



## Okoguard®-Okoclear®-TP Type MV-105

### 5/8kV Shielded Power Cable

One Okopact® (Compact Stranded)  
Copper Conductor/105°C Rating Wet or Dry  
**For Cable Tray Use - Sunlight Resistant**  
**Type HF (Halogen Free) - Limited Smoke**



- 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-Copper Tape
- F Jacket-Okoclear TP (TPPO-LSZH)

#### 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 for long, problem free service.

#### Jacket

The Okoclear-TP jacket on this cable is a low smoke, non-halogenated, thermoplastic polyolefin (TPPO) based compound. It provides excellent resistance to mechanical abuse, flame, weathering, most oils, acids and alkalis.

#### Applications

Okoguard shielded Okoclear-TP 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, where a cable with low smoke/zero halogen characteristics is needed.

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.

May be installed in cable trays where permitted by NEC Section 392.

#### Specifications

**Conductor:** 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, and UL 1072.

**Insulation:** Meets or exceeds electrical and physical requirements of ICEA S-96-659/NEMA WC71 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 25% minimum overlap.

**Jacket:** Meets or exceeds electrical and physical requirements of ICEA S-93-639 for Type I thermoplastic polyolefin jackets.

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

#### Product Features

- UL Listed Type HF - Low smoke/zero halogen jacket.
- Low smoke/zero halogen jacket.
- Okoguard cables meet or exceed all recognized industry standards (UL, NEMA/ICEA and IEEE).
- Triple tandem extruded, all EPR system.
- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Exceptional resistance to "treeing".
- Screens are clean stripping.
- Exceptional resistance to moisture.
- Resistant to most oils, acids, and alkalis.
- UL listed: MV-105, Sunlight Resistant, Limited Smoke, and Cable Tray Use.
- Passes the UL & IEEE 383-1974 Vertical Tray Flame Test.
- Sizes 500 kcmil and larger pass FT4/IEEE 1202 Vertical Tray Flame Test.

# Okoguard-Okoclear-TP 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

Type HF (Halogen Free) - Limited Smoke



## Product Data Section 2: Sheet 51

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

Catalog Number (1)	Conductor Size AWG or kcmil		Conductor Size -mm <sup>2</sup>		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)*	
114-23-3055	1/0	53.5	0.61	0.67	60	1.52	0.88	22.4	635	690	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	215	2½
114-23-3056	2/0	67.4	0.65	0.71	60	1.52	0.92	23.4	740	795	255	245	250	250	250	250	250	255	245	250	255	245	250	250	250	250	2½	
114-23-3057	3/0	85.0	0.70	0.76	80	2.03	1.02	25.9	915	995	290	275	290	290	290	290	290	290	275	290	290	275	290	290	290	290	3	
114-23-3058	4/0	107.0	0.75	0.81	80	2.03	1.06	26.9	1070	1150	330	315	335	335	335	335	335	330	315	335	330	315	335	335	335	335	3	
114-23-3059	250	127.0	0.80	0.86	80	2.03	1.12	28.4	1220	1330	365	345	370	370	370	370	370	365	345	370	365	345	370	370	370	370	3	
114-23-3060	350	177.0	0.89	0.95	80	2.03	1.21	30.7	1575	1700	440	415	460	460	460	460	440	415	460	440	415	460	460	460	460	460	3½	
114-23-3061	500	253.0	1.03	1.07	80	2.03	1.32	33.5	2095	2235	535	500	575	575	575	575	535	500	575	535	500	575	575	575	575	575	3½	
114-23-3062	750	380.0	1.19	1.25	80	2.03	1.50	38.1	2060	3180	655	610	745	745	745	745	655	610	745	655	610	745	745	745	745	745	4	
114-23-3063	1000	507.0	1.34	1.42	80	2.03	1.66	42.2	3815	4095	755	690	890	890	890	890	755	690	890	755	690	890	890	890	890	890	5	

Okonite's web site, [www.okonite.com](http://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.