



Okoguard®-Okolon® Type MV-105



15kV LCS Shielded Power Cable

One Okopact® (Compact Stranded) Copper Conductor/105°C Rating
100% and 133% 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 Shield-5 Mil LCS Coated Copper Tape
- F Jacket-Okolon

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 unequalled 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 5 mil copper longitudinal corrugated shield (LCS) is applied over the extruded semiconducting insulation screen. The LCS resistance is also extremely stable during load cycling.

Jacket

The Okolon jacket on this cable is a vulcanized chlorosulfonated polyethylene base compound which is mechanically rugged, flame, radiation, and oil resistant.

Applications

Okoguard shielded Okolon 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 C68.3 and UL 1072.

Insulation: Meets or exceeds electrical and physical requirements of ICEA S-93-639/NEMA WC74 & S-97-682, AEIC CS8, CSA C68.3 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 C68.3 and UL 1072.

Shield: 5 mil longitudinal corrugated, 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 chlorosulfonated polyethylene jackets. UL Listed as Type MV-105, sunlight resistant and for cable tray in accordance with UL 1072.

CSA C68.3 listed and rated FT4 and -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.
- Flame retardant - passes UL and IEEE 383 Vertical Tray Flame Test and 1202 (1/0 AWG & larger).
- Excellent corona resistance.
- Screens are clean stripping.
- Exceptional resistance to "treeing."
- Low shield resistance.
- Moisture resistant.
- Resistant to most oils, acids and alkalis.
- Sunlight resistant.
- For Cable Tray Use; 1/0 AWG and larger.
- CSA FT4 and -25°C
- Improved Temperature Rating.
- The LCS shield design is also available on 5, 25, 35, 46 and 69kV rated cables.
- An Okolene (PE) jacket is also available for non-CT rated cables.

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Copper Conductor/105°C Rating

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Product Data Section 2: Sheet 12

| 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 | 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 Cable Tray | Ampacities (4) | Conduit Size (5) Inches* |
|--|--------------------------------|-------|----------------------------------|------|---------------------------------------|------|-----------------------------------|------|----------------------------|--------------------------|-----------------------|-------------------|------------------------------------|-------------------------------------|----------------|----------------|----------------|---------------------------|----------------|-----------------------------|
| Okoguard Insulation: 175 mils (4.45mm), 100% Insulation Level | | | | | | | | | | | | | | | | | | | | |
| 115-23-6011 | 2 | 33.6 | 0.67 | 0.73 | 60 | 1.52 | 0.97 | 24.7 | 655 | 760 | 165 | 165 | — | 3 | | | | | | |
| 115-23-6013 | 1 | 42.4 | 0.70 | 0.76 | 80 | 2.03 | 1.00 | 25.5 | 730 | 840 | 190 | 185 | — | 3 | | | | | | |
| 115-23-6015 | 1/0 | 53.5 | 0.74 | 0.80 | 80 | 2.03 | 1.04 | 26.4 | 820 | 925 | 215 | 215 | 220 | 3 | | | | | | |
| 115-23-6017 | 2/0 | 67.4 | 0.78 | 0.84 | 80 | 2.03 | 1.08 | 27.5 | 935 | 1040 | 255 | 245 | 250 | 3 | | | | | | |
| 115-23-6019 | 3/0 | 85.0 | 0.83 | 0.89 | 80 | 2.03 | 1.13 | 28.7 | 1075 | 1180 | 290 | 275 | 290 | 3½ | | | | | | |
| 115-23-6021 | 4/0 | 107.0 | 0.88 | 0.94 | 80 | 2.03 | 1.18 | 30.0 | 1245 | 1365 | 330 | 315 | 335 | 3½ | | | | | | |
| 115-23-6023 | 250 | 127.0 | 0.93 | 0.99 | 80 | 2.03 | 1.22 | 31.1 | 1395 | 1520 | 365 | 345 | 370 | 3½ | | | | | | |
| 115-23-6027 | 350 | 177.0 | 1.03 | 1.10 | 80 | 2.03 | 1.32 | 33.7 | 1765 | 1915 | 440 | 415 | 460 | 4 | | | | | | |
| 115-23-6031 | 500 | 253.0 | 1.14 | 1.22 | 80 | 2.03 | 1.46 | 37.1 | 2330 | 2540 | 535 | 500 | 575 | 4 | | | | | | |
| 115-23-6035 | 750 | 380.0 | 1.32 | 1.40 | 80 | 2.03 | 1.64 | 41.7 | 3230 | 3630 | 655 | 610 | 745 | 5 | | | | | | |

Okoguard Insulation: 220 mils (5.59mm), 133% Insulation Level

| | | | | | | | | | | | | | | |
|-------------|-----|-------|------|------|----|------|------|------|------|------|-----|-----|-----|----|
| 115-23-6111 | 2 | 33.6 | 0.76 | 0.82 | 80 | 2.03 | 0.99 | 25.2 | 745 | 850 | 165 | 165 | — | 3 |
| 115-23-6113 | 1 | 42.4 | 0.79 | 0.85 | 80 | 2.03 | 1.02 | 26.0 | 825 | 935 | 190 | 185 | — | 3 |
| 115-23-6115 | 1/0 | 53.5 | 0.83 | 0.89 | 80 | 2.03 | 1.13 | 28.8 | 920 | 1030 | 215 | 215 | 220 | 3½ |
| 115-23-6117 | 2/0 | 67.4 | 0.87 | 0.93 | 80 | 2.03 | 1.17 | 29.8 | 1035 | 1160 | 255 | 245 | 250 | 3½ |
| 115-23-6119 | 3/0 | 85.0 | 0.92 | 0.98 | 80 | 2.03 | 1.22 | 31.0 | 1175 | 1295 | 290 | 275 | 290 | 3½ |
| 115-23-6121 | 4/0 | 107.0 | 0.97 | 1.03 | 80 | 2.03 | 1.27 | 32.3 | 1350 | 1495 | 330 | 315 | 335 | 3½ |
| 115-23-6123 | 250 | 127.0 | 1.03 | 1.09 | 80 | 2.03 | 1.32 | 33.4 | 1505 | 1655 | 365 | 345 | 370 | 4 |
| 115-23-6127 | 350 | 177.0 | 1.12 | 1.20 | 80 | 2.03 | 1.44 | 36.4 | 1910 | 2115 | 440 | 415 | 460 | 4 |
| 115-23-6131 | 500 | 253.0 | 1.24 | 1.31 | 80 | 2.03 | 1.55 | 39.4 | 2460 | 2715 | 535 | 500 | 575 | 5 |
| 115-23-6135 | 750 | 380.0 | 1.41 | 1.49 | 80 | 2.03 | 1.80 | 45.6 | 3495 | 3780 | 655 | 610 | 745 | 5 |

Visit Okonite's web site, www.okonite.com for the most up to date dimensions.

Aluminum Conductors

(1) Aluminum conductors are available on special order.

Ampacities

(2) Ampacities are in accordance with Table 310.73 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.

(3) Ampacities are in accordance with Table 310.77 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.

(4) Ampacities based on single Type MV-105 conductors, or single conductors twisted together (triplexed, quadruplexed, etc.), size 1/0 AWG and larger, installed in uncovered cable tray in accordance with Section 392.13 of the NEC at an ambient temperature of 40°C and a conductor temperature rating of 105°C. In accordance with NEC Section 392.13(b) the ampacities are 75% of the values given in NEC Table 310.69 (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 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.