MV-105 EPR Insulated, PVC Jacketed

5 kV – 35 kV, Wire Shielded

CME wire and cable
A Viakable Company

Features

UL listed as MV-105.

Jacket is rated as Sunlight Resistance and Oil Resistance I.

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

On request, two abration resistant ripcords placed longitudinally 180° appart 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

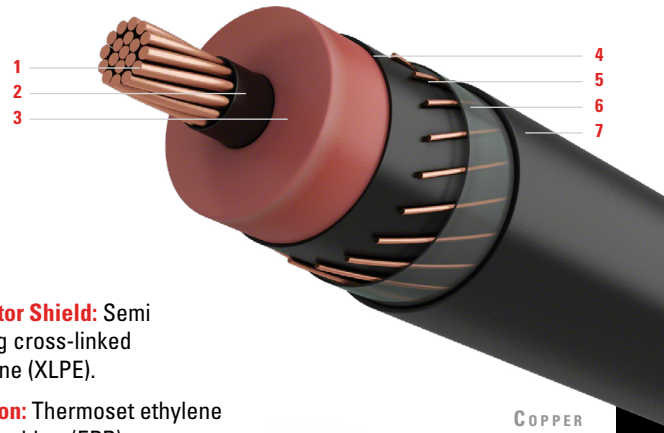
Engineering Information

1. Conductor: Soft annealed uncoated copper compacted Class B stranding, per ASTM B496, or Hard Drawn Aluminum 1350 compacted, 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, containing 0% PE and less than 72% Ethylene.

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

5. Metallic Shield: Solid soft annealed uncoated copper wires per ASTM B3, helically applied and uniformly spaced.

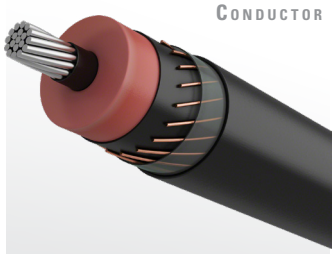
On request options: copper tape shield and ripcords.

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

7. Jacket: Black sunlight resistance and flame retardant polyvinyl chloride (PVC) jacket.

Configuration Options:

On request: Triplex or Paralleled configurations.



Copper Conductor

Aluminum Conductor

Medium Voltage Cables - Single Conductor

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	0.65	244	188
4	7	0.21	0.43	60	0.69	309	219
2	7	0.27	0.49	60	0.76	423	280
1	19	0.30	0.52	60	0.79	487	307
1/0	19	0.34	0.55	60	0.83	568	342
2/0	19	0.38	0.59	80	0.91	705	419
3/0	19	0.42	0.64	80	0.96	832	472
4/0	19	0.48	0.69	80	1.01	990	535
250	37	0.52	0.75	80	1.06	1140	602
350	37	0.62	0.85	80	1.16	1490	737
500	37	0.74	0.97	80	1.28	2005	930
750	61	0.91	1.16	80	1.50	2905	1292
1000	61	1.06	1.32	80	1.65	3749	1599

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		in	mil	in	lb/kft	
6	7	0.17	0.44	60	0.70	271	215	0.49	60	0.75	300	244
4	7	0.21	0.48	60	0.74	338	248	0.53	60	0.79	368	279
2	7	0.27	0.54	60	0.81	454	311	0.59	80	0.90	523	380
1	19	0.30	0.57	60	0.84	519	339	0.62	80	0.94	591	411
1/0	19	0.34	0.61	80	0.92	639	412	0.66	80	0.97	677	450
2/0	19	0.38	0.65	80	0.96	743	456	0.70	80	1.01	782	496
3/0	19	0.42	0.69	80	1.01	872	511	0.74	80	1.06	914	553
4/0	19	0.48	0.74	80	1.06	1032	577	0.80	80	1.11	1076	621
250	37	0.52	0.80	80	1.12	1184	647	0.85	80	1.17	1231	693
300	37	0.57	0.85	80	1.17	1362	717	0.90	80	1.22	1410	765
350	37	0.62	0.90	80	1.21	1539	785	0.95	80	1.26	1589	836
400	37	0.66	0.94	80	1.25	1713	853	0.99	80	1.31	1765	905
500	37	0.74	1.02	80	1.35	2082	1007	1.07	80	1.41	2139	1063
600	61	0.81	1.10	80	1.44	2453	1163	1.15	80	1.49	2513	1223
750	61	0.91	1.21	80	1.55	2967	1354	1.27	80	1.60	3032	1419
1000	61	1.06	1.37	110	1.77	3923	1773	1.42	110	1.82	3997	1847

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.

Medium Voltage / MV-105 EPR Insulated, PVC Jacketed, 5 kV – 35 kV, Wire Shielded

CME wire and cable
A Viakable Company

Technical Data

15 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (175 mil)					133% Insulation Level (220 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		in	mil	in	lb/kft	
2	7	0.27	0.66	80	0.98	580	437	0.75	80	1.07	654	511
1	19	0.30	0.69	80	1.01	649	470	0.78	80	1.10	726	546
1/0	19	0.34	0.73	80	1.04	738	511	0.82	80	1.14	817	591
2/0	19	0.38	0.77	80	1.08	846	560	0.86	80	1.18	928	642
3/0	19	0.42	0.82	80	1.13	980	619	0.91	80	1.22	1066	705
4/0	19	0.48	0.87	80	1.18	1145	690	0.96	80	1.27	1235	780
250	37	0.52	0.92	80	1.24	1303	766	1.01	80	1.35	1421	883
300	37	0.57	0.97	80	1.29	1486	841	1.06	80	1.40	1608	964
350	37	0.62	1.02	80	1.36	1691	938	1.11	80	1.45	1794	1041
400	37	0.66	1.06	80	1.40	1870	1010	1.15	80	1.49	1977	1117
500	37	0.74	1.14	80	1.48	2225	1150	1.23	80	1.57	2338	1262
600	61	0.81	1.23	80	1.58	2596	1305	1.32	80	1.67	2715	1424
750	61	0.91	1.34	80	1.69	3121	1508	1.43	110	1.85	3359	1746
1000	61	1.06	1.49	110	1.91	4101	1951	1.58	110	2.03	4294	2144

25 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (260 mil)					133% Insulation Level (320 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		in	mil	in	lb/kft	
1	19	0.30	0.86	80	1.18	804	624	0.99	80	1.30	926	746
1/0	19	0.34	0.90	80	1.22	898	671	1.02	80	1.36	1047	820
2/0	19	0.38	0.94	80	1.26	1012	726	1.06	80	1.40	1165	879
3/0	19	0.42	0.99	80	1.30	1153	792	1.11	80	1.45	1312	951
4/0	19	0.48	1.04	80	1.38	1349	895	1.16	80	1.50	1491	1036
250	37	0.52	1.10	80	1.43	1521	983	1.22	80	1.56	1668	1130
300	37	0.57	1.15	80	1.48	1711	1066	1.27	80	1.61	1863	1219
350	37	0.62	1.19	80	1.53	1900	1147	1.31	80	1.65	2057	1304
400	37	0.66	1.24	80	1.57	2086	1226	1.36	80	1.70	2247	1387
500	37	0.74	1.31	80	1.65	2452	1376	1.43	110	1.83	2730	1655
600	61	0.81	1.40	110	1.82	2940	1649	1.52	110	1.97	3173	1882
750	61	0.91	1.51	110	1.93	3488	1875	1.63	110	2.08	3735	2122
1000	61	1.06	1.66	110	2.11	4436	2286	1.78	110	2.23	4651	2501

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

35 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter	100% Insulation Level (345 mil)					133% Insulation Level (420 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		in	mil	in	lb/kft	
1/0	19	0.34	1.08	80	1.41	1108	881	1.23	80	1.57	1291	1064
2/0	19	0.38	1.12	80	1.45	1228	942	1.27	80	1.61	1416	1130
3/0	19	0.42	1.16	80	1.50	1376	1016	1.32	80	1.65	1570	1210
4/0	19	0.48	1.21	80	1.55	1558	1103	1.37	110	1.77	1864	1409
250	37	0.52	1.27	80	1.61	1737	1199	1.42	110	1.82	2053	1516
300	37	0.57	1.32	80	1.66	1934	1290	1.47	110	1.87	2260	1616
350	37	0.62	1.37	110	1.77	2236	1482	1.52	110	1.92	2465	1711
400	37	0.66	1.41	110	1.81	2430	1570	1.56	110	1.99	2713	1853
500	37	0.74	1.49	110	1.89	2812	1736	1.64	110	2.07	3106	2031
600	61	0.81	1.57	110	2.02	3260	1969	1.73	110	2.17	3519	2229
750	61	0.91	1.68	110	2.13	3827	2214	1.84	110	2.29	4100	2487
1000	61	1.06	1.84	110	2.28	4749	2599	1.99	110	2.44	5042	2892

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