

 A Marmon Wire & Cable /
Berkshire Hathaway Company

keriteTM 

**High Voltage &
Specialty Cable**

kerite.com

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Why Kerite?

For over 150 years, Kerite has manufactured the most reliable electrical power cable available. Kerite's reputation for reliability is based on decades of use in real world environmental conditions. Utility customers today are more demanding than ever about the reliability of their electrical service. Kerite cable is a key component of grid reliability.

Long Service Life

Cable service life is a function of its design properties, manufacturing and installation. Kerite is confident enough to warranty our cable for the life of the installation.

Discharge Resistant EPR™ Insulation

The foundation of that reliability is Kerite's proprietary Discharge Resistant Ethylene Propylene Rubber (DR-EPR™) insulation. Kerite has been formulating, compounding, and manufacturing its own Discharge Resistant EPR cable insulation for decades. Every batch of Discharge Resistant EPR insulation is inspected and tested to Kerite's quality standards before extrusion. Kerite's Discharge Resistant EPR has electrical, mechanical, thermal and chemical properties that work together to create superior cable insulation. Millions of feet of Kerite cables have been installed in all types of environments with no known cable failures due to insulation degradation or weakness. This record is unequalled in the electrical power cable industry.

Permashield®

All Kerite cables have our Permashield® stress control layer between the conductor and the insulation. Permashield reduces electrical stress in the primary insulation and limit the available free discharge that can damage the insulation and cause premature cable failure. Permashield's non-conducting properties permit 100% testing during extrusion to verify there are no voids in the stress control layer which could lead to early cable insulation failures.

Superior Underwater Performance and Durability

Moisture in a power cable is a fact of underground and subsea applications and must be addressed by blocking the moisture ingress or selecting an insulation that is impervious to the deterioration which occurs in a wet environment. Kerite cable has the only insulation that utilizes a wet design approach; it performs normally when fully immersed in water. This wet design approach has been used by Kerite cables that have been in service since the 1920s and continue to operate today.

More Reasons to Choose Kerite

Kerite insulation has additional features that contribute to Kerite cables' exceptional reliability.

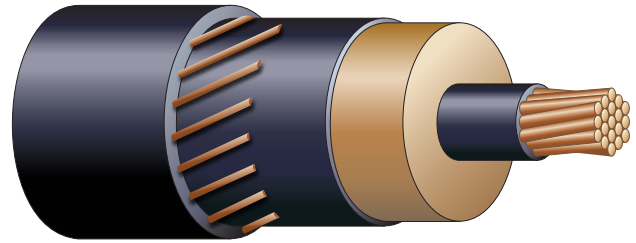
- Corona Immunity
- Long-term Over-voltage Endurance
- Transient Attenuation

Kerite Power Cable has been manufactured in the USA since 1854.

ISO 9001:2008 registered

Cable Overview

Kerite power cable in voltages from 46kV through 138kV for transmission applications.



Conductor

- Copper
 - Stranded
 - Filled
 - Compact
- Aluminum
 - Stranded
 - Filled

Insulation System

- 100% Level with Single Permashield®
- 133% Level with Single Permashield®

Shielding

- Copper Tape
- Cupro-Nickel Tape
- Concentric Neutrals
 - Round or Flat
- Tape and Round Concentric Neutrals

Jacket

- Polyvinyl Chloride (PVC)
- Polyethylene (PE)
- Chlorinated Polyethylene (CPE)
- Low Smoke Zero Halogen (LSZH)
- Semi-Conducting Polyethylene (SCPE)
- Polypropylene (PP)

Catalog Number Matrix

000A00-A0000		000A00-A0000		000A00-A0000		000A00-A0000		000A00-A0000		000A00-A0000		000A00-A0000					
Number of Conductors		Conductor Size		Conductor Material		Voltage		Insulation System		Metallic Shielding		Individual Jacket		Assembly		Outer Assembly Finish	
1	1/C	06	6 AWG	A	Aluminum	05	5kV	A	SPS HVK 100% Thermoplastic Semi-Conducting	1	Full Concentric	1	Black Polyethylene (PE)	0	None	0	None
		04	4 AWG	C	Copper	15	15kV					2	Black Polyethylene (PE) & Red Stripes				
		01	1 AWG					F	Filled Aluminum	25	25kV	4	Polyvinyl Chloride (PVC)	2	Triplexed	1	Polyethylene (PE) Jacket
		11	1/0 AWG	5	Black Polyvinyl Chloride (PVC)												
		21	2/0 AWG	G	Filled Copper	35	35kV	4	5 mil Copper Tape	7	Semi-Conducting Polyethylene (SCPE)	3	Triplexed with Neutrals	2	Polyvinyl Chloride (PVC) Jacket		
		41	4/0 AWG							8	Semi-Conducting Polyethylene (SCPE)						
		25	250 kcmil	J	SPS HVK 100% Thermoset Semi-Conducting	6	Cupro-Nickel Tape	E	Polypropylene (PP)	4	Cabled	8	Polyethylene (PE) Jacketed Galvanized Steel Armor Wires				
3	3/C or 3-1/C (Paralleled or Triplexed)	35	350 kcmil	S	Solid Aluminum	46	46kV	9	All Other	F	Thermoplastic Rubber (TPR)			5	Cabled with Neutrals	9	All Other
		50	500 kcmil	T	Solid Copper	69	69kV			H	Low Smoke Zero Halogen (LSZH)	6	Paralleled with Neutrals				
		75	750 kcmil	X	Compact Copper	95	115kV	E	Copper Tap & Concentric	J	Chlorinated Polyethylene (CPE)	9	Self-supporting Aerial Cable				
		90	1000 kcmil														
		92	1250 kcmil	98	138kV												
		95	1500 kcmil														
97	1750 kcmil																
99	2000 kcmil																

Example: Catalog Number 102C15-C4400 = 1/C Single #2 AWG Copper Conductor, 15kV, Single Permashield® with 100% Insulation Level Thickness of HVK Insulation, 5 mil Copper Tape Shield and a Polyvinyl Chloride Jacket.

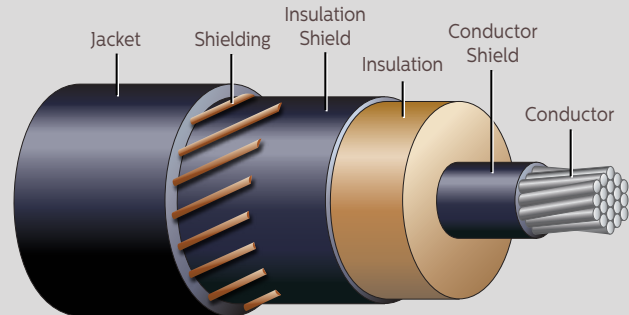
Note: 1. This is a matrix of standard parts. Not all available options are listed above. Consult factory for availability.

2. Caution should be exercised in using the above matrix, as not all possible combinations are appropriate for all voltages.

Power Cable

46kV 90°C Rating

- **Conductor** – Aluminum Strand
- **Conductor Shield** – Non-Conducting Permasield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)



Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 445 mil Insulation						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
141A46-	4/0	19	1.460	80	1.788	1.662
125A46-	250	37	1.524	80	1.868	1.788
135A46-	350	37	1.627	80	1.971	1.994
150A46-	500	37	1.755	80	2.099	2.279
175A46-	750	61	1.944	80	2.288	2.724
190A46-	1000	61	2.903	80	2.437	3.122
192A46-	1250	91	2.251	80	2.595	3.548
195A46-	1500	91	2.371	80	2.715	3.917
197A46-	1750	127	2.487	80	2.831	4.270
199A46-	2000	127	2.590	80	2.934	4.620

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 89kV

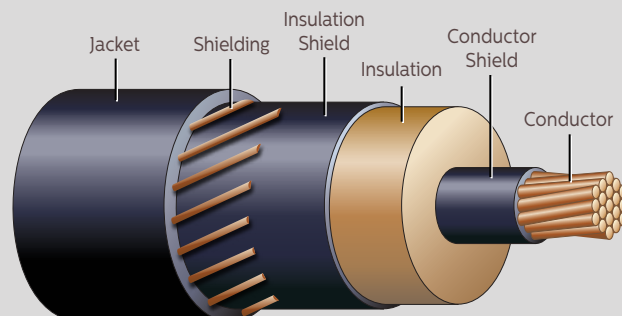
46kV Aluminum Conductor Ampacities:

Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
4/0	321	299	276	299	268	239	266	227	195	363	298	250	336	271	225	320	366
250	353	329	304	329	294	262	292	248	213	397	326	273	367	296	245	355	406
350	430	398	366	398	354	314	352	298	254	474	388	324	438	352	291	436	499
500	529	488	447	488	431	381	428	360	306	573	467	389	529	422	348	544	623
750	669	614	559	614	539	473	535	446	378	712	576	478	654	520	428	700	802
1000	789	721	655	721	629	550	624	518	437	827	667	553	759	601	493	837	957
1250	895	815	737	814	708	618	702	580	488	930	746	617	852	672	550	959	1092
1500	990	899	811	898	778	677	771	635	533	1020	816	674	933	734	600	1072	1218
1750	1073	972	876	971	840	729	831	683	573	1102	879	724	1007	790	645	1167	1318
2000	1151	1041	936	1039	896	776	887	727	609	1176	935	770	839	839	685	1263	1425

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

46kV Shielded 90°C Rating



- **Conductor** – Copper Strand
- **Conductor Shield** – Non-Conducting Permasield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)

Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 445 mil Insulation						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
141C46-	4/0	19	1.460	80	1.788	2.069
125C46-	250	37	1.524	80	1.868	2.276
135C46-	350	37	1.627	80	1.971	2.688
150C46-	500	37	1.755	80	2.099	3.284
175C46-	750	61	1.944	80	2.288	4.257
190C46-	1000	61	2.903	80	2.437	5.180
192C46-	1250	91	2.251	80	2.595	6.135
195C46-	1500	91	2.371	80	2.715	7.031
197C46-	1750	127	2.487	80	2.831	7.930
199C46-	2000	127	2.590	80	2.934	8.809

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 89kV

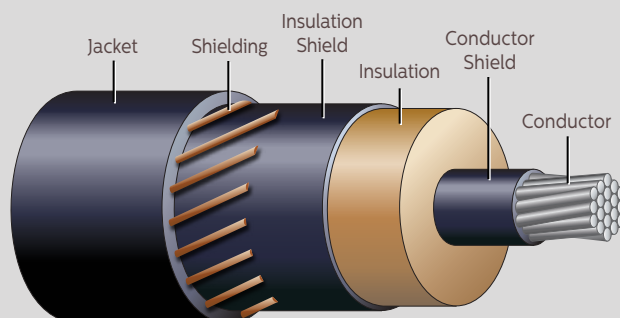
46kV Copper Conductor Ampacities:

Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
4/0	405	376	346	375	333	296	335	284	243	463	381	320	404	322	265	410	474
250	447	414	380	412	365	323	367	310	265	506	416	349	441	351	289	454	525
350	540	498	457	496	438	386	440	370	315	606	495	414	526	417	342	554	635
500	662	609	555	606	532	467	534	447	379	731	595	496	633	499	409	690	791
750	833	761	690	757	660	576	662	550	464	901	730	606	777	610	499	883	1011
1000	975	887	801	882	764	665	766	634	533	1041	839	696	894	700	571	1048	1199
1250	1096	993	895	987	853	739	855	704	591	1160	931	770	993	775	631	1191	1356
1500	1201	1085	975	1078	928	802	930	763	639	1261	1009	833	1077	838	682	1319	1500
1750	1292	1165	1044	1157	993	857	994	813	680	1348	1076	887	1149	892	725	1433	1629
2000	1367	1230	1101	1222	1046	902	1048	856	715	1425	1134	934	1212	939	762	1521	1715

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

69kV Shielded 90°C Rating



- **Conductor** – Aluminum Strand
- **Conductor Shield** – Non-Conducting Permasield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)

Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 650 mil Insulation						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
141A69-	4/0	19	1.884	110	2.298	2.489
125A69-	250	37	1.948	110	2.362	2.619
135A69-	350	37	2.051	110	2.465	2.868
150A69-	500	37	2.179	110	2.593	3.204
175A69-	750	61	2.368	110	2.782	3.725
190A69-	1000	61	2.517	140	2.997	4.309
192A69-	1250	91	2.675	140	3.155	4.806
195A69-	1500	91	2.795	140	3.275	5.229
197A69-	1750	127	2.911	140	3.391	5.630
199A69-	2000	127	3.014	140	3.494	6.027

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 100kV

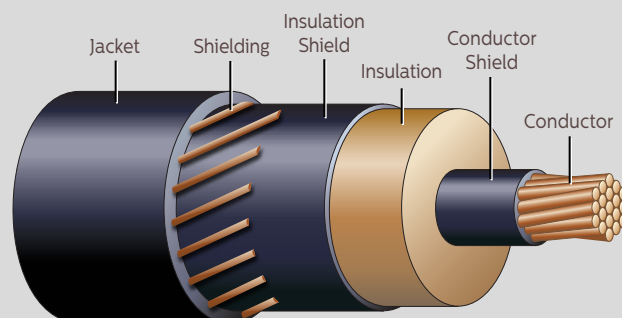
69kV Aluminum Conductor Ampacities:

Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
4/0	318	297	275	296	266	236	263	225	193	365	300	251	338	272	225	315	351
250	351	326	301	326	291	260	289	246	211	399	327	273	369	296	245	349	389
350	426	395	363	394	351	311	347	294	251	477	389	325	440	352	291	429	477
500	523	483	442	481	426	377	421	354	302	577	468	389	530	423	348	533	594
750	660	607	553	605	532	467	525	438	372	715	577	478	655	520	427	685	764
1000	775	710	645	707	619	542	610	508	429	831	668	553	761	601	492	813	901
1250	878	802	727	798	696	608	685	568	479	933	747	616	852	671	549	931	1031
1500	971	883	799	879	764	666	752	621	522	1023	816	673	933	732	598	1039	1151
1750	1055	957	864	953	825	717	811	668	561	1103	878	723	1005	787	642	1138	1260
2000	1131	1024	922	1019	881	764	865	710	595	1176	934	767	1070	836	681	1230	1361

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

69kV Shielded 90°C Rating



- **Conductor** – Copper Strand
- **Conductor Shield** – Non-Conducting Permasield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)

Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 650 mil Insulation						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
141C69-	4/0	19	1.884	110	2.298	2.875
125C69-	250	37	1.948	110	2.362	3.087
135C69-	350	37	2.051	110	2.465	3.543
150C69-	500	37	2.179	110	2.593	4.190
175C69-	750	61	2.368	110	2.782	5.238
190C69-	1000	61	2.517	140	2.997	6.347
192C69-	1250	91	2.675	140	3.155	7.373
195C69-	1500	91	2.795	140	3.275	8.324
197C69-	1750	127	2.911	140	3.391	9.273
199C69-	2000	127	3.014	140	3.494	10.198

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 100kV

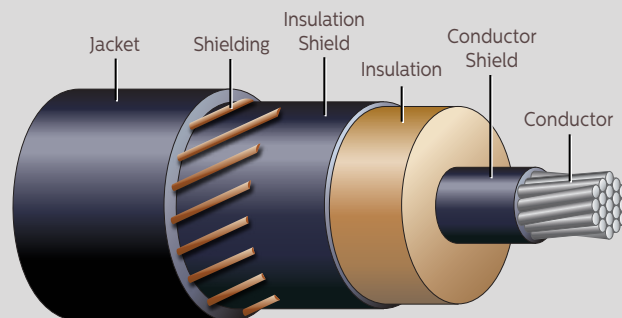
69kV Copper Conductor Ampacities:

Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
4/0	402	373	344	371	330	293	330	280	240	467	383	321	406	323	265	403	448
250	442	410	377	407	362	320	362	306	262	511	418	350	443	351	289	445	496
350	535	494	453	491	434	383	434	365	311	610	497	415	527	417	342	546	608
500	656	603	550	598	526	462	525	440	373	735	597	497	633	499	408	678	756
750	822	752	683	746	651	569	650	540	457	906	731	607	777	609	497	865	965
1000	961	875	792	868	753	656	751	621	524	1045	840	695	893	698	569	1025	1142
1250	1079	980	884	970	839	729	836	689	579	1163	931	769	990	772	628	1164	1296
1500	1176	1066	960	1055	910	789	905	745	625	1264	1009	832	1074	834	678	1277	1414
1750	1265	1143	1027	1131	973	841	967	793	665	1350	1075	885	1144	888	720	1386	1535
2000	1344	1211	1086	1198	1028	887	1021	835	699	1426	1133	931	1206	933	757	1484	1641

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

115kV Shielded 90°C Rating



- **Conductor** – Aluminum Strand
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)

Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 800 mil Insulation (100%)						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
150A95-	500	37	2.479	140	2.959	4.007
175A95-	750	61	2.668	140	3.148	4.583
190A95-	1000	61	2.817	140	3.297	5.087
192A95-	1250	91	2.975	140	3.455	5.624
195A95-	1500	91	3.095	140	3.575	6.078
197A95-	1750	127	3.211	140	3.691	6.509
199A95-	2000	127	3.314	140	3.794	6.931

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 135kV

115kV Aluminum Conductor Ampacities:

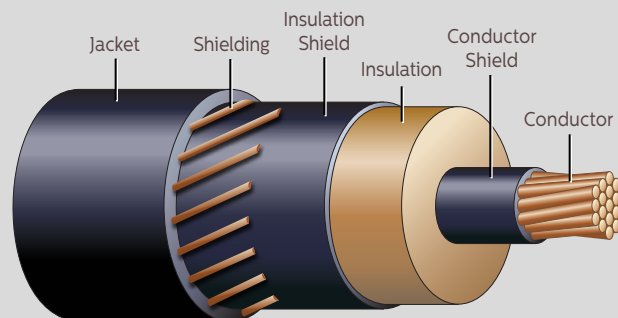
Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
500	508	470	431	465	413	366	402	339	290	573	465	387	524	418	344	515	557
750	639	589	538	582	513	452	499	418	355	709	573	475	647	513	422	659	713
1000	751	689	628	681	598	525	579	483	409	823	662	547	749	592	485	784	849
1250	850	777	706	767	671	587	648	538	455	922	739	610	838	660	540	896	970
1500	938	856	776	844	735	642	709	587	494	1010	807	665	916	720	588	999	1080
1750	1018	926	838	912	793	691	762	630	530	1089	867	714	986	773	631	1093	1183
2000	1091	990	894	974	845	735	811	668	561	1160	922	757	1049	821	669	1181	1276

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

115kV Shielded 90°C Rating

- **Conductor** – Copper Strand
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)



Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 800 mil Insulation (100%)						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
150C95-	500	37	2.479	140	2.959	4.979
175C95-	750	61	2.668	140	3.148	6.083
190C95-	1000	61	2.817	140	3.297	7.112
192C95-	1250	91	2.975	140	3.455	8.178
195C95-	1500	91	3.095	140	3.575	9.159
197C95-	1750	127	3.211	140	3.691	10.139
199C95-	2000	127	3.314	140	3.794	11.090

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 135kV

115kV Copper Conductor Ampacities:

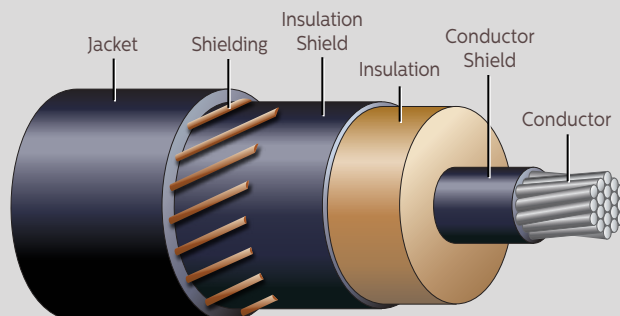
Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
500	636	586	536	577	509	448	500	420	357	730	593	493	624	492	403	654	708
750	796	730	664	717	628	550	616	514	435	899	726	602	764	599	489	832	900
1000	928	847	769	832	724	632	708	588	497	1036	833	689	876	686	559	983	1064
1250	1040	947	857	928	805	701	786	650	548	1151	923	762	971	757	616	1114	1206
1500	1137	1032	932	1010	874	759	851	702	590	1249	998	823	1050	817	664	1230	1330
1750	1221	1106	996	1081	933	808	906	745	625	1334	1063	875	1118	868	705	1334	1442
2000	1295	1171	1052	1143	984	851	953	782	656	1407	1119	919	1177	912	740	1426	1542

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

138kV Shielded 90°C Rating

- **Conductor** – Aluminum Strand
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)



Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 850 mil Insulation (100%)						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
150A98-	500	37	2.579	140	3.059	4.254
175A98-	750	61	2.768	140	3.248	4.847
190A98-	1000	61	2.917	140	3.397	5.363
192A98-	1250	91	3.075	140	3.555	5.914
195A98-	1500	91	3.195	140	3.675	6.378
197A98-	1750	127	3.311	140	3.791	6.818
199A98-	2000	127	3.414	140	3.894	7.250

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 140kV

138kV Aluminum Conductor Ampacities:

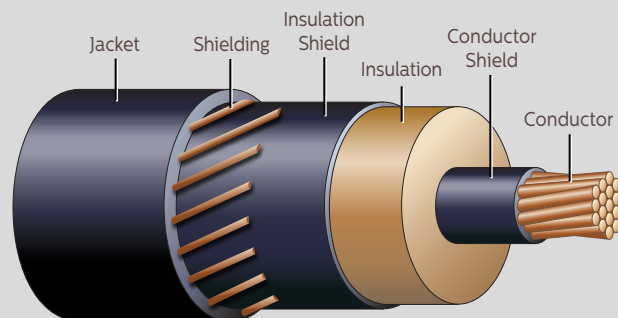
Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
500	499	463	425	456	406	360	392	331	283	568	463	385	520	415	342	505	541
750	628	579	530	570	504	444	484	406	346	704	569	472	641	509	418	646	691
1000	738	678	618	666	586	515	561	468	397	817	658	544	742	587	481	769	823
1250	834	764	695	749	657	575	627	521	441	915	734	606	829	654	535	878	939
1500	920	840	763	823	719	629	684	568	479	1002	801	660	906	713	583	977	1046
1750	997	909	823	890	775	676	735	608	512	1079	861	709	974	765	625	1070	1143
2000	1068	972	878	950	825	719	780	644	542	1149	915	752	1036	812	662	1154	1234

See 'Ampacity Calculation Notes' (pgs.16-17).

Power Cable

138kV Shielded 90°C Rating

- **Conductor** – Copper Strand
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Thermoset Semi-Conducting Layer
- **Shielding** – Flat Strap Copper Concentric Neutrals
- **Jacket** – Polyethylene (PE)



Cable Data – Weight & Dimensions

Catalog Number Suffix = JH100 850 mil Insulation (100%)						
Catalog Number Prefix	Size (AWG/kcmil)	Number of Strands	O.D. Over Insulation (inches)	Jacket		Cable Weight (lbs/ft)
				Thickness (mils)	O.D. (inches)	
150C98-	500	37	2.579	140	3.059	5.221
175C98-	750	61	2.768	140	3.248	6.342
190C98-	1000	61	2.917	140	3.397	7.384
192C98-	1250	91	3.075	140	3.555	8.463
195C98-	1500	91	3.195	140	3.675	9.455
197C98-	1750	127	3.311	140	3.791	10.444
199C98-	2000	127	3.414	140	3.894	11.405

Cable shield (15 #12 AWG wires) designed to carry 26kA for 6 cycles or 22kA for 8 cycles or 20kA for 10 cycles. Consult factory for custom shield designs. Five minute AC Final Test Voltage: 140kV

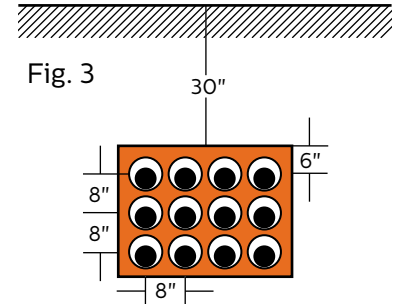
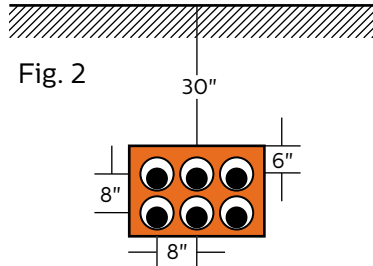
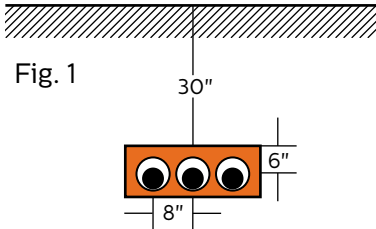
138kV Copper Conductor Ampacities:

Conductor Size (AWG/ kcmil)	Underground in Ducts – One Cable Per Duct									Direct Buried						In Air	
	1 Circuit (Fig.1)			2 Circuits (Fig.2)			4 Circuits (Fig.3)			1 Circuit (Fig.4)			2 Circuits (Fig.5)			Indoor Fig.6	Outdoor Fig.6
	Load Factor (%)																
	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100		
500	626	578	529	566	499	440	487	409	348	723	590	491	617	488	399	643	688
750	782	718	654	702	615	540	597	499	423	892	722	599	755	593	485	817	874
1000	911	833	757	813	709	620	685	570	482	1028	828	685	866	678	553	964	1033
1250	1020	930	843	906	788	686	759	629	530	1142	916	757	958	748	609	1092	1169
1500	1115	1013	916	985	854	742	820	677	570	1239	991	817	1036	807	656	1205	1290
1750	1196	1085	979	1053	910	790	871	718	603	1322	1055	868	1102	857	696	1305	1396
2000	1268	1148	1033	1113	959	831	916	753	631	1394	1110	913	1159	900	730	1395	1493

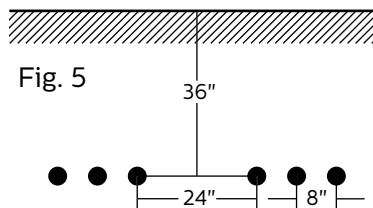
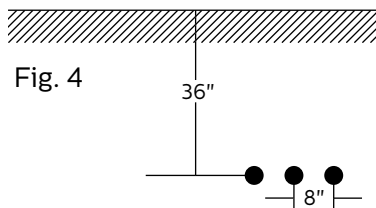
See 'Ampacity Calculation Notes' (pgs.16-17).

Ampacity Calculation Notes

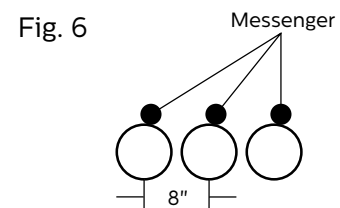
One Single Conductor Cable per Conduit (in Ducts)



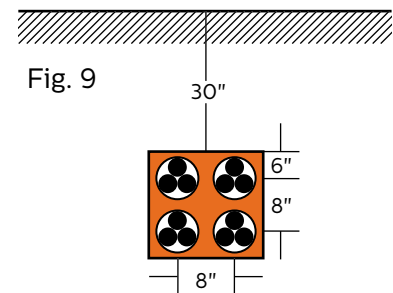
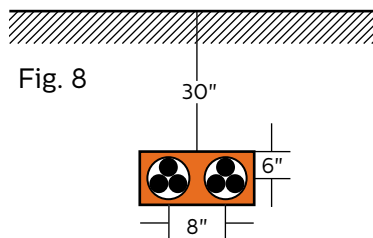
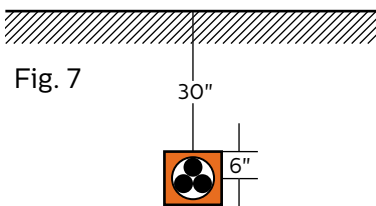
Three Single Conductor Cables (Direct Burial)



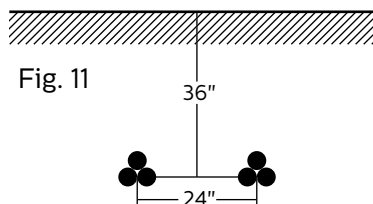
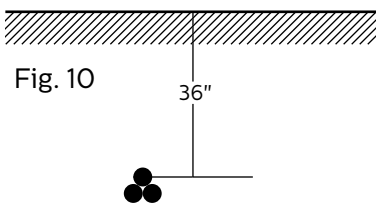
Single Conductor Installations in Air



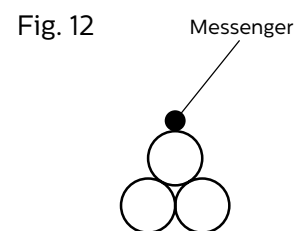
Three Single Conductor Cables Paralleled/Triplexed per Conduit (in Ducts)



Three Single Conductor Cables Paralleled/Triplexed (Direct Burial)



Three Conductor Installations in Air



Assumptions Made for Ampacity Calculations											
Indoors Ambient Temp (°C)	Outdoors Ambient Temp (°C)	Earth Ambient Temp (°C)	Rho Values (°C-cm/watt)	Metallic Shield Grounding	Conductor Temp (°C)	Duct Diameter (inches)	Maximum Surface Temp (°C)	Surface Emissivity	Surface Absorptivity	Atmospheric Pressure (atm)	Air Speed (ft/sec)
40	35	20	90 (Earth) 60 (Concrete) 600 (Duct)	Single-Point	105 (MV) 90 (HV)	5	45 (Direct Burial)	0.85	0.33	1	4
MV Cable Design	Single Conductor, 100% Insulation Level, 5 mil Copper Tape Shield, PVC Jacket										
HV Cable Design	Single Conductor, 100% Insulation Level, 15 #12 AWG Copper Concentric Wire Shield, PE Jacket										

Note: Consult factory about ampacities for specific applications.

Derating Factors for Cables in Air, Separated by 1/4 to 1 Cable Diameters

No. of Cables Vertically	No. of Cables Horizontally					
	1	2	3	4	5	6
2	0.89	0.83	0.79	0.76	0.75	0.74
3	0.80	0.75	0.72	0.70	0.69	0.68
4	0.77	0.72	0.68	0.67	0.66	0.65
5	0.75	0.70	0.66	0.65	0.64	0.63
6	0.74	0.69	0.64	0.63	0.62	0.61

Derating Factors for Cables in Air, One Layer Spaced Cables in a Horizontal Line

Separation of Cable Surfaces	Derating Factors
S	Ka
0"	0.840
1"	0.890
2"	0.920
4"	0.960
6"	0.980
8"	0.990
10"	1.000

Derating Factors for Cables in Conduits in Air, Separated by 1/4 to 1 Conduit Diameters

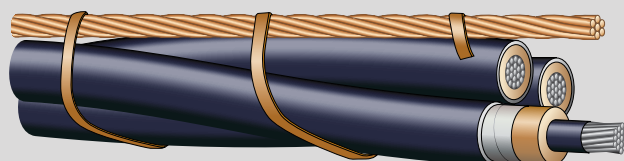
No. of Conduits Vertically	No. of Conduits Horizontally					
	1	2	3	4	5	6
1	1.00	0.94	0.91	0.88	0.87	0.86
2	0.92	0.87	0.84	0.81	0.80	0.79
3	0.85	0.81	0.78	0.76	0.75	0.74
4	0.82	0.78	0.74	0.73	0.72	0.72
5	0.80	0.76	0.72	0.71	0.70	0.70
6	0.79	0.75	0.71	0.70	0.69	0.68

If the conduits or cables are spaced 10" vertically and horizontally, no correction need be applied in any case.

Preamsembled Aerial Cable

15kV-35kV Shielded 105°C Rating

- **Conductor** – Stranded and Compact, Three Copper or Aluminum Conductors
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Extruded Free Stripping Semi-Conducting Layer
- **Metallic Shield** – Copper tape, Cupro Nickel tape
- **Jacket** – Optional
- **Support** – Copper Clad Messenger Wire
- **Custom Built**



Kerite's Preamsembled Aerial cable comes completely assembled on the reel, with 3 conductors tri-plexed and wrapped with a strap to a copper clad messenger wire. It's ready to go up on the pole and is used in locations closer to the public, it is completely insulated with no touch potential. Also installs quicker than 3 individual cables on insulators.

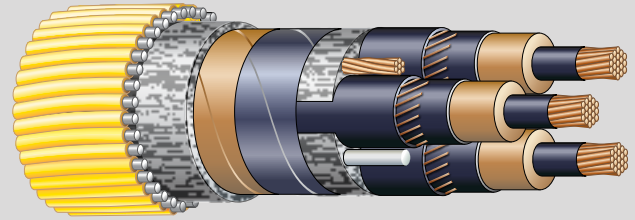
15kV-35kV Cable Ampacities (Triplexed or Paralleled)

Aluminum Conductors		
Conductor Size (AWG/kcmil)	In Air	
	Indoor	Outdoor
2	137	171
1	157	197
1/O	181	226
2/O	208	260
3/O	276	344
250	307	381
350	378	467
500	472	581
750	608	743
1000	717	855

Copper Conductors		
Conductor Size (AWG/kcmil)	In Air	
	Indoor	Outdoor
2	179	219
1	205	252
1/O	235	289
2/O	270	332
3/O	358	439
250	398	485
350	488	594
500	605	735
750	760	905
1000	893	1056

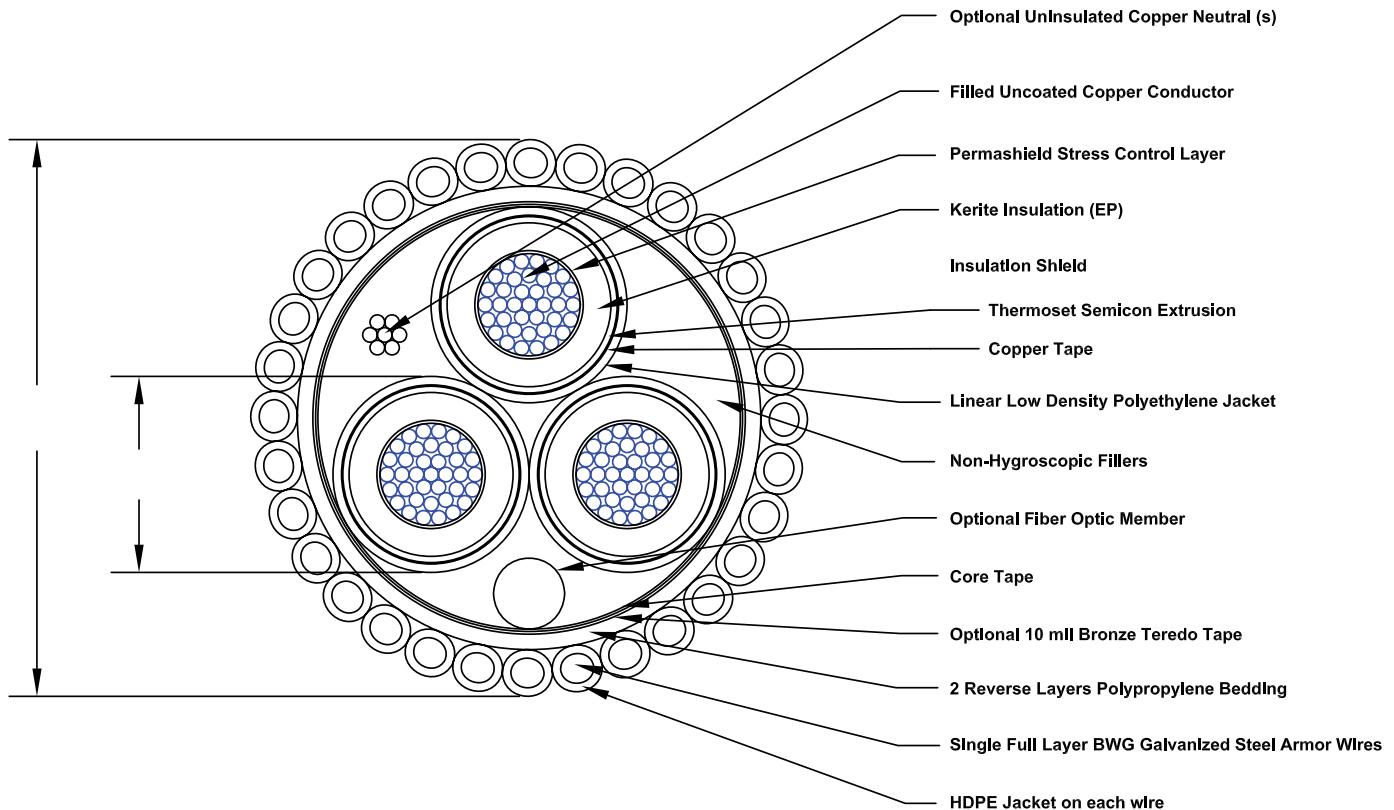
Subsea Cable

5kV-35kV Copper Conductor 105°C Rating



- **Conductor** – Stranded or Filled Copper
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR Insulation
- **Insulation Shield** – Extruded Free Stripping Semi-Conducting Layer
- **Metallic Shield** – Copper tape or Concentric wires
- **Jacket** – Polyethylene (PE)
- **Optional Fiber Optic or Separate Ground Wire**
- **Optional 10 mil Bronze Tape** – Teredo Protection
- **Galvanized Steel Armor Wires** – Individually (Jacketed HDPE)
- **Custom Built** – For special requirements, contact factory

Kerite's DR-EPR™ insulation formula enables our cables to operate in direct contact with water, without the need for an impervious coating. The cable can be covered with individually jacketed steel armor wires for mechanical protection and ease of installation pulling.



APPROXIMATE OVERALL DIAMETER = TBD"
 APPROXIMATE WEIGHT IN AIR = TBD LBS PER FOOT
 APPROXIMATE WEIGHT IN SALT WATER = TBD LBS PER FOOT

Note: TBD = Data to be determined based upon options that you select.

Note: All dimensional data subject to manufacturing tolerances.

Specialty Cables

- **Conductor** – Stranded, Filled, Compact Copper
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR™ Insulation
- **Insulation Shield** – Extruded Free Stripping Semi-Conducting Layer
- **Inner Jacket** – Low Smoke Zero Halogen (LSZH)
- **Galvanized Steel Armor Wires** – Protection
- **Jacket** – High Density Polyethylene (HDPE)

Kerite's Marine Cathodic Protection Cable is manufactured, tested, and qualified to the American Petroleum Institute (API-17E) Specifications. This special design cable is used by the Oil & Gas industry to connect the oil platform, to the cathodic protection units, placed on the seabed around the platform.

Marine Cathodic Protection Cable

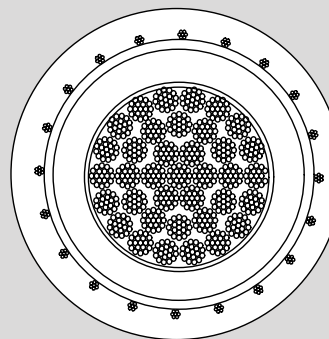


- **Conductor** – Flexible Stranded Copper
- **Conductor Shield** – Non-Conducting Permashield® Stress Control Layer
- **Insulation** – Discharge Resistant EPR™ Insulation
- **Insulation Shield** – Extruded Free Stripping Semi-Conducting Layer
- **Metallic Shield** – Stranded Concentric Wires
- **Jacket** – Thermoplastic (TF)

Portable Substation Cable is the most flexible cable design possible to meet the durability requirements when connecting portable power, substations or transformers. The conductor has a flexible high stranding, the concentrics are stranded instead of solid, and the jacket is a flexible and durable TF material.

Portable Substation Cable

5kv-138kV



- Completely immune to corona and tracking
- Rubber jacket resistant to moisture, heat and oil
- Flexible and mechanically rugged
- Perfect choice for coal mine power centers
- Easier to install in place of expensive, rigid copper bus
- Available in #2, 2/0, 4/0 AWG, 350 and 500 kcmil

Non-Shielded Mining Cable

15kV



Kerite partners with RSCC, also a Marmon Wire and Cable/ Berkshire Hathaway company, to provide medium voltage, nuclear qualified cables to the Nuclear Power Industry. These cables are for both safety and non-safety applications. Kerite has a very long history manufacturing, testing and qualifying cable to this market.

Nuclear Qualified Cable

5kv-35kV



Kerite Cable Services – Cable and Termination Installation

Kerite Cable Services (KCS) Turnkey Capabilities

- Project Management
- System Layout and Design
- Ampacities
- Short Circuit Calculations
- Cable Pulling Calculations
- Custom Cable Designs
 - Power cables from 5kV to 138kV
- Cable Installation, Splicing and Terminating
- System Testing
- Complete Project Documentation
- Emergency Repair or Replacement
- Extended Warranty for Termination & Cable available



Electrical Formulas

To Find	Direct Current	Alternating Current	
		Single-Phase	Three-Phase
Amperes (Given Horsepower)	$\frac{HP \times 1000}{E \times Eff}$	$\frac{HP \times 746}{E \times Eff \times PF}$	$\frac{HP \times 746}{1.73 \times E \times Eff \times PF}$
Amperes (Given Kilowatts)	$\frac{KW \times 1000}{E}$	$\frac{KW \times 1000}{E \times PF}$	$\frac{KW \times 1000}{1.73 \times E \times PF}$
Amperes (Given Kilovolts)	$\frac{KVA \times 1000}{E}$	$\frac{KVA \times 1000}{E}$	$\frac{KVA \times 1000}{1.73 \times E \times PF}$
Kilowatts	$\frac{I \times E}{1000}$	$\frac{I \times E \times PF}{1000}$	$\frac{I \times E \times 1.73 \times PF}{1000}$
Kilovolt Amperes	$\frac{I \times E}{1000}$	$\frac{I \times E}{1000}$	$\frac{I \times E \times 1.73}{1000}$
Horsepower (Output)	$\frac{I \times E \times Eff}{746}$	$\frac{I \times E \times Eff \times PF}{746}$	$\frac{I \times E \times 1.73 \times Eff \times PF}{746}$

Where:

I = Amperes

E = Phase-to-Phase Volts

Eff = Efficiency Expressed as a Decimal (85% = 0.85),

PF = Power Factor Expressed as a Decimal (95% = 0.95)

KW = Kilowatts

KVA = Kilovolt Amperes

HP = Horsepower

Short Circuits

On power systems with particularly high KVA capacity, the available short circuit current must be considered in the selection of the conductor size and the cable shield design. The graphs on the following pages show the maximum currents Kerite cables and shields can carry for various periods of time without degradation to the insulation system and jackets.

Fault Currents

When calculating the time a conductor can carry a particular fault current, or determining the fault current which can be carried for a specific time, it is conservatively assumed that the total heat generated is stored in the conductor, for the brief duration of the short circuit, without any dissipation of heat to the environment.

Either the allowable fault current (I), the allowable duration of time (t), or the cross sectional area (A) of metal necessary to sustain a particular fault can be computed when two of the three variables are known.

$$I = \sqrt{\frac{k \times A^2}{t}}$$

A = Total cross-sectional area of concentric neutral, tape shield, or phase conductor (circular mils)
 I = Fault current (amperes)
 t = Duration of fault (seconds)
 k = Constant for conductor or shield material with fixed initial and final temperatures

The k value in the above equation can be obtained in the following table:

k Value	Shield Material		Conductor Material			
	Copper	Cupro-Nickel	Copper (HV)	Aluminum (HV)	Copper (MV)	Aluminum (MV)
	6.258 x 10 ⁻³	0.560 x 10 ⁻³	5.215 x 10 ⁻³	2.341 x 10 ⁻³	4.627 x 10 ⁻³	2.077 x 10 ⁻³
Starting Temp	65°C		90°C		105°C	
Max Final Temp	250°C					

Conductor Selection

For most applications the selection of copper versus aluminum is an economic decision. As conductor sizes increase the difference in initial cost favors aluminum. The diameter of the aluminum cable becomes increasingly larger than copper for similar ampacity because of aluminum's lower conductivity. Larger diameter cables may require larger ducts, conduits, and racks/trays potentially offsetting initial cable cost savings.

The selection of a conductor size is mainly dependent on the amount of current it must carry and the installation type. The following table of electrical formulas can be used for determining amperage in a particular circuit.

Selecting initial cable cost savings:					Aluminum Conductors		Copper Conductors		
Conductor Size (AWG/kcmil)	Standing (No.xMils)	Diameter (inch)	Circular Mil Area (kcmil)	Area (mm²)	Weight (lbs/kft)	DC Resistance @ 25°C (Ω/kft)	Weight (lbs/kft)	DC Resistance @ 25°C (Ω/kft)	
	Class B Stranded Conductors								
6	7 x 61.2	0.178	26.2	13.3	25	0.6740	81	0.4109	
4	7 x 77.2	0.225	41.7	21.1	39	0.4242	129	0.2580	
2	7 x 97.4	0.283	66.4	33.6	62	0.2661	205	0.1621	
1	19 x 66.4	0.313	83.7	42.4	78	0.2111	258	0.1285	
1/0	19 x 74.5	0.352	105.6	53.5	99	0.1672	326	0.1020	
2/0	19 x 83.7	0.395	133.1	67.4	125	0.1326	411	0.0811	
4/0	19 x 105.5	0.498	211.6	107	199	0.0836	653	0.0510	
250	37 x 82.2	0.558	250	127	234	0.0708	772	0.0431	
350	37 x 97.3	0.661	350	177	328	0.0505	1081	0.0308	
500	37 x 116.2	0.789	500	253	469	0.0354	1544	0.0216	
750	61 x 110.9	0.968	750	380	703	0.0236	2316	0.0144	
1000	61 x 128.0	1.117	1000	507	937	0.0176	3088	0.0108	
1250	91 x 117.2	1.250	1250	633	1172	0.0141	3859	0.0086	
1500	91 x 128.4	1.370	1500	760	1408	0.0118	4631	0.0072	
1750	127 x 117.4	1.480	1750	887	1643	0.0101	5403	0.0062	
2000	127 x 125.5	1.583	2000	1013	1877	0.0088	6175	0.0054	
	Solid Conductors								
	2	–	0.259	66.4	33.6	61.1	0.261	201	0.1594
	1	–	0.289	83.7	42.4	77.1	0.207	253	0.1263
	1/0	–	0.325	105.6	53.5	97.2	0.164	320	0.1002
	2/0	–	0.365	133.1	67.5	122.5	0.130	403	0.0795
	Compact Conductors								
	250	–	0.520	250	127	235	0.0707	772	0.0431
	350	–	0.616	350	177	329	0.0505	1080	0.0308
	500	–	0.736	500	253	469	0.0354	1542	0.0216
	750	–	0.908	750	380	704	0.0236	2316	0.0144
1000	–	1.060	1000	507	939	0.0177	3086	0.0108	



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