

MV-105 3C, EPR Insulated, CPE Jacketed

5 kV – 25 kV, Tinned Copper Tape-Shielded

CME[®]
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 for all cable sizes.

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 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 25 kV 100% and 133% IL

Maximum conductor operation temperatures:

Wet and dry locations

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

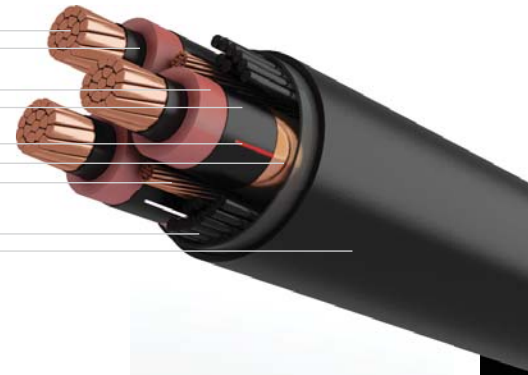
Engineering Information

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.

Sizes: 8 AWG (6 AWG Aluminum) up to 1000 kcmil.

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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. Phase ID: Colored strings (black, red and White yarns.)

6. Metallic Shield: Soft annealed uncoated copper tape for copper ground conductors or Soft annealed tinned copper tape for aluminum ground conductors, 5 mil thick, 25% minimum overlap.

7. Grounding (Optional): One or three soft annealed bare copper or aluminum conductors cabled with phase conductors.

On request, covered ground conductors.

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

9. Jacket: Black sunlight resistance and flame retardant thermosetting chlorinated polyethylene (CPE) compound.



ALUMINUM
CONDUCTOR

Technical Data

5 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% and 133% Insulation Levels (90 mil)					
			Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
			Copper	Aluminum			Copper	Aluminum
			AWG		mil	in	lb/kft	
8	7	0.13	8	—	80	1.20	810	—
6	7	0.17	6	6	80	1.27	990	816
4	7	0.21	6	4	80	1.37	1218	941
2	7	0.27	6	4	80	1.49	1556	1115
1	19	0.30	4	4	80	1.55	1815	1260
1/0	19	0.34	4	4	80	1.63	2094	1393
2/0	19	0.38	4	2	110	1.79	2557	1674
3/0	19	0.42	3	2	110	1.89	3017	1902
4/0	19	0.48	3	2	110	2.00	3548	2144
250	37	0.52	2	1	110	2.13	4072	2411
300	37	0.57	2	1	110	2.23	4657	2665
350	37	0.62	2	1	110	2.33	5243	2917
400	37	0.66	1	1/0	110	2.42	5861	3205
500	37	0.74	1	1/0	110	2.64	7091	3771
600	61	0.81	1/0	2/0	140	2.90	8462	4475
750	61	0.91	1/0	2/0	140	3.11	10132	5155

8 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (115 mil)						133% Insulation Levels (140 mil)					
			Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight		Ground Conductor*		Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		lb/kft	lb/kft	AWG		lb/kft	AWG		lb/kft		
6	7	0.17	6	6	80	1.39	1108	174	6	6	80	1.50	1235	1061
4	7	0.21	6	4	80	1.48	1343	277	6	4	80	1.59	1477	1200
2	7	0.27	6	4	80	1.60	1690	441	6	4	80	1.71	1833	1393
1	19	0.30	4	4	80	1.67	1955	555	4	4	110	1.85	2229	1674
1/0	19	0.34	4	4	110	1.82	2364	701	4	4	110	1.93	2526	1824
2/0	19	0.38	4	2	110	1.90	2717	884	4	2	110	2.02	2886	2002
3/0	19	0.42	3	2	110	2.00	3185	1115	3	2	110	2.12	3361	2246
4/0	19	0.48	3	2	110	2.12	3724	1404	3	2	110	2.23	3909	2505
250	37	0.52	2	1	110	2.24	4258	1661	2	1	110	2.35	4452	2791
300	37	0.57	2	1	110	2.35	4851	1991	2	1	110	2.46	5054	3063
350	37	0.62	2	1	110	2.44	5445	2326	2	1	110	2.56	5655	3330
400	37	0.66	1	1/0	110	2.54	6070	2656	1	1/0	110	2.70	6384	3728
500	37	0.74	1	1/0	140	2.82	7510	3320	1	1/0	140	2.94	7752	4432

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 tables at beginning of section.

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

Cables that comply with 8 kV 100% can also be marked 5 kV 133%.

Technical Data *continued*

15 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (175 mil)						133% Insulation Levels (220 mil)					
			Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		mil	in	lb/kft		AWG		mil	in	lb/kft	
2	7	0.27	6	4	110	1.94	2180	1740	6	4	110	2.14	2495	2055
1	19	0.30	4	4	110	2.01	2462	1906	4	4	110	2.21	2786	2231
1/0	19	0.34	4	4	110	2.09	2767	2066	4	4	110	2.29	3103	2401
2/0	19	0.38	4	2	110	2.17	3137	2253	4	2	110	2.37	3484	2601
3/0	19	0.42	3	2	110	2.27	3623	2508	3	2	110	2.47	3984	2869
4/0	19	0.48	3	2	110	2.39	4183	2779	3	2	110	2.59	4560	3156
250	37	0.52	2	1	110	2.51	4739	3078	2	1	110	2.76	5231	3570
300	37	0.57	2	1	110	2.66	5448	3456	2	1	140	2.94	6064	4073
350	37	0.62	2	1	140	2.83	6257	3932	2	1	140	3.04	6700	4375
400	37	0.66	1	1/0	140	2.93	6909	4253	-	-	-	-	-	-

25 kV EPR Insulated

Size AWG or kcmil	Number of Strands	Conductor Diameter in	100% Insulation Levels (260 mil)						133% Insulation Levels (320 mil)					
			Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight		Ground Conductor*		Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
			Cu	Al			Cu	Al	Cu	Al			Cu	Al
			AWG		mil	in	lb/kft		AWG		mil	in	lb/kft	
1	19	0.30	4	4	110	2.33	3337	2562	-	-	-	-	-	-
1/0	19	0.34	4	4	110	2.41	3682	2755	4	4	110	2.73	4378	3424
2/0	19	0.38	4	2	110	2.50	4094	3006	4	2	140	2.82	4812	3696
3/0	19	0.42	3	2	110	2.60	4633	3277	3	2	140	2.98	5602	4199
4/0	19	0.48	3	2	140	2.76	5362	3709	3	2	140	3.10	6257	4556
250	37	0.52	2	1	140	2.95	5817	4156	-	-	-	-	-	-

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 tables at beginning of section.

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

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