

# MC or MV-105 Copper, TR-XLPE Insulated

5 kV – 35 kV, Shielded

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

UL listed as MC or MV-105.  
Cable jacket rated for Sun Resistant and Oil resistant.  
Sizes 1/0 and larger are UL Listed as CT USE in accordance with NEC meeting UL 1685 vertical-tray flame exposure.  
Sizes 4/0 and larger are marked FT4 meeting vertical-tray test per IEEE 1202 at 70,000 BTU/hr.

Cable with supplementary sunlight resistance jacket, and grounding conductor, is rated for Direct Burial.

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.

May be used in wet or dry locations, where exposed or concealed, installed in cable trays, raceways, duct, and open air, aerially or directly buried.

In hazardous (classified) locations Class I, Division 2, as permitted by NEC.

## Standards

UL 1072  
Medium Voltage Power Cables.  
ICEA S93-639/WC 74  
Standard for 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 temperature:  
• 105 °C wet and dry

## Engineering Information

**1. Conductor:** Soft annealed uncoated copper compacted Class B per ASTM B496.

*On request, compacted strand aluminum conductor.*

**Sizes:** 8 AWG up to 1000 kcmil.

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

**3. Insulation:** Thermoset tree 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.)

*On request, Other color yarns are available.*

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

**7. Grounding:** One or three soft-annealed bare copper conductors cabled with phase conductors.

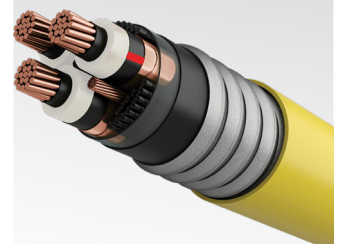
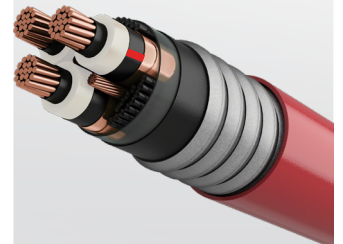
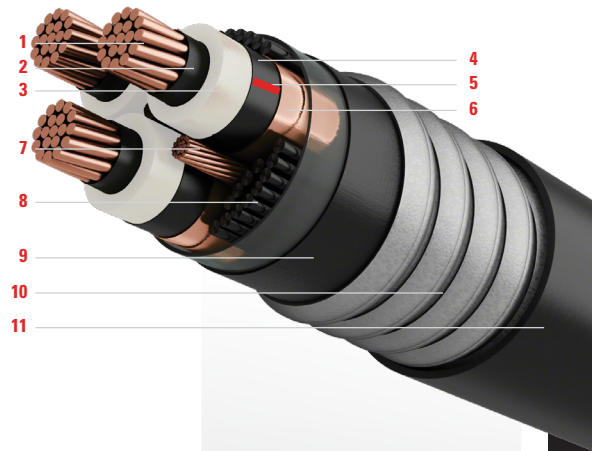
**8. Assembly:** Conductors cabled with non hygroscopic fillers, as required and binder tape.

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

**10. Armor:** An aluminum or galvanized steel interlocked armor, applied over the binder tape or the optional inner jacket (25 mils to 30 mils thickness depending on cable construction.)

**11. Jacket (Supplementary):** Sunlight resistance and flame retardant polyvinyl chloride (PVC) compound.

- 5/8 kV      Yellow
- 15 kV      Red
- Rest      Black



Technical Data

### 5 kV Interlocked, TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% and 133% Insulation Levels (90 mil)				
			Minumum Grounding Conductor*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						AWG	mil
8	7	0.13	8	50	1.27	1196	911
6	7	0.17	6	50	1.34	1393	1097
4	7	0.21	6	50	1.44	1655	1333
2	7	0.27	6	50	1.61	1959	1652
1	19	0.30	4	60	1.69	2253	1948
1/0	19	0.34	4	60	1.77	2557	2234
2/0	19	0.38	4	60	1.86	2925	2582
3/0	19	0.42	3	60	1.96	3399	3043
4/0	19	0.48	3	60	2.07	3959	3576
250	37	0.52	2	60	2.19	4476	4065
300	37	0.57	2	60	2.30	5112	4691
350	37	0.62	2	75	2.43	5796	5352
400	37	0.66	1	75	2.52	6398	5932
500	37	0.74	1	75	2.69	7607	7123
600	61	0.81	1/0	75	2.93	8945	8405
750	61	0.91	1/0	75	3.13	10710	10147
1000	61	1.06	2/0	85	3.48	13666	13026

### 8 kV Interlocked, TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (115 mil)					133% Insulation Level (140 mil)				
			Minumum Grounding Conductor*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Minumum Grounding Conductor*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						AWG	mil				in	lb/kft
8	7	0.13	8	50	1.38	1339	1023	-	-	-	-	-
6	7	0.17	6	50	1.45	1541	1214	6	50	1.61	1616	1309
4	7	0.21	6	50	1.55	1809	1456	6	60	1.73	1919	1589
2	7	0.27	6	60	1.74	2148	1816	6	60	1.85	2312	1953
1	19	0.30	4	60	1.80	2413	2083	4	60	1.91	2581	2224
1/0	19	0.34	4	60	1.88	2723	2373	4	60	1.99	2895	2520
2/0	19	0.38	4	60	1.97	3097	2727	4	60	2.08	3275	2879
3/0	19	0.42	3	60	2.07	3577	3195	3	60	2.18	3762	3354
4/0	19	0.48	3	60	2.18	4144	3735	3	60	2.29	4336	3901
250	37	0.52	2	60	2.30	4669	4232	2	75	2.44	4943	4480
300	37	0.57	2	75	2.44	5386	4939	2	75	2.55	5596	5123
350	37	0.62	2	75	2.54	6006	5535	2	75	2.65	6222	5725
400	37	0.66	1	75	2.63	6614	6121	1	75	2.74	6836	6318
500	37	0.74	1	75	2.85	7949	7427	1	75	2.96	8188	7640
600	61	0.81	1/0	75	3.04	9187	8621	1/0	75	3.15	9436	8844
750	61	0.91	1/0	85	3.26	11032	10443	1/0	85	3.37	11299	10684
1000	61	1.06	2/0	85	3.59	13945	13278	2/0	85	3.70	14231	13538

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 beginning of section.

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

Technical Data

### 15 kV Interlocked TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (175 mil)					133% Insulation Level (220 mil)				
			Minimum Grounding Conductor*	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Minimum Grounding Conductor*	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Steel Armor lb/kft	Aluminum Armor lb/kft				Steel Armor lb/kft	Aluminum Armor lb/kft
2	7	0.27	6	60	2.00	2552	2157	6	60	2.20	2882	2440
1	19	0.30	4	60	2.07	2827	2434	4	60	2.26	3165	2725
1/0	19	0.34	4	60	2.15	3149	2737	4	60	2.34	3496	3037
2/0	19	0.38	4	60	2.23	3537	3104	4	75	2.46	3969	3489
3/0	19	0.42	3	60	2.33	4033	3588	3	75	2.56	4479	3988
4/0	19	0.48	3	75	2.48	4692	4221	3	75	2.67	5080	4562
250	37	0.52	2	75	2.60	5239	4740	2	75	2.84	5756	5198
300	37	0.57	2	75	2.70	5902	5392	2	75	2.95	6435	5867
350	37	0.62	2	75	2.85	6653	6108	2	75	3.05	7085	6494
400	37	0.66	1	75	2.95	7279	6712	1	75	3.14	7722	7108
500	37	0.74	1	75	3.11	8529	7945	1	85	3.33	9060	8429
600	61	0.81	1/0	85	3.32	9865	9236	1/0	85	3.52	10353	9677
750	61	0.91	1/0	85	3.52	11679	11027	1/0	85	3.72	12191	11493
1000	61	1.06	2/0	85	3.85	14643	13914	-	-	-	-	-

### 25 kV Interlocked, TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (260 mil)				
			Minimum Grounding Conductor*	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Steel Armor lb/kft	Aluminum Armor lb/kft
1	19	0.30	4	75	2.47	3560	3078
1/0	19	0.34	4	75	2.55	3901	3401
2/0	19	0.38	4	75	2.64	4310	3789
3/0	19	0.42	3	75	2.74	4832	4298
4/0	19	0.48	3	75	2.90	5561	4990
250	37	0.52	2	75	3.02	6139	5539
300	37	0.57	2	75	3.13	6829	6219
350	37	0.62	2	85	3.25	7555	6922
400	37	0.66	1	85	3.34	8203	7548
500	37	0.74	1	85	3.51	9493	8821
600	61	0.81	1/0	85	3.69	10806	10089
750	61	0.91	1/0	85	3.90	12665	11926

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 beginning of section.

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

Technical Data

### 35 kV Interlocked TR-XLPE Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Levels (345 mil)				
			Minumum Grounding Conductor*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						AWG	mil
1/0	19	0.34	4	75	2.97	4789	4188
2/0	19	0.38	4	75	3.06	5220	4599
3/0	19	0.42	3	75	3.16	5767	5134
4/0	19	0.48	3	85	3.29	6475	5815
250	37	0.52	2	85	3.41	7081	6393
300	37	0.57	2	85	3.52	7797	7099
350	37	0.62	2	85	3.62	8481	7759
400	37	0.66	1	85	3.71	9149	8406
500	37	0.74	1	85	3.88	10475	9715

### 5 kV Interlocked, TR-XLPE Insulated, Inner Jacket

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% and 133% Insulation Levels (90 mil)				
			Minumum Grounding Conductor*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						AWG	mil
6	7	0.17	6	50	1.51	1676	1332
4	7	0.21	6	60	1.68	1904	1586
2	7	0.27	6	60	1.80	2302	1954
1	19	0.30	4	60	1.86	2573	2228
1/0	19	0.34	4	60	1.94	2890	2526
2/0	19	0.38	4	60	2.03	3273	2888
3/0	19	0.42	3	60	2.19	3907	3494
4/0	19	0.48	3	60	2.30	4492	4053
250	37	0.52	2	75	2.45	5111	4643
300	37	0.57	2	75	2.56	5774	5296
350	37	0.62	2	75	2.66	6410	5909
400	37	0.66	1	75	2.75	7033	6510
500	37	0.74	1	75	2.92	8279	7738
600	61	0.81	1/0	75	3.16	9944	9073
750	61	0.91	1/0	85	3.45	11772	11136
1000	61	1.06	2/0	85	3.77	14758	14045

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 beginning of section.

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

Technical Data

### 8 kV Interlocked TR-XLPE Insulated, Inner Jacket

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (115 mil)					133% Insulation Level (140 mil)				
			Minimum Grounding Conductor* AWG	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Minimum Grounding Conductor* AWG	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Steel Armor lb/kft	Aluminum Armor lb/kft				Steel Armor lb/kft	Aluminum Armor lb/kft
4	7	0.21	6	60	1.79	2071	1726	-	-	-	-	-
2	7	0.27	6	60	1.91	2476	2102	6	60	2.02	2657	2257
1	19	0.30	4	60	1.97	2752	2380	4	60	2.14	3078	2665
1/0	19	0.34	4	60	2.05	3074	2683	4	60	2.22	3411	2978
2/0	19	0.38	4	60	2.20	3606	3180	4	60	2.31	3810	3357
3/0	19	0.42	3	60	2.30	4110	3671	3	75	2.44	4394	3929
4/0	19	0.48	3	75	2.44	4776	4311	3	75	2.55	4997	4505
250	37	0.52	2	75	2.56	5332	4838	2	75	2.67	5560	5040
300	37	0.57	2	75	2.67	6002	5498	2	75	2.78	6237	5707
350	37	0.62	2	75	2.77	6644	6117	2	75	2.88	6886	6332
400	37	0.66	1	75	2.86	7273	6724	1	75	2.97	7521	6945
500	37	0.74	1	75	3.08	8657	8078	1	85	3.27	9194	8574
600	61	0.81	1/0	85	3.35	10220	9581	1/0	85	3.46	10503	9838
750	61	0.91	1/0	85	3.56	12061	11399	1/0	85	3.67	12357	11670
1000	61	1.06	2/0	85	3.88	15068	14329	2/0	85	3.99	15385	14620

### 15 kV Interlocked, TR-XLPE Insulated, Inner Jacket

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Level (175 mil)					133% Insulation Level (220 mil)				
			Minimum Grounding Conductor* AWG	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Minimum Grounding Conductor* AWG	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						Steel Armor lb/kft	Aluminum Armor lb/kft				Steel Armor lb/kft	Aluminum Armor lb/kft
2	7	0.27	6	60	2.23	3070	2618	6	75	2.46	3519	3020
1	19	0.30	4	60	2.30	3359	2909	4	75	2.53	3819	3322
1/0	19	0.34	4	60	2.38	3699	3230	4	75	2.61	4170	3654
2/0	19	0.38	4	75	2.49	4182	3693	4	75	2.69	4590	4053
3/0	19	0.42	3	75	2.60	4704	4202	3	75	2.79	5123	4575
4/0	19	0.48	3	75	2.71	5317	4789	3	75	2.91	5749	5174
250	37	0.52	2	75	2.83	5891	5334	2	75	3.07	6464	5849
300	37	0.57	2	75	2.93	6578	6011	2	85	3.27	7442	6801
350	37	0.62	2	75	3.08	7362	6761	2	85	3.37	8123	7458
400	37	0.66	1	85	3.26	8284	7644	1	85	3.46	8788	8101
500	37	0.74	1	85	3.43	9585	8928	1	85	3.62	10108	9405
600	61	0.81	1/0	85	3.61	10911	10209	1/0	85	3.81	11456	10708
750	61	0.91	1/0	85	3.82	12784	12060	1/0	85	4.02	13352	12582

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 beginning of section.

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

Technical Data

**25 kV** Interlocked, TR-XLPE Insulated, Inner Jacket

Size AWG or kcmil	Number of Strands	Conductor Diameter  in	100% Insulation Levels (260 mil)				
			Minumum Grounding Conductor*  AWG	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight	
						Steel Armor  lb/kft	Aluminum Armor  lb/kft
1	19	0.30	4	75	2.70	4183	3644
1/0	19	0.34	4	75	2.78	4543	3985
2/0	19	0.38	4	75	2.87	4971	4393
3/0	19	0.42	3	75	2.97	5515	4925
4/0	19	0.48	3	75	3.13	6281	5653
250	37	0.52	2	85	3.33	7166	6494
300	37	0.57	2	85	3.44	7889	7207
350	37	0.62	2	85	3.54	8580	7875
400	37	0.66	1	85	3.63	9255	8527
500	37	0.74	1	85	3.80	10592	9848
600	61	0.81	1/0	85	3.99	11959	11170

**35 kV** Interlocked, TR-XLPE Insulated, Inner Jacket

Size AWG or kcmil	Number of Strands	Conductor Diameter  in	100% Insulation Levels (345 mil)				
			Minumum Grounding Conductor*  AWG	Jacket Thickness  mil	Approximate Outside Diameter  in	Approximate Net Weight	
						Steel Armor  lb/kft	Aluminum Armor  lb/kft
1/0	19	0.34	4	85	3.29	5803	5129
2/0	19	0.38	4	85	3.38	6260	5566
3/0	19	0.42	3	85	3.48	6838	6132
4/0	19	0.48	3	85	3.59	7513	6781
250	37	0.52	2	85	3.71	8154	7393
300	37	0.57	2	85	3.82	8900	8130
350	37	0.62	2	85	3.91	9613	8819
400	37	0.66	1	85	4.01	10308	9492

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 beginning of section.

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