Okoguard®-Okoseal® Type MV-105

5/8kV Shielded Power Cable

One Okopact® (Compact Stranded) Copper Conductor/105°C Rating
5kV-133% or 8kV-100% Insulation Level
For Cable Tray Use - Sunlight Resistant

A Uncoated, Okopact (Compact Stranded) Copper Conductor
B Strand Screen-Extruded Semiconducting EPR
C Insulation-Okoguard EPR
D Insulation Screen-Extruded Semiconducting EPR
E Shielding-CopperTape
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.

The triple tandem extrusion of the 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, acids and most chemicals.

Applications

Okoguard shielded Okoseal Type MV-105 power cables are recommended for use as feeder circuits, in electric utility generating stations, 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 any raceway or 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. Sizes 1/0 AWG and larger may also be installed in cable tray.

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, CSA C68.10 and UL 1072.

Insulation: Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8, CSA C68.10 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, CSA C68.10 and UL 1072.

Shield: 5 mil bare copper tape helically applied with 25% minimum overlap.

Jacket: Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, CSA C68.10 and UL 1072 for polyvinyl chloride jackets.

UL Listed as Type MV-105 and sunlight resistant, in accordance with UL 1072.

CSA C68.10 listed as FT4, SR, and LTGG (-40°C).

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed all recognized industry standards (UL, AEIC, NEMA/ICEA, IEEE).
- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Passes UL and IEEE 383 and 1202 (1/0 AWG and larger) Vertical Tray Flame Test.
- Excellent corona resistance.
- Screens are clean stripping.
- Exceptional resistance to “treeing”.
- Exceptional resistance to moisture.
- Resistant to most oils, acids, and alkalies.
- Sunlight resistant.
- For Cable Tray Use.
- Improved Temperature Rating.

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Okoguard Insulation: 115 mils (2.92mm), 5kV—133% or 8kV—100% Insulation Level

Catalog Number (1)	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'	Ampacities Conduit in Air (2)	Ampacities Underground Duct (3)	Ampacities Cable Tray (4)	Conduit Size Inches (5)*
▲ 114-23-3824	1/0	53.5	0.61	0.67	60	1.52	0.81	20.6	615	655	200	210	220	2½
▲ 114-23-3826	2/0	67.4	0.65	0.71	60	1.52	0.85	21.6	720	775	225	235	245	2½
114-23-3865	3/0	85.0	0.70	0.76	80	2.03	0.95	24.1	895	950	270	270	290	3
▲ 114-23-3832	4/0	107.0	0.75	0.81	80	2.03	0.99	25.2	1030	1090	305	310	335	3
▲ 114-23-3834	250	127.0	0.80	0.86	80	2.03	1.05	26.7	1185	1250	355	345	370	3
▲ 114-23-3838	350	177.0	0.89	0.95	80	2.03	1.14	29.0	1540	1625	430	415	460	3½
▲ 114-23-3846	500	253.0	1.01	1.07	80	2.03	1.26	32.0	2055	2155	530	505	580	3½
▲ 114-23-3873	750	380.0	1.19	1.26	80	2.03	1.45	36.9	2940	3120	665	630	750	4
114-23-3855	1000	507.0	1.34	1.40	80	2.03	1.59	40.4	3781	3960	770	720	900	4

Visit www.okonite.com for the most current cable data.

▲ **Authorized stock item.** Available from our Customer Service Center.

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 three single Type MV-105 5kV 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 105°C. Refer to Table 310.60(C)(73) for 8kV ampacities

(3) Ampacities are in accordance with Table 310.60(C)(77) of the NEC for three single 5kV conductors or triplexed cable in one underground raceway, three feet deep with a conductor temperature of 105°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.

(4) Ampacities based on single Type MV-105 5kV conductors, or single conductors twisted together (triplexed, quadruplexed, etc.) size 1/0 AWG and larger, installed in uncovered cable tray in accordance with Section 392.80(B) of the NEC at an ambient temperature of 40°C and a conductor temperature rating of 105°C. In accordance with NEC Section 392.80(B)(2)(a) the ampacities are 75% of the values given in NEC Table 310.60(C)(69) (copper conductors). Where the cable tray is covered for more than six feet with solid unventilated covers, the ampacities shall not exceed 93% of the values shown above. Refer to Table 310.60(C)(69) 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 installation 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.

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