



Okoguard®-Okobon® Type MV-90



5/8kV Okobon Shielded Power Cable

One Okopact® (Compact Stranded) Copper Conductor 90°C Rating
5kV-133% or 8kV-100% Insulation Level



- A Uncoated, Okopact (Compact Stranded) Copper Conductor
- B Strand Screen-Extruded Semiconducting EPR
- C Insulation-Okoguard EPR
- D Insulation Screen-Extruded Semiconducting EPR
- E Shield-6 mil Okobon Copper Tape
- F Jacket-Okolene

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.

Shield

A 6 mil copper longitudinal corrugated Okobon shield is applied over the extruded semiconducting insulation screen with a sealed overlap to make the cable core impervious to moisture penetration. The tape is copolymer coated to provide a bond at the overlap and to the outer jacket. This construction provides a substantially lower shield resistance compared to a tight helically applied copper tape. The tape shield resistance is also extremely stable for the life of the cable.

Jacket

The Okolene® jacket on this cable is a polyethylene compound which is mechanically rugged; oil and moisture resistant. The outer jacket is firmly bonded to the corrugated copper shield for a moisture barrier.

Applications

Okoguard shielded Okobon Type MV-90 power cables are recommended for use by electric utilities and industrial operations for distribution circuits, and for feeders or branch circuits in industrial and commercial installations.

Type MV cables may be installed in wet or dry locations, indoors or outdoors (exposed to sunlight), in underground duct, directly buried if installed in a system with a grounding conductor in close proximity that conforms with NEC Section 250.4(A)(5), or messenger supported in industrial establishments and electric utilities.

Okoguard-Okobon is especially suited for underground applications in duct or direct burial where it is subject to excessive water.

Specifications

Conductor: Annealed uncoated copper, compact stranded per ASTM B-496.

Strand Screen: Extruded semiconducting EPR strand screen. Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8 and UL 1072.

Insulation: Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8 and UL 1072.

Insulation Screen: Extruded semiconducting EPR insulation screen applied directly over the insulation. Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8 and UL 1072.

Shield: 6 mil longitudinal corrugated, copolymer coated copper shield with a 0.25" overlap.

Jacket: Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, and UL 1072 for polyethylene jackets.

UL Listed as Type MV-90, sunlight resistant in accordance with UL 1072.

Okoguard-Okobon cables are also available with 15, 25, 35 and 69kV ratings.

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed all recognized industry standards (UL, AEIC, NEMA/ICEA, IEEE).
- 90°C continuous operating temperature.
- 130°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Provides "flat line" corona response.
- Screens are clean stripping.
- Exceptional resistance to "treeing."
- Low shield resistance.
- Moisture resistant.
- Resistant to most oils, acids and alkalis.
- Sunlight resistant.
- Improved Temperature Rating.

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One Okopact (Compact Stranded)

Copper Conductor/ 90°C Rating

5kV-133% or 8kV-100% Insulation Level



Product Data Section 2: Sheet 6

Okoguard Insulation: 115 mils (2.91mm), 5kV—133% or 8kV—100% Insulation Level

Catalog Number (1)	Conductor Size AWG or kcmil		Conductor Size -mm ² Approx. Dia. over Insulation (in.)		Approx. Dia. over Screen (in.)		Jacket Thickness - mils		Approx. O.D. - mm		Approx. O.D. - Inches		Approx. Net Weight lbs./1000'		Approx. Ship Weight lbs./1000'		Ampacities (2) Conduit in Air		Ampacities (3) Direct Burial		Ampacities (4) Underground Duct		Conduit Size Inches (5)*	
114-23-6860	6	13.3	0.45	0.51	60	1.52	0.71	17.9	295	350	75	140	85	2										
114-23-6861	4	21.2	0.48	0.54	60	1.52	0.75	19.0	360	415	97	180	110	2										
114-23-6862	2	33.6	0.54	0.60	60	1.52	0.80	20.3	460	515	130	230	145	2½										
114-23-6865	2/0	67.4	0.65	0.71	60	1.52	0.91	23.1	715	780	205	295	220	3										
114-23-6867	4/0	107.0	0.75	0.81	80	2.03	1.05	26.7	1030	1120	280	435	290	3										
114-23-6869	350	177.0	0.89	0.95	80	2.03	1.20	30.5	1520	1640	385	570	385	3½										
114-23-6872	500	253.0	1.01	1.07	80	2.03	1.32	33.5	2035	2175	475	690	470	4										
114-23-6875	750	380.0	1.19	1.25	80	2.03	1.50	38.1	2910	3145	600	845	585	5										
114-23-6878	1000	507.0	1.34	1.42	80	2.03	1.64	41.7	3750	4000	690	980	670	5										

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

Minimum Manufacturing Quantity for non-stock items is 5000'.

Aluminum Conductors

(1) Aluminum conductors are available on special order.

Ampacities

(2) Ampacities are in accordance with Table 310.60(C)(73) of the NEC for 5kV three single conductors, or single conductors twisted together (triplexed) and installed in an isolated conduit in air at an ambient temperature of 40°C and a conductor temperature of 90°C. Refer to Table 310.60(C)(73) for 8kV ampacities.

(3) Ampacities are in accordance with Table 310.60(C)(81) of the NEC for a 5kV insulated single conductor directly buried with a conductor temperature rating of 90°C, ambient earth temperature of 20°C, 100% Load Factor, thermal resistance (RHO) of 90, 7 1/2 inch spacing between conductor center lines, and 24 inch spacing between circuits. Refer to Table 310.60(C)(81) for 8kV ampacities.

(4) Ampacities are in accordance with Table 310.60(C)(77) of the NEC for 5kV three single conductors or triplexed cable in one underground raceway, three feet deep with a conductor temperature of 90°C, 100% Load Factor, an ambient earth temperature of 20°C, and thermal resistance (RHO) of 90. Refer to Table 310.60(C)(77) for 8kV ampacities.

Refer to the NEC, IEEE/ICEA S-135 Power Cable Ampacities, or the Okonite Engineering Data Bulletin for installation in duct banks, multiple point grounded shields, other ambient temperatures, circuit configurations or installations requirements.

(5) Recommended size of rigid or nonmetallic conduit for three conductors based on 40% maximum fill.

*The jam ratio conduit I.D. to cable O.D. should be checked to avoid possible jamming.