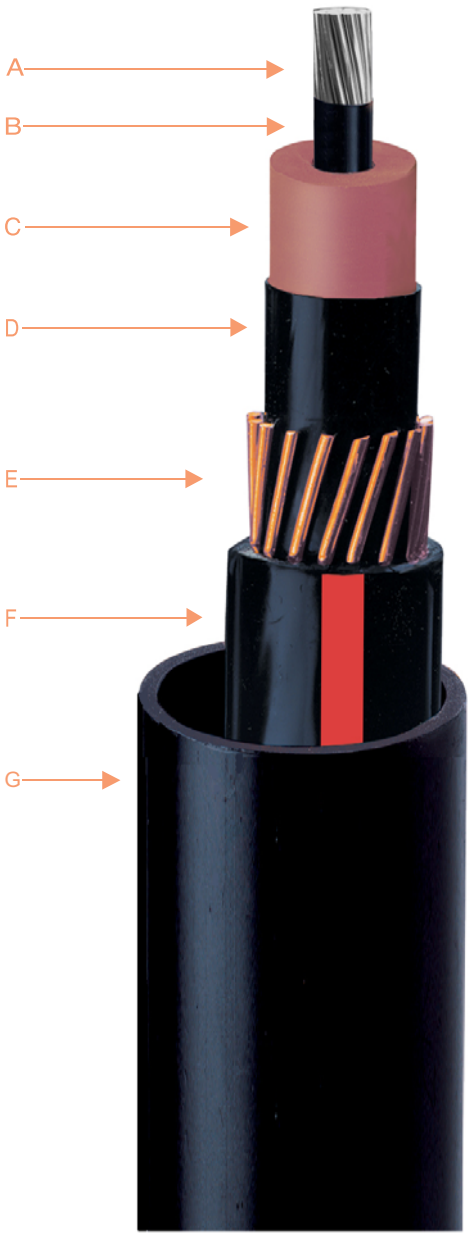
THE OKONITE COMPANY

Okoguard® CIC URO-J Cable-In-Conduit

15 to 35kV Primary Underground Distribution Cable-Full Neutral

One Aluminum Conductor/105°C Rating - 100% and 133% Insulation Level



A Conductor-Stranded Aluminum
B Strand Screen - Extruded Semiconducting EPR
C Insulation-Okoguard EPR
D Insulation Screen - Extruded Semiconducting EPR
E Concentric Conductor-Bare Copper
F Encapsulating Jacket-Okolene
G Conduit-Flexible Polyethylene

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.

The triple tandem extrusion of the screens with the insulation provides optimum electrical characteristics.

Okonite URO-J cables are factory installed within a polyethylene conduit. This URO-J-CIC (Cable-in-Conduit) has many of the advantages of a jacketed cable provided the ends of the conduit are sealed. The flexible polyethylene conduit provides an economical factory assembled cable-in-conduit with mechanical protection against accidental dig-in, and easier installation.

Applications

CIC cable with a full neutral provides reliable circuit security in underground distribution systems. They provide greater mechanical protection against accidental dig-in than the direct burial UD cables normally installed. The polyethylene conduit protects the cable in adverse soil conditions (stone, coarse backfill, corrosive soil conditions, etc.).

The Okoguard CIC cable is commonly installed where the ground above the cable will be finished with asphalt paving, landscaping, structures, etc.

URO-J-CIC is particularly advantageous when used in landscaped residential areas since system expansions may be accomplished without disturbing the lawn and shrubbery.

Specifications

Central Conductor: Aluminum per ASTM B-609 Class B stranded per B-231.

Conductor Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Insulation: Extruded Okoguard meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Insulation Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Concentric Conductor: Bare copper wires. Conductivity equal to central conductor.

Jacket: Black Okolene with red extruded stripes and NESC lightening bolt meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5 for polyethylene jackets.

Conduit: Extruded high density polyethylene with standard wall thicknesses per NEMA TC7. HDPE material in accordance with ASTM D 3350; conduit dimensions in accordance with ASTM D 3485; conduit manufactured in accordance with ASTM F 2160. Optional Sch 40, 80, and SDR 13.5 conduit available on special orders.

Product Features

- Triple tandem extruded, all EPR cable.
- Okoguard cables meet or exceed all recognized industry standards (UL, AEIC, ICEA, IEEE).
- Can be listed by UL as Type MV-90 on Special Orders.
- CSA C68.5 listed, LTGG (-40°C), SR.
- 105°C continuous operating temperature
- 140°C emergency rating
- 250°C short circuit rating
- Excellent corona resistance.
- Screens are clean stripping.
- Exceptional resistance to "treeing".
- Outstanding impact strength and abrasion resistance.
- Additional protection against dig-in.
- Meets or exceeds requirements of applicable industry standards.
- Very low moisture absorption.
- Excellent resistance to weather and most chemicals.
- Easy to splice and terminate.
- Design Options:
  Filled strand
  Copper central conductor
- Improved Temperature Rating.

Okoguard insulation system has been tested and qualified for operation at 105°C continuous and 140°C emergency operating temperature.

- Minimum installation temperature of -40°C.
- Shields cables from physical damage, abrasion, and crushing forces.

Okoguard CIC
URO-J Cable-In-Conduit

15 and 25kV Primary Underground Distribution Cable-Full Neutral

One Aluminum Conductor/105°C Rating - 100% and 133% Insulation Level

Catalog Number	Conductor size (AWG or kcmil)	Number of Strands	Nominal Dia. over Insulation	Insulation Screen Thickness (mils)	Nominal Dia. over Insulation Screen	Copper Full Neutral No. x AWG (1)	Nominal O.D. over Jacket	Okolene Conduit Nominal Size	Okolene Conduit O.D. (In.)	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Ampacity Duct (2)	105°C Ampacity Duct (2)	Minimum Bending Radius (In.)
Okoguard Insulation: 175 mils (4.45mm), 100% Insulation Level - 15kV														
161-23-2110	2(7X)	0.67	30	0.74	10X14	0.98	1¼	1.66		735	1041	125	135	18
161-23-2116	1(19X)	0.72	30	0.79	13X14	1.03	1½	1.90		875	1280	145	155	21
161-23-2122	1/0(19X)	0.74	30	0.82	16X14	1.06	1½	1.90		951	1360	160	175	21
161-23-2125	2/0(19X)	0.80	30	0.87	14X12	1.14	1½	1.90		1100	1490	185	205	21
161-23-2128	3/0(19X)	0.85	30	0.92	16X12	1.19	2	2.38		1352	1940	210	230	26
161-23-2131	4/0(19X)	0.90	30	0.98	14X10	1.29	2	2.38		1573	2265	240	260	26
161-23-2134	250(37X)	0.97	30	1.04	16X10	1.35	2	2.38		1711	2430	270	295	26
161-23-2140	350(37X)	1.07	40	1.17	18X.1078	1.50	2	2.38		2045	2860	310	340	26
Okoguard Insulation: 220 mils (5.59mm), 133% Insulation Level - 15kV														
161-23-3110	2(7X)	0.76	30	0.83	10X14	1.07	1½	1.90		878	1287	125	135	21
161-23-3116	1(19X)	0.81	30	0.88	13X14	1.12	1½	1.90		954	1363	145	155	21
161-23-3122	1/0(19X)	0.84	30	0.91	16X14	1.15	1½	1.90		1035	1445	160	175	21
161-23-3125	2/0(19X)	0.89	30	0.96	14X12	1.23	2	2.38		1344	2041	185	205	26
161-23-3128	3/0(19X)	0.94	30	1.01	16X12	1.28	2	2.38		1449	2165	210	230	26
161-23-3131	4/0(19X)	0.99	30	1.07	14X10	1.38	2	2.38		1676	2368	240	260	26
161-23-3134	250(37X)	1.06	40	1.16	16X10	1.47	2	2.38		1847	2567	270	295	26
161-23-3140	350(37X)	1.16	40	1.26	18X.1078	1.59	2½	2.88		2460	3362	310	340	32
Okoguard Insulation: 260 mils (6.60mm), 100% Insulation Level - 25kV														
161-23-4116	1(19X)	0.89	30	0.96	13X14	1.20	2	2.38		1212	1902	145	155	26
161-23-4122	1/0(19X)	0.93	30	1.00	16X14	1.24	2	2.38		1279	1985	160	175	26
161-23-4125	2/0(19X)	0.97	30	1.05	14X12	1.32	2	2.38		1411	2129	185	205	26
161-23-4128	3/0(19X)	1.02	40	1.12	16X12	1.39	2	2.38		1565	2285	210	230	26
161-23-4131	4/0(19X)	1.08	40	1.18	14X10	1.49	2	2.38		1800	2496	240	260	26
161-23-4134	250(37X)	1.14	40	1.24	16X10	1.55	2½	2.88		2247	2670	270	295	32
161-23-4140	350(37X)	1.25	40	1.35	18X.1078	1.74	2½	2.88		2631	3537	310	340	32
Okoguard Insulation: 320 mils (8.76mm), 133% Insulation Level - 25kV														
161-23-5116	1(19X)	1.01	30	1.09	13X14	1.32	2	2.38		1319	2060	145	155	26
161-23-5122	1/0(19X)	1.05	40	1.15	16X14	1.39	2	2.38		1441	2151	160	175	26
161-23-5125	2/0(19X)	1.09	40	1.19	14X12	1.46	2	2.38		1611	2301	185	205	26
161-23-5128	3/0(19X)	1.14	40	1.24	16X12	1.51	2½	2.88		2010	3226	210	230	32
161-23-5131	4/0(19X)	1.20	40	1.30	14X10	1.61	2½	2.88		2253	3447	240	260	32
161-23-5134	250(37X)	1.26	40	1.36	16X10	1.74	2½	2.88		2472	4577	270	295	32
161-23-5140	350(37X)	1.37	40	1.47	18X.1078	1.86	2½	2.88		2812	4008	310	340	32

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

(1) Individual wire size and count may vary. The resulting combination meets the full neutral size requirement.

Ampacities

(2) Ampacities for a full neutral single phase system based on ICEA P-117-734 for conductor operating temperature of 90°C and 105°C, direct buried 36" deep, 25°C ambient temperature, thermal resistivity RHO-90, 100% load factor.

Okoguard CIC
URO-J Cable-In-Conduit

35kV Primary Underground Distribution Cable-Full Neutral
One Aluminum Conductor/105°C Rating
100% and 133% Insulation Level

Catalog Number	Conductor size (AWG or kcmil)	Number of Strands	Nominal Dia. over Insulation Insulation Screen Thickness (mils)	Nominal Dia. over Insulation Screen	Copper Full Neutral No. x AWG (1)	Nominal O.D. over Jacket	Okolene Conduit Nominal Size	Okolene Conduit O.D. (In.)	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Ampacity Duct (2)	105°C Ampacity Duct (2)	Minimum Bending Radius (In.)
Okoguard Insulation: 345 mils (8.76mm), 100% Insulation Level - 35kV													
161-23-6122	1/0(19X)	1.10	40	1.20	16X14	1.44	2	2.38	1521	1951	165	180	26
161-23-6125	2/0(19X)	1.15	40	1.25	14X12	1.52	2½	2.88	1966	3156	190	205	32
161-23-6128	3/0(19X)	1.20	40	1.30	16X12	1.57	2½	2.88	2101	3291	215	230	32
161-23-6131	4/0(19X)	1.26	40	1.36	14X10	1.74	2½	2.88	2391	3581	240	265	32
161-23-6134	250(37X)	1.31	40	1.41	16X10	1.79	2½	2.88	2575	3765	265	290	32
Okoguard Insulation: 420 mils (10.7mm), 133% Insulation Level - 35kV													
161-23-7122	1/0(19X)	1.26	40	1.36	16X14	1.59	2½	2.88	2013	3203	165	180	32
161-23-7125	2/0(19X)	1.31	40	1.41	14X12	1.74	2½	2.88	2241	3431	190	205	32
161-23-7128	3/0(19X)	1.35	40	1.45	16X12	1.78	2½	2.88	2386	3576	215	230	32

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(1) Individual wire size and count may vary. The resulting combination meets the full neutral size requirement.

Ampacities

(2) Ampacities for a full neutral single phase system based on ICEA P-117-734 for conductor operating temperature of 90°C and 105°C, direct buried 36" deep, 25°C ambient temperature, thermal resistivity RHO-90, 100% load factor.

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