kV • 133% Insulation Level • Rated 90°C

Conductors (3)

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

Insulation

Extruded thermosetting 90°C Ethylene Propylene Rubber (EPR), meeting UL 1309 (Type E), IEEE 1580 (Type E), ICEA S-68-516 and UL 1072.

EMI Shield

Overall tinned copper braid plus aluminum/polyester tape providing 100% coverage

Insulation Shield

Composite shield consisting of 0.0126" tinned copper braided with nylon providing 60% copper shielded coverage meeting UL 1309, IEEE Std. 1580, ICEA S-68-516 and UL 1072. The nylon is colored for easy phase identification (three conductor = black, blue, red) without the need to remove the shield to find an underlying colored tape.

Conductor Shield

A combination of semi-conducting tape and extruded thermosetting semi-conducting material meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL 1072.

Insulation Shield

Semi-conducting layer meeting UL 1309, IEEE 1580, ICEA S-68-516 and UL 1072.

Symmetrical Insulated Grounding Conductors (3)

Soft annealed flexible stranded tinned copper conductor per IEEE 1580 Table 11. Gexol Insulation sized per Table 23.2 of UL1072. Color: Green

Jacket

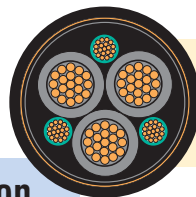
A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245, IEEE 1580, and UL 1072. Colored jackets for signifying different voltage levels are also available on special request (orange = 8kV and red = 15kV).

Armor (optional)

Basket weave wire armor per IEEE 1580 and UL 1309/CSA 245. Bronze standard. Tinned copper available by request.

Sheath (optional)

A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245, IEEE 1580, and UL 1072. Colored jackets for signifying different voltage levels are also available on special request (orange = 8kV and red = 15kV).



Low smoke halogen-free jacket available on request.

Termination Kits

AmerCable Systems offers pre-sized and pre-formed termination kit packages specifically for VFD cable constructions

Ratings & Approvals

- UL Listed as Marine Shipboard Cable (E111461)
- American Bureau of Shipping (ABS)
- Det Norske Veritas (DNV) Pending
- Lloyd's Register of Shipping (LRS) Pending
- 90°C Temperature Rating
- Voltage Rating – 8kV to 15kV (25kV available on request)

Applications

A flexible, braid and foil shielded, power cable specifically engineered for use in medium voltage variable frequency AC drive (VFD) applications.

Features

- Flexible stranded conductors, braided shields and a braided armor (when armored). Suitable for applications involving repeated flexing and high vibration.
- Small minimum bending radius (6xOD for unarmored cables and 8xOD for armored cables) for easy installation.
- Insulation resists the repetitive 3x voltage spikes from VFDs and reduces drive over current trip problems due to cable charging current.
- Overall braid and foil shield provides 100% coverage containing VFD EMI emissions.
- Symmetrical insulated ground conductors reduce induced voltage imbalances and carry common mode noise back to the drive.
- High strand count conductors and braid shield design is much more flexible, easier to install and more resistant to vibration than Type MC cable.
- Severe cold durability: exceeds CSA cold bend/cold impact (-40°C/-35°C).
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Suitable for use in Class I, Division 1 and Zone 1 environments (armored and sheathed).

Type MMV-VFD Power Cable

Three Conductor: 8kV – 15kV • 133% Insulation Level • Rated 90°C

Three Conductor Type MMV-VFD Marine Medium Voltage – 8kV • 133% Insulation Level

		Unarmored			Armored & Sheathed (BS)			Ampacity						
Size AWG/ kcmil	mm2	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Green Insulated Grounding Conductor (3x) Size (AWG)
6	12.5	-332VFD	1.541	1349	-332BSVFD	1.879	2048	88	75	0.445	0.556	0.048	0.820	10
4	21	-333VFD	1.728	1770	-333BSVFD	2.069	2548	116	99	0.300	0.376	0.043	0.564	10
2	34	-334VFD	1.939	2335	-334BSVFD	2.283	3201	152	129	0.184	0.230	0.040	0.359	10
1	43	-335VFD	2.031	2664	-335BSVFD	2.378	3570	175	149	0.147	0.184	0.038	0.294	8
1/0	54	-336VFD	2.133	3065	-336BSVFD	2.481	4014	201	171	0.117	0.147	0.037	0.242	8
2/0	70	-337VFD	2.269	3593	-337BSVFD	2.621	4600	232	197	0.093	0.117	0.036	0.199	8
3/0	86	-338VFD	2.370	4064	-338BSVFD	2.723	5113	266	226	0.074	0.094	0.035	0.166	6
4/0	109	-339VFD	2.511	4770	-339BSVFD	2.866	5878	306	260	0.058	0.075	0.033	0.139	6
262	132	-340VFD	2.691	5544	-340BSVFD	3.119	6936	348	296	0.048	0.063	0.032	0.121	6
313	159	-341VFD	2.841	6340	-341BSVFD	3.273	7805	386	328	0.040	0.053	0.032	0.106	6
373	189	-342VFD	3.058	7435	-342BSVFD	3.494	9007	429	365	0.034	0.045	0.031	0.094	4
444	227	-343VFD	3.218	8596	-343BSVFD	3.650	10250	455	387	0.028	0.039	0.030	0.085	4
535	273	-344VFD	3.403	9900	-344BSVFD	3.836	1164	528	449	0.024	0.033	0.030	0.076	4

Three Conductor Type MMV-VFD Marine Medium Voltage – 15kV • 133% Insulation Level

		Unarmored			Armored & Sheathed (BS)			Ampacity						
Size AWG/ kcmil	mm2	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./ 1000 ft.)	In Free Air (amps)	Single Banked in Trays (amps)	DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60Hz (ohms/1000 ft.)	Inductive Reactance (ohms/ 1000 ft.)	Voltage Drop (Volts per amp per 1000 ft.)	Green Insulated Grounding Conductor (3x) Size (AWG)
2	34	-357VFD	2.474	3375	-357BSVFD	2.829	4468	156	133	0.184	0.230	0.0440	0.364	10
1	43	-358VFD	2.561	3748	-358BSVFD	2.917	4876	178	151	0.147	0.184	0.0430	0.299	8
1/0	54	-359VFD	2.663	4184	-359BSVFD	3.090	5562	205	174	0.117	0.147	0.041	0.246	8
2/0	70	-360VFD	2.795	4764	-360BSVFD	3.226	6208	234	199	0.093	0.117	0.0390	0.203	8
3/0	86	-361VFD	3.013	5622	-361BSVFD	3.447	7171	269	229	0.074	0.094	0.038	0.170	6
4/0	109	-362VFD	3.155	6404	-362BSVFD	3.591	8024	309	263	0.058	0.075	0.037	0.142	6
262	132	-363VFD	3.168	6925	-363BSVFD	3.607	8457	352	299	0.048	0.063	0.035	0.124	6
313	159	-364VFD	3.276	7549	-364BSVFD	3.666	9211	389	331	0.040	0.053	0.034	0.109	6
373	189	-365VFD	3.396	8529	-365BSVFD	3.832	10271	432	367	0.034	0.045	0.034	0.097	4
444	227	-366VFD	3.548	9589	-366BSVFD	3.985	11405	456	388	0.028	0.039	0.033	0.08	4

Ordering Type MMV-VFD Medium Voltage Cables

Example:

- 3 conductor MMV-VFD power cable
- 8kV
- #6 AWG
- Unarmored

37-105 – 332VFDAmerCable Type
MMV-VFD PrefixSpecific Cable
Number (from charts)

Ordering Type MMV-VFD Medium Voltage Cables

Example:

- 3 conductor MMV-VFD power cable
- 15kV
- #2 AWG
- bronze armored & sheathed

37-105 – 357BSVFDAmerCable Type
MMV-VFD PrefixSpecific Cable
Number (from charts)

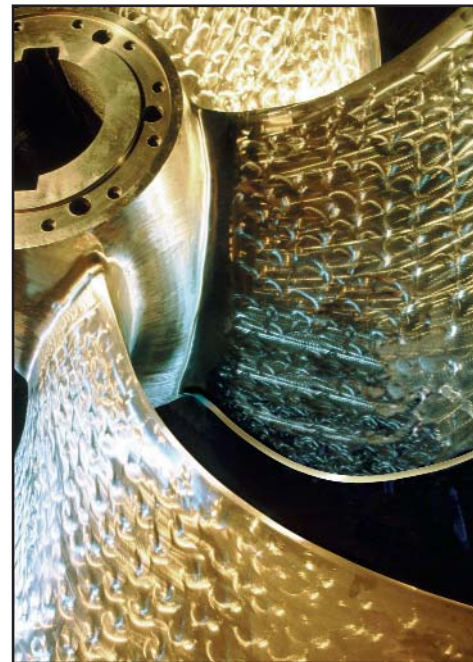
Type MMV Medium Voltage Cable

Single Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

Multi-Conductor: 5kV – 15kV, 100% & 133% Insulation Levels. Rated 90°C

MMV Stranding Profile

Size AWG/kcmil	Number of Strands	Individual Strand Dia. (inches)	Closest IEEE 45 Std. Size	Equivalent Metric Size (mm2)	Uninsulated Conductor Dia. (inches)
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



MMV Ampacities & Electrical Data

Ampacities are based on API RP 14F (June 1999) Table 4 or 5 for single conductor cables and Table 3 for multi-conductor cables. The notes to these tables are also applicable. Ampacities are also based on a 90°C conductor temperature and a 45°C ambient temperature.

Inductive reactance and voltage drop values are based on a 90°C conductor temperature and 60 Hz operation. Values for single conductor cables are based on a symmetrical triangular configuration.

Please consult AmerCable on values for other configurations.

MMV Bend Radius


	Unarmored	Armored	Armored & Sheathed
IEEE 45	6X Diameter	8X Diameter	8X Diameter
IEC 92	<1" (25mm) 4 x Diameter >1" (25mm) 6X Diameter	6X Diameter	8X Diameter
Transport Canada	<1" (25mm) 4X Diameter >1" (25mm) 6X Diameter	6X Diameter	6X Diameter



Ester Based Mud Resistant Jacketed Cables

110°C • UL Marine Shipboard Cable

Designed to deliver outstanding performance in the harshest operating conditions – specifically in high temperature Ester Based drilling muds.



The background image shows a large offshore oil rig in the ocean. In the foreground, three different types of cables are shown. The leftmost cable is a large, black, multi-core cable with a thick, braided metal shield. The middle cable is a smaller, blue, single-core cable with a braided metal shield. The rightmost cable is a smaller, multi-colored, single-core cable with a braided metal shield. The cables are shown in a way that suggests they are being used in a drilling or mining operation.

A swollen or split cable jacket due to drilling mud exposure is a productivity killer.

AmerCable offers three levels of mud resistance to match your operating conditions:

Standard, Advanced and Ester Based Mud Resistant

Ester Based Mud Resistant Jacketed Cables

110°C • UL Marine Shipboard Cable

When standard mud resistance isn't enough, AmerCable has a World Class Mud Resistant cable jacket designed to deliver outstanding performance in the harshest operating conditions. Designed specifically for exposure to **high temperature ESTER BASED drilling muds**, this cable meets all the performance requirements of industry standards UL 1309 and IEEE 1580 for Type N jackets. When tested for prolonged exposure to the most aggressive ester based drilling muds, it easily passes the mud resistance requirements of NEK 606.

AmerCable's ester based mud resistant cables were also tested against the requirements of UL 1309 and IEEE 1580 and the results are shown in Table I.¹ ***This product easily passed all the requirements.*** Table II shows the results of this cable when aged in Baroid Petrofree® (Ester Based) drilling mud per NEK 606. All aging requirements were met. Additional testing done on these cables show the jacket to pass cold impact at -20°C and cold bend at -40°C.

Table I

World Class Mud Resistant Jacket	Specifications	UL-1309 Table 4	IEEE 1580 Table 5-7	AmerCable Testing Program ¹
	Jacket Type	Type N	Type N	Mud Resistant Jacket
Physical Requirements – Unaged	Tensile Strength, Min, PSI	1800	1800	Pass
	Elongation at Rupture, Min, %	300	300	Pass
	Set, Max, %	20	20	Pass
Aging Requirements 90°C Rated Jacket 121±1°C Air Oven 240 Hours	Tensile Strength, Minimum	900 psi	900 psi	Pass
	Elongation at Rupture, %	50% Actual	50% Actual	Pass
Oil Exposure Resistance After Oil Immersion at 121±1°C 18 Hours	Tensile Strength, % Retention of Unaged, Min	80	80	Pass
	Elongation at Rupture, % Retention of Unaged, Min	60	60	Pass
Mechanical Water Absorption	mg / in ²	100	130	Pass
Weatherometer Test	Per UL 1581	No Requirement	Pass	Pass
Tear	lb/in Thickness, Min	No Requirement	35	Pass
FT4/IEEE 1202 Flame Exposure (UL-1685)	–	Pass	Pass	Pass
IEC 332-3 Flame Exposure	–	No Requirement	No Requirement	Pass

Table II

MUD Resistant – NEK 606 Note: Tested for Changes in Each Listed Requirement 70°C, 56 Days	Requirements		Mud Type	Results
	Elongation at Break	±25%	Baroid Petrofree® (Ester Based)	Pass
	Tensile Strength	±25%	Baroid Petrofree® (Ester Based)	Pass
	Volume Swelling	Max 20%	Baroid Petrofree® (Ester Based)	Pass
	Weight Increase	Max 15%	Baroid Petrofree® (Ester Based)	Pass
	Oxygen Index	Min 25%	Baroid Petrofree® (Ester Based)	Pass

¹ All results representative of finished cables (6 3/C, 14 7/C and 18 7 PR). Test data on file at AmerCable

Precision Engineered **Cable** ASSEMBLIES



Constructions:

- 300V – 15kV AC
- DC Power
- Composite Power & Control
- Instrumentation
- Thermocouple
- Fiber Optic
- Electro-Optic

Applications:

- Service Loops
- Driller's Console
- Mud Pump Controls
- 15kV Bridle Assembly
- Tender-to-Platform Bridle
- Ship-to-Shore Power
- Portable Power Generation
- Zone 1 (EX) Rated Cable Assemblies

**Turn-key cable assembly
solutions for hazardous
and industrial environments**

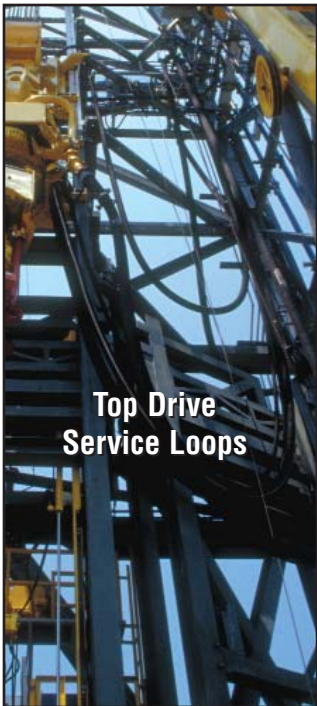


AmerCable Systems

The Assembly Application Professionals

■ **Fast Delivery**

- Job-site application evaluation and consultation
- Highly reliable cable assemblies custom built and tested to spec



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AmerCable's manufacturing facility in El Dorado, Arkansas.

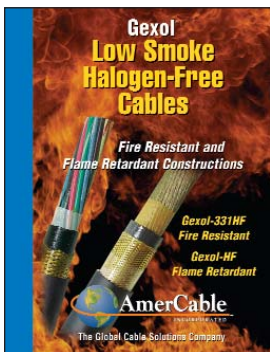
AmerCable is an ISO 9001 certified cable manufacturer that combines leading-edge manufacturing technology, innovative thinking, and high quality service to deliver the finest oil & gas cable and engineered cable assemblies available.



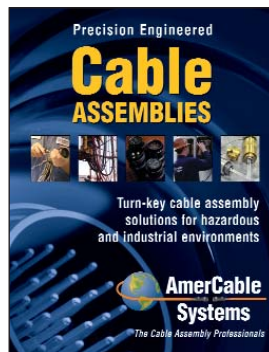
AmerCable serves the world from our Oil & Gas Group headquarters in Houston, Texas. Our professional field engineers and sales force work with you to create innovative, cost-effective project solutions.

What can you expect from AmerCable?

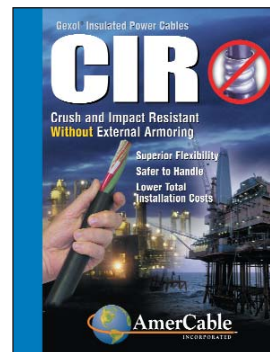
- Fastest Lead Times in the Industry
(Standard 8 - 10 weeks / Emergency 2 - 4 weeks)
- On-Time Delivery (99% avg. for the last 36 months)
- Professional Sales, Support and Service
- Global Cable Management



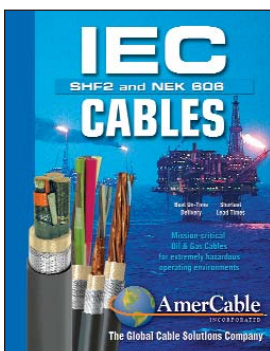
Low smoke halogen-free fire resistant or flame retardant Type P cables.



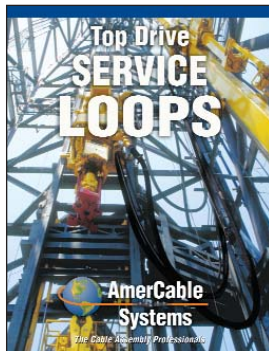
Precision engineered cable assemblies for hazardous and industrial applications.



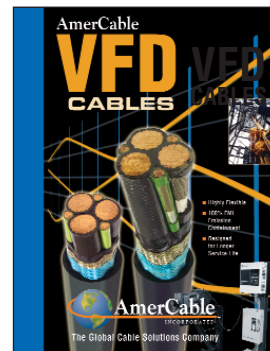
Crush and Impact Resistant Type P cables without external armoring.



SHF2 and NEK 606 IEC cables



Top Drive Service Loops



Foil shielded, power cables engineered for use in variable frequency AC drive applications.
Available in several constructions