Okoguard®-Okoseal® Type MV-105

35kV Shielded Power Cable

One Aluminum Conductor/105°C Rating
100% and 133% Insulation Level

A Conductor-Stranded Aluminum
B Strand Screen - Extruded Semiconducting EPR
C Insulation-Okoguard EPR
D Insulation Screen - Extruded Semiconducting EPR
E Shield-Copper Tape
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 and most chemicals.

Applications

Okoguard shielded Okoseal Type MV-105 power cables are recommended 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.

Specifications

Conductor: Aluminum per ASTM B-609, Class B stranded per B-231.

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. 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: Uncoated 5 mil copper tape helically applied with 12.5% 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 polyvinyl chloride jackets.

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

A flame retardant construction, size 1/0 AWG and larger, for installation in cable tray is available on special order. This construction is UL labeled “MV-105 FOR CT USE.”

CSA C68.10 listed as FT1, 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.
- Excellent corona resistance.
- Screens are clean stripping.
- Exceptional resistance to “treeing.”
- Moisture resistant.
- Resistant to most oils, acids, and alkalies
- Sunlight resistant.
- Improved Temperature Rating.

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Catalog Number	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 (1) Conduit in Air	Ampacities (2) Direct Burial	Ampacities (3) Underground Duct	Conduit Size Inches (4)*
Okoguard Insulation: 345 mils (8.76mm), 100% Insulation Level														
135-23-3516	1/0	53.5	1.11	1.16	80	2.03	1.35	34.3	940	1075	170	230	165	4
135-23-3517	2/0	67.4	1.15	1.21	80	2.03	1.39	35.3	1010	1185	200	260	190	4
135-23-3519	3/0	85.0	1.20	1.26	80	2.03	1.44	36.6	1090	1265	225	295	215	4
135-23-3521	4/0	107.0	1.26	1.31	80	2.03	1.50	38.1	1185	1360	260	340	245	5
135-23-3523	250	127.0	1.31	1.37	80	2.03	1.55	39.4	1275	1450	290	370	270	5
135-23-3527	350	177.0	1.42	1.47	80	2.03	1.66	42.2	1470	1650	350	450	330	5
135-23-3531	500	253.0	1.55	1.60	80	2.79	1.85	47.0	1840	2110	430	545	400	6
135-23-3535	750	380.0	1.74	1.79	110	2.79	2.04	51.8	2285	2655	540	680	490	6
135-23-3537	1000	507.0	1.89	1.94	110	2.79	2.19	55.7	2675	3065	640	795	565	8
Okoguard Insulation: 420 mils (10.7mm), 133% Insulation Level														
135-23-3656	1/0	53.5	1.27	1.31	80	2.03	1.50	38.1	1145	1330	170	230	165	5
135-23-3657	2/0	67.4	1.31	1.36	80	2.03	1.55	39.4	1220	1400	200	260	190	5
135-23-3659	3/0	85.0	1.36	1.41	80	2.03	1.59	40.4	1305	1490	225	295	215	5
135-23-3661	4/0	107.0	1.41	1.46	80	2.03	1.65	41.9	1410	1595	260	340	245	5
135-23-3663	250	127.0	1.47	1.53	80	2.03	1.71	43.4	1505	1715	290	370	270	5
135-23-3667	350	177.0	1.57	1.62	110	2.79	1.87	47.5	1825	2100	350	450	330	6
135-23-3671	500	253.0	1.70	1.75	110	2.79	2.00	50.8	2115	2500	430	545	400	6
135-23-3675	750	380.0	1.90	1.94	110	2.79	2.19	55.6	2585	3020	540	680	490	8
135-23-3677	1000	507.0	2.05	2.09	110	2.79	2.34	59.4	2995	3440	640	795	565	8

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

Ampacities

(1) Ampacities are in accordance with Table 310.60(C)(74) of the NEC for three single Type MV-105 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.

(2) Ampacities are in accordance with Table 310.60(C)(82) of the NEC for an insulated single conductor directly buried with a conductor temperature rating of 105°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.

(3) Ampacities are in accordance with Table 310.60(C)(78) of the NEC for three single 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 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.

(4) 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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