

Primary UD TR-XLPE / XLPE, Concentric Neutral

35 kV Renewable Applications

CME[®]
wire and cable

A Viakable Company

Features

Low tension stripping compounds.

True Triple extrusion system and closed handling raw materials system, to eliminate any contact with ambient, until extrusion of insulation and shields.

On request, Sealed conductor with strand filled compound in accordance with ICEA-T-32-610 and the production water penetration tests per ICEA-T-31-610 at 15 psi for 60 minutes.

On request, Dual sealed cable (Strand Filled on conductor + WSP on Neutral wires) meets the water penetration requirements in accordance with ICEA-T-34-664.

On request, can be UL Listed as MV105 for use in accordance with Article 328 of the NEC.

On request, two abrasion resistant ripcords placed longitudinally 180° apart for easy jacket removal.

Application

Specifically designed for underground primary circuits in Renewable projects in both solar and wind farms.

May be used in wet or dry locations, installed in underground ducts or direct burial.

Standards

ICEA S-94-649: Standard for Concentric Neutral Rated Cables 5 – 46 kV.

AEIC CS8: Specifications for Extruded Dielectric, Shielded Power Cable, rated 5 – 46 kV.

ICEA P-45-482-2005: Short Circuit Performance of Metallic Shields and Sheaths on Insulated Cable.

Specifications

Maximum operating voltage:

- 5 kV – 46 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: Hard drawn H19 or 3/4 hard drawn H16 aluminum Class B compressed or unilay compressed stranding per ASTM B231.

On request, strand filled; compact; and soft annealed copper.

Sizes: 8 AWG – 1500 kcmil.

On request, larger sizes.

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

On request, super-clean and super-smooth materials.

3. Insulation: Thermoset tree-retardant crosslinked polyethylene (TR-XLPE).

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

5. Concentric Neutral: Soft annealed solid copper wires per ASTM B3, helically applied and uniformly spaced.

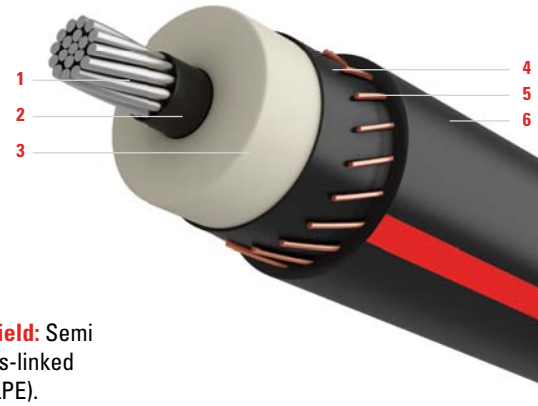
Smallest Neutral Size: 16 AWG
Minimum Number of Wires: 6

On request, Flat Strap neutral, alternate neutral construction, Water Swellable Powder (WSP), and ripcords.

6. Jacket: Extruded to fill (Encapsulated) Black sunlight resistant cross-linked polyethylene (XLPE), with three Red Stripes.

Configuration Options:

On request, Triplexing up to 750 kcmil or Paralleling configurations.



Technical Data

35 kV TR-XLPE Insulated, 100 % I.L. 345 mils, Aluminum Compressed Conductors

Size AWG or kcmil	Number of Strands	Nominal OD Over Insulation in	Neutral vs Conductor Equivalence	Number of Wires	Size AWG	Approx. Neutral Fault Current Capacity at 6 Cycles (1)	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight lb/kft
						Amps			
1/0	19	1.095	Full	19	16	14200	50	1.39	837
1/0	19	1.095	2/3	13	16	9700	50	1.39	791
1/0	19	1.095	1/2	10	16	7500	50	1.39	769
1/0	19	1.095	1/3	7	16	5200	50	1.39	746
2/0	19	1.14	Full	15	14	17900	50	1.46	952
2/0	19	1.14	2/3	16	16	12000	50	1.44	870
2/0	19	1.14	1/2	12	16	9000	50	1.44	840
2/0	19	1.14	1/3	8	16	6000	50	1.44	810
3/0	19	1.189	Full	18	14	21500	50	1.52	1059
3/0	19	1.189	1/2	15	16	11200	50	1.49	930
3/0	19	1.189	1/3	10	16	7500	50	1.49	893
4/0	19	1.245	Full	23	14	27400	50	1.57	1202
4/0	19	1.245	2/3	16	14	19100	50	1.57	1117
4/0	19	1.245	1/2	19	16	14200	50	1.55	1042
4/0	19	1.245	1/3	13	16	9700	50	1.55	996
4/0	19	1.245	1/6	7	16	5200	50	1.55	952
250	37	1.301	1/3	16	16	12000	50	1.6	1093
350	37	1.403	2/3	26	14	31000	80	1.80	1551
350	37	1.403	1/2	19	14	22700	80	1.80	1467
350	37	1.403	1/3	20	16	15000	80	1.77	1359
350	37	1.403	1/6	10	16	7500	80	1.77	1283
500	37	1.532	2/3	23	12	43600	80	1.99	2003
500	37	1.532	1/2	17	12	32200	80	1.99	1888
500	37	1.532	1/3	18	14	21500	80	1.95	1737
500	37	1.532	1/6	15	16	11200	80	1.93	1601
750	61	1.758	1/2	26	12	49300	80	2.18	2445
750	61	1.758	1/3	17	12	32200	80	2.18	2273
750	61	1.758	1/6	22	16	16500	80	2.12	2031
1000	61	1.907	1/2	22	10	66400	80	2.37	3034
1000	61	1.907	1/3	23	12	43600	80	2.33	2741
1000	61	1.907	1/6	18	14	21500	80	2.29	2468
1000	61	1.907	1/12	15	16	11200	80	2.26	2326
1250	91	2.050	1/3	18	10	54300	80	2.55	3316
1250	91	2.050	1/6	23	14	27400	80	2.47	2924
1250	91	2.050	1/12	18	16	13500	80	2.45	2741
1500	91	2.228	1/3	22	10	66400	80	2.76	3896
1500	91	2.228	1/6	17	12	32200	80	2.72	3477
1500	91	2.228	1/12	22	16	16500	80	2.66	3215

The above data are approximate and subject to normal manufacturing tolerances. Other sizes available upon request.

Ampacities: Refer to beginning of section.

(1) Fault Current Calculation is per ICEA P-45-482-2005 with initial shield temperature of 70 °C and ending jacket temperature of 350 °C for thermosetting jackets. Concentric neutral configurations shown on this table with thermosetting XLPE jacket are designed to provide the approximate equivalent shield fault capacity (+/-3%) of the corresponding shield fault capacity with thermoplastic LLPE jacket at similar conditions.