

MV-105 3C, TR-XLPE Insulated, PVC Jacketed

5 kV – 35 kV, Copper Tape-Shielded

CME[®]
wire and cable

A Viakable Company

Features

UL Listed as MV-105.
Rated as Sunlight Resistance for CT use, 1/0 AWG and larger.
Oil Resistance I jacket.
True Triple extrusion system and closed handling raw materials system, to eliminate any contact with ambient, until extrusion process ends.

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.

May be used in wet or dry locations, installed in raceways, duct, and open air, aerially or directly buried where permitted by NEC.

Standards

UL 1072
Medium Voltage Power Cables.
ICEA S-93-639/NEMA WC74
5 – 46 kV Shielded Power Cables
ICEA S-97-682
Standard for Utility Shielded Power Cables Rated 5 – 46 kV.
AEIC CS8

Specification for Extruded Dielectric, Shielded Power Cables Rated 5 – 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, compressed strand or strand filled.

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

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ALUMINUM
CONDUCTOR

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

3. Insulation: Thermoset Three Retardant cross-linked polyethylene (TR-XLPE).

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

5. Phase ID: Colored strings (black, red and white yarns.)

6. Metallic Shield: Soft annealed uncoated copper tape for copper ground conductors or Soft annealed tinned copper tape for aluminum ground conductors, 5 mil thick, 25% minimum overlap.

7. Grounding (Optional): One or three soft annealed bare copper or aluminum conductors cabled with phase conductors.

On request, covered ground conductors.

8. Assembly: Conductors cabled with non hygroscopic fillers, as required and binder tape.

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

Technical Data

5 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% and 133% Insulation Levels (90 mil)					
			Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
			Cu	Al			Cu	Al
			AWG		mil	in	lb/kft	
8	7	0.13	8	N/A	80	1.15	735	N/A
6	7	0.17	6	6	80	1.23	908	734
4	7	0.21	6	4	80	1.32	1126	849
2	7	0.27	6	4	80	1.44	1451	1010
1	19	0.30	4	4	80	1.51	1704	1149
1/0	19	0.34	4	4	80	1.59	1974	1273
2/0	19	0.38	4	2	110	1.74	2442	1559
3/0	19	0.42	3	2	110	1.84	2862	1746
4/0	19	0.48	3	2	110	1.95	3379	1974
250	37	0.52	3	2	110	2.07	3852	2191
300	37	0.57	2	1	110	2.18	4460	2468
350	37	0.62	2	1	110	2.28	5033	2707
400	37	0.66	2	1	110	2.37	5595	2939
500	37	0.74	1	1/0	110	2.59	6844	3524
600	61	0.81	1	1/0	140	2.84	8111	4124
750	61	0.91	1/0	2/0	140	3.05	9808	4831
1000	61	1.06	1/0	2/0	140	3.37	12536	5902

8 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Levels (115 mil)						133% Insulation Levels (140 mil)					
			Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		mil	in	lb/kft		AWG		mil	in	lb/kft	
6	7	0.17	6	6	80	1.34	1007	832	6	6	80	1.45	1112	938
4	7	0.21	6	4	80	1.43	1230	953	6	4	80	1.55	1341	1064
2	7	0.27	6	4	80	1.55	1562	1122	6	4	80	1.67	1680	1240
1	19	0.30	4	4	80	1.62	1820	1264	4	4	110	1.80	2053	1498
1/0	19	0.34	4	4	110	1.76	2204	1502	4	4	110	1.88	2338	1636
2/0	19	0.38	4	2	110	1.85	2575	1691	4	2	110	1.96	2714	1830
3/0	19	0.42	3	2	110	1.95	3000	1885	3	2	110	2.06	3145	2030
4/0	19	0.48	3	2	110	2.06	3524	2119	3	2	110	2.18	3675	2271
250	37	0.52	3	2	110	2.19	4004	2343	3	2	110	2.30	4163	2502
300	37	0.57	2	1	110	2.29	4619	2627	2	1	110	2.40	4784	2793
350	37	0.62	2	1	110	2.39	5198	2872	2	1	110	2.50	5369	3043
400	37	0.66	2	1	110	2.48	5765	3110	2	1	110	2.65	6034	3378
500	37	0.74	1	1/0	140	2.76	7200	3880	1	1/0	140	2.88	7397	4077
600	61	0.81	1	1/0	140	2.95	8313	4326	1	1/0	140	3.07	8521	4535
750	61	0.91	1/0	2/0	140	3.16	10022	5045	1/0	2/0	140	3.27	10243	5266
1000	61	1.06	1/0	2/0	140	3.49	12770	6136	1/0	2/0	140	3.60	13011	6376

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

Ampacities: Refer to tables at beginning of section.

* At the option of manufacturer, Ground Conductor can be divided in three, one in each interstice. Cables that comply with 8 kV 100% can also be marked 5 kV 133%.

Technical Data *continued*

15 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (175 mil)						133% Insulation Levels (220 mil)					
			Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		lb/kft		AWG		lb/kft					
2	7	0.27	6	4	110	1.89	1974	1533	6	4	110	2.09	2233	1792
1	19	0.30	4	4	110	1.95	2245	1689	4	4	110	2.16	2511	1956
1/0	19	0.34	4	4	110	2.03	2536	1835	4	4	110	2.24	2811	2109
2/0	19	0.38	4	2	110	2.12	2919	2036	4	2	110	2.32	3203	2320
3/0	19	0.42	3	2	110	2.22	3359	2244	3	2	110	2.42	3654	2539
4/0	19	0.48	3	2	110	2.33	3899	2495	3	2	110	2.53	4206	2802
250	37	0.52	3	2	110	2.45	4397	2736	3	2	110	2.70	4811	3150
300	37	0.57	2	1	110	2.61	5118	3126	2	1	140	2.88	5635	3644
350	37	0.62	2	1	140	2.77	5887	3562	2	1	140	2.98	6248	3923
400	37	0.66	2	1	140	2.87	6477	3821	2	1	140	3.07	6848	4192
500	37	0.74	1	1/0	140	3.03	7685	4365	1	1/0	140	3.24	8074	4754
600	61	0.81	1	1/0	140	3.22	8825	4838	1	1/0	140	3.43	9235	5248
750	61	0.91	1/0	2/0	140	3.43	10564	5587	1/0	2/0	140	3.63	10995	6018
1000	61	1.06	1/0	2/0	140	3.82	13536	6902	1/0	2/0	140	4.02	14012	7377

25 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (260 mil)						133% Insulation Levels (320 mil)					
			Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		lb/kft		AWG		lb/kft					
1	19	0.30	4	4	110	2.33	2766	2210	-	-	-	-	-	-
1/0	19	0.34	4	4	110	2.41	3073	2372	4	4	110	2.73	3594	2892
2/0	19	0.38	4	2	110	2.50	3474	2590	4	2	140	2.88	4189	3306
3/0	19	0.42	3	2	110	2.65	4026	2911	3	2	140	2.98	4674	3559
4/0	19	0.48	3	2	140	2.83	4769	3365	3	2	140	3.10	5263	3859
250	37	0.52	3	2	140	2.95	5303	3642	3	2	140	3.22	5815	4153
300	37	0.57	2	1	140	3.06	5965	3974	2	1	140	3.33	6492	4500
350	37	0.62	2	1	140	3.16	6588	4262	2	1	140	3.42	7129	4803
400	37	0.66	2	1	140	3.25	7196	4541	2	1	140	3.52	7751	5095
500	37	0.74	1	1/0	140	3.41	8438	5118	1	1/0	140	3.68	9017	5696
600	61	0.81	1	1/0	140	3.60	9617	5630	1	1/0	140	3.94	10405	6418
750	61	0.91	1/0	2/0	140	3.88	11577	6600	1/0	2/0	140	4.15	12224	7246

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

Ampacities: Refer to tables at beginning of section.

* At the option of manufacturer, Ground Conductor can be divided in three, one in each interstice.

Technical Data *continued*

35 kV TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (345 mil)						133% Insulation Levels (420 mil)					
			Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		lb/kft		AWG		lb/kft					
1/0	19	0.34	4	4	140	2.91	3967	3266	4	4	140	3.25	4606	3904
2/0	19	0.38	4	2	140	3.00	4394	3510	4	2	140	3.33	5048	4164
3/0	19	0.42	3	2	140	3.10	4884	3769	3	2	140	3.43	5556	4441
4/0	19	0.48	3	2	140	3.21	5480	4076	3	2	140	3.55	6172	4768
250	37	0.52	3	2	140	3.33	6039	4378	3	2	140	3.67	6753	5092
300	37	0.57	2	1	140	3.44	6723	4731	2	1	140	3.77	7456	5464
350	37	0.62	2	1	140	3.54	7366	5040	2	1	140	3.94	8299	5974
400	37	0.66	2	1	140	3.63	7993	5338	2	1	140	4.03	8947	6292
500	37	0.74	1	1/0	140	3.86	9448	6128	1	1/0	140	4.20	10260	6940
600	61	0.81	1	1/0	140	4.05	10673	6687	1	1/0	140	4.39	11519	7532
750	61	0.91	1/0	2/0	140	4.26	12504	7527	1/0	2/0	140	4.59	13387	8410

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Ampacities: Refer to tables at beginning of section.

* At the option of manufacturer, Ground Conductor can be divided in three, one in each interstice.