

# MV-105 EPR Insulated, LSOH Jacketed

5 kV – 35 kV, Cu-Tape Shielded

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

UL listed as MV-105.

Sizes 1/0 AWG and larger are UL listed as marked for CT use in accordance with NEC meeting UL 1685 vertical-tray flame exposure test at 70,000 BTU/hr.

Cable rated as Sunlight Resistance.

Jacket is environmentally friendly (lead-free, halogen-free, sulfur/antimony-free).

Jacket is low smoke, low corrosivity and low toxicity.

Jacket has excellent cut-through, crush, and abrasion resistance characteristics.

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

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 stranding, 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 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, and separator tape, as applicable.

On request options: ripcords.

**6. Jacket:** Low-smoke and zero halogen (LSOH) thermoplastic flame retardant polyolefin compound.

Configuration Options:

On request: Triplex or Paralleled configurations.



COPPER  
CONDUCTOR

ALUMINUM  
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	
						lb/kft	Aluminum lb/kft
in	mil	mil	in	lb/kft	lb/kft		
6	7	0.17	0.39	60	0.61	269	212
4	7	0.21	0.43	60	0.66	338	248
2	7	0.27	0.49	60	0.71	440	297
1	19	0.30	0.52	60	0.74	507	327
1/0	19	0.34	0.55	60	0.78	592	365
2/0	19	0.38	0.59	60	0.82	696	410
3/0	19	0.42	0.64	80	0.91	863	503
4/0	19	0.48	0.69	80	0.96	1026	571
250	37	0.52	0.75	80	1.01	1163	625
350	37	0.62	0.85	80	1.10	1521	768
500	37	0.74	0.97	80	1.22	2046	971
750	61	0.91	1.15	80	1.43	2939	1326
1000	61	1.06	1.30	80	1.58	3791	1641

## 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	
						lb/kft	Aluminum lb/kft				lb/kft	Aluminum lb/kft
			in	in	mil	in	lb/kft	in	mil	in	lb/kft	lb/kft
6	7	0.17	0.44	60	0.66	297	240	0.49	60	0.72	330	274
4	7	0.21	0.48	60	0.71	367	277	0.53	60	0.76	402	312
2	7	0.27	0.54	60	0.76	471	329	0.59	60	0.81	509	366
1	19	0.30	0.57	60	0.79	539	359	0.62	80	0.89	613	433
1/0	19	0.34	0.61	60	0.83	626	399	0.66	80	0.92	703	476
2/0	19	0.38	0.65	80	0.91	767	481	0.70	80	0.96	811	525
3/0	19	0.42	0.69	80	0.96	901	540	0.74	80	1.01	947	586
4/0	19	0.48	0.74	80	1.01	1065	610	0.80	80	1.06	1113	659
250	37	0.52	0.80	80	1.06	1204	666	0.85	80	1.11	1254	716
300	37	0.57	0.85	80	1.11	1385	740	0.90	80	1.16	1437	792
350	37	0.62	0.90	80	1.15	1565	812	0.95	80	1.20	1619	866
400	37	0.66	0.94	80	1.20	1743	883	0.99	80	1.25	1799	939
500	37	0.74	1.02	80	1.30	2120	1044	1.07	80	1.35	2180	1104
600	61	0.81	1.10	80	1.38	2485	1194	1.15	80	1.43	2548	1258
750	61	0.91	1.20	80	1.48	2994	1381	1.25	80	1.53	3062	1449
1000	61	1.06	1.35	80	1.63	3851	1701	1.40	110	1.74	4030	1880

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

### 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				lb/kft		
2	7	0.27	0.66	80	0.93	602	459	0.75	80	1.02	684	541
1	19	0.30	0.69	80	0.96	674	494	0.78	80	1.05	759	579
1/0	19	0.34	0.73	80	1.00	766	539	0.82	80	1.09	853	626
2/0	19	0.38	0.77	80	1.04	877	591	0.86	80	1.13	968	682
3/0	19	0.42	0.82	80	1.08	1015	654	0.91	80	1.17	1109	749
4/0	19	0.48	0.87	80	1.13	1185	730	0.96	80	1.23	1283	828
250	37	0.52	0.92	80	1.18	1328	790	1.01	80	1.29	1455	917
300	37	0.57	0.97	80	1.23	1514	869	1.06	80	1.34	1646	1001
350	37	0.62	1.02	80	1.30	1724	971	1.11	80	1.39	1835	1082
400	37	0.66	1.06	80	1.34	1907	1047	1.15	80	1.43	2021	1161
500	37	0.74	1.14	80	1.42	2268	1192	1.23	80	1.51	2388	1312
600	61	0.81	1.23	80	1.51	2642	1351	1.32	80	1.60	2768	1478
750	61	0.91	1.32	80	1.60	3161	1548	1.41	110	1.76	3400	1787
1000	61	1.06	1.47	110	1.82	4142	1992	1.56	110	1.94	4344	2194

### 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				lb/kft		
1	19	0.30	0.86	80	1.13	840	660	-	-	-	-	-
1/0	19	0.34	0.90	80	1.17	937	710	1.02	80	1.31	1097	871
2/0	19	0.38	0.94	80	1.21	1054	768	1.06	80	1.35	1219	933
3/0	19	0.42	0.99	80	1.26	1199	838	1.11	80	1.40	1370	1009
4/0	19	0.48	1.04	80	1.33	1402	947	1.16	80	1.45	1553	1098
250	37	0.52	1.10	80	1.38	1552	1014	1.22	80	1.50	1708	1170
300	37	0.57	1.15	80	1.43	1746	1102	1.27	80	1.55	1907	1262
350	37	0.62	1.19	80	1.47	1939	1186	1.31	80	1.59	2104	1351
400	37	0.66	1.24	80	1.52	2128	1268	1.36	80	1.64	2297	1437
500	37	0.74	1.31	80	1.59	2500	1424	1.43	110	1.78	2783	1708
600	61	0.81	1.40	80	1.68	2886	1596	1.52	110	1.90	3233	1943
750	61	0.91	1.49	110	1.84	3529	1916	1.62	110	1.99	3784	2171
1000	61	1.06	1.65	110	2.02	4486	2336	1.77	110	2.14	4707	2557

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

Technical Data

### 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	lb/kft	in	mil	in	lb/kft	lb/kft		
1/0	19	0.34	1.08	80	1.37	1159	932	1.23	80	1.52	1355	1128
2/0	19	0.38	1.12	80	1.41	1282	996	1.27	80	1.56	1483	1197
3/0	19	0.42	1.16	80	1.45	1435	1074	1.32	80	1.61	1642	1281
4/0	19	0.48	1.21	80	1.50	1620	1165	1.37	80	1.66	1834	1379
250	37	0.52	1.27	80	1.55	1776	1239	1.42	110	1.76	2101	1563
300	37	0.57	1.32	80	1.60	1978	1333	1.47	110	1.81	2312	1667
350	37	0.62	1.37	80	1.65	2177	1424	1.52	110	1.86	2520	1766
400	37	0.66	1.41	110	1.75	2477	1617	1.56	110	1.94	2773	1913
500	37	0.74	1.49	110	1.83	2864	1789	1.64	110	2.01	3173	2097
600	61	0.81	1.57	110	1.95	3319	2029	1.73	110	2.10	3590	2300
750	61	0.91	1.67	110	2.04	3874	2261	1.82	110	2.19	4157	2544
1000	61	1.06	1.82	110	2.19	4804	2654	1.97	110	2.35	5106	2956

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