Okoguard®-Okolon® TS-CPE 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 semi-conducting EPR
C Insulation-Okoguard EPR
D Insulation Screen-Extruded semi-conducting EPR
E Shielding-Copper Tape
F Jacket-Okolon TS-CPE

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 Okolon TS-CPE jacket on this cable is a vulcanized chloronated polyethylene based compound which is mechanically rugged, flame, radiation, and oil resistant.

Applications

Okoguard Shielded-Okolon TS-CPE power cables are recommended for use as feeder circuits in utility generating plants, in distribution applications and for primary circuits.

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 the 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% nominal 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 chloronated polyethylene jackets.

UL listed as Type MV-105, sunlight resistant and for use in cable tray in accordance with UL 1072.

CSA C68.10 listed as FT4, SR, and LTDD (-25°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; 1/0 AWG & larger.
- 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 (2) Conduit in Air	Ampacities (3) Underground Duct	Ampacities (4) Cable Tray	Conduit Size Inches (5)*
114-23-2717	6	13.3	0.44	0.50	60	1.52	0.66	16.8	305	335	93	97	–	2
114-23-2719	4	21.2	0.48	0.54	60	1.52	0.70	17.8	375	405	120	125	–	2
114-23-2721	2	33.6	0.54	0.60	60	1.52	0.76	19.3	480	515	165	165	–	2½
114-23-2723	1	42.4	0.58	0.64	60	1.52	0.80	20.3	550	590	190	185	–	2½
114-23-2725	1/0	53.5	0.61	0.67	60	1.52	0.83	21.1	630	670	215	215	215	2½
114-23-2727	2/0	67.4	0.65	0.71	60	1.52	0.87	22.1	735	790	255	245	250	2½
114-23-2729	3/0	85.0	0.70	0.76	80	2.03	0.97	24.6	915	975	290	275	290	3
114-23-2731	4/0	107.0	0.75	0.81	80	2.03	1.02	25.9	1070	1135	330	315	335	3
114-23-2733	250	127.0	0.80	0.86	80	2.03	1.07	27.2	1215	1285	365	345	370	3
114-23-2737	350	177.0	0.89	0.95	80	2.03	1.16	29.5	1575	1660	440	415	460	3½
114-23-2743	500	253.0	1.03	1.07	80	2.03	1.28	32.5	2095	2195	535	500	575	3½
114-23-2749	750	380.0	1.19	1.25	80	2.03	1.45	36.8	2970	3150	655	610	745	4
114-23-2751	1000	507.0	1.34	1.42	80	2.03	1.61	40.9	3830	4005	755	690	890	5

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

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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