

GEXOL[®]

WORLD CLASS ENERGY CABLES

WORLD-CLASS TYPE P LAND & OFFSHORE ENERGY CABLES



AmerCable

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■ **Best On-Time
Delivery Rate**

■ **Highest Ampacity Ratings**

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

■ **Extremely Flexible**

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AmerCable

ENERGY GROUP

GEXOL® Energy Cables

are the industry's standard for premium power, control and instrumentation performance. GEXOL energy cables prove their value daily in the punishing environments of land and offshore energy production operations around the world.

Harsh environments challenge cable construction with relentless heat, vibration, corrosion, drilling mud exposure and mechanical stress. Reliability is a huge issue because in today's energy markets, productivity is the key to profitability. You can depend on GEXOL Energy cables for reliable, consistent performance.



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.

- 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

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, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580. Available with NEK 606 ester-based mud resistant sheath. See page 29.

APPLICATION

Designed and constructed for the demanding environments of offshore drilling and energy production 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
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping
- American Bureau of Shipping (ABS)
- UL Listed as Marine Shipboard Cable (E111461)
- United States Coast Guard November 2, 1987 / 9304
- CSA listed as Marine Shipboard Cable

GEXOL®
600V
UNARMORED
SINGLE
CONDUCTOR
(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	0.115	11	0.046	13.560	7.210	9.763	30	17	16	20
16	-153	0.125	14	0.044	8.516	4.520	6.121	35	25	23	23
14	-154	0.164	20	0.041	5.383	2.850	3.859	41	40	37	32
12	-156	0.187	28	0.038	3.394	1.790	2.424	64	48	45	38
10	-158	0.208	41	0.036	2.155	1.130	1.530	85	62	58	51
8	-159	0.260	63	0.036	1.338	0.694	0.940	112	77	72	68
6	-160	0.290	104	0.034	0.852	0.436	0.590	148	103	96	91
4	-162	0.390	169	0.030	0.583	0.286	0.399	196	137	128	121
2	-164	0.450	247	0.029	0.368	0.175	0.244	259	181	169	162
1	-165	0.505	329	0.029	0.301	0.140	0.195	298	208	194	187
1/0	-166	0.551	402	0.029	0.246	0.111	0.156	344	243	227	217
2/0	-167	0.600	489	0.028	0.202	0.089	0.125	396	281	262	250
3/0	-168	0.649	619	0.028	0.167	0.070	0.100	457	321	300	289

GEXOL® 2KV SINGLE CONDUCTOR POWER CABLE

Size AWG/ kcmil	mm2	Part No.	Unarmored		Armored and Sheath (BS)		Inductive Reactance (Ohms/1000 ft.)	Voltage Drop 110°C (Volts/Amp/1000 ft.)	DC Resistance at 25°C, (Ohms / 1000 ft.)	AC Resistance at 110°C, 60 Hz (Ohms/ 1000 ft.)	Ampacity			
			Nominal Diameter (inches)	Weight (lbs/ Mft.)	Nominal Diameter (inches)	Weight (lbs/ Mft.)					Free Air 110°C	110°C	100°C	95°C
18	1.0	-101	0.232*	32	0.188	60	0.065	13.580	7.210	9.763	30	17	16	20
16	1.3	-102	0.248*	34	0.200	68	0.062	8.535	4.520	6.121	35	25	23	23
14	2.1	-105	0.259*	44	0.215	79	0.057	5.401	2.850	3.859	41	40	37	32
12	3.3	-106	0.281*	53	0.237	95	0.053	3.410	1.790	2.424	64	48	45	38
10	5.2	-108	0.302*	68	0.258	116	0.050	2.170	1.130	1.530	85	62	58	51
8	7.6	-109	0.354*	96	0.310	157	0.048	1.351	0.694	0.940	112	77	72	68
6	12.5	-110	0.384*	130	0.346	202	0.045	0.864	0.436	0.590	148	103	96	91
4	21	-112	0.485*	210	0.610	311	0.039	0.593	0.286	0.399	196	137	128	121
2	34	-114	0.580*	318	0.670	410	0.037	0.376	0.175	0.244	259	181	169	162
1	43	-115	0.635*	388	0.730	487	0.036	0.307	0.140	0.195	298	208	194	187
1/0	54	-116	0.690*	572	0.775	591	0.035	0.253	0.111	0.156	344	243	227	217
2/0	70	-117	0.730*	815	0.815	683	0.034	0.208	0.089	0.125	396	281	262	250
3/0	86	-118	0.788*	572	0.930	864	0.034	0.174	0.070	0.100	457	321	300	289
4/0	109	-119	0.802	820	1.065	1120	0.033	0.145	0.056	0.080	528	376	351	335
262	132	-120	0.841	977	1.098	1283	0.034	0.127	0.046	0.067	599	436	407	382
313	159	-121	0.906	1153	1.165	1484	0.033	0.112	0.038	0.056	604	487	455	427
373	189	-122	0.964	1354	1.222	1692	0.032	0.099	0.032	0.047	674	553	516	476
444	227	-123	1.026	1603	1.289	1975	0.031	0.089	0.027	0.041	750	630	588	531
535	273	-124	1.138	1929	1.396	2337	1.430	0.081	0.022	0.035	839	709	630	597
646	326	-126	1.233	2281	1.491	2717	1.530	0.073	0.019	0.030	937	783	731	671
777	394	-127	1.315	2725	1.568	3182	1.629	0.067	0.015	0.026	1048	881	822	753
1111	562	-129	1.650	3987	1.974	4687	2.050	0.056	0.011	0.018	1303	1098	1025	937

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

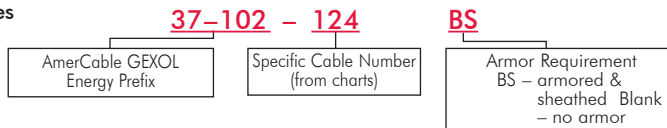
Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

GEXOL® is a registered trademark
of AmerCable Incorporated

Ordering GEXOL Energy Cables

Example:

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



See Back Cover for
Stranding Profile



TWO CONDUCTOR POWER CABLE

GEXOL® Insulated • Extremely Flexible • 0.6/1kV • Rated 110°C



APPLICATION

Designed and constructed for the demanding environments of offshore drilling and energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

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

GEXOL® FLEXIBLE POWER CABLE – TWO CONDUCTOR

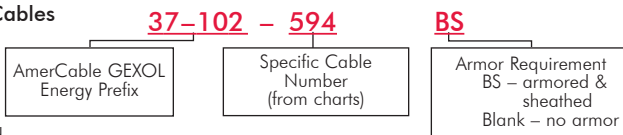
		Unarmored			Armored and Armored (B)								
Size AWG/ kcmil	mm ²	Part No. 37-102	Nominal Diameter (inches)	Weight (lbs/ Mft.)	Nominal Diameter (inches)	Weight (lbs/ Mft.)	DC Resistance at 25°C (Ohms/ 1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/ 1000 ft.)	Inductive Reactance (Ohms / 1000 ft.)	Voltage Drop 110°C (Volts/Amp/ 1000 ft.)	Ampacity		
											110°C	100°C	95°C
16	1.3	-501	0.345	65	0.547	184	4.610	6.121	0.039	8.511	20	19	20
14	2.1	-507	0.376	83	0.589	214	2.907	3.859	0.036	5.379	33	31	27
12	3.3	-515	0.441	120	0.625	251	1.826	2.424	0.034	3.390	43	40	32
10	5.2	-553	0.460	146	0.680	304	1.153	1.530	0.032	2.151	53	49	43
8	7.6	-209	0.604	215	0.815	519	0.708	0.940	0.034	1.336	69	64	58
6	12.5	-210	0.680	290	0.940	546	0.445	0.590	0.032	0.850	91	85	77
4	21	-594	0.887	491	1.150	884	0.300	0.399	0.029	0.582	118	110	103
1/0	54	-216	1.250	1055	1.505	1797	0.117	0.156	0.028	0.245	213	199	184
4/0	109	-219	1.581	2128	1.925	2827	0.059	0.080	0.026	0.138	329	307	285

Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

Ordering GEXOL Energy Cables

Example:

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



See Back Cover for
Stranding Profile



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

1/0 and larger use insulation with printed phase I.D.

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, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Available with NEK 606 ester-based mud resistant sheath. See page 29.



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 energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

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

GEXOL® FLEXIBLE POWER CABLE – THREE CONDUCTOR

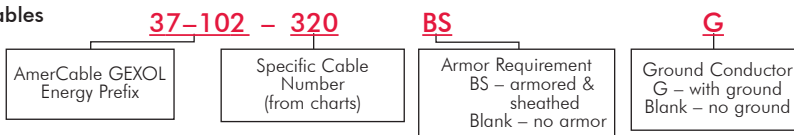
			Unarmored		Armored and Sheath (BS)									
Size AWG/ kcmil	mm2	Part No. 37-102	Nominal Diameter (inches)	Weight (lbs/ Mft.)	Nominal Diameter (inches)	Weight (lbs/ Mft.)	DC Resistance at 25°C (Ohms/ 1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/ 1000 ft.)	Inductive Reactance (Ohms / 1000 ft.)	Voltage Drop 110°C (Volts/Amp/ 1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
												110°C	100°C	95°C
16	1.3	-502	0.365	78	0.568	201	4.610	6.121	0.039	8.511	–	17	16	16
14	2.1	-508	0.401	106	0.610	241	2.907	3.859	0.036	5.379	–	27	25	22
12	3.3	-516	0.445	138	0.642	280	1.826	2.424	0.034	3.390	–	33	31	27
10	5.2	-308	0.488	185	0.692	343	1.153	1.530	0.032	2.151	–	44	41	36
8	7.6	-309	0.644	299	0.897	515	0.708	0.940	0.034	1.336	–	56	52	48
6	12.5	-310	0.730	426	0.990	698	0.445	0.590	0.032	0.850	8	75	70	64
4	21	-312	0.942	752	1.200	996	0.300	0.399	0.029	0.582	6	99	92	85
2	34	-314	1.090	1026	1.360	1437	0.184	0.244	0.028	0.366	6	131	122	113
1	43	-315	1.230	1315	1.489	1759	0.147	0.195	0.028	0.299	6	153	143	131
1/0	54	-316	1.325	1592	1.580	2056	0.117	0.156	0.028	0.245	6	176	164	152
2/0	70	-317	1.431	1756	1.755	2361	0.093	0.125	0.027	0.200	4	201	188	175
3/0	86	-318	1.571	2162	1.896	2830	0.074	0.100	0.027	0.166	4	234	218	202
4/0	109	-319	1.756	2717	2.080	3451	0.058	0.080	0.026	0.138	3	270	252	235
262	132	-320	1.922	3317	2.246	4113	0.048	0.067	0.026	0.119	3	315	294	267
313	159	-321	2.020	3853	2.350	4707	0.040	0.056	0.026	0.105	3	344	321	299
373	189	-322	2.165	4531	2.490	5425	0.034	0.047	0.025	0.092	2	387	361	334
444	227	-323	2.224	5260	2.549	6176	0.028	0.041	0.025	0.083	1	440	411	372
535	273	-324	2.549	6443	2.940	7664	0.024	0.035	0.026	0.075	1	498	443	418
646	326	-326	2.735	8150	3.275	9775	30.020	0.030	0.026	0.068	1/0	553	516	470
777	394	-327	2.917	9149	3.308	10544	30.016	0.026	0.026	0.063	1/0	602	562	529

Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

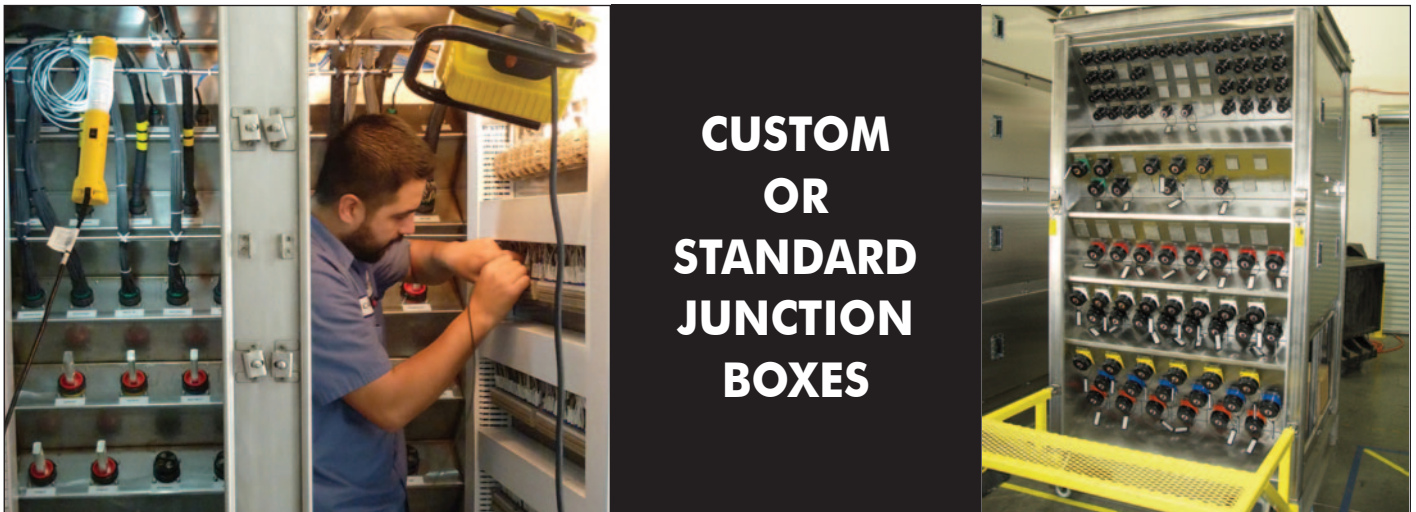
Ordering GEXOL Energy Cables

Example:

- 3-conductor power cable
- 0.6/1kV
- Bronze armored & sheathed
- Ground



See Back Cover for
Stranding Profile



**CUSTOM
OR
STANDARD
JUNCTION
BOXES**

FOUR CONDUCTOR POWER CABLE

GEXOL® Insulated • Extremely Flexible • 0.6/1kV • Rated 110°C



APPLICATION

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Flameproof "EExd"	501/421 Zone 1 & 2	501/453/U (2 liter or < enclosures) ICG 653/U (2 liter or > enclosures) Zone 1 & 2

GEXOL® FLEXIBLE POWER CABLE – FOUR CONDUCTOR

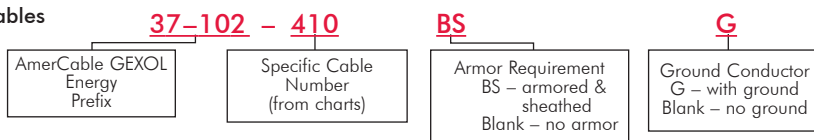
			Unarmored		Armored and Sheath (BS)									
Size AWG/ kcmil	mm2	Part No. 37-102	Nominal Diameter (inches)	Weight (lbs/ Mft.)	Nominal Diameter (inches)	Weight (lbs/ Mft.)	DC Resistance at 25°C (Ohms/ 1000 ft.)	AC Resistance 110°C, 60 Hz (Ohms/ 1000 ft.)	Inductive Reactance (Ohms / 1000 ft.)	Voltage Drop 110°C (Volts/Amp/ 1000 ft.)	Opt. Uninsulated Grounding Cond. Size AWG	Ampacity		
												110°C	100°C	95°C
16	1.3	-529	0.404	98	0.615	235	4.610	6.121	0.042	8.514	–	17	16	16
14	2.1	-509	0.435	124	0.637	266	2.907	3.859	0.039	5.382	–	27	25	22
12	3.3	-517	0.482	168	0.685	327	1.826	2.424	0.037	3.393	–	33	31	27
10	5.2	-408	0.578	252	0.795	447	1.153	1.530	0.035	2.154	–	44	41	36
8	7.6	-409	0.695	337	0.945	593	0.708	0.940	0.037	1.339	–	56	52	48
6	12.5	-410	0.810	537	1.065	830	0.445	0.590	0.035	0.853	8	75	70	64
4	21	-412	1.042	831	1.310	1225	0.300	0.399	0.032	0.585	6	99	92	85
2	34	-414	1.250	1316	1.460	1744	0.184	0.244	0.030	0.369	6	131	122	113
1	43	-415	1.345	1499	1.605	1653	0.147	0.195	0.031	0.302	6	153	143	131
1/0	54	-416	1.466	1860	1.790	2482	0.117	0.156	0.030	0.248	6	176	164	152
2/0	70	-417	1.580	2313	1.904	2976	0.093	0.125	0.030	0.203	4	201	188	175
3/0	86	-418	1.804	2915	2.129	3668	0.074	0.100	0.029	0.168	4	234	218	202
4/0	109	-419	1.960	3179	2.285	4396	0.058	0.080	0.029	0.140	3	270	252	235
262	132	-420	2.120	4325	2.445	5208	0.048	0.067	0.029	0.122	3	315	294	267
313	159	-421	2.253	5015	2.577	5952	0.040	0.056	0.028	0.107	3	344	321	299
373	189	-422	2.417	5924	2.808	7081	0.034	0.047	0.028	0.095	2	387	361	334
444	227	-423	2.545	6959	2.935	8176	0.028	0.041	0.028	0.086	1	440	411	372
535	273	-424	2.885	8546	3.275	9925	0.024	0.035	0.028	0.077	1	463	443	418
646	326	-426	3.120	10057	3.511	11865	0.020	0.030	0.029	0.071	1/0	553	516	470

Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

Ordering GEXOL Energy Cables

Example:

- 4-conductor power cable
- 0.6/1kV
- #6 AWG
- Bronze armored & sheathed
- Ground



See Back Cover for
Stranding Profile



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
1/0 and larger use insulation with printed phase I.D.

Sheath (Optional)

A black, arctic grade, flame retardant, oil, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580. Available with NEK 606 ester-based mud resistant sheath. See page 29.

APPLICATION

Designed and constructed for the demanding environments of offshore drilling and energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

GEXOL® is a registered trademark of AmerCable Incorporated

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

GEXOL® FLEXIBLE POWER CABLE – FIVE CONDUCTOR

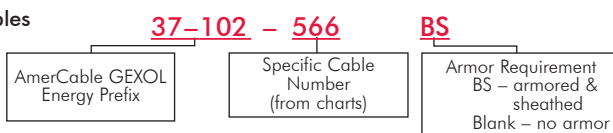
			Unarmored		Armored and Armored (B)								
Size AWG/ kcmil	mm2	Part No. 37-102	Nominal Diameter (inches)	Weight (lbs/ Mft.)	Nominal Diameter (inches)	Weight (lbs/ Mft.)	DC Resistance at 25°C (Ohms/ (inches)	AC Resistance 110°C, 60 Hz (Ohms/ 1000 ft.)	Inductive Reactance (Ohms / 1000 ft.)	Voltage Drop 110°C (Volts/Amp/ 1000 ft.)	Ampacity		
											110°C	100°C	95°C
18	1.0	-558	0.415	100	0.640	247	7.350	9.763	0.044	13.558	11	10	11
16	1.3	-559	0.437	117	0.660	269	4.610	6.121	0.042	8.514	14	13	13
14	2.1	-510	0.475	152	0.695	317	2.907	3.859	0.039	5.382	21	20	18
12	3.3	-560	0.570	226	0.785	413	1.826	2.424	0.037	3.393	27	25	22
10	5.2	-561	0.625	307	0.835	506	1.153	1.530	0.035	2.154	35	33	29
8	7.6	-562	0.775	455	1.035	742	0.708	0.940	0.037	1.339	45	42	38
6	12.5	-563	0.915	681	1.175	1015	0.445	0.590	0.035	0.853	60	56	51
4	21	-565	1.145	1092	1.395	1494	0.300	0.399	0.032	0.585	79	74	68
2	34	-566	1.330	1588	1.595	2071	0.184	0.244	0.030	0.369	105	98	90
1	43	-567	1.490	2038	1.816	2993	0.147	0.195	0.031	0.302	122	114	105
1/0	54	-568	1.630	2468	1.950	3161	0.117	0.156	0.030	0.248	140	131	122
2/0	70	-569	1.815	3080	2.140	3841	0.093	0.125	0.030	0.203	161	150	140
4/0	109	-746	2.140	4244	2.478	5109	0.058	0.080	0.029	0.140	216	202	188

Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

Ordering GEXOL Energy Cables

Example:

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



See Back Cover for
Stranding Profile



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, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580.

Color code:

IEEE 1580 Table 22

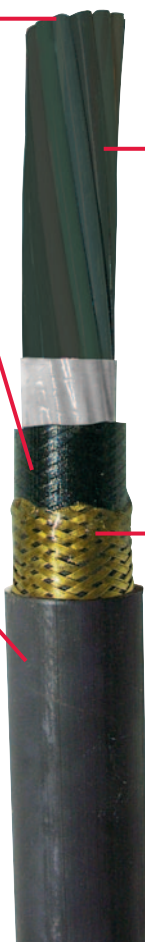
Sheath (Optional)

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

Color code:

IEEE 1580 Table 22

Available with NEK 606 ester-based mud resistant jacket / sheath. See page 29.



Insulation

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

Colored singles through 6C

Black singles ink printed 7C+

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 energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

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

GEXOL® FLEXIBLE CONTROL CABLE – MULTI-CONDUCTOR

Size AWG	Number of Conductors*	Part No. 37-102	Unarmored		Armored and Sheath (BS)		Ampacity		
			Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)			
							110°C	100°C	95°C
16	4	-529	0.404	98	0.614	235	17	16	16
16	5	-559	0.437	117	0.660	269	14	13	13
16	7	-505	0.482	150	0.700	399	12	11	11
16	8	-503	0.610	209	0.825	406	12	11	11
16	10	-504	0.635	220	0.896	462	9	8	11
16	16	-546	0.725	325	0.985	597	9	8	11
16	20	-687	0.795	405	1.058	703	9	8	11
16	24	-525	0.930	498	1.196	844	8	7	11
16	37	-526	1.052	702	1.300	1078	6	6	8
16	44	-577	1.175	947	1.430	1368	6	6	8
16	60	-527	1.300	1104	1.550	1580	6	6	8
16	91	-581	1.555	1558	1.880	2222	6	6	8
14	4	-509	0.435	124	0.637	266	27	25	22
14	5	-510	0.475	152	0.695	317	21	20	18
14	6	-511	0.560	199	0.780	386	21	20	18
14	7	-521	0.560	213	0.780	402	19	18	15
14	10	-512	0.695	296	0.950	554	14	13	15
14	12	-585	0.720	344	0.970	603	14	13	15
14	14	-523	0.760	426	1.016	706	14	13	15
14	20	-513	0.920	572	1.003	734	14	13	15
14	24	-571	1.025	668	1.288	1043	12	11	15
14	30	-573	1.075	784	1.338	1175	12	11	13
14	37	-514	1.165	945	1.428	1368	11	10	13
14	44	-574	1.316	1281	1.580	1756	10	9	11
14	91	-582	1.808	2493	2.132	3244	10	9	11
12	4	-517	0.482	168	0.685	327	33	31	27
12	5	-560	0.570	226	0.785	413	27	25	22
12	6	-547	0.615	303	0.830	503	27	25	22
12	10	-518	0.770	401	1.029	685	17	16	19
12	20	-519	1.020	778	1.275	1143	17	16	19
12	24	-572	1.135	981	1.396	1396	15	14	19
12	37	-520	1.310	1297	1.635	1857	13	12	16

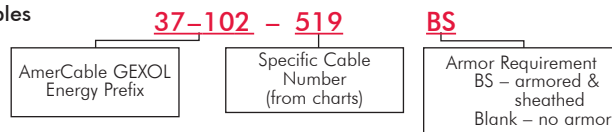
* Colored singles through 6C. Black ink printed singles 7C+

Cable diameters shown as nominal are subject to a $\pm 5\%$ manufacturing tolerance

Ordering GEXOL Energy Cables

Example:

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



See Back Cover
for Stranding
Profile

GEXOL® is a registered trademark of AmerCable Incorporated

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, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580. Available with NEK 606 ester-based mud resistant sheath. See page 29.

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 energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

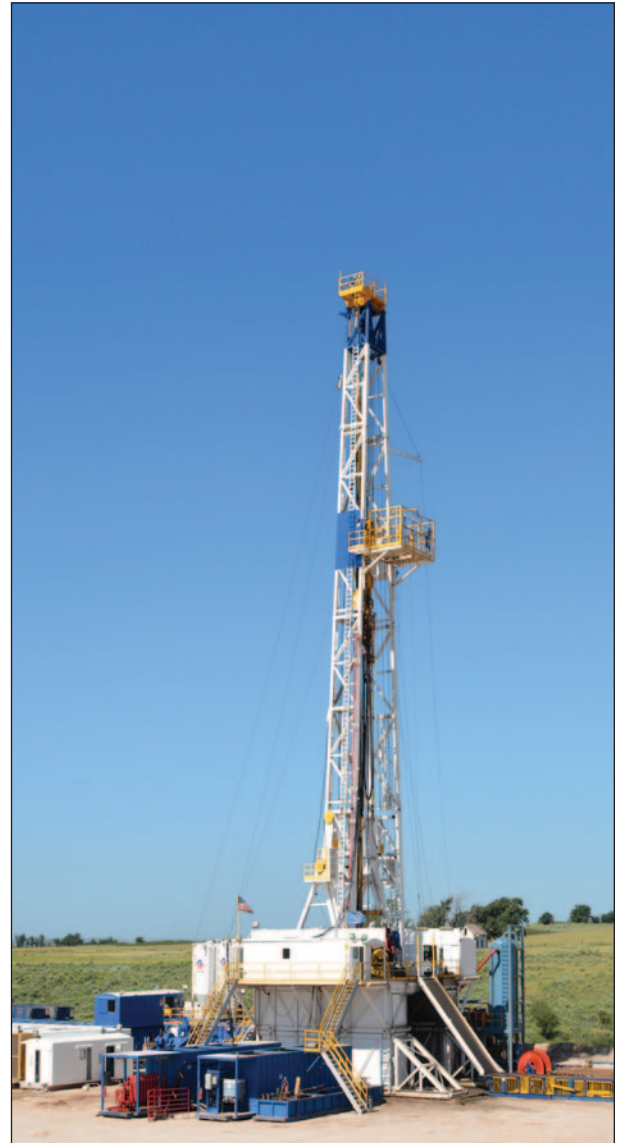
GEXOL® is a registered trademark of AmerCable Incorporated

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 PAIRS

Size AWG	Number of Pairs	Part No. 37-102	Unarmored		Armored and Sheath (BS)	
			Nominal Diameter (inches)	Weight (lbs/Mft.)	Nominal Diameter (inches)	Weight (lbs/Mft.)
18	1	-601	0.340	58	0.520	160
18	2	-602	0.518	140	0.735	313
18	3	-603	0.585	179	0.800	369
18	4	-604	0.630	212	0.851	422
18	5	-605	0.665	257	0.925	507
18	7	-606	0.765	313	1.020	592
18	8	-607	0.788	350	1.050	643
18	10	-608	0.965	469	1.225	822
18	12	-609	1.000	548	1.260	910
18	16	-645	1.125	638	1.388	1048
18	18	-641	1.150	773	1.420	1202
18	24	-646	1.383	964	1.640	1457
16	1	-610	0.356	61	0.570	189
16	2	-611	0.578	178	0.781	359
16	3	-612	0.625	214	0.875	451
16	4	-613	0.643	241	0.893	471
16	5	-614	0.710	303	0.965	554
16	7	-615	0.813	369	1.060	663
16	8	-616	0.895	441	1.155	710
16	10	-617	1.023	569	1.285	934
16	12	-618	1.060	643	1.302	1012
16	16	-619	1.175	806	1.425	1248
16	18	-626	1.252	900	1.510	1356
16	20	-688	1.315	1011	1.574	1479
16	24	-699	1.590	1290	1.769	1714
14	1	-620	0.386	87	0.595	219
14	2	-621	0.634	301	0.885	497
14	3	-622	0.675	348	0.940	651
14	4	-623	0.740	329	0.995	601
14	5	-624	0.780	401	1.032	681
14	7	-625	0.930	528	1.190	841
14	8	-630	0.958	586	1.215	927
14	10	-627	1.125	747	1.385	1110
14	12	-628	1.205	852	1.455	1272

Cable diameters shown as nominal are subject to a $\pm 5\%$ 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)

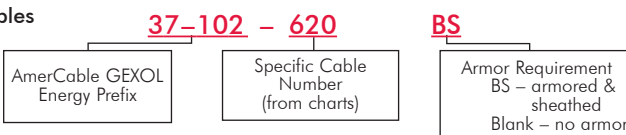
#14 Pairs

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

Ordering GEXOL Energy Cables

Example:

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



See Back Cover for
Stranding Profile

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

Armor (Optional)

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

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, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580. Available with NEK 606 ester-based mud resistant sheath. See page 29.

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

APPLICATION

Designed and constructed for the demanding environments of offshore drilling and energy production 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)
- Transport Canada
- Det Norske Veritas (DNV)
- Lloyd's Register of Shipping (LRS)
- 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

Hawke Gland Types	Unarmored	Armored & Sheathed
Industrial & Safe Area (IP68)	121	153-X
Increased Safety "EEExe"	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 "EEExd"	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	Nominal Part No. 37-102	Unarmored		Armored and Sheath (BS)	
			Diameter (inches)	Nominal Weight (lbs/MFt.)	Diameter (inches)	Weight (lbs/MFt.)
18	1	-647	0.354	69	0.530	173
18	2	-681	0.650	204	0.914	443
18	3	-648	0.710	240	0.960	494
18	4	-682	0.775	279	1.035	573
18	5	-649	0.890	381	1.135	685
18	7	-650	0.957	462	1.170	924
18	8	-683	0.915	590	1.170	924
18	12	-640	1.140	729	1.470	1134
16	1	-668	0.376	81	0.585	275
16	3	-669	0.760	366	1.015	566
16	4	-698	0.830	410	1.080	628
16	6	-676	0.950	632	1.203	867
16	7	-670	1.030	548	1.300	931
16	8	-677	1.035	601	1.305	989

See Back Cover
for Stranding
Profile

Cable diameters shown as nominal are subject to a $\pm 5\%$ 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

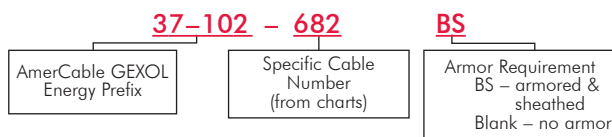
Inductance – (mH/1000) = 0.20

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

Ordering GEXOL Energy Cables

Example:

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



GEXOL® is a registered trademark of AmerCable Incorporated



STANDARD 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)

Jacket

A black, arctic grade, flame retardant, oil, drilling mud, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309/CSA 245 and IEEE 1580. Available with NEK 606 ester-based mud resistant sheath. See page 29.

Armor (Optional)

Tinned copper basket weave wire armor per IEEE 1580 and UL 1309/CSA 245.

Ground Conductors (x3)

Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11. GEXOL® insulated and sized per UL 1277. Color: Green

Shield

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

Sheath (Optional)

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

Note: For armored versions the braid is placed between the inner jacket and outer sheath where it serves as both the EMI shield and armor.

RATINGS & APPROVALS

- 110°C Temperature Rating
- 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: (E111461)
- Unarmored Cable is UL Listed as Type TC (E123629)
- United States Coast Guard: November 2, 1987 / 9304

Other certifications pending



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 plus foil shield is engineered with 100% coverage and a surface transfer impedance <50 milliohms at 10MHz to contain EMI.
- 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 is used to resist the potential 2-3x reflected voltages experienced in 600V VFD applications.
- 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, aluminum or tinned copper.

GEXOL® FLEXIBLE VFD POWER CABLE

		Unarmored			Armored & Sheathed (TS)											
Size AWG/ kcmil	mm ²	Part No. 37-102	Nominal Diameter Inches*	Weight Lbs./ 1000 Ft.	Part No. 37-102	Nominal Diameter Inches*	Weight Lbs./ 1000 Ft.	DC Resist. at 25°C Ohms/ 1000 Ft.	AC Resist. at 90°C, 60 Hz Ohms/ 1000 Ft.	Inductive Reactance Ohms/ 1000 Ft.	Voltage Drop at 90°C Volts/Amp/ 1000 Ft.	Grounding Conductor** Size (AWG)	Ampacity			
													110°C	100°C	90°C	75°C
14	2.1	-508VFD	0.675	255	-508TSVFD	0.845	401	2.907	3.859	0.040	5.383	18	27	25	24	20
12	3.3	-516VFD	0.730	329	-516TSVFD	0.940	497	1.826	2.424	0.038	3.394	18	33	31	29	24
10	5.2	-308VFD	0.785	403	-308TSVFD	0.995	595	1.153	1.530	0.036	2.155	14	44	41	38	32
8	7.6	-309VFD	0.940	596	-309TSVFD	1.150	823	0.708	0.940	0.037	1.339	12	56	52	48	41
6	12.5	-310VFD	0.975	726	-310TSVFD	1.185	940	0.445	0.590	0.033	0.852	12	75	70	65	54
4	21	-312VFD	1.175	1019	-312TSVFD	1.355	1284	0.300	0.399	0.031	0.584	10	99	92	83	70
2	34	-314VFD	1.235	1296	-314TSVFD	1.425	1509	0.184	0.244	0.029	0.368	10	131	122	111	93
1	43	-315VFD	1.340	1593	-315TSVFD	1.540	1797	0.147	0.195	0.029	0.301	10	153	143	131	110
1/0	54	-316VFD	1.450	1837	-316TSVFD	1.640	2062	0.117	0.156	0.029	0.246	10	176	164	150	126
2/0	70	-317VFD	1.555	2086	-317TSVFD	1.823	2582	0.093	0.125	0.028	0.202	8	201	188	173	145
3/0	86	-318VFD	1.750	2712	-318TSVFD	1.952	3057	0.074	0.100	0.028	0.167	6	234	218	200	168
4/0	109	-319VFD	1.860	3291	-319TSVFD	2.137	3754	0.058	0.080	0.027	0.139	6	270	252	232	194
262	132	-320VFD	2.010	3887	-320TSVFD	2.281	4430	0.048	0.067	0.027	0.120	6	315	294	273	228
313	159	-321VFD	2.086	4466	-321TSVFD	2.355	5001	0.040	0.056	0.026	0.105	6	344	321	298	249
373	189	-322VFD	2.207	5120	-322TSVFD	2.540	5736	0.034	0.047	0.025	0.092	6	387	361	332	277
444	227	-323VFD	2.323	6059	-323TSVFD	2.592	6666	0.028	0.041	0.025	0.083	4	440	411	382	319
535	273	-324VFD	2.650	7241	-324TSVFD	2.970	7907	0.024	0.035	0.026	0.075	4	498	443	407	340
646	326	-326VFD	2.920	8721	-326TSVFD	3.255	9524	0.020	0.030	0.026	0.068	4	553	516	474	396
777	394	-327VFD	3.000	10029	-327TSVFD	3.420	11089	0.016	0.026	0.025	0.062	4	602	562	516	431

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

**3 Grounding Conductors – Green Insulated

Standard VFD Cable Ampacity 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 ampacities should be multiplied by 0.8.

See Back Cover for
Stranding Profile



GEXOL® is a registered trademark of AmerCable Incorporated

TYPE MMV MEDIUM VOLTAGE 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) and UL 1072.

Metallic Shield

Shield consisting of 0.0126" tinned copper braided with nylon providing 60% copper. Shielded coverage meeting UL 1309, IEEE Std. 1580 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 and UL1072.

Insulation Shield

Semi-conducting tape, with overlap, for fast and easy termination meeting UL 1309, IEEE 1580 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

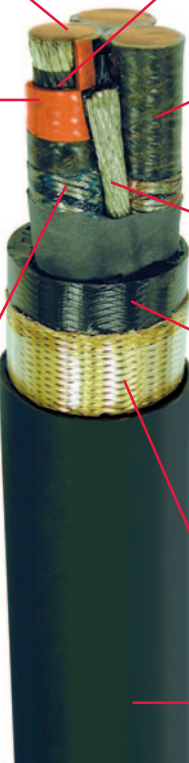
A black, arctic grade, flame retardant, oil, abrasion, chemical and sunlight resistant thermosetting compound meeting UL 1309, IEEE 1580 and UL 1072. Colored jackets for signifying different voltage levels are also available on special request (ie. yellow = 5kV, orange = 8kV and red = 15kV).

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 and UL 1072. Colored jackets for signifying different voltage levels is also available on special request (ie. yellow = 5kV, orange = 8kV and red = 15kV).



APPLICATION

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.

Ratings & Approvals

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

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 TYPE MMV MARINE MEDIUM VOLTAGE – 5KV, 100% INSULATION LEVEL

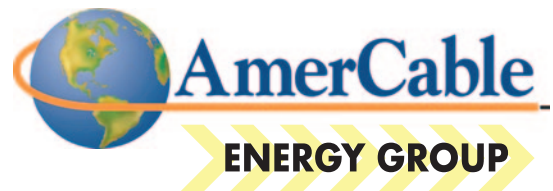
			Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
Size AWG/kcmil	mm ²	Part No. 37-105	Nominal Diameter (inches)	Weight (Lbs./1000 ft.)	Inductive Reactance (ohms/1000 ft.)	Voltage Drop (Volts/amp/1000 ft.)	Nominal Diameter (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	-102	0.655	268	0.050	0.822	0.920	520	0.058	0.830	107	92	91	0.436	0.556
4	21	-103	0.723	349	0.044	0.566	0.980	619	0.051	0.573	141	121	120	0.286	0.376
2	34	-104	0.725	459	0.041	0.361	1.055	759	0.047	0.367	186	159	158	0.175	0.230
1	43	-105	0.835	531	0.040	0.296	1.105	851	0.047	0.303	214	184	182	0.140	0.184
1/0	54	-106	0.915	645	0.039	0.245	1.180	986	0.045	0.250	247	212	210	0.111	0.147
2/0	70	-107	1.015	799	0.038	0.202	1.280	1174	0.043	0.207	285	244	242	0.089	0.117
3/0	86	-108	1.040	902	0.037	0.278	1.295	1274	0.042	0.173	328	281	279	0.070	0.094
4/0	109	-109	1.090	1060	0.035	0.141	1.340	1450	0.040	0.146	381	325	324	0.056	0.075
262	132	-110	1.170	1266	0.034	0.122	1.435	1690	0.038	0.127	435	371	370	0.046	0.063
313	159	-111	1.225	1310	0.033	0.108	1.490	1757	0.037	0.112	486	413	413	0.038	0.053
373	189	-112	1.320	1686	0.032	0.095	1.545	2123	0.036	0.099	544	460	462	0.032	0.045
444	227	-113	1.3801	1951	0.032	0.086	1.635	2432	0.035	0.090	606	510	515	0.027	0.039
535	273	-114	1.440	2241	0.031	0.077	1.765	2851	0.035	0.082	682	570	580	0.022	0.033
646	326	-115	1.535	2598	0.030	0.070	1.850	3240	0.034	0.075	767	635	652	0.019	0.028
777	394	-116	1.640	3079	0.030	0.065	1.960	3771	0.033	0.069	865	709	735	0.015	0.025

SINGLE CONDUCTOR TYPE MMV MARINE MEDIUM VOLTAGE – 5KV, 133% / 8KV, 100% INSULATION LEVEL

			Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
Size AWG/kcmil	mm ²	Part No. 37-105	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	0.690	290	0.052	0.824	0.960	557	0.059	0.831	107	92	91	0.436	0.556
4	21	-119	0.785	391	0.046	0.567	1.055	686	0.052	0.574	141	121	120	0.286	0.376
2	34	-120	0.880	523	0.043	0.362	1.130	840	0.048	0.368	186	159	158	0.175	0.230
1	43	-121	0.935	608	0.042	0.298	1.195	948	0.047	0.304	214	184	182	0.140	0.184
1/0	54	-122	0.975	693	0.041	0.246	1.235	1054	0.046	0.251	247	212	210	0.111	0.147
2/0	70	-123	1.030	819	0.039	0.203	1.290	1194	0.044	0.208	285	244	242	0.089	0.117
3/0	86	-124	1.080	939	0.038	0.169	1.350	1332	0.043	0.174	328	281	279	0.070	0.094
4/0	109	-125	1.170	1128	0.036	0.142	1.400	1518	0.041	0.147	381	325	324	0.056	0.075
262	132	-126	1.225	1296	0.035	0.123	1.500	1747	0.039	0.128	435	371	370	0.046	0.063
313	159	-127	1.300	1515	0.034	0.109	1.565	1988	0.038	0.113	486	413	413	0.038	0.053
373	189	-128	1.350	1720	0.033	0.096	1.615	2210	0.037	0.100	544	460	462	0.032	0.045
444	227	-129	1.425	1998	0.033	0.087	1.680	2495	0.036	0.091	606	510	515	0.027	0.039
535	273	-130	1.505	2317	0.032	0.078	1.835	2955	0.036	0.082	682	570	580	0.022	0.033
646	326	-131	1.600	2715	0.031	0.071	1.920	3381	0.035	0.075	767	635	652	0.019	0.028
777	394	-132	1.760	3266	0.030	0.066	2.090	4016	0.034	0.070	865	709	735	0.015	0.025

See page 28 for MMV Stranding Profile

TYPE MMV MEDIUM VOLTAGE POWER 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

			Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
Size AWG/kcmil	mm ²	Part No. 37-105	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	0.750	329	0.054	0.826	1.025	616	0.060	0.832	107	92	91	0.436	0.556
4	21	-135	0.880	463	0.047	0.569	1.145	791	0.053	0.575	141	121	120	0.286	0.376
2	34	-136	0.935	573	0.045	0.365	1.190	914	0.050	0.370	186	159	158	0.175	0.230
1	43	-137	0.985	649	0.044	0.300	1.250	1018	0.049	0.305	214	184	182	0.140	0.184
1/0	54	-138	1.017	729	0.042	0.247	1.265	1093	0.047	0.252	247	212	210	0.111	0.147
2/0	70	-139	1.090	872	0.040	0.204	1.360	1271	0.045	0.209	285	244	242	0.089	0.117
3/0	86	-140	1.125	979	0.039	0.171	1.390	1393	0.044	0.175	328	281	279	0.070	0.094
4/0	109	-141	1.190	1152	0.038	0.143	1.450	1579	0.042	0.148	381	325	324	0.056	0.075
262	132	-142	1.275	1349	0.036	0.124	1.525	1798	0.040	0.129	435	371	370	0.046	0.063
313	159	-143	1.335	1554	0.035	0.110	1.595	2034	0.039	0.114	486	413	413	0.038	0.053
373	189	-144	1.390	1768	0.034	0.097	1.650	2266	0.038	0.101	544	460	462	0.032	0.045
444	227	-145	1.470	2051	0.033	0.088	1.795	2931	0.038	0.093	606	510	515	0.027	0.039
535	273	-146	1.595	2435	0.032	0.078	1.905	3096	0.036	0.083	682	570	580	0.022	0.033
646	326	-147	1.660	2700	0.032	0.072	1.980	3385	0.036	0.076	767	635	652	0.019	0.028
777	394	-148	1.800	3326	0.032	0.067	2.120	4058	0.036	0.071	865	709	735	0.015	0.025

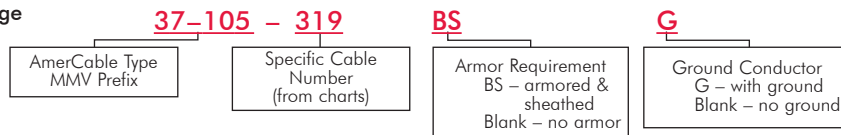
SINGLE CONDUCTOR TYPE MMV MARINE MEDIUM VOLTAGE – 15KV, 100% INSULATION LEVEL

			Unarmored				Armored & Sheathed (BS)				Ampacity			DC Resistance at 25°C (ohms/1000 ft.)	AC Resistance at 90°C, 60 Hz (ohms/1000 ft.)
Size AWG/kcmil	mm ²	Part No. 37-105	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	1.015	638	0.049	0.369	1.280	1007	0.053	0.373	186	164	158	0.175	0.230
1	43	-151	1.060	718	0.047	0.303	1.325	1104	0.051	0.308	214	189	182	0.140	0.184
1/0	54	-152	1.090	802	0.045	0.251	1.345	1198	0.049	0.255	247	217	210	0.111	0.147
2/0	70	-153	1.145	929	0.044	0.208	1.400	1345	0.047	0.212	284	250	241	0.089	0.117
3/0	86	-154	1.195	1052	0.042	0.174	1.450	1482	0.046	0.178	327	288	278	0.070	0.094
4/0	109	-155	1.260	1241	0.040	0.146	1.520	1701	0.044	0.150	378	332	321	0.056	0.075
262	132	-156	1.365	1458	0.039	0.128	1.630	1944	0.042	0.131	431	377	366	0.046	0.063
313	159	-157	1.410	1642	0.038	0.113	1.670	2133	0.042	0.117	481	418	409	0.038	0.053
373	189	-158	1.465	1880	0.037	0.100	1.790	2493	0.041	0.104	536	464	456	0.032	0.045
444	227	-159	1.545	2170	0.036	0.091	1.865	2804	0.040	0.095	598	514	508	0.027	0.039
535	273	-160	1.595	2490	0.036	0.082	1.920	3165	0.039	0.086	672	574	571	0.022	0.033
646	326	-161	1.755	2849	0.035	0.075	2.080	3574	0.038	0.079	754	638	641	0.019	0.028
777	394	-162	1.895	3501	0.034	0.070	2.230	4316	0.037	0.073	848	709	721	0.015	0.025

Ordering Type MMV Medium Voltage Cables

Example:

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



See page 28
for MMV
Stranding Profile

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	1.100	717	0.050	0.370	1.360	1108	0.055	0.375	186	164	158	0.175	0.230
1	43	-165	1.135	789	0.049	0.305	1.395	1191	0.053	0.309	214	189	182	0.140	0.184
1/0	54	-166	1.190	900	0.047	0.252	1.435	1315	0.051	0.256	247	217	210	0.111	0.147
2/0	70	-167	1.240	1024	0.045	0.209	1.485	1466	0.049	0.213	284	250	241	0.089	0.117
3/0	86	-168	1.300	1173	0.044	0.176	1.555	1633	0.047	0.179	327	288	278	0.070	0.094
4/0	109	-169	1.365	1350	0.042	0.148	1.610	1817	0.046	0.151	378	332	321	0.056	0.075
262	132	-170	1.450	1555	0.040	0.129	1.765	2145	0.044	0.133	431	377	366	0.046	0.063
313	159	-171	1.505	1763	0.039	0.114	1.830	2398	0.043	0.118	481	418	409	0.038	0.053
373	189	-172	1.555	1983	0.038	0.101	1.880	2647	0.042	0.105	536	464	456	0.032	0.045
444	227	-173	1.630	2272	0.038	0.093	1.945	2957	0.041	0.096	598	514	508	0.027	0.039
535	273	-174	1.770	2698	0.037	0.084	2.090	3428	0.040	0.087	672	574	571	0.022	0.033
646	326	-175	1.865	3098	0.036	0.077	2.190	3865	0.039	0.080	754	638	641	0.019	0.028
777	394	-176	1.980	3627	0.035	0.071	2.310	4464	0.038	0.074	848	709	721	0.015	0.025

THREE CONDUCTOR TYPE MMV MARINE MEDIUM VOLTAGE – 5KV, 100 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)					
6	12.5	-302	1.295	908	1.545	1369	88	75	0.445	0.556	0.044	0.815	6
4	21	-303	1.470	1315	1.775	1728	116	99	0.300	0.376	0.039	0.560	6
2	34	-304	1.620	1481	1.935	2212	152	129	0.184	0.230	0.036	0.356	6
1	43	-305	1.750	1788	2.075	1749	175	149	0.147	0.184	0.035	0.291	4
1/0	54	-306	1.845	2055	2.160	2829	201	171	0.117	0.147	0.034	0.239	4
2/0	70	-307	2.010	2496	2.300	3333	232	197	0.093	0.117	0.033	0.196	4
3/0	86	-308	2.095	2874	2.410	3740	266	226	0.074	0.094	0.032	0.163	3
4/0	109	-309	2.235	3426	2.560	4354	306	260	0.058	0.075	0.031	0.136	3
262	132	-310	2.405	4085	2.720	5039	348	296	0.048	0.063	0.030	0.118	3
313	159	-311	2.500	4205	2.885	5371	386	328	0.040	0.053	0.029	0.104	2
373	189	-312	2.675	5372	3.055	6612	429	365	0.034	0.045	0.029	0.092	2
444	227	-313	2.920	6442	3.320	7861	455	387	0.028	0.039	0.028	0.083	1
535	273	-314	3.045	7372	3.415	8755	528	449	0.024	0.033	0.028	0.074	1
646	326	-315	3.260	8553	3.640	10056	584	496	0.020	0.028	0.027	0.067	1
777	394	-316	3.475	10101	3.855	11689	647	550	0.016	0.025	0.027	0.062	1/0

See page 28
for MMV
Stranding Profile

TYPE MMV MEDIUM VOLTAGE POWER 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 – 5KV, 133% / 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	1.405	940	1.670	1534	88	75	0.445	0.556	0.046	0.818	6
4	21	-318	1.585	1259	1.905	2035	116	99	0.300	0.376	0.041	0.562	6
2	34	-319	1.775	1697	2.095	2563	152	129	0.184	0.230	0.038	0.357	6
1	43	-320	1.870	1926	2.195	2883	175	149	0.147	0.184	0.037	0.293	4
1/0	54	-321	1.970	2231	2.295	3242	201	171	0.117	0.147	0.036	0.241	4
2/0	70	-322	2.090	2634	2.415	3729	232	197	0.093	0.117	0.034	0.198	4
3/0	86	-323	2.200	3043	2.525	4192	266	226	0.074	0.094	0.033	0.165	3
4/0	109	-324	2.340	3605	2.660	4889	306	260	0.058	0.075	0.032	0.138	3
262	132	-325	2.505	4171	2.885	5731	348	296	0.048	0.063	0.031	0.119	3
313	159	-326	2.655	4874	3.035	6525	386	328	0.040	0.053	0.030	0.105	2
373	189	-327	2.840	5709	3.225	7510	429	365	0.034	0.045	0.030	0.093	2
444	227	-328	2.995	6567	3.380	8527	455	387	0.028	0.039	0.029	0.084	1
535	273	-329	3.170	7616	3.550	9715	528	449	0.024	0.033	0.029	0.075	1
646	326	-330	3.365	8875	3.750	11206	584	496	0.020	0.028	0.028	0.068	1
777	394	-331	3.595	10401	3.980	12971	647	550	0.016	0.025	0.028	0.063	1/0

THREE CONDUCTOR TYPE MMV MARINE MEDIUM VOLTAGE – 8KV, 133% 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	-332	1.520	1081	1.845	1796	88	75	0.445	0.556	0.048	0.820	6
4	21	-333	1.750	1486	2.075	2347	116	99	0.300	0.376	0.043	0.564	6
2	34	-334	1.900	1887	2.225	2854	152	129	0.184	0.230	0.040	0.359	6
1	43	-335	1.980	2081	2.300	3110	175	149	0.147	0.184	0.038	0.294	4
1/0	54	-336	2.080	2399	2.400	3464	201	171	0.117	0.147	0.037	0.242	4
2/0	70	-337	2.205	2819	2.525	3982	232	197	0.093	0.117	0.036	0.199	4
3/0	86	-338	2.315	3219	2.635	4442	266	226	0.074	0.094	0.035	0.166	3
4/0	109	-339	2.460	3805	2.845	5295	306	260	0.058	0.075	0.033	0.139	3
262	132	-340	2.635	4402	3.020	6055	348	296	0.048	0.063	0.032	0.121	3
313	159	-341	2.835	5253	3.220	7012	386	328	0.040	0.053	0.032	0.106	2
373	189	-342	2.955	5949	3.315	7804	429	365	0.034	0.045	0.031	0.094	2
444	227	-343	3.100	6786	3.480	8863	455	387	0.028	0.039	0.030	0.085	1
535	273	-344	3.375	8070	3.755	10418	528	449	0.024	0.033	0.030	0.076	1
646	326	-345	3.500	8916	3.885	11361	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

37-105 - 319

AmerCable Type
MMV Prefix

Specific Cable
Number
(from charts)

BS

Armor Requirement
BS – armored &
sheathed
Blank – no armor

G

Ground Conductor
G – with ground
Blank – no ground

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	2.050	2097	2.365	3147	156	133	0.184	0.230	0.042	0.361	6
1	43	-347	2.140	2319	2.460	3469	178	151	0.147	0.184	0.040	0.296	4
1/0	54	-348	2.235	2639	2.555	3904	205	174	0.117	0.147	0.039	0.244	4
2/0	70	-349	2.355	3059	2.675	4339	234	199	0.093	0.117	0.037	0.201	4
3/0	86	-350	2.460	3467	2.840	4988	269	229	0.074	0.094	0.036	0.168	3
4/0	109	-351	2.600	4085	2.980	5708	309	263	0.058	0.075	0.035	0.141	3
262	132	-352	2.870	4890	3.250	6765	352	299	0.048	0.063	0.034	0.122	3
313	159	-353	2.965	5494	3.350	7448	389	331	0.040	0.053	0.033	0.107	2
373	189	-354	3.100	6283	3.485	8314	432	367	0.034	0.045	0.032	0.095	2
444	227	-355	3.255	7330	3.640	9442	456	388	0.028	0.039	0.031	0.086	1
535	273	-356	3.500	8390	3.885	10858	528	449	0.024	0.033	0.031	0.077	1

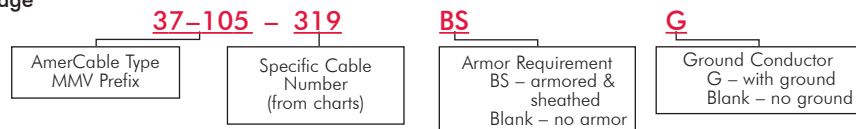
THREE CONDUCTOR TYPE MMV MARINE MEDIUM VOLTAGE – 15KV, 133% INSULATION LEVEL

			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	-357	2.235	2359	2.560	3556	156	133	0.184	0.230	0.044	0.364	6
1	43	-358	2.315	2616	2.640	3866	178	151	0.147	0.184	0.043	0.299	4
1/0	54	-359	2.425	2963	2.800	4454	205	174	0.117	0.147	0.041	0.246	4
2/0	70	-360	2.550	3406	2.925	4995	234	199	0.093	0.117	0.039	0.203	4
3/0	86	-361	2.675	3939	3.060	5566	269	229	0.074	0.094	0.038	0.170	3
4/0	109	-362	2.875	4594	3.260	6458	309	263	0.058	0.075	0.037	0.142	3
262	132	-363	3.045	5265	3.430	7273	352	299	0.048	0.063	0.035	0.124	3
313	159	-364	3.165	5933	3.550	8067	389	331	0.040	0.053	0.034	0.109	2
373	189	-365	3.280	6634	3.665	8888	432	367	0.034	0.045	0.034	0.097	2
444	227	-366	3.435	7585	3.820	9991	456	388	0.028	0.039	0.033	0.088	1
535	273	-367	3.610	8849	3.990	11262	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



See page 28
for MMV
Stranding Profile

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) and UL 1072.

Metallic Shield

Shield consisting of 0.0126" tinned copper braided with nylon providing 60% copper. Shielded coverage meeting UL 1309, IEEE Std. 1580 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 and UL 1072.

Insulation Shield

Semi-conducting layer meeting UL 1309, IEEE 1580 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 UL 1072. 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. This jacket allows for isolation between the insulation shields and overall shield. Shields can then be terminated on opposite ends to minimize circulating currents.

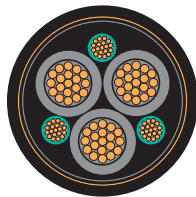
Aarmor/EMI Shield

Overall tinned copper braid plus aluminum/polyester tape provides 100% coverage. This braid serves as both an armor and EMI shield meeting both IEEE 1580 and UL 1307/CSA 245.

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.



APPLICATION

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 and braided shields. Suitable for applications involving repeated flexing and high vibration.
- Small minimum bending radius (8x OD) for easy installation.
- Insulation has a very low dielectric constant. This allows for longer output cable distances and minimizes common mode current.
- Overall braid plus foil shield is engineered with 100% coverage and a surface transfer impedance <50 milliohms at 10MHz to contain EMI.
- 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.

Ratings & Approvals

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

THREE CONDUCTOR TYPE MMV-VFD MARINE MEDIUM VOLTAGE 8KV • 133% INSULATION LEVEL

					Ampacity							
Size AWG/ kcmil		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/Amp/ 1000 Ft.)	Green Insulated Grounding Conductor (3x) Size (AWG)	
6	12.5	-332TSVFD	1.825	1756	88	75	0.445	0.556	0.048	0.820	10	
4	21	-333TSVFD	2.070	2265	116	99	0.300	0.376	0.043	0.564	10	
2	34	-334TSVFD	2.205	2712	152	129	0.184	0.230	0.040	0.359	10	
1	43	-335TSVFD	2.295	3023	175	149	0.147	0.184	0.038	0.294	8	
1/0	54	-336TSVFD	2.395	3372	201	171	0.117	0.147	0.037	0.242	8	
2/0	70	-337TSVFD	2.505	3781	232	197	0.093	0.117	0.036	0.199	8	
3/0	86	-338TSVFD	2.630	4354	266	226	0.074	0.094	0.035	0.166	6	
4/0	109	-339TSVFD	2.835	5125	306	260	0.058	0.075	0.033	0.139	6	
262	132	-340TSVFD	3.000	5999	348	296	0.048	0.063	0.032	0.121	6	
313	159	-341TSVFD	3.195	6835	386	328	0.040	0.053	0.032	0.106	6	
373	189	-342TSVFD	3.320	8176	429	365	0.034	0.045	0.031	0.094	4	
444	227	-343TSVFD	3.465	8531	455	387	0.028	0.039	0.030	0.085	4	
535	273	-344TSVFD	3.760	10283	528	449	0.024	0.033	0.030	0.076	4	

THREE CONDUCTOR TYPE MMV-VFD MARINE MEDIUM VOLTAGE 15KV • 133% INSULATION LEVEL

					Ampacity						
Size AWG/ kcmil		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/Amp/ 1000 Ft.)	Green Insulated Grounding Conductor (3x) Size (AWG)
2	34	-357TSVFD	2.555	3421	156	133	0.184	0.230	0.044	0.364	10
1	43	-358TSVFD	2.620	3653	178	151	0.147	0.184	0.043	0.299	8
1/0	54	-359TSVFD	2.815	4319	205	174	0.117	0.147	0.041	0.246	8
2/0	70	-360TSVFD	2.920	5009	234	199	0.093	0.117	0.039	0.203	8
3/0	86	-361TSVFD	3.020	5224	269	229	0.074	0.094	0.038	0.170	6
4/0	109	-362TSVFD	3.235	6119	309	263	0.058	0.075	0.037	0.142	6
262	132	-363TSVFD	3.425	6993	352	299	0.048	0.063	0.035	0.124	6
313	159	-364TSVFD	3.525	7547	389	331	0.040	0.053	0.034	0.109	6
373	189	-365TSVFD	3.645	8686	432	367	0.034	0.045	0.034	0.097	4
444	227	-366TSVFD	3.825	9505	456	388	0.028	0.039	0.033	0.080	4

Stranding Profile:
See Page 28

Ordering Type MMV-VFD Medium Voltage Cables

Example:

- 3-conductor MMV-VFD power cable
- 15kV
- #2 AWG

37-105 - 357TSVFD

AmerCable Type
MMV-VFD Prefix

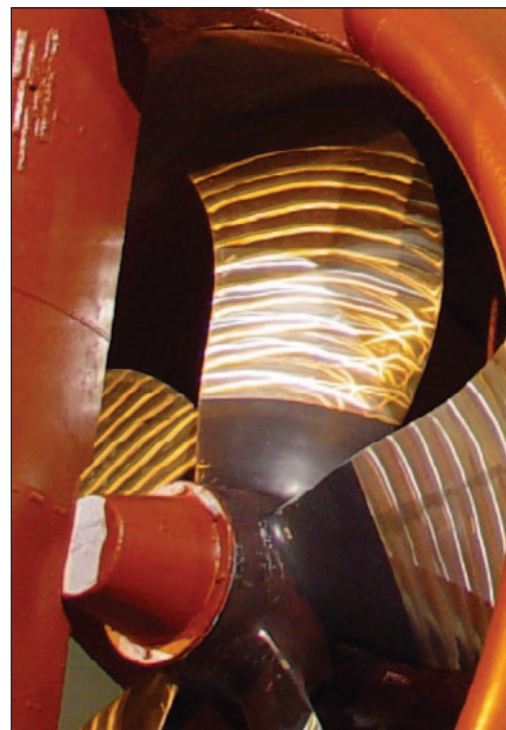
Specific Cable
Number (from charts)

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

Siz AWG/kcmil	Closest IEEE 45 Std. Size	Equivalent Metric Size (mm ²)	Uninsulated Conductor Dia. (inches)
8	16	7.57	0.134
6	26	12.49	0.173
4	41	21.11	0.257
2	66	33.51	0.324
1	83	42.79	0.363
1/0	106	54.45	0.401
2/0	133	70.01	0.451
3/0	168	85.57	0.505
4/0	212	108.91	0.567
262	262	132.25	0.615
313	313	159.06	0.704
373	373	189.36	0.735
444	444	227.23	0.780
535	535	272.68	0.871
646	646	325.70	0.965
777	777	393.87	1.050
1111	1111	561.94	1.375



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



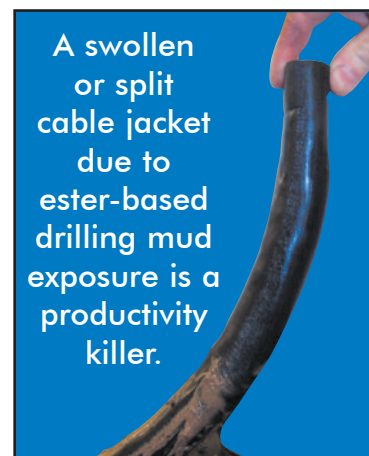
ESTER-BASED MUD RESISTANT JACKETED CABLES

110°C • UL Marine Shipboard Cable



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.



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

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

1/C MARINE GEXOL® 600V GREEN/YELLOW STRIPE GROUNDING CABLE

Conductors

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

Insulation

Green GEXOL®
Cross-linked Polyolefin
(XLPO), with an extruded
yellow stripe



APPLICATIONS

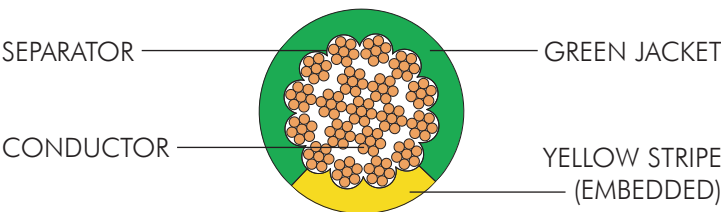
A flexible, highly durable grounding cable constructed with AmerCable's premium Gexol® thermoset insulation.

RATINGS & APPROVALS

- 125°C Manufacturer's Temperature Rating
- UL Listed 110°C Marine Shipboard Cable meeting
- UL 1309 Type X110P
- UL Classified IEEE-45 Type P (1998 standard and 1993 draft)
- CSA Listed as Marine Shipboard Cable
- 600/1000V UL/IEC
- UL Type SIS 90C
- VW-1 Rated

JACKET MARKING

AMERCABLE GEXSIS-125 (SIZE) 1/C UL MARINE SHIPBOARD 110C TYPE SIS-VW1 90C UL 600V/1000V IEC (YEAR) - 37102XXXGRNYEL



Size	Part Number	Diameter	Weight* lbs/1000ft	Ampacity 100°C*
10	37-102158GRNYEL	0.180	41	58A
8	37-102159GRNYEL	0.236	64	72A
2	37-102164GRNYEL	0.425	247	169A
2/0	37-102167GRNYEL	0.590	507	262A
4/0	37-102169GRNYEL	0.710	770	351A

*Single banked values at 45C Ambient

GEXOL® STRANDING PROFILE

Size	Equivalent mm ²	IEEE 45 Std. Size	Conductor O.D. (Inches)
18	0.96	2	0.048
16	1.32	3	0.056
14	2.08	4	0.070
12	3.30	6	0.088
10	5.23	10	0.112
8	7.57	16	0.134
6	12.49	26	0.173
4	21.11	41	0.257
2	33.51	66	0.324
1	42.79	83	0.363
1/0	54.45	106	0.401
2/0	70.01	133	0.451
3/0	85.57	168	0.505
4/0	108.91	212	0.567
262	132.25	262	0.615
313	159.06	313	0.704
373	189.36	373	0.735
444	227.23	444	0.780
535	272.68	535	0.871
646	325.70	646	0.965
777	393.87	777	1.050
1111	561.95	1111	1.375



AmerCable is an ISO 9001:2015 certified cable manufacturer that combines leading-edge manufacturing technology, innovative thinking, and high-quality service to deliver the finest energy cable products available.

Serving the world from our Energy Group headquarters in Katy, Texas, our professional field engineers and sales support staff work with you to create innovative, cost-effective project solutions.

- Fastest Lead Times in the Industry
- Professional Sales, Support and Service
- Productivity Solutions
- Global Cable Management

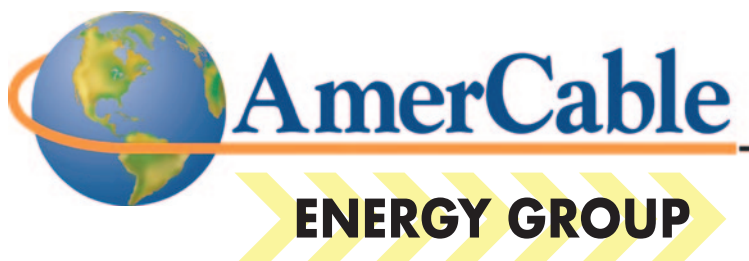


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