MV-105 EPR Insulated, PVC Jacketed

5 kV – 35 kV, Copper Tape Shielded

A Viakable Company

Features

UL listed as MV-105.

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

Jacket is rated as Oil Resistance I.

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 cable trays, raceways, duct, and open air, aerially or directly buried as permitted by NEC.

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

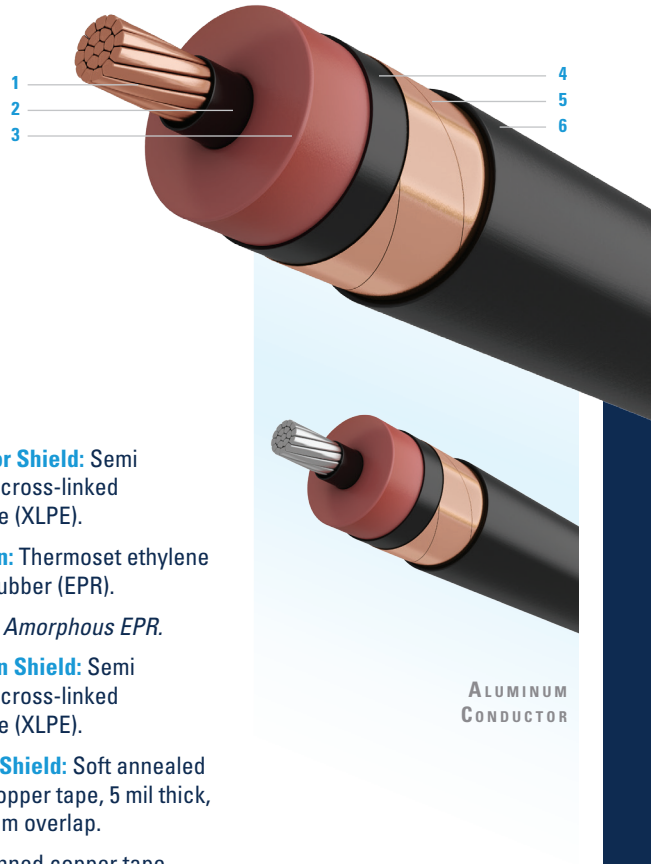
Engineering Information

1. Conductor: Soft annealed uncoated copper compacted Class B per ASTM B496 or hard drawn Aluminum-1350 compacted Class B per ASTM B400 or annealed AA-8000 Aluminum compacted Class B per ASTM B80.

On request, strand filled or compressed strand or tinned copper conductor.

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 uncoated copper tape, 5 mil thick, 25% minimum overlap.

Optional: Tinned copper tape.

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

Configuration Options:

On request, Triplex or Paralleled configurations.

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	0.60	260	204
4	7	0.21	0.43	60	0.65	328	238
2	7	0.27	0.49	60	0.70	430	287
1	19	0.30	0.52	60	0.73	496	316
1/0	19	0.34	0.55	60	0.77	581	354
2/0	19	0.38	0.59	60	0.81	684	398
3/0	19	0.42	0.64	80	0.90	849	488
4/0	19	0.48	0.69	80	0.95	1011	556
250	37	0.52	0.75	80	1.01	1157	619
350	37	0.62	0.85	80	1.10	1515	761
500	37	0.74	0.97	80	1.22	2039	964
750	61	0.91	1.15	80	1.43	2931	1318
1000	61	1.06	1.30	80	1.58	3783	1633

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	0.65	291	234	0.49	60	0.71	324	267
4	7	0.21	0.48	60	0.70	361	271	0.53	60	0.75	395	306
2	7	0.27	0.54	60	0.75	465	322	0.59	60	0.80	502	359
1	19	0.30	0.57	60	0.78	532	352	0.62	80	0.88	605	425
1/0	19	0.34	0.61	60	0.82	618	392	0.66	80	0.91	694	468
2/0	19	0.38	0.65	80	0.90	760	473	0.70	80	0.95	803	517
3/0	19	0.42	0.69	80	0.95	893	532	0.74	80	1.00	938	577
4/0	19	0.48	0.74	80	1.00	1057	602	0.80	80	1.05	1104	650
250	37	0.52	0.80	80	1.06	1205	667	0.85	80	1.11	1255	718
300	37	0.57	0.85	80	1.11	1386	742	0.90	80	1.16	1439	794
350	37	0.62	0.90	80	1.15	1567	814	0.95	80	1.20	1621	868
400	37	0.66	0.94	80	1.20	1744	885	0.99	80	1.25	1801	941
500	37	0.74	1.02	80	1.30	2122	1047	1.07	80	1.35	2182	1107
600	61	0.81	1.10	80	1.38	2480	1189	1.15	80	1.43	2544	1253
750	61	0.91	1.20	80	1.48	2997	1384	1.25	80	1.53	3065	1452
1000	61	1.06	1.35	80	1.63	3855	1705	1.40	110	1.74	4033	1883

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	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	0.92	593	451	0.75	80	1.01	675	532
1	19	0.30	0.69	80	0.95	666	486	0.78	80	1.04	749	569
1/0	19	0.34	0.73	80	0.99	757	530	0.82	80	1.08	843	616
2/0	19	0.38	0.77	80	1.03	868	582	0.86	80	1.12	957	671
3/0	19	0.42	0.82	80	1.07	1006	645	0.91	80	1.16	1099	738
4/0	19	0.48	0.87	80	1.12	1175	720	0.96	80	1.22	1272	817
250	37	0.52	0.92	80	1.18	1329	791	1.01	80	1.29	1456	918
300	37	0.57	0.97	80	1.23	1515	871	1.06	80	1.34	1647	1002
350	37	0.62	1.02	80	1.30	1726	973	1.11	80	1.39	1837	1083
400	37	0.66	1.06	80	1.34	1909	1049	1.15	80	1.43	2023	1163
500	37	0.74	1.14	80	1.42	2270	1195	1.23	80	1.51	2389	1314
600	61	0.81	1.23	80	1.51	2637	1346	1.32	80	1.60	2763	1472
750	61	0.91	1.32	80	1.60	3164	1551	1.41	110	1.76	3402	1789
1000	61	1.06	1.47	110	1.82	4145	1995	1.56	110	1.94	4347	2197

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	1.12	829	649	0.97	80	1.23	910	713
1/0	19	0.34	0.90	80	1.16	926	699	1.02	80	1.30	1086	859
2/0	19	0.38	0.94	80	1.20	1043	757	1.06	80	1.34	1208	922
3/0	19	0.42	0.99	80	1.25	1187	827	1.11	80	1.39	1358	997
4/0	19	0.48	1.04	80	1.32	1390	935	1.16	80	1.44	1541	1086
250	37	0.52	1.10	80	1.38	1553	1016	1.22	80	1.50	1709	1172
300	37	0.57	1.15	80	1.43	1748	1103	1.27	80	1.55	1909	1264
350	37	0.62	1.19	80	1.47	1940	1187	1.31	80	1.59	2106	1353
400	37	0.66	1.24	80	1.52	2129	1269	1.36	80	1.64	2300	1440
500	37	0.74	1.31	80	1.59	2501	1426	1.43	110	1.78	2786	1710
600	61	0.81	1.40	80	1.68	2881	1590	1.52	110	1.90	3229	1939
750	61	0.91	1.49	110	1.84	3531	1918	1.62	110	1.99	3787	2174
1000	61	1.06	1.65	110	2.02	4488	2338	1.77	110	2.14	4711	2561

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

CME wire and cable
A Viakable Company

Technical Data *continued*

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	1.36	1147	920	1.23	80	1.51	1341	1115
2/0	19	0.38	1.12	80	1.40	1270	984	1.27	80	1.55	1470	1184
3/0	19	0.42	1.16	80	1.44	1422	1061	1.32	80	1.60	1628	1267
4/0	19	0.48	1.21	80	1.49	1607	1153	1.37	80	1.65	1820	1365
250	37	0.52	1.27	80	1.55	1778	1241	1.42	110	1.76	2103	1565
300	37	0.57	1.32	80	1.60	1980	1335	1.47	110	1.81	2314	1669
350	37	0.62	1.37	80	1.65	2179	1426	1.52	110	1.86	2522	1769
400	37	0.66	1.41	110	1.75	2479	1619	1.56	110	1.94	2776	1916
500	37	0.74	1.49	110	1.83	2867	1791	1.64	110	2.01	3176	2100
600	61	0.81	1.57	110	1.95	3315	2025	1.73	110	2.10	3586	2296
750	61	0.91	1.67	110	2.04	3877	2264	1.82	110	2.19	4161	2548
1000	61	1.06	1.82	110	2.19	4808	2658	1.97	110	2.35	5110	2960

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