

# MV-105 EPR Insulated, CPE Jacketed

5 kV – 35 kV, Copper Tape Shielded

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

UL listed as MV-105.

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

Rated as Sunlight Resistance for CT use, 1/0 AWG and larger.

Jacket is rated as Oil Resistance I.

UL listed as FT4 rated (1/0 AWG and larger). Passes UL 1685 and IEEE 1202 Vertical Tray Flame Test.

Complete cable is Silicon Free

*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

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 temperatures:

Wet and dry locations

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

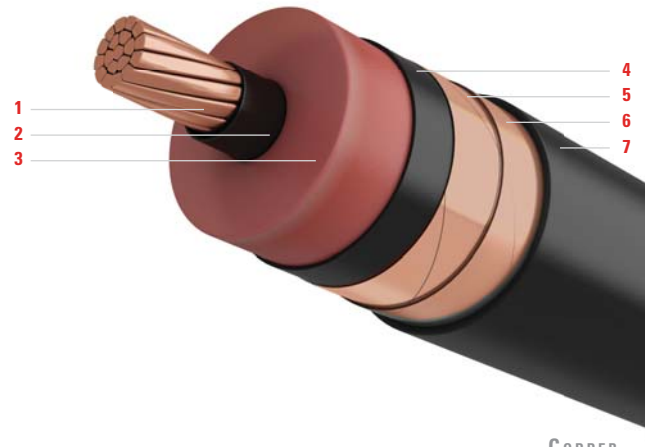
## Engineering Information

**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, compressed stranded, tin coating for copper conductors (available with concentric or compressed stranding.)*

**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 ethylene propylene rubber (EPR).

*On request: Amorphous EPR.*

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

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

*On request options: ripcords.*

**6. Binder Tape:** A suitable tape, as required.

**7. Jacket:** Black flame retardant thermosetting chlorinated polyethylene (CPE) compound.

### Configuration Options:

*On request: Triplex or Paralleled configurations.*



Technical Data

### 5 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Nominal OD	100% and 133% Insulation Levels (90 mil)				
			Insulation Thickness	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum
in	mil	mil	in	lb/kft	lb/kft		
6	7	0.17	0.39	60	0.61	267	211
4	7	0.21	0.43	60	0.66	336	246
2	7	0.27	0.49	60	0.71	438	296
1	19	0.30	0.52	60	0.74	505	325
1/0	19	0.34	0.55	60	0.78	590	363
2/0	19	0.38	0.59	60	0.82	694	408
3/0	19	0.42	0.64	80	0.91	861	500
4/0	19	0.48	0.69	80	0.96	1023	569
250	37	0.52	0.75	80	1.02	1170	633
300	37	0.57	0.80	80	1.07	1350	706
350	37	0.62	0.85	80	1.11	1529	777
400	37	0.66	0.89	80	1.16	1706	846
500	37	0.74	0.97	80	1.23	2055	981
600	61	0.81	1.05	80	1.34	2436	1146
750	61	0.91	1.15	80	1.44	2950	1339
1000	61	1.06	1.30	80	1.59	3804	1657

### 8 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (115 mil)				133% Insulation Level (140 mil)					
			Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Nominal Diameter Over Insulation	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
						Copper	Aluminum				Copper	Aluminum
in	in	mil	in	lb/kft	lb/kft	in	mil	in	lb/kft	lb/kft		
6	7	0.17	0.44	60	0.66	299	242	0.49	60	0.72	332	276
4	7	0.21	0.48	60	0.71	369	279	0.53	60	0.76	404	315
2	7	0.27	0.54	60	0.76	474	331	0.59	60	0.81	511	369
1	19	0.30	0.57	60	0.79	542	362	0.62	80	0.89	617	437
1/0	19	0.34	0.61	60	0.83	628	401	0.66	80	0.93	706	480
2/0	19	0.38	0.65	80	0.91	771	485	0.70	80	0.97	816	530
3/0	19	0.42	0.69	80	0.96	905	544	0.74	80	1.01	951	591
4/0	19	0.48	0.74	80	1.01	1070	615	0.80	80	1.06	1118	663
250	37	0.52	0.80	80	1.07	1219	681	0.85	80	1.12	1270	732
300	37	0.57	0.85	80	1.12	1401	756	0.90	80	1.17	1454	809
350	37	0.62	0.90	80	1.16	1582	829	0.95	80	1.22	1637	884
400	37	0.66	0.94	80	1.21	1760	900	0.99	80	1.26	1817	957
500	37	0.74	1.02	80	1.31	2139	1064	1.07	80	1.36	2200	1125
600	61	0.81	1.10	80	1.40	2498	1208	1.15	80	1.45	2563	1272
750	61	0.91	1.20	80	1.49	3016	1403	1.25	80	1.54	3085	1472
1000	61	1.06	1.35	80	1.64	3877	1727	1.40	110	1.76	4059	1909

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 EPR 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				
2	7	0.27	0.66	80	0.93	605	463	0.75	80	1.02	688	545
1	19	0.30	0.69	80	0.96	678	498	0.78	80	1.05	763	583
1/0	19	0.34	0.73	80	1.00	770	543	0.82	80	1.09	857	631
2/0	19	0.38	0.77	80	1.04	881	595	0.86	80	1.13	972	686
3/0	19	0.42	0.82	80	1.08	1020	659	0.91	80	1.18	1114	753
4/0	19	0.48	0.87	80	1.14	1190	735	0.96	80	1.23	1288	833
250	37	0.52	0.92	80	1.19	1345	807	1.01	80	1.31	1473	935
300	37	0.57	0.97	80	1.24	1532	887	1.06	80	1.36	1665	1020
350	37	0.62	1.02	80	1.31	1744	990	1.11	80	1.40	1855	1102
400	37	0.66	1.06	80	1.35	1927	1067	1.15	80	1.44	2042	1182
500	37	0.74	1.14	80	1.43	2289	1214	1.23	80	1.52	2410	1334
600	61	0.81	1.23	80	1.52	2657	1366	1.32	80	1.61	2784	1494
750	61	0.91	1.32	80	1.61	3185	1572	1.41	110	1.77	3428	1815
1000	61	1.06	1.47	110	1.83	4173	2023	1.56	110	1.95	4376	2226

### 25 kV EPR 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				
1	19	0.30	0.86	80	1.13	844	664	0.97	80	1.23	1052	858
1/0	19	0.34	0.90	80	1.17	941	714	1.02	80	1.32	1103	877
2/0	19	0.38	0.94	80	1.21	1059	772	1.06	80	1.36	1225	939
3/0	19	0.42	0.99	80	1.26	1204	843	1.11	80	1.40	1376	1016
4/0	19	0.48	1.04	80	1.33	1408	953	1.16	80	1.45	1560	1105
250	37	0.52	1.10	80	1.39	1571	1034	1.22	80	1.51	1729	1192
300	37	0.57	1.15	80	1.44	1767	1122	1.27	80	1.56	1930	1285
350	37	0.62	1.19	80	1.48	1960	1207	1.31	80	1.61	2128	1374
400	37	0.66	1.24	80	1.53	2149	1289	1.36	80	1.65	2322	1462
500	37	0.74	1.31	80	1.60	2523	1447	1.43	110	1.79	2812	1737
600	61	0.81	1.40	110	1.76	3011	1720	1.52	110	1.91	3258	1967
750	61	0.91	1.49	110	1.85	3558	1945	1.62	110	2.00	3817	2204
1000	61	1.06	1.65	110	2.03	4519	2369	1.77	110	2.16	4743	2593

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 EPR 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	1.08	80	1.37	1165	938	1.23	80	1.52	1361	1135
2/0	19	0.38	1.12	80	1.41	1288	1002	1.27	80	1.56	1490	1204
3/0	19	0.42	1.16	80	1.45	1441	1081	1.32	80	1.61	1649	1288
4/0	19	0.48	1.21	80	1.51	1627	1172	1.37	80	1.66	1842	1387
250	37	0.52	1.27	80	1.56	1799	1261	1.42	110	1.78	2130	1592
300	37	0.57	1.32	80	1.61	2001	1357	1.47	110	1.83	2341	1697
350	37	0.62	1.37	80	1.66	2201	1448	1.52	110	1.87	2550	1797
400	37	0.66	1.41	110	1.76	2505	1645	1.56	110	1.95	2805	1945
500	37	0.74	1.49	110	1.84	2894	1819	1.64	110	2.03	3206	2131
600	61	0.81	1.57	110	1.96	3345	2054	1.73	110	2.11	3618	2327
750	61	0.91	1.67	110	2.06	3908	2295	1.82	110	2.21	4194	2581
1000	61	1.06	1.82	110	2.21	4841	2691	1.97	110	2.36	5145	2995

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