

# MV-105 TR-XLPE Insulated, PVC Jacketed

5 kV – 35 kV, Cu-Tape Shielded

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

UL listed as MV-105.

Cable jacket rated for Sun Resistant.

Jacket is rated as Oil resistance I on all sizes.

Sizes 1/0 and larger are UL listed and marked for CT use in accordance with NEC meeting UL 1685 vertical-tray flame exposure at 70,000 BTU/hr.

Complete cable is Lead Free and RoHS compliant.

True Triple extrusion system and closed handling raw materials system, to eliminate any contact with ambient, until extrusion process ends.

Complete cable is Silicon Free

On request, Quick Installation QI<sup>®</sup>, use of lubrication is not mandatory to install QI<sup>®</sup> marked cables in the raceways or cable trays.

On request, two abrasion resistant ripcords placed longitudinally 180° apart for easy jacket removal.

## Application

Primary power and distribution circuits in industrial and commercial installations, power circuits in generating plants where line to ground fault current are within shield capabilities.

Type MV cables may be used in wet or dry locations, indoors or outdoors, installed in any raceway, open air, aerial messenger supported, underground duct, or directly buried if installed with a grounding conductor in close proximity complying with NEC Section 250.4(A)(5).

## Standards

UL 1072

Medium Voltage Power Cables.

ICEA S-93-639/NEMA WC74

5 kV – 46 kV Shielded Power Cables.

ICEA S-97-682

Utility Shielded Power Cables Rated 5 kV – 46 kV.

AEIC CS8

Specification for Extruded Dielectric, Shielded Power Cables Rated 5 kV – 46 kV.

## Specifications

Maximum operating voltage:

- 5 kV to 35 kV 100% and 133% IL

Maximum conductor operation temperatures:

Wet and dry locations

- Normal: 105 °C
- Emergency: 140 °C
- Short Circuit: 250 °C

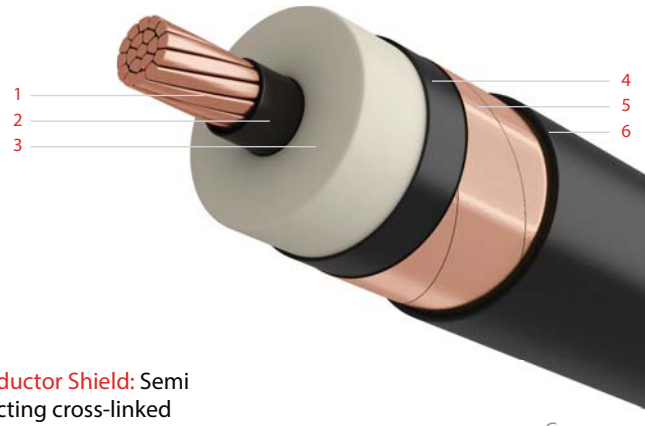
## Engineering Information

**1. Conductor:** Soft annealed uncoated copper compacted Class B per ASTM B496 or hard drawn Aluminum-1350 compacted Class B per ASTM B400.

On request: strand filled or compressed strand.

Sizes: 8 AWG (6 AWG Aluminum) up to 1000 kcmil.

On request: larger conductor sizes available.



**2. Conductor Shield:** Semi conducting cross-linked polyethylene (XLPE).

**3. Insulation:** Thermoset tree retardant crosslinked polyethylene (TR-XLPE).

**4. Insulation Shield:** Semi conducting cross-linked polyethylene (XLPE).

**5. Metallic Shield:** Soft-annealed uncoated copper tape, 5 mil thick, 25% minimum overlap.

On request options: ripcords.

**6. Jacket:** Black sunlight resistance and flame retardant polyvinyl chloride (PVC) compound.

Configuration Options:

On request: Triplex or Paralleled configurations.



ALUMINUM  
CONDUCTOR

Technical Data

### 5 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Nominal OD  in	100% and 133% Insulation Levels (90 mil)				
			Insulation Thickness  mil	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight	
						Copper  lb/kft	Aluminum  lb/kft
8	7	0.13	0.35	60	0.56	200	N/A
6	7	0.17	0.38	60	0.59	245	188
4	7	0.21	0.43	60	0.64	311	221
2	7	0.27	0.48	60	0.69	410	267
1	19	0.30	0.51	60	0.72	475	295
1/0	19	0.34	0.55	60	0.76	558	331
2/0	19	0.38	0.59	60	0.80	659	373
3/0	19	0.42	0.64	80	0.89	821	460
4/0	19	0.48	0.69	80	0.94	980	526
250	37	0.52	0.75	80	0.99	1124	586
350	37	0.62	0.84	80	1.09	1477	724
500	37	0.74	0.96	80	1.21	1996	921
750	61	0.91	1.14	80	1.41	2879	1266
1000	61	1.06	1.30	80	1.57	3723	1573

### 8 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter  in	100% Insulation Level (115 mil)					133% Insulation Level (140 mil)				
			Nominal Diameter Over Insulation  in	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight		Nominal Diameter Over Insulation  in	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight	
						Copper  lb/kft	Aluminum  lb/kft				Copper  lb/kft	Aluminum  lb/kft
6	7	0.17	0.43	60	0.65	270	214	0.48	60	0.70	297	241
4	7	0.21	0.48	60	0.69	338	248	0.53	60	0.74	366	276
2	7	0.27	0.53	60	0.75	438	296	0.58	60	0.80	469	326
1	19	0.30	0.56	60	0.78	504	325	0.61	60	0.83	536	356
1/0	19	0.34	0.60	60	0.81	588	362	0.65	80	0.90	656	429
2/0	19	0.38	0.64	80	0.89	726	440	0.69	80	0.94	762	476
3/0	19	0.42	0.69	80	0.94	857	496	0.74	80	0.99	894	533
4/0	19	0.48	0.74	80	0.99	1018	563	0.79	80	1.04	1056	601
250	37	0.52	0.80	80	1.05	1163	625	0.85	80	1.10	1203	666
300	37	0.57	0.85	80	1.10	1341	697	0.90	80	1.15	1383	739
350	37	0.62	0.89	80	1.14	1519	766	0.94	80	1.19	1563	809
400	37	0.66	0.93	80	1.19	1694	834	0.98	80	1.24	1739	879
500	37	0.74	1.01	80	1.29	2066	991	1.06	80	1.34	2114	1039
600	61	0.81	1.10	80	1.37	2419	1129	1.15	80	1.42	2470	1180
750	61	0.91	1.19	80	1.47	2931	1318	1.24	80	1.52	2985	1372
1000	61	1.06	1.35	80	1.62	3780	1630	1.40	80	1.67	3838	1688

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request. Cables that comply with 8 kV 100% can also be marked 5 kV 133%. Ampacities: Refer to beginning of section.

Technical Data continued

### 15 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (175 mil)					133% Insulation Level (220 mil)				
			Nominal Diameter Over Insulation in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Nominal Diameter Over Insulation in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
				lb/kft		lb/kft				lb/kft		
2	7	0.27	0.65	80	0.91	549	406	0.74	80	1.00	615	472
1	19	0.30	0.68	80	0.94	618	438	0.77	80	1.03	686	506
1/0	19	0.34	0.72	80	0.97	707	480	0.81	80	1.06	776	549
2/0	19	0.38	0.76	80	1.01	814	528	0.85	80	1.10	886	600
3/0	19	0.42	0.81	80	1.06	948	587	0.90	80	1.15	1023	662
4/0	19	0.48	0.86	80	1.11	1113	658	0.95	80	1.20	1191	736
250	37	0.52	0.92	80	1.17	1262	725	1.01	80	1.28	1368	830
300	37	0.57	0.97	80	1.22	1445	800	1.06	80	1.33	1554	909
350	37	0.62	1.01	80	1.29	1651	897	1.10	80	1.38	1738	985
400	37	0.66	1.05	80	1.33	1830	970	1.14	80	1.42	1920	1060
500	37	0.74	1.13	80	1.41	2184	1109	1.22	80	1.50	2279	1203
600	61	0.81	1.22	80	1.49	2544	1253	1.31	80	1.58	2643	1353
750	61	0.91	1.31	80	1.59	3062	1449	1.40	110	1.74	3269	1656
1000	61	1.06	1.47	110	1.80	4029	1879	1.56	110	1.92	4197	2047

### 25 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (260 mil)					133% Insulation Level (320 mil)				
			Nominal Diameter Over Insulation in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Nominal Diameter Over Insulation in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
				lb/kft		lb/kft				lb/kft		
1	19	0.30	0.85	80	1.10	749	570	0.97	80	1.23	854	675
1/0	19	0.34	0.89	80	1.14	841	616	1.01	80	1.29	974	747
2/0	19	0.38	0.93	80	1.18	953	668	1.05	80	1.33	1090	804
3/0	19	0.42	0.98	80	1.23	1092	733	1.10	80	1.37	1233	872
4/0	19	0.48	1.03	80	1.30	1288	834	1.15	80	1.43	1408	953
250	37	0.52	1.09	80	1.36	1444	907	1.21	80	1.48	1569	1031
300	37	0.57	1.14	80	1.41	1633	989	1.26	80	1.53	1761	1116
350	37	0.62	1.18	80	1.45	1820	1067	1.30	80	1.58	1951	1198
400	37	0.66	1.22	80	1.49	2003	1144	1.34	80	1.62	2138	1278
500	37	0.74	1.30	80	1.57	2366	1292	1.42	110	1.76	2610	1534
600	61	0.81	1.39	80	1.66	2735	1445	1.51	110	1.88	3039	1748
750	61	0.91	1.48	110	1.82	3370	1758	1.60	110	1.97	3582	1969
1000	61	1.06	1.64	110	2.00	4307	2158	1.76	110	2.12	4483	2333

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.  
Ampacities: Refer to beginning of section.

Technical Data continued

### 35 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter  in	100% Insulation Level (345 mil)					133% Insulation Level (420 mil)				
			Nominal Diameter Over Insulation  in	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight		Nominal Diameter Over Insulation  in	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
				lb/kft				lb/kft				
1/0	19	0.34	1.06	80	1.34	1022	795	1.21	80	1.49	1176	949
2/0	19	0.38	1.10	80	1.38	1139	853	1.25	80	1.53	1296	1010
3/0	19	0.42	1.15	80	1.42	1284	923	1.30	80	1.57	1446	1085
4/0	19	0.48	1.20	80	1.48	1461	1006	1.35	80	1.63	1627	1173
250	37	0.52	1.26	80	1.53	1623	1085	1.41	110	1.74	1897	1359
300	37	0.57	1.31	80	1.58	1817	1172	1.46	110	1.79	2098	1454
350	37	0.62	1.35	80	1.63	2009	1255	1.50	110	1.84	2297	1544
400	37	0.66	1.39	80	1.67	2197	1337	1.54	110	1.91	2541	1681
500	37	0.74	1.47	110	1.81	2674	1598	1.62	110	1.99	2926	1850
600	61	0.81	1.56	110	1.93	3107	1816	1.71	110	2.08	3320	2029
750	61	0.91	1.65	110	2.02	3653	2040	1.80	110	2.17	3875	2262
1000	61	1.06	1.81	110	2.17	4559	2409	1.96	110	2.32	4795	2645

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.  
Ampacities: Refer to beginning of section.