

Okoguard® URO-J®

46kV Underground Primary Distribution Cable

Jacketed-Red Identification Stripes

Copper and Aluminum Conductors 105°C Rating

100% and 133% Insulation Levels



- A Conductor-Compressed or Compact Round Copper or Aluminum
- B Strand Screen - Extruded Semiconducting EPR
- C Insulation-Okoguard-EPR
- D Insulation Screen - Extruded Semiconducting EPR
- E Concentric Conductor-Bare Copper Wires
- F Encapsulating Jacket-Okolene with 3 extruded red ID stripes, and NESC Lightning bolt

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.

The bare copper concentric wires are uniformly spaced around the insulation screen. The overall polyethylene jacket provides protection against mechanical damage and corrosion.

Product identification is provided through the use of three red stripes placed 120° apart in the black jacket with an NESC lightning bolt.

Applications

Okoguard URO-J cables provide maximum circuit longevity in underground residential distribution systems. They can be buried direct or installed in underground ducts or conduits.

Specifications

Conductors: Uncoated copper sizes 4/0 AWG through 1000 kcmil are compact round strand per ASTM B496. Uncoated copper sizes larger than 1000 kcmil are compressed Class B strand per ASTM B3 and ASTM B8. Aluminum per ASTM B609, compressed Class B strand per ASTM B231.

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 EPR insulation screen. Meets or exceeds electrical and physical requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Concentric Conductor: Bare copper concentric neutral wires helically applied.

Jacket: Black OKOLENE® LLDPE with red extruded stripes. Meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5 for polyethylene jackets.

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed ICEA standards.
- Improved temperature rating. Okoguard insulation system has been tested and qualified for operation at 105°C continuous and 140°C emergency operating temperature.
- 250°C short circuit rating.
- Excellent corona resistance.
- Low dielectric constant and power factor.
- Screens are clean stripping.
- Exceptional resistance to "treering".
- Moisture resistant.
- Excellent resistance to most chemicals.
- CSA C68.5 listed, LTGG (-40°C), SR.

Design Options:

- Triplexed or Paralleled.
- Additional conductor sizes.
- Filled Strand conductors.
- Aluminum conductors.
- Tinned wires.
- Water blocking powder or tape.
- Product identification via colored jackets.
- Semiconducting jacket.

Optional Jackets (non CSA):

- Okoseal® FR-PVC.
- X-Olene® XLP.
- Okolene PP.

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Product Data

Section 2: Sheet 65

Catalog Number	Conductor Size AWG/kcmil	Neutral Size	Neutral Wires Num x AWG	Nominal Dia. over Insulation (in.)	Nominal Dia. over Screen (in.)	Jacket Thickness (mils)	Nominal OD (in.)	Approx. Net Weight (lbs./1000')	Approx. Ship Weight (lbs./1000')	90°C Ampacity DUCT	105°C Ampacity DUCT
Copper Conductors 445 Okoguard - Conc. Neutrals - Okolene Jacket 46kV 100%											
140-23-8031	4/0(19x)	1/3	18x14	1.44	1.54	80	1.84	2099	2661	335	361
140-23-8033	4/0(19x)	1/6	9x14	1.44	1.54	80	1.84	1993	2375	337	363
140-23-8034	250(37x)	1/3	14x12	1.49	1.59	80	1.92	2350	2913	363	391
140-23-8036	250(37x)	1/6	11x14	1.49	1.59	80	1.87	2183	2745	367	396
140-23-8037	350(37x)	1/3	18x12	1.58	1.71	80	2.05	2901	3206	430	463
140-23-8039	350(37x)	1/6	15x14	1.58	1.71	80	2.02	2700	3005	438	471
140-23-8040	500(37x)	1/3	18x.0953	1.70	1.83	80	2.20	3664	4032	503	542
140-23-8042	500(37x)	1/6	13x12	1.70	1.83	80	2.17	3395	3763	521	561
140-23-8043	750(61x)	1/3	24x.1010	1.87	2.01	80	2.39	4897	5456	594	639
140-23-8045	750(61x)	1/6	12x10	1.87	2.01	80	2.39	4544	5669	630	678
140-23-8046	1000(61x)	1/3	24x.1167	2.02	2.16	80	2.56	6113	6683	652	702
140-23-8048	1000(61x)	1/6	16x10	2.02	2.16	80	2.53	5599	6169	693	746
140-23-8049	1250(91x)	1/6	16x9	2.21	2.35	80	2.75	6792	7554	635	684
140-23-8051	1250(91x)	1/12	16x12	2.21	2.35	80	2.68	6384	6954	708	762
140-23-8052	1500(91x)	1/6	24x10	2.34	2.48	80	2.86	7802	8564	1115	1200
140-23-8054	1500(91x)	1/12	20x12	2.34	2.48	80	2.81	7387	8097	1115	1200
140-23-8055	1750(127x)	1/6	28x10	2.49	2.63	80	3.00	9003	9765	1187	1278
140-23-8057	1750(127x)	1/12	23x12	2.49	2.63	80	2.96	8514	9276	1187	1278
140-23-8058	2000(127x)	1/6	32x10	2.63	2.74	80	3.12	10059	10979	1255	1351
140-23-8060	2000(127x)	1/12	26x12	2.60	2.74	80	3.07	9502	10422	1255	1351
Copper Conductors 580 Okoguard - Conc. Neutrals - Okolene Jacket 46kV 133%											
140-23-8131	4/0(19x)	1/3	18x14	1.72	1.85	80	2.16	2632	3000	335	361
140-23-8133	4/0(19x)	1/6	9x14	1.72	1.85	80	2.16	2524	2892	337	363
140-23-8134	250(37x)	1/3	14x12	1.76	1.90	80	2.23	2903	3276	363	391
140-23-8136	250(37x)	1/6	11x14	1.76	1.90	80	2.20	2727	3095	367	396
140-23-8137	350(37x)	1/3	18x12	1.86	1.99	80	2.33	3415	3824	430	463
140-23-8139	350(37x)	1/6	15x14	1.86	1.99	80	2.29	3209	3618	438	471
140-23-8140	500(37x)	1/3	18x.0953	1.97	2.11	80	2.47	4212	4643	503	542
140-23-8142	500(37x)	1/6	13x12	1.97	2.11	80	2.44	3939	4370	521	561
140-23-8143	750(61x)	1/3	24x.1010	2.15	2.29	80	2.66	5492	6062	594	639
140-23-8145	750(61x)	1/6	12x10	2.15	2.29	80	2.67	5139	5709	630	678
140-23-8146	1000(61x)	1/3	24x.1167	2.30	2.43	80	2.84	6749	7511	652	702
140-23-8148	1000(61x)	1/6	16x10	2.30	2.43	80	2.81	6230	6940	693	746
140-23-8149	1250(91x)	1/6	16x9	2.49	2.63	80	3.03	7485	8247	635	684
140-23-8151	1250(91x)	1/12	16x12	2.49	2.63	80	2.96	7062	7824	708	762
140-23-8152	1500(91x)	1/6	24x10	2.62	2.76	80	3.13	8527	9460	1115	1200
140-23-8154	1500(91x)	1/12	20x12	2.62	2.76	80	3.09	8099	9019	1115	1200
140-23-8155	1750(127x)	1/6	28x10	2.77	2.90	80	3.28	9752	10685	1187	1278
140-23-8157	1750(127x)	1/12	23x12	2.77	2.90	80	3.24	9256	10189	1187	1278
140-23-8158	2000(127x)	1/6	32x10	2.88	3.02	80	3.40	10836	11769	1255	1351
140-23-8160	2000(127x)	1/12	26x10	2.88	3.02	80	3.40	10342	11275	1255	1351

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

1100 kcmil is compact class A strand.

1250 kcmil and larger are compressed class B strand.

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Product Data

Section 2: Sheet 65

Catalog Number	Conductor Size AWG/kcmil	Neutral Size	Neutral Wires Num x AWG	Nominal Dia. over Insulation (in.)	Nominal Dia. over Screen (in.)	Jacket Thickness (mils)	Nominal OD (in.)	Approx. Net Weight (lbs./1000')	Approx. Ship Weight (lbs./1000')	90°C Ampacity DUCT	105°C Ampacity DUCT
Aluminum 445 Okoguard - Conc. Neutrals - Okolene Jacket 46kV 100%											
160-23-8031	4/0(19x)	1/3	11x14	1.46	1.56	80	1.87	1606	1988	264	284
160-23-8033	4/0(19x)	1/6	9x14	1.46	1.56	80	1.84	1516	1898	265	285
160-23-8034	250(37x)	1/3	13x14	1.52	1.62	80	1.92	1731	2113	288	309
160-23-8036	250(37x)	1/6	10x16	1.52	1.62	80	1.90	1622	2004	289	310
160-23-8037	350(37x)	1/3	18x14	1.62	1.76	80	2.06	2064	2626	345	371
160-23-8039	350(37x)	1/6	14x16	1.62	1.76	80	2.04	1924	2306	348	374
160-23-8040	500(37x)	1/3	16x12	1.75	1.89	80	2.22	2485	2853	414	446
160-23-8042	500(37x)	1/6	13x14	1.75	1.89	80	2.19	2296	2664	420	452
160-23-8043	750(61x)	1/3	16x.0966	1.95	2.08	80	2.45	3134	3565	512	551
160-23-8045	750(61x)	1/6	12x12	1.95	2.08	80	2.42	2881	3290	527	567
160-23-8046	1000(61x)	1/3	18x.1052	2.10	2.23	80	2.62	3725	4489	587	632
160-23-8048	1000(61x)	1/6	16x12	2.10	2.23	80	2.57	3374	4138	604	650
160-23-8049	1100(61x)	1/3	22x10	2.08	2.22	80	2.60	3861	4625	597	642
160-23-8050	1100(61x)	1/6	18x12	2.08	2.22	80	2.55	3475	3955	608	654
160-23-8051	1100(61x)	1/12	14x14	2.08	2.22	80	2.52	3253	3733	657	702
160-23-8052	1250(91x)	1/6	20x12	2.21	2.35	80	2.68	3833	4597	612	659
160-23-8054	*1250(91x)	1/12	16x14	2.21	2.35	110	2.73	3685	4449	685	737
160-23-8055	1500(91x)	1/6	15x10	2.34	2.48	80	2.86	4378	5503	635	383
160-23-8057	*1500(91x)	1/12	19x14	2.34	2.48	110	2.86	4126	5251	715	769
160-23-8058	1750(127x)	1/6	28x12	2.51	2.64	80	2.98	4848	5973	650	699
160-23-8060	*1750(127x)	1/12	22x14	2.51	2.64	110	3.03	4621	5383	733	788
160-23-8061	2000(127x)	1/6	20x10	2.60	2.74	80	3.12	5367	6287	1041	1121
160-23-8063	2000(127x)	1/12	16x12	2.60	2.74	80	3.07	4985	5624	1041	1121

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*Separator tape applied over wires.

1100 kcmil is compact class A strand.

1250 kcmil and larger are compressed class B strand.

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Catalog Number	Conductor Size AWG/kcmil	Neutral Size	Neutral Wires Num x AWG	Nominal Dia. over Insulation (in.)	Nominal Dia. over Screen (in.)	Jacket Thickness (mils)	Nominal OD (in.)	Approx. Net Weight (lbs./1000')	Approx. Ship Weight (lbs./1000')	90°C Ampacity DUCT	105°C Ampacity DUCT
Aluminum 580 Okoguard - Conc. Neutrals - Okolene Jacket 46kV 133%											
160-23-8131	4/0(19x)	1/3	11x14	1.74	1.88	80	2.18	2144	2706	264	284
160-23-8133	4/0(19x)	1/6	9x16	1.74	1.88	80	2.15	2049	2611	265	285
160-23-8134	250(37x)	1/3	13x14	1.80	1.93	80	2.24	2282	2844	288	309
160-23-8136	250(37x)	1/6	10x16	1.80	1.93	80	2.21	2169	2731	289	310
160-23-8137	350(37x)	1/3	18x14	1.90	2.04	80	2.34	2584	2957	345	371
160-23-8139	350(37x)	1/6	14x16	1.90	2.04	80	2.31	2440	2849	348	374
160-23-8140	500(37x)	1/3	16x12	2.03	2.17	80	2.50	3044	3475	414	446
160-23-8142	500(37x)	1/6	13x14	2.03	2.17	80	2.47	2849	3280	420	452
160-23-8143	750(61x)	1/3	16x.0966	2.22	2.36	80	2.73	3744	4508	512	551
160-23-8145	750(61x)	1/6	12x12	2.22	2.36	80	2.69	3487	4251	527	567
160-23-8146	1000(61x)	1/3	18x.1052	2.37	2.51	80	2.89	4386	5511	587	632
160-23-8148	1000(61x)	1/6	16x12	2.37	2.51	80	2.84	4023	4787	604	650
160-23-8149	1100(61x)	1/3	22x10	2.36	2.50	80	2.87	4508	5633	597	642
160-23-8150	1100(61x)	1/6	18x12	2.36	2.50	80	2.83	4115	5240	608	654
160-23-8151	*1100(61x)	1/12	14x14	2.36	2.50	110	2.88	3980	4744	657	702
160-23-8152	1250(91x)	1/6	20x12	2.49	2.63	80	2.96	4513	5638	612	659
160-23-8154	*1250(91x)	1/12	16x14	2.49	2.63	110	3.01	4364	5489	685	737
160-23-8155	1500(91x)	1/6	15x10	2.62	2.76	80	3.13	5098	5751	635	383
160-23-8157	*1500(91x)	1/12	19x14	2.62	2.76	140	3.20	4960	5613	715	769
160-23-8158	1750(127x)	1/6	28x12	2.79	2.92	80	3.26	5594	6527	650	699
160-23-8160	*1750(127x)	1/12	22x14	2.79	2.92	140	3.37	5496	6429	733	788
160-23-8161	2000(127x)	1/6	20x10	2.88	3.02	80	3.40	6144	7077	1041	1121
160-23-8163	*2000(127x)	1/12	16x12	2.88	3.02	140	3.49	5975	6908	1041	1121

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***Separator tape applied over wires.**

1100 kcmil is compact class A strand.

1250 kcmil and larger are compressed class B strand.

Ampacity Conditions

Duct Bank: 46kV 4/0kV 4/0 AWG - 1000 kcmil

Ampacities per IEEE 835-1994, 3 single cables in geometry (a): Single circuit in underground duct in trefoil configuration.

Spacing between cables is equal to the diameter of the cable. Single duct bank, 30" to top of duct bank, 75% Load Factor, 60 RHO concrete, 20C RHO earth ambient temperature, multi-point grounded and 90 RHO earth thermal resistivity.

Duct Bank: 46kV 1100 - 2000 kcmil

Ampacities per IEEE 835-1994, 3 single cables in geometry (e): Single circuit in underground duct in single duct bank,

30" to top of duct bank, 7.5" Spacing, 75% Load Factor, 60 RHO concrete, 20C earth ambient temperature and 90 RHO earth thermal resistivity. Multi-point grounded except copper sizes 1500, 1750 and 2000 kcmil, and 2000 kcmil aluminum where the shields are open circuit.

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

