Okoguard®-Okoseal®

69kV Shielded Power Cable

Conductor/105°C Rating

A Uncoated, Okopact (Compact) or Compress Stranded Copper or Aluminum Conductor
B Strand Screen-Extruded Semiconducting EPR
C Insulation-Okoguard EPR
D Insulation Screen-Extruded Semiconducting EPR
E Metallic Shield-5 mil Bare Copper Tape
F Jacket-Okoseal

Insulation

Okoguard® is Okonite's registered trade name for its exclusive ethylene-propylene rubber (EPR) based, thermosetting compound, whose optimum balance of electrical and physical properties is unequaled in other solid dielectrics. Okoguard insulation, with the distinctive red color and a totally integrated EPR system, provides the optimum balance of electrical and physical properties for long, problem-free service.
Ethylene-propylene rubber screens are extruded over the conductor and the insulation. The triple tandem extrusion of these screens with the insulation provides optimum electrical characteristics.

Jacket

The Okoseal (PVC) jacket supplied with this cable is mechanically rugged and has excellent resistance to oil and most chemicals.

Applications

Okoguard-Shielded-Okoseal 69kV Cables are designed for use as primary circuits in electrical utility and industry applications where they provide maximum circuit security and economical installation. Rated 105°C for continuous operating temperature, Okoguard 69kV cables may be installed in wet or dry locations indoors or outdoors (exposed to sunlight) in underground ducts, conduits or direct burial.

Specifications

Conductors: Uncoated copper sizes 250 through 1000 kcmil are compact round strand per ASTM B496. Uncoated copper sizes larger than 1000 kcmil are compressed round Class B strand per ASTM B3 and ASTM B8. Aluminum sizes are compressed round Class B strand per ASTM B231 and ASTM B609.
Strand Screen: Extruded semiconducting EPR strand screen. Meets or exceeds electrical and physical requirements of ICEA S-108-720 and AEIC CS9.
Insulation: Meets or exceeds electrical and physical requirements of ICEA S-108-720 and AEIC CS9.
Insulation Screen: Extruded semiconducting EPR insulation screen. Meets or exceeds electrical and physical requirements of ICEA S-108-720 and AEIC CS9.
Shield: 5 mil bare copper tape helically applied with 25% minimum overlap. Optional shields include concentric neutral wires, LCS and a combination of copper tape and wires. A C-L-X® armor covering is also available.
Jacket: Meets or exceeds electrical and physical requirements of ICEA S-108-720 for polyvinyl chloride jackets. An optional Okolene® LLDPE jacket can be provided when specified.

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed recognized industry standards (AEIC and ICEA).
- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Exceptional resistance to “treeing."
- Low shield resistance.
- Moisture resistant.
- Resistant to most oils, acids, and alkalies.
- Sunlight resistant.
- Improved temperature rating.
- Screens are clean stripping.
- Production testing and associated frequency, in addition to insulation screen surface marking, to be performed in accordance with ICEA S-108-720, latest edition.
- Stock cables have strippable insulation screen.
- Special order cables are available with strippable or bonded insulation screen.

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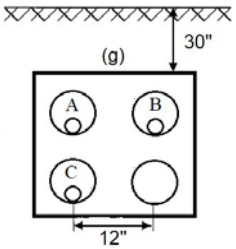
Okoguard Insulation: 650 mils(16.5mm)

Catalog Number	Conductor size AWG or kcmil	Conductor Size -mm²	Approx. Dia. over Insulation (in.)	Approx. Dia. over Screen (in.)	Jacket Thickness - mils	Jacket Thickness - mm	Approx. O.D. -Inches	Approx. O.D. -mm	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	Ampacity Ductbank (1)	Ampacity Direct Bury (1)	Conduit Size Inches (2)*
Copper Conductor - Compact Round													
115-22-3765	250(37x)	127	1.91	2.01	110	2.79	2.26	57.4	3086	3459	458	508	3½
115-22-3767	350(37x)	177	2.01	2.11	110	2.79	2.36	59.9	3538	3873	555	616	3½
▲115-22-3771	500(37x)	253	2.12	2.22	110	2.79	2.47	62.7	4179	4514	678	753	3½
115-22-3775	750(61x)	380	2.30	2.40	110	2.79	2.64	67.1	5213	5805	853	943	4
▲115-22-3777	1000(61x)	507	2.44	2.54	140	3.56	2.85	72.4	6406	7098	993	1095	4
Copper Conductor Compressed Round													
115-22-3778	1250(91x)	633	2.68	2.78	140	3.56	3.09	78.5	7531	8451	1133	1234	5
115-22-3779	1500(91x)	761	2.78	2.88	140	3.56	3.19	81.0	8527	9447	1244	1351	5
115-22-3780	1750(127x)	887	2.91	3.01	140	3.56	3.32	84.3	9664	10686	1342	1455	5
115-22-3781	2000(127x)	1014	3.03	3.13	140	3.56	3.44	87.4	10651	11850	1424	1542	5
115-22-3782	2250(127x)	1140	3.14	3.24	140	3.56	3.55	90.2	11563	14375	1502	1622	5
155-22-3783	2500(127x)	1267	3.21	3.31	140	3.56	3.62	91.9	12609	15007	1566	1689	5
155-22-3784	2750(127x)	1393	3.30	3.40	140	3.56	3.71	94.2	13548	15946	1643	1752	6

Okonite's web site, www.okonite.com contains the most up to date information.

Additional conductor sizes are available.

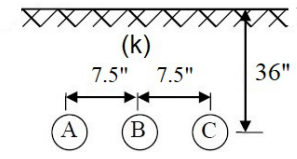
▲**Authorized Stock Item.** Available from our Customer Service Centers.



(1) Ampacities Conditions

Ampacities are calculated using the Neher-McGrath methods of estimating the steady-state temperature of electrical power cables with the IEEE 835-1994 configurations noted below.

Duct Bank:
69kV 250-3000 kcmil
Configuration: 3 single cables in geometry **(g)**.
Single circuit underground duct with 12" spacing between conductors.
Single duct bank, 30" to top of duct bank, 75% Load Factor, 60°C-cm/W (RHO) concrete.
Ambient temperature of 20°C and soil thermal resistivity (RHO) of 90°C-cm/W.



Direct Burial:
69kV 250-3000 kcmil
Configuration: 3 single cables in geometry **(k)**.
Single circuit directly buried 36" deep underground with 7 1/2" flat spacing between conductors.
75% Load Factor, ambient temperature of 20°C and soil thermal resistivity (RHO) of 90°C-cm/W.

Multi-point grounded except copper sizes 1500, 1750, 2000, 2250, 2500 and 2750 kcmil and aluminum sizes 2000, 2250, 2500, 2750 and 3000 where the shields are open circuit.

Ampacities for other configurations available upon request. Contact your local Okonite sales representative.

(2) Recommended size of rigid nonmagnetic or nonmetallic conduit for a single conductor based on 53% maximum fill.

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Aluminum Conductor - Compress Round													
135-22-3765	250(37x)	127	1.94	2.04	110	2.79	2.29	58.2	2587	2960	361	401	3½
135-22-3767	350(37x)	177	2.06	2.16	110	2.79	2.41	61.2	2888	3223	437	486	3½
135-22-3771	500(37x)	253	2.19	2.29	110	2.79	2.54	64.5	3244	3579	535	596	3½
135-22-3775	750(61x)	380	2.37	2.47	110	2.79	2.72	69.1	3778	4175	678	750	4
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135-22-3779	1500(91x)	761	2.80	2.90	140	3.56	3.21	81.5	5381	6034	998	1088	5
135-22-3790	1750(127x)	887	2.93	3.03	140	3.56	3.34	84.8	5909	6931	1088	1185	5
135-22-3791	2000(127x)	1014	3.03	3.13	140	3.56	3.44	87.4	6330	7529	1167	1267	5
135-22-3792	2250(127x)	1140	3.12	3.22	140	3.56	3.52	89.4	6726	8637	1237	1342	5
135-22-3793	2500(127x)	1267	3.21	3.31	140	3.56	3.62	91.9	7150	9061	1304	1412	5
135-22-3794	2750(127x)	1393	3.30	3.40	140	3.56	3.71	94.2	7545	9456	1377	1474	6
135-22-3795	3000(169x)	1520	3.39	3.49	140	3.56	3.79	96.3	7919	9830	1434	1532	6

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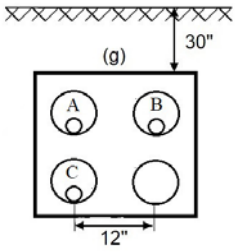
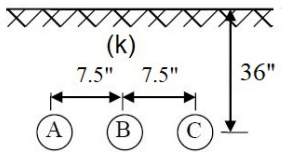


Direct Burial:

69kV 250-3000 kcmil
Configuration: 3 single cables in geometry **(k)**.
Single circuit directly buried 36" deep underground with 7 1/2" flat spacing between conductors.
75% Load Factor, ambient temperature of 20°C and soil thermal resistivity (RHO) of 90°C-cm/W.



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THE OKONITE COMPANY
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