MV-90 TR-XLPE Insulated, LDPE Jacketed

5 kV – 35 kV, Cu-Tape Shielded

A Viakable Company

Features

UL Listed as MV-90.

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

Complete cable is Lead Free and RoHS compliant.

Complete cable is Silicon Free

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: 90 °C
- Emergency: 130 °C
- Short Circuit: 250 °C

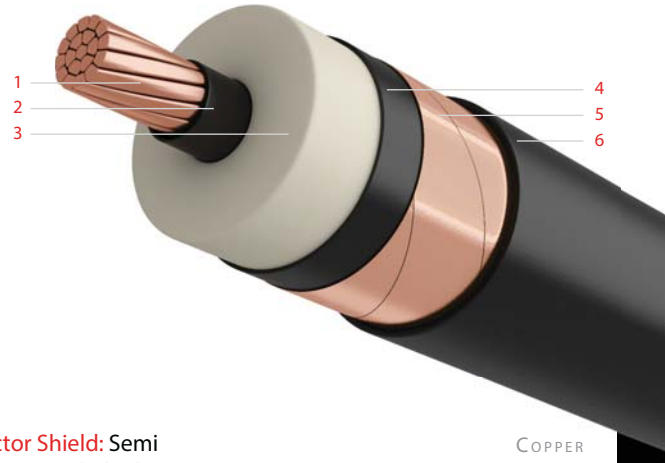
Engineering Information

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.

On request: larger conductor sizes available.



2. Conductor Shield: Semi conducting cross-linked polyethylene (XLPE).

3. Insulation: Thermoset Tree Retardant cross-linked polyethylene (TR-XLPE).

On request: XLPE.

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

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

On request options: ripcords.

6. Jacket: Black Low Density Thermoplastic Polyethylene (LDPE) compound.

Configuration Options:

On request: Triplex or Paralleled configurations.

Copper Conductor

Aluminum Conductor

Medium Voltage Cables - Single Conductor

5 kV TR-XLPE 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
8	7	0.13	0.35	60	0.56	179	–
6	7	0.17	0.38	60	0.60	222	166
4	7	0.21	0.43	60	0.64	287	197
2	7	0.27	0.48	60	0.70	383	240
1	19	0.30	0.51	60	0.73	447	267
1/0	19	0.34	0.55	60	0.76	528	301
2/0	19	0.38	0.59	60	0.80	629	343
3/0	19	0.42	0.64	80	0.89	776	415
4/0	19	0.48	0.69	80	0.94	933	479
250	37	0.52	0.75	80	1.00	1073	535
350	37	0.62	0.84	80	1.09	1421	668
500	37	0.74	0.96	80	1.21	1933	858
750	61	0.91	1.14	80	1.42	2804	1193
1000	61	1.06	1.30	80	1.57	3640	1493

8 kV TR-XLPE 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	0.43	60	0.65	246	189	0.48	60	0.70	271	215
4	7	0.21	0.48	60	0.69	311	222	0.53	60	0.74	338	248
2	7	0.27	0.53	60	0.75	410	267	0.58	60	0.80	438	295
1	19	0.30	0.56	60	0.78	475	295	0.61	60	0.83	504	324
1/0	19	0.34	0.60	60	0.81	557	330	0.65	80	0.90	610	383
2/0	19	0.38	0.64	80	0.89	681	395	0.69	80	0.94	714	428
3/0	19	0.42	0.69	80	0.94	809	448	0.74	80	0.99	843	482
4/0	19	0.48	0.74	80	0.99	967	513	0.79	80	1.04	1003	548
250	37	0.52	0.80	80	1.05	1109	571	0.85	80	1.10	1147	609
300	37	0.57	0.85	80	1.10	1285	640	0.90	80	1.15	1324	679
350	37	0.62	0.89	80	1.14	1460	707	0.94	80	1.19	1501	748
400	37	0.66	0.93	80	1.19	1633	773	0.98	80	1.24	1675	815
500	37	0.74	1.01	80	1.29	1999	925	1.06	80	1.34	2045	970
600	61	0.81	1.10	80	1.37	2348	1057	1.15	80	1.42	2396	1105
750	61	0.91	1.19	80	1.47	2854	1243	1.24	80	1.52	2905	1294
1000	61	1.06	1.35	110	1.62	3694	1547	1.40	80	1.67	3750	1603

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 TR-XLPE 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	0.65	80	0.91	503	360	0.74	80	1.00	564	421
1	19	0.30	0.68	80	0.94	571	391	0.77	80	1.03	633	454
1/0	19	0.34	0.72	80	0.97	657	430	0.81	80	1.06	722	495
2/0	19	0.38	0.76	80	1.01	762	477	0.85	80	1.10	829	544
3/0	19	0.42	0.81	80	1.06	894	533	0.90	80	1.15	963	602
4/0	19	0.48	0.86	80	1.11	1056	601	0.95	80	1.20	1128	674
250	37	0.52	0.92	80	1.17	1202	664	1.01	80	1.28	1301	764
300	37	0.57	0.97	80	1.22	1381	737	1.06	80	1.33	1484	840
350	37	0.62	1.01	80	1.29	1584	831	1.10	80	1.38	1666	914
400	37	0.66	1.05	80	1.33	1761	901	1.14	80	1.42	1846	986
500	37	0.74	1.13	80	1.41	2111	1036	1.22	80	1.50	2200	1126
600	61	0.81	1.22	80	1.49	2465	1175	1.31	80	1.58	2560	1270
750	61	0.91	1.31	80	1.59	2979	1368	1.40	110	1.74	3145	1534
1000	61	1.06	1.47	110	1.80	3899	1752	1.56	110	1.92	4058	1911

COPPER CONDUCTOR

25 kV TR-XLPE 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	0.85	80	1.11	693	514	0.97	80	1.23	791	611
1/0	19	0.34	0.89	80	1.14	783	556	1.01	80	1.29	907	680
2/0	19	0.38	0.93	80	1.18	893	607	1.05	80	1.33	1021	735
3/0	19	0.42	0.98	80	1.23	1030	669	1.10	80	1.37	1161	800
4/0	19	0.48	1.03	80	1.31	1221	766	1.15	80	1.43	1334	879
250	37	0.52	1.09	80	1.36	1374	836	1.21	80	1.48	1491	953
300	37	0.57	1.14	80	1.41	1560	915	1.26	80	1.53	1680	1036
350	37	0.62	1.18	80	1.46	1744	992	1.30	80	1.58	1868	1116
400	37	0.66	1.22	80	1.50	1926	1066	1.34	80	1.62	2053	1193
500	37	0.74	1.30	80	1.58	2284	1209	1.42	110	1.76	2484	1410
600	61	0.81	1.39	80	1.66	2648	1358	1.51	110	1.88	2904	1614
750	61	0.91	1.48	110	1.82	3241	1630	1.60	110	1.97	3440	1830
1000	61	1.06	1.64	110	2.00	4164	2017	1.76	110	2.12	4330	2183

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 TR-XLPE 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	1.06	80	1.34	952	725	1.21	80	1.49	1098	871
2/0	19	0.38	1.10	80	1.38	1067	781	1.25	80	1.53	1216	930
3/0	19	0.42	1.15	80	1.42	1209	848	1.30	80	1.57	1363	1002
4/0	19	0.48	1.20	80	1.48	1383	929	1.35	80	1.63	1542	1087
250	37	0.52	1.26	80	1.53	1542	1005	1.41	110	1.74	1772	1235
300	37	0.57	1.31	80	1.58	1733	1089	1.46	110	1.79	1970	1325
350	37	0.62	1.35	80	1.63	1923	1170	1.50	110	1.84	2165	1413
400	37	0.66	1.39	80	1.67	2109	1249	1.54	110	1.91	2404	1544
500	37	0.74	1.47	110	1.81	2544	1470	1.62	110	1.99	2782	1708
600	61	0.81	1.56	110	1.93	2968	1678	1.71	110	2.08	3170	1879
750	61	0.91	1.65	110	2.02	3507	1897	1.80	110	2.17	3718	2107
1000	61	1.06	1.81	110	2.17	4401	2254	1.96	110	2.32	4626	2479

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