OKONITE

OKOGUARD URO-J

CABLES FOR URD

MADE IN THE USA
QUALITY CABLES SINCE 1878

THE OKONITE COMPANY

Setting the Standard in Quality Since 1878

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OKOGUARD URO-J CABLES

To meet the growing need for highly reliable Underground Residential Distribution Cables, Okonite offers a variety of high quality constructions.

For 15kV, 25kV and 35kV primary cables, Okoguard EPR (ethylene-propylene-rubber) cables provide the optimum balance of electrical and physical properties for long, problem-free service. Okoguard (EPR) is recommended for 105˚C continuous and 140˚C emergency operation in either wet or dry locations.

Okonite has been producing EPR cables for over 50 yrs-longer than any other cable manufacturer. Over 3 billion feet of Okoguard insulated cable has been made to date which is providing dependable service in a wide variety of applications and voltages through 69kV.

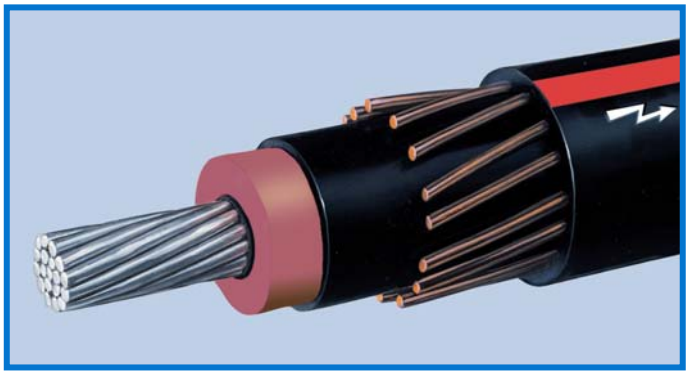
Some of the outstanding features that Okoguard offers to users of URO-J cables include:

1. All EPR Insulation System.
2. Superior discharge resistance. Discharge is a major cause of cable failure at medium voltages.
3. Greater resistance to "treeing" than polyethylene based insulations.
4. Exceptional resistance to heat and oxidation.
5. Excellent electrical stability in water.
6. Stable electrical, physical and dimensional properties during load cycling.
7. Stable physical strength at operating and emergency temperatures.
8. Excellent dielectric strength; low dielectric loss.
9. Ease of handling and splicing. It is much easier to install than crosslinked polyethylene.

Concentric neutral type cables are used for most underground distribution systems and are available with full and one-third neutrals. Okonite's URO-J cable with an overall LLDPE Okolene® jacket provides an optimum construction by inhibiting moisture penetration to the insulation and also provides mechanical protection.

OKOGUARD INSULATION

Okoguard is the registered trade name for Okonite's exclusive Ethylene-Propylene Rubber (EPR) based, thermosetting compound whose optimum balance of electrical and physical properties is unequaled in other solid dielectric compounds. Since its commercial introduction in 1963, Okoguard has been acknowledged as the premium insulation for critical applications from 5kV through 69kV. The Okonite Company's continuing research and development programs in compounding elastromeric materials have resulted in the evolution of Okoguard to its present clean, red color.

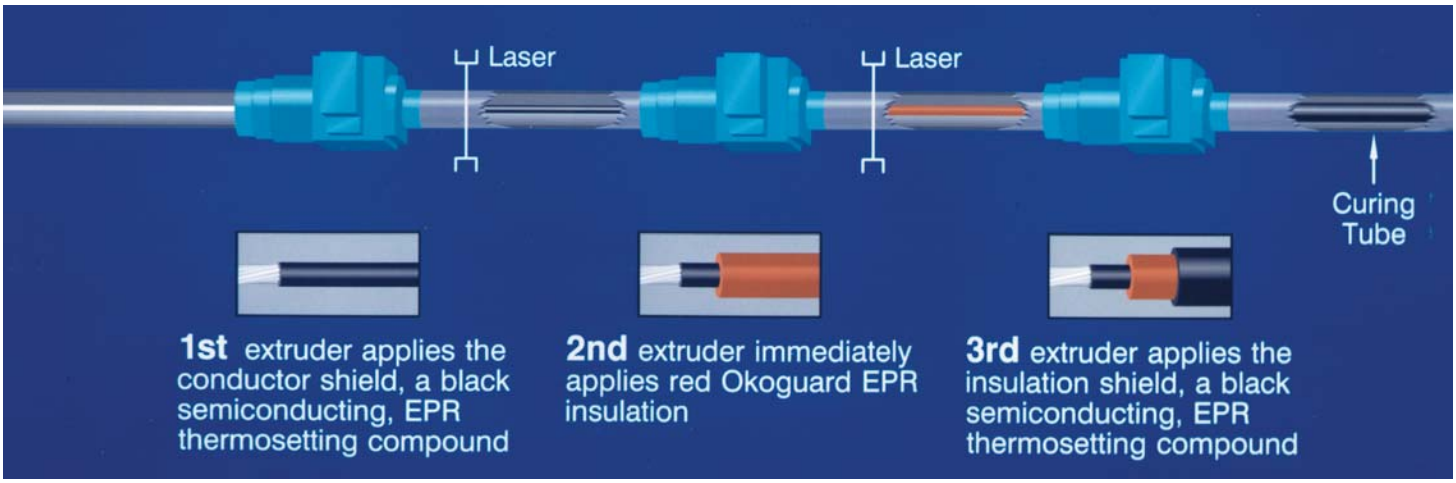


SUPERIOR ALL EPR INSULATION SYSTEM

Okoguard URO-J cables are produced on CV (continuous vulcanization) equipment with three tandem extruders in which the all EPR conductor screen, insulation and insulation screen are applied in one continuous operation. Triple tandem extrusion eliminates exposure of the insulation surface to mechanical damage and contamination.

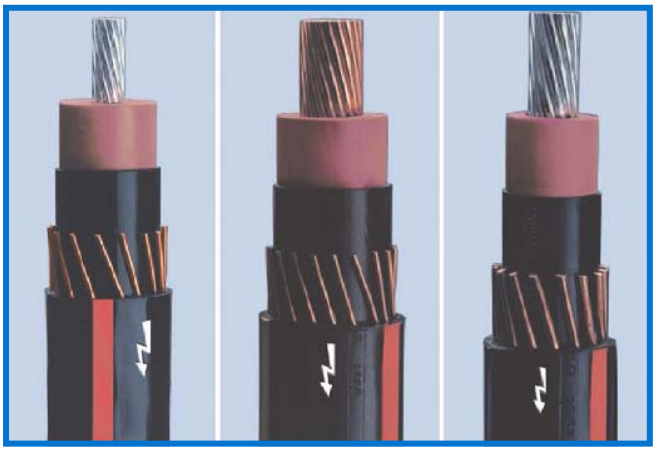
The conductor strand screen is a semi-conducting black EPR thermosetting compound which is extruded onto the conductor and yet remains free stripping. The red Okoguard insulation is then extruded directly onto the conductor strand screen so that it is fully bonded. To provide the lowest partial discharge level possible the Okoguard insulation is immediately covered by a black semi-conducting extruded EPR insulation screen. The Okoguard is completely sealed between the inner and outer EPR screens thereby eliminating sites for corona at these interfaces. The outer insulation screen is in intimate contact with the insulation and yet is readily strippable. The semi-conducting inner and outer EPR based screens coupled with Okoguard EPR rubber insulation provides an engineered system that is totally compatible both chemically and thermally.

Laser micrometers measure the thickness of each EPR layer and make adjustments to each extruder in real time.



URO-J DESIGN OVERVIEW

- Voltage Rating: 5-46kV
- 100, 133 & 173% Insulation Level
- Solid, Non-Filled & Filled Strand
- Aluminum & Copper Conductor
- Full & 1/3 Neutral; Other sizes available on request.
- Encapsuling Okolene polyethylene jacket with 3 red stripes.
- 105°C continuous operating temperature rating.
- CSA C68.5 listed, LTGG (-40°C), SR.



CABLE DESIGN OPTIONS

•UL Type MV-90

Can be listed by UL as Type MV-90 on Special Orders (5-35kV).

•Un-jacketed Cable

If external protection is not a concern, cable can be ordered without a jacket.

•Copper Flat Straps

Flat Straps can be substituted in place of concentric neutrals for cables that require a smaller overall diameter.

•Alternate Cable Jacket Types

* X-Olene: A nonconducting cross-linked polyethylene jacket allows for a higher short circuit capacity rating, which can result in a reduced copper concentric neutral conductor.
* Semiconducting
* PVC
* CPE
* TPPO

INDUSTRY STANDARDS

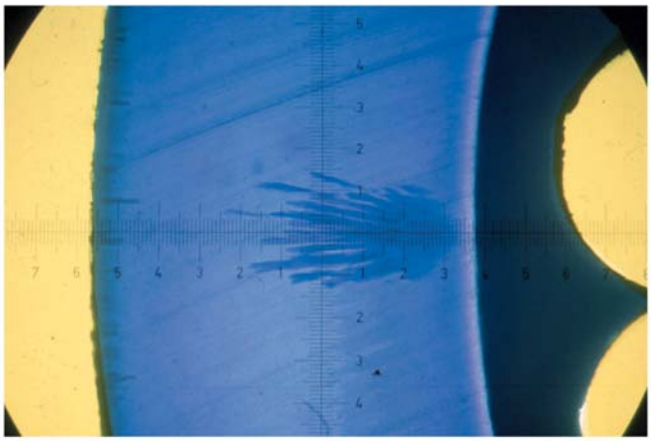
Okonite manufactures URO-J cables to the following industry standards:

* ICEA S-94-649: Concentric Neutral Cables Rated 5 through 46kV.
* RUS 7CFR 1728.204: Electric System Construction Policies and Procedures.
* AEIC CS8-13: Specification for Extruded Dielectric, Shielded Power Cables Rated 5 through 46kV.
* CSA C68.5: Shielded and concentric neutral power cable for distribution utilities.
* UL 1072: Standard for Medium Voltage Power Cables (Available as special order).

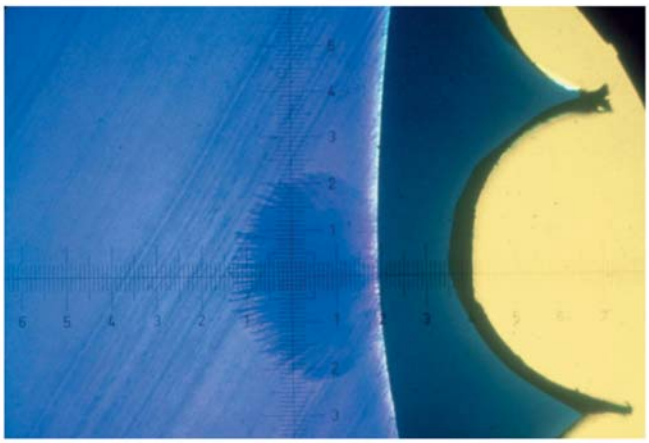
FILLED STRAND

The compressed conductors of URO-J cables may be furnished with Okonites strand filler material. This construction prevents the travel of water through the strands in the event of a mechanical dig-in followed by external exposure to water.

Stock constructions typically come with this feature as standard.



Typical water tree formulation in XLPE



Bush like water tree in XLPE

Volumes of technical papers have been written attempting to prove that XLPE is a better insulation than EPR—and vice versa. It is now clear and well established that the excessive failure rate and relatively short service life of polyethylene based insulation is due to susceptibility of this material to "treeing".

Polyethylene insulation is a highly crystalline material which contributes to this susceptibility of the treeing phenomenon. Okoguard provides the best balance of physical and electrical properties possible.

"Treeing" is a term to describe the many small tracking paths that develop in insulations such as XLPE at operating voltages. These "trees" eventually result in failure of the cable insulation.

Studies have shown that "trees" form within the insulation where electrical discharge occurs and are accelerated in the presence of water. Commonly, discharge results from the presence of minute voids, contaminants, undispersed ingredients or protrusions at the screen-to-insulation interfaces.

Early industry specifications and test procedures designed to simulate the treeing phenomenon relied on visual examination of insulation sections after staining and required reporting the number of trees and their size. Since EPR is a filled compound, it may be more difficult to visually detect trees in this material. However, in exhaustive tests and examinations, destructive trees have never been detected in Okoguard. Subjecting XLPE to the same tests results in thousands of visible trees.

More recent industry accelerated electrochemical treeing test procedures rely on measuring ac and impulse breakdown levels after subjecting samples of cable to the specified testing regimen. The breakdown levels obtained can then be compared to the values obtained on new cable.

In testing performed at the Okonite Laboratories in accordance with the latest editions of the AEIC specifications and ICEA standards, Okoguard EPR retained significantly more of its original dielectric strength than XLPE. The EPR and XLPE samples were tested simultaneously and under exactly the same test conditions.

Both in-house and independent tests have shown EPR insulations to be more tree resistant than polyethylene based insulations. This is an inherent characteristic of many EPR insulations; but although Okoguard is an EPR, all EPR insulations are not Okoguard.

Some EPR insulations are a blend of natural polyethylene and ethylene propylene making the insulation more crystalline in nature and thus susceptible to treeing.

OKOGUARD RATED 105˚C

The same Okoguard insulation system, available since the late 1960's, is rated 105˚C. This insulation system was thoroughly investigated at Okonite and independent laboratories. Qualification tests, to assure long terms reliability, demonstrated superior performance at 105˚C operation. In 1993, a proposal was made to the National Fire Protection Association by Okonite to add a 105˚C classification (MV-105) to the 1996 National Electrical Code. Along with the proposal, technical data on Okoguard insulated cable was provided to the Code making panel for their consideration. A fact finding study conducted by Underwriters Laboratories was included in this proposal. All data demonstrated excellent performance of the Okoguard insulating system at 105˚C. The Code making panels accepted the proposal. MV-105 was added to the 1996 NEC Code. The Insulated Cable Engineers Association (ICEA) in standard S-94-649 recognizes 105˚C requirements for ethylene propylene rubber insulation. Okoguard easily meets these requirements.

The 105˚C Okoguard insulation system provides important benefits over a 90˚C insulation system.

- A 105˚C rating has approximately an 8% higher ampacity for cables installed underground. For aerial installations, a 12% ampacity increase is realized. These higher ampacities may allow a reduction in conductor size based on the load requirements of a particular circuit.
- Cables can be installed in higher ambient temperatures, such as, high density duct banks without derating.
- Unanticipated thermal bottlenecks, that may occur along an underground cable route, would not be expected to prematurely age the 105˚C Okoguard EPR insulation system.
- The 105˚C rating provides a higher assurance of more reliable operation even at lower operating temperatures than a 90˚C rated cable.

These advantages are realized with the Okoguard insulation system.

Type URO-J, 15kV

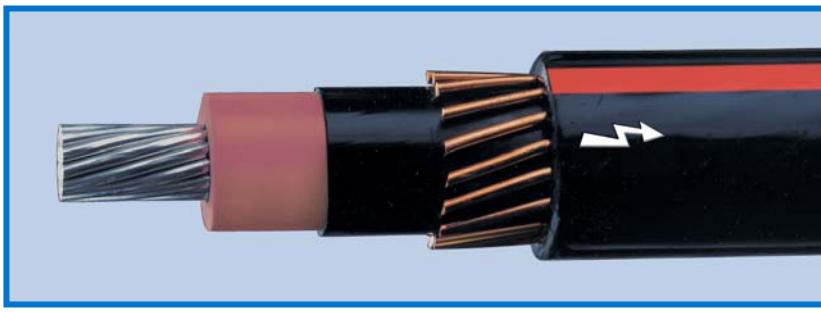
CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL : Bare Copper Wires Spaced Uniformly around Insulation Screen

JACKET: Black Okolene (Polyethylene) with red stripes



175 Mil Wall, 100% Insulation Level

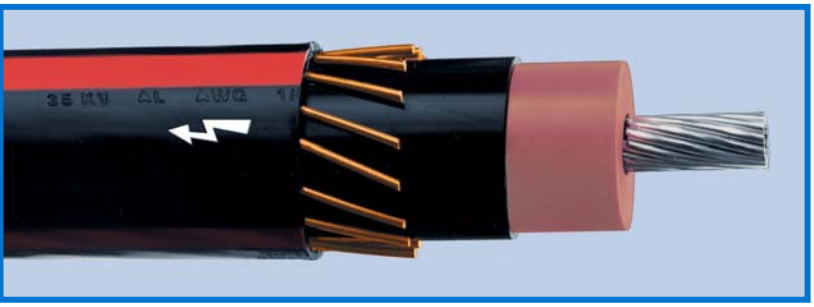
ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-2057	2 (1X)
	▲ 163-23-2060*	2 (7X)
	161-23-2066	1 (19X)
	161-23-2069	1/0 (1X)
	▲ 163-23-2072*	1/0 (19X)
	161-23-2075	2/0 (19X)
	161-23-2078	3/0 (19X)
	161-23-2081	4/0 (19X)
	161-23-2084	250 (37X)
	161-23-2090	350 (37X)
1/3 NEUTRAL	160-23-2057	2 (1X)
	160-23-2060	2 (7X)
	160-23-2069	1/0 (1X)
	160-23-2072	1/0 (19X)
	160-23-2075	2/0 (19X)
	160-23-2078	3/0 (19X)
	160-23-2081	4/0 (19X)
	160-23-2084	250 (37X)
	160-23-2090	350 (37X)
	160-23-2093	500 (37X)
	160-23-2096	750 (61X)
	160-23-2099	1000 (61X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-2060	2 (7X)
	141-23-2066	1 (19X)
	141-23-2072	1/0 (19X)
	141-23-2075	2/0 (19X)
	141-23-2078	3/0 (19X)
	141-23-2081	4/0 (19X)
1/3 NEUTRAL	140-23-2060	2 (7X)
	140-23-2066	1 (19X)
	140-23-2072	1/0 (19X)
	140-23-2075	2/0 (19X)
	140-23-2078	3/0 (19X)
	140-23-2081	4/0 (19X)
	140-23-2084	250 (37X)
	140-23-2090	350 (37X)
	140-23-2093	500 (37X)
	140-23-2096	750 (61X)
	140-23-2099	1000 (61X)

▲Authorized stock item. Available from our Customer Service Centers.
*Filled Strand Construction
**Catalog Number 141-23-9460 is listed and shipped with UL MV-90 printed on the jacket. All other cables shown are available with same listing on a special order basis.
***Special design 1/6 neutral, compact conductor.
****Special design 2/3 neutral.

220 Mil Wall, 133% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	▲ 161-23-3057	2 (1X)
	161-23-3060	2 (7X)
	▲ 163-23-3060*	2 (7X)
	161-23-3066	1 (19X)
	▲ 161-23-3069	1/0 (1X)
	▲ 161-23-9525****	1/0 (1X)
	161-23-3072	1/0 (19X)
	▲ 163-23-3072*	1/0 (19X)
	161-23-3075	2/0 (19X)
	161-23-3078	3/0 (19X)
	161-23-3081	4/0 (19 X)
	161-23-3084	250 (37X)
	161-23-3090	350 (37X)
1/3 NEUTRAL	160-23-3057	2 (1X)
	160-23-3060	2 (7X)
	160-23-3066	1 (19X)
	160-23-3069	1/0 (1X)
	160-23-3072	1/0 (19X)
	160-23-3075	2/0 (19X)
	160-23-3078	3/0 (19X)
	160-23-3081	4/0 (19X)
	▲ 162-23-3081*	4/0 (19X)
	160-23-3084	250 (37X)
	160-23-3090	350 (37X)
	▲ 162-23-3090*	350 (37X)
	160-23-3093	500 (37X)
	▲ 162-23-3093*	500 (37X)
	160-23-3096	750 (61X)
	▲ 162-23-3096*	750 (61X)
	160-23-3099	1000 (61X)
	▲ 162-23-3099*	1000 (61X)
	▲ 160-23-9590***	1100 (61X)
COPPER CONDUCTOR		
FULL NEUTRAL	▲ 141-23-9460**	2 (7X)
	141-23-3060	2 (7X)
	141-23-3066	1 (19X)
	141-23-3072	1/0 (19X)
	141-23-3075	2/0 (19X)
	141-23-3078	3/0 (19X)
	141-23-3081	4/0 (19X)
1/3 NEUTRAL	140-23-3060	2 (7X)
	140-23-3066	1 (19X)
	140-23-3072	1/0 (19X)
	140-23-3075	2/0 (19X)
	140-23-3078	3/0 (19X)
	140-23-3081	4/0 (19X)
	140-23-3084	250 (37X)
	140-23-3090	350 (37X)
	140-23-3093	500 (37X)
	140-23-3096	750 (61X)
	140-23-3099	1000 (61X)

Type URO-J, 25kV



Type URO-J, 35kV

CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL: Bare Copper Wires Spaced Uniformly around Insulation Screen

JACKET: Black Okolene (Polyethylene) with red stripes

260 Mil Wall, 100% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-4066	1 (19X)
	▲ 161-23-4069	1/0 (1X)
	161-23-4072	1/0 (19X)
	▲ 163-23-4072*	1/0 (19X)
	161-23-4075	2/0 (19X)
	161-23-4078	3/0 (19X)
	161-23-4081	4/0 (19X)
	161-23-4084	250 (37X)
	161-23-4090	350 (37X)
1/3 NEUTRAL	160-23-4066	1 (19X)
	160-23-4072	1/0 (19X)
	160-23-4075	2/0 (19X)
	160-23-4078	3/0 (19X)
	160-23-4081	4/0 (19X)
	▲ 162-23-4081*	4/0 (19X)
	160-23-4084	250 (37X)
	160-23-4090	350 (37X)
	160-23-4093	500 (37X)
	▲ 162-23-4093*	500 (37X)
	160-23-4096	750 (61X)
	▲ 162-23-4096*	750 (61X)
	160-23-4099	1000 (61X)
	▲ 162-23-4099*	1000 (61X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-4066	1 (19X)
	141-23-4072	1/0 (19X)
	141-23-4075	2/0 (19X)
	141-23-4078	3/0 (19X)
	141-23-4081	4/0 (19X)
1/3 NEUTRAL	140-23-4066	1 (19X)
	140-23-4072	1/0 (19X)
	140-23-4075	2/0 (19X)
	140-23-4078	3/0 (19X)
	140-23-4081	4/0 (19X)
	140-23-4084	250 (37X)
	140-23-4090	350 (37X)
	140-23-4093	500 (37X)
	140-23-4096	750 (61X)
	140-23-4099	1000 (61X)

345 Mil Wall, 100% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-6072	1/0 (19X)
	▲ 163-23-6072*	1/0 (19X)
	161-23-6075	2/0 (19X)
	161-23-6078	3/0 (19X)
	161-23-6081	4/0 (19X)
	161-23-6084	250 (37X)
	161-23-6090	350 (37X)
1/3 NEUTRAL	160-23-6072	1/0 (19X)
	160-23-6075	2/0 (19X)
	160-23-6078	3/0 (19X)
	160-23-6081	4/0 (19X)
	160-23-6084	250 (37X)
	160-23-6090	350 (37X)
	160-23-6093	500 (37X)
	160-23-6096	750 (61X)
	160-23-6099	1000 (61X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-6072	1/0 (19X)
	141-23-6075	2/0 (19X)
	141-23-6078	3/0 (19X)
	141-23-6081	4/0 (19X)
1/3 NEUTRAL	140-23-6072	1/0 (19X)
	140-23-6075	2/0 (19X)
	140-23-6078	3/0 (19X)
	140-23-6081	4/0 (19X)
	140-23-6084	250 (37X)
	140-23-6090	350 (37X)
	140-23-6093	500 (37X)
	140-23-6096	750 (61X)
	140-23-6099	1000 (61X)

▲ Authorized stock items. Available from our Customer Service Centers.
*Filled Strand Construction

Type URO-J CIC, 15kV

CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

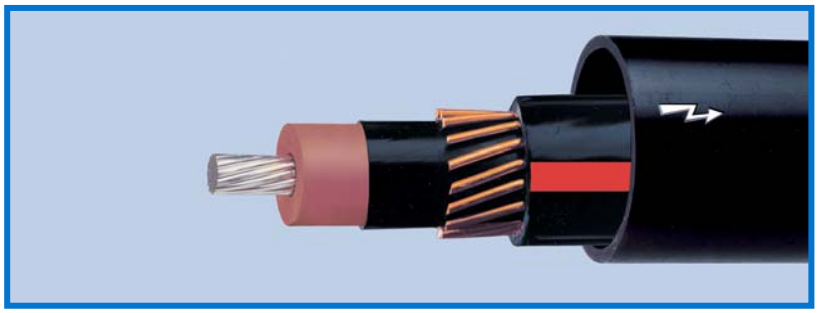
INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL: Bare Copper Wires Spaced Uniformly around Insulation Screen

JACKET: Black Okolene (Polyethylene) with red stripes

CONDUIT*: Extruded High Density Polyethylene NEMA TC-7 EPEC-A



175 Mil Wall, 100% Insulation Level

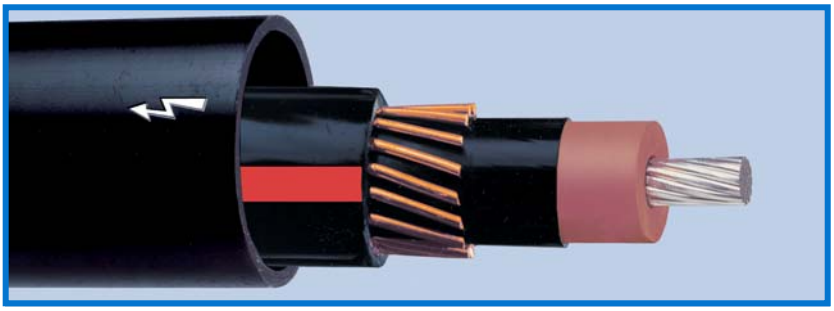
ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-2110	2 (7X)
	161-23-2116	1 (19X)
	161-23-2122	1/0 (19X)
	161-23-2125	2/0 (19X)
	161-23-2128	3/0 (19X)
	161-23-2131	4/0 (19X)
	161-23-2134	250 (37X)
	161-23-2140	350 (37X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-2110	2 (7X)
	141-23-2116	1 (19X)
	141-23-2122	1/0 (19X)
	141-23-2125	2/0 (19X)
	141-23-2128	3/0 (19X)
	141-23-2131	4/0 (19X)

220 Mil Wall, 133% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-3110	2 (7X)
	161-23-3116	1 (19X)
	161-23-3122	1/0 (19X)
	161-23-3125	2/0 (19X)
	161-23-3128	3/0 (19X)
	161-23-3131	4/0 (19X)
	161-23-3134	250 (37X)
	161-23-3140	350 (37X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-3110	2 (7X)
	141-23-3116	1 (19X)
	141-23-3122	1/0 (19X)
	141-23-3125	2/0 (19X)
	141-23-3128	3/0 (19X)
	141-23-3131	4/0 (19X)

*ASTM Schedule 40 or 80 and NEMA TC7 EPEC-B conduits are also available.

Type URO-J CIC, 25kV



Type URO-J CIC, 35kV

CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL: Bare Copper Wires Spaced Uniformly around Insulation Screen

JACKET: Black Okolene (Polyethylene) with red stripes

CONDUIT*: Extruded High Density Polyethylene NEMA TC-7 EPEC-A

260 Mil Wall, 100% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-4116	1 (19X)
	161-23-4122	1/0 (19X)
	161-23-4125	2/0 (19X)
	161-23-4128	3/0 (19X)
	161-23-4131	4/0 (19X)
	161-23-4134	250 (37X)
	161-23-4140	350 (37X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-4116	1 (19X)
	141-23-4122	1/0 (19X)
	141-23-4125	2/0 (19X)
	141-23-4128	3/0 (19X)
	141-23-4131	4/0 (19X)

345 Mil Wall, 100% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-6122	1/0 (19X)
	161-23-6125	2/0 (19X)
	161-23-6128	3/0 (19X)
	161-23-6131	4/0 (19X)
	161-23-6134	250 (37X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-6122	1/0 (19X)
	141-23-6125	2/0 (19X)
	141-23-6128	3/0 (19X)
	141-23-6131	4/0 (19X)

*ASTM Schedule 40 or 80 and NEMA TC7 EPEC-B conduits are also available.

Type URO-J, 15kV
Flat Straps

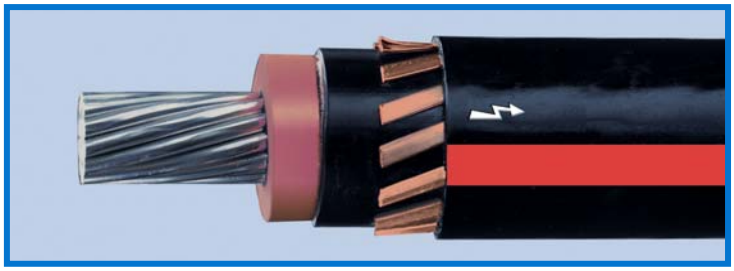
CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL: Copper Straps with Conductivity Equal to the Central Conductor

JACKET: Black Okolene (Polyethylene) with red stripes



175 Mil Wall, 100% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-2061	2 (7X)
	161-23-2067	1 (19X)
	161-23-2073	1/0 (19X)
	161-23-2076	2/0 (19X)
	161-23-2079	3/0 (19X)
	161-23-2082	4/0 (19X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-2061	2 (7X)
	141-23-2067	1 (19X)
	141-23-2073	1/0 (19X)
	141-23-2076	2/0 (19X)

220 Mil Wall, 133% Insulation Level

ALUMINUM CONDUCTOR	Catalog Number	Conductor Size (AWG/kcmil) (strands)
FULL NEUTRAL	161-23-3061	2 (7X)
	161-23-3067	1 (19X)
	161-23-3073	1/0 (19X)
	161-23-3076	2/0 (19X)
	161-23-3079	3/0 (19X)
COPPER CONDUCTOR		
FULL NEUTRAL	141-23-3061	2 (7X)
	141-23-3067	1 (19X)
	141-23-3073	1/0 (19X)
	141-23-3079	2/0 (19X)

Type URO-J, 15kV

CONDUCTOR SCREEN: Extruded Semiconducting Thermosetting EPR

INSULATION: Okoguard (Ethylene Propylene Rubber)

INSULATION SCREEN: Extruded Semiconducting Thermosetting EPR

CONCENTRIC NEUTRAL: Copper Straps

JACKET: Black Okolene - (Polyethylene)

175 Mil Wall, 100% Insulation Level

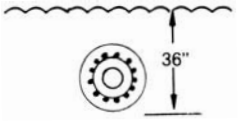
TRIPLEXED CONSTRUCTION COMPACT COPPER CONDUCTORS	Catalog Number	Conductor Size kcmil
REDUCED NEUTRAL	141-23-2591	350 (37X)
	141-23-2594	500 (37X)
	141-23-2595	600 (61X)
	141-23-2597	750 (61X)

Okoguard Reduced Diameter Duct cables provide maximum ampacity in existing duct installations.

URO-J AMPACITY TABLES

SINGLE PHASE

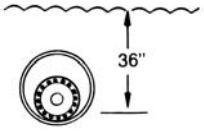
Type URO-J, 1Ø 100% or 133% Level



One Cable
Full Neutral
Direct Buried
25°C 90°RHO Earth
36" Burial Depth
105°C Cond. Temp.

AWG or kcmil	15kV to 28kV				35kV			
	Cu		Al		Cu		Al	
	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF
	amps							
2	250	230	200	185	—	—	—	—
1	280	260	230	210	—	—	—	—
1/0	320	290	260	235	310	285	245	225
2/0	370	335	300	270	360	330	280	260
3/0	420	380	340	310	410	375	320	295
4/0	485	440	385	350	475	430	370	335
250	—	—	405	380	—	—	400	370
350	—	—	510	460	—	—	490	445

Type URO-J, 1Ø 100% or 133% Level

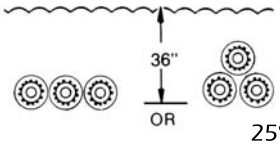


One Cable
Full Neutral
Direct Buried In Duct
25°C 90°RHO Earth
36" Burial Depth
105°C Cond. Temp.

AWG or kcmil	15kV to 28kV				35kV			
	Cu		Al		Cu		Al	
	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF
	amps							
2	180	175	140	135	—	—	—	—
1	205	200	165	155	—	—	—	—
1/0	235	225	185	175	240	230	190	180
2/0	265	255	210	205	265	255	215	205
3/0	305	290	240	230	310	295	245	230
4/0	350	330	270	260	350	330	275	265
250	—	—	310	295	—	—	305	290
350	—	—	355	340	—	—	370	350

THREE PHASE

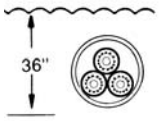
Type URO-J, 3Ø 100% or 133% Level



Three Cables
1/3 Neutral
Direct Buried
25°C 90°RHO Earth
36" Burial Depth
105°C Cond. Temp.
(Triangular or Flat-Touching)

AWG or kcmil	15kV to 28kV				35kV			
	Cu		Al		Cu		Al	
	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF
	amps							
2	245	210	190	165	—	—	—	—
1	275	240	215	185	—	—	—	—
1/0	315	275	245	215	310	270	240	210
2/0	360	310	280	240	350	305	275	240
3/0	410	350	320	275	400	345	310	270
4/0	465	395	365	310	455	395	355	310
250	485	430	380	330	480	425	370	330
350	605	520	480	405	595	510	470	405
500	715	610	575	490	705	635	570	485
750	840	710	705	595	840	750	695	595
1000	—	—	800	675	—	—	795	675

Type URO-J, 3Ø 100% or 133% Level



Three Cables
1/3 Neutral
Direct Buried In Duct
25°C 90°RHO Earth
36" Burial Depth
105°C Cond. Temp.

AWG or kcmil	15kV to 28kV				35kV			
	Cu		Al		Cu		Al	
	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF	75% LF	100% LF
	amps							
2	185	175	140	135	—	—	—	—
1	205	195	160	150	—	—	—	—
1/0	235	220	185	170	245	230	190	175
2/0	265	250	210	195	275	260	215	200
3/0	305	285	235	220	315	290	245	230
4/0	350	325	275	255	355	330	280	260
250	375	355	290	275	380	365	300	280
350	465	425	365	335	475	440	375	345
500	545	500	440	405	565	515	455	415
750	660	600	550	505	680	620	565	515
1000	—	—	630	570	—	—	645	585

Ampacities based on ICEA P-117-734Ampacities For Single-Conductor Solid Dielectric Power Cable 15kV through 35kV.Note: Ampacities are based on 105˚C conductor temperature. However, the cable's maximum operating temperature should be based on the maximum earth interface temperature and the maximum cable accessories and duct temperatures.

SALES & SERVICE

Okonite's field sales organization is the largest direct sales force in the wire & cable industry. Our salespeople are considered the "cable experts" in their territory and have an average of over 22 years with Okonite.

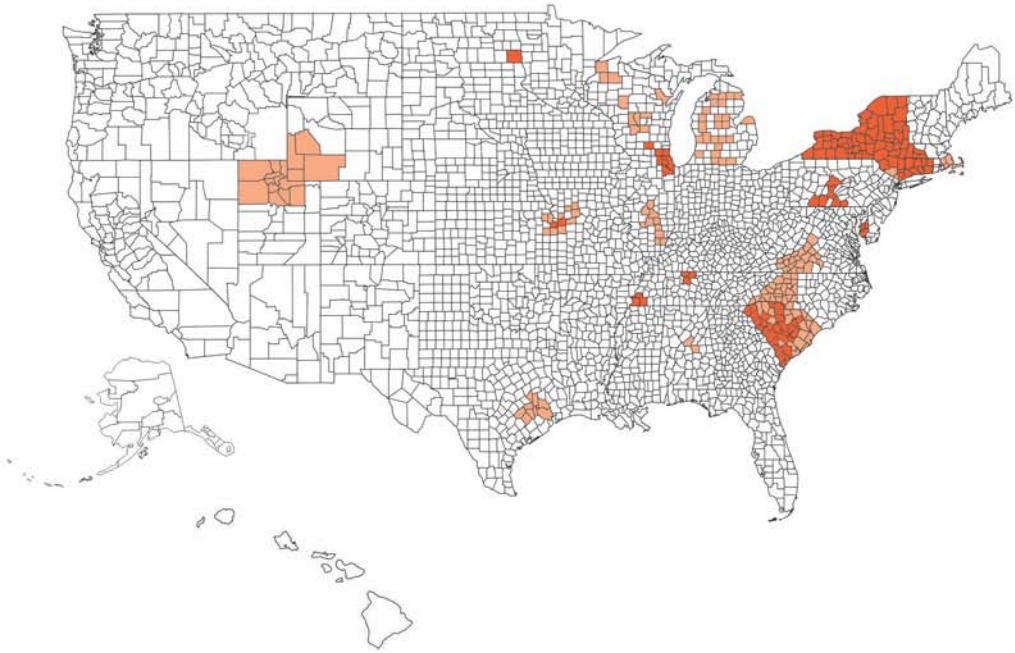
We operate with a national network of twenty three district offices and five service centers. Each district office is staffed by local Customer Service personnel. Service center locations maintain a set level of inventory and perform custom cutting where required. International Sales is covered out of our Ramsey NJ Corporate Office.

In addition to our direct salespeople, locally based customer service personnel, and service centers, Okonite provides technical support through its Application Engineering Group. Based in our Ramsey NJ Headquarters, our Application Engineers provide customers with technical resources and travel to customer locations as required.

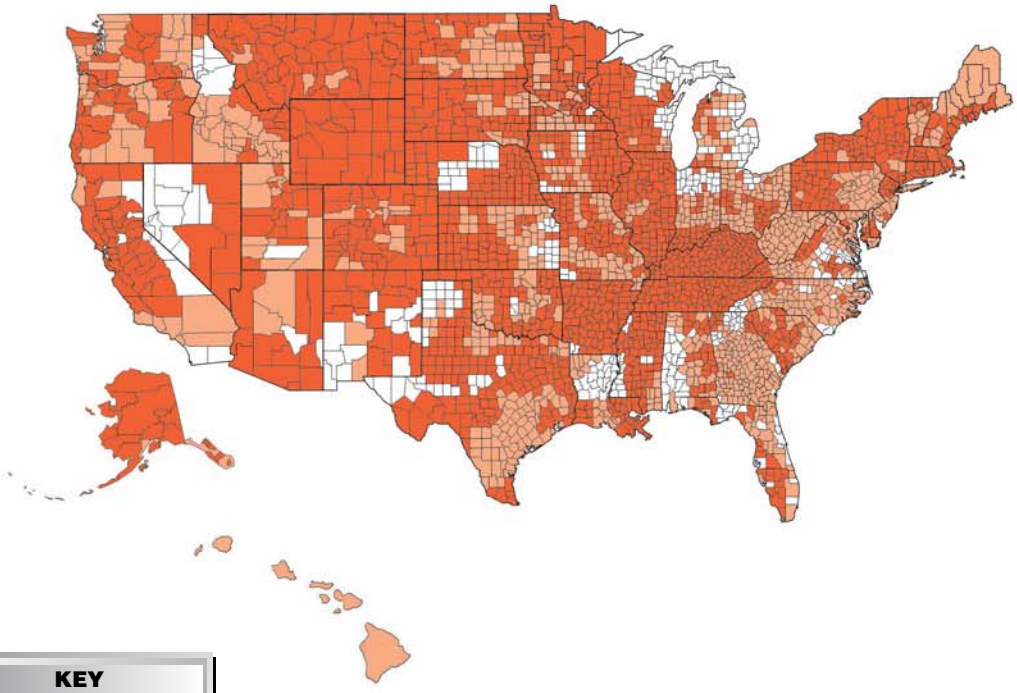
Okonite is a ESOT company, under which all employees are allocated shares of the company. We are committed to providing the best quality products and services the industry has to offer, as we have done since 1878.

MEDIUM VOLTAGE URD EPR USAGE BY UTILITIES

1986



TODAY



KEY
- PREDOMINATELY EPR
- PARTIAL EPR
- XLPE/TRXLPE

Source: Cable Specifications of Utility Organizations - January, 2020

Okonite Cables Facilities Overview

District Offices, Manufacturing Plants & Service Centers

Manufacturing Plants

Orangeburg, SC - Compound Facility

Orangeburg, SC - Manufacturing Plant

Richmond, KY - Manufacturing Plant

Santa Maria, CA - Manufacturing Plant

Cumberland, RI - Manufacturing Plant

Paterson, NJ - Manufacturing Plant

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FAX: (704) 541-6183
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and Service Center
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FAX: (973) 742-2156
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E-Mail: phoenix@okonite.com
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FAX: (724) 899-4320
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& Service Center
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FAX: (801) 262-3167
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Kansas City, KS

New Orleans, LA

Portland, OR

Pittsburgh, PA

Corporate HDQ

Ramsey, NJ

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