Okoguard®-Okoseal® Type MV-105

15kV 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, acids and most chemicals.

Applications

Okoguard shielded Okoseal Type MV-105 power cables are recommended for distribution circuits, and for feeders or branch 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 315.36 and 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 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. Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8 and UL 1072.

Shield: 5 mil bare 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. A flame retardant construction, size 1/0 AWG and larger, for installation in cable tray is available on special order that is UL labeled “MV-105 FOR CT USE”.

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

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.
- Compact constructions available upon special request.

Optional Jacket:

-FR-Okoseal® PVC.
-LT/FR Okoseal® PVC.
-LF-Okoseal® PVC-Low Friction.
-Okolon® TP-CPE.
-Okolon® TS-CPE.
-Okoclear® TP (TPPO-low smoke zero halogen).
-Okoclear® TS (XLPO)-low smoke zero halogen).
-Okolene® Polyethylene (MV-90).

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Product Data
Section 2: Sheet 10

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: 175 mils (4.45mm), 100% Insulation Level														
135-23-3011	2	33.6	0.68	0.75	80	2.03	0.93	23.7	465	525	130	175	130	3
135-23-3013	1	42.4	0.72	0.79	80	2.03	0.97	24.7	505	595	150	200	145	3
135-23-3015	1/0	53.5	0.76	0.83	80	2.03	1.01	25.7	550	600	170	230	165	3
135-23-3017	2/0	67.4	0.81	0.87	80	2.03	1.04	26.4	605	695	200	260	190	3*
135-23-3019	3/0	85.0	0.86	0.90	80	2.03	1.09	27.7	670	760	225	295	215	3
135-23-3021	4/0	107.0	0.91	0.98	80	2.03	1.16	29.5	750	840	260	340	245	3½
135-23-3023	250	127.0	0.97	1.03	80	2.03	1.21	30.7	830	900	290	370	270	3½*
135-23-3027	350	177.0	1.07	1.14	80	2.03	1.34	34.1	990	1100	350	450	330	4*
135-23-3031	500	253.0	1.20	1.26	80	2.03	1.44	36.5	1220	1330	430	545	400	4*
135-23-3035	750	380.0	1.39	1.45	80	2.03	1.63	41.4	1600	1800	540	680	490	5
135-23-3037	1000	507.0	1.54	1.60	110	2.79	1.85	47.0	2040	2300	640	795	565	6
Okoguard Insulation: 220 mils (5.59mm), 133% Insulation Level														
135-23-3111	2	33.6	0.78	0.84	80	2.03	1.01	25.6	550	605	130	175	130	3*
135-23-3113	1	42.4	0.81	0.88	80	2.03	1.07	27.1	590	650	150	200	145	3*
135-23-3115	1/0	53.5	0.85	0.90	80	2.03	1.10	27.9	640	715	170	230	165	3
135-23-3117	2/0	67.4	0.90	0.96	80	2.03	1.15	29.2	700	775	200	260	190	3½
135-23-3119	3/0	85.0	0.95	1.00	80	2.03	1.20	30.5	765	845	225	295	215	3½*
135-23-3121	4/0	107.0	1.00	1.05	80	2.03	1.24	31.5	850	950	260	340	245	3½*
135-23-3123	250	127.0	1.06	1.12	80	2.03	1.30	33.0	935	1020	290	370	270	4
135-23-3127	350	177.0	1.17	1.22	80	2.03	1.41	35.8	1110	1205	350	450	330	4
135-23-3131	500	253.0	1.29	1.35	80	2.03	1.53	38.9	1350	1460	430	545	400	5
135-23-3135	750	380.0	1.49	1.54	80	2.03	1.73	43.9	1735	1930	540	680	490	5
135-23-3137	1000	507.0	1.64	1.69	110	2.79	1.94	49.3	2200	2505	640	795	565	6*

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

Ampacities

(1) Ampacities are in accordance with Table 315.60(C)(8) 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 315.60(C)(16) 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

(3) Ampacities are in accordance with Table 315.60(C)(12) 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 EHB 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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