

# 35kV AL 100% TRXLPE One-Sixth Neutral (Based on Short Circuit) Primary UD HI-DRI-PLUS® Renewable (Solar or Wind)

Moisture Blocked Aluminum Conductors. TRXLPE Insulation. One-Sixth Copper Concentric Neutrals. XLPE Jacket

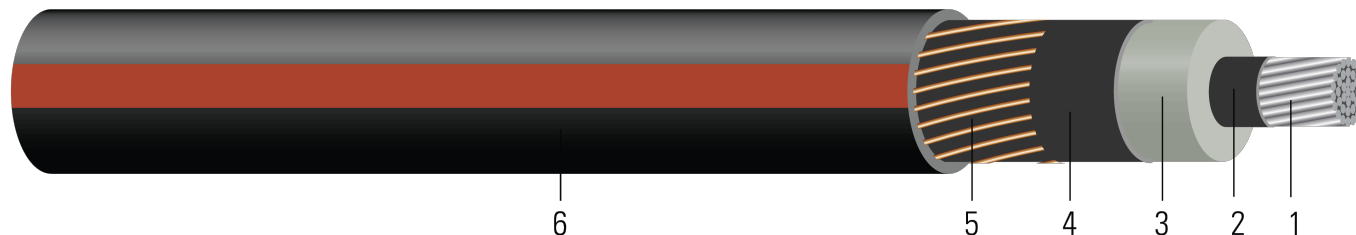


Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

- Conductor:** Moisture Blocked 1350 H16/H26 Aluminum, Class B Compressed or Compressed Unilay Stranded
- Strand Shield:** Semi-conducting Crosslinked Polyethylene
- Insulation:** Tree Retardant Crosslinked Polyethylene (TRXLPE)
- Insulation Shield:** Strippable Semi-conducting Crosslinked Polyethylene
- Concentric Neutral:** Annealed Copper Wires Helically Applied One-Sixth Concentric Neutral
- Overall Jacket & Water Block:** HI-DRI-PLUS® Water Swellable Powder Black Crosslinked Polyethylene (XLPE) with Red Extruded Stripes

## APPLICATIONS AND FEATURES:

- Predominately used for renewable projects with wind or solar applications.
- Suitable for use in wet or dry locations, direct burial, underground ducts, and exposure to direct sunlight.
- To be used at conductor temperature not to exceed 105°C normal operation.
- UL listed MV-105
- Under short circuit conditions, the maximum allowable shield temperature for crosslinked jackets is 350°C as opposed to only 200°C for a PE type of jacket. The higher temperature allows for more fault current capacity, thus reducing the amount of copper required in the neutral design.
- Not recommended for use above 90°C in wind farm applications

## SPECIFICATIONS:

- UL 1072 Medium-Voltage Power Cables
- ICEA S-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661
- Optional CSA 68.5: -40°C and MV 90°C optional marking available upon request



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## SAMPLE PRINT LEGEND:

SOUTHWIRE(R) (UL) HI-DRI-PLUS(R) AWG XX AL 35000 VOLTS TR XLPE INSULATION XX MILS (NESC) MV105 -- SOUTHWIRE (MM/YYYY) NON-CONDUCTING JACKET (PLANT) SEQUENTIAL FOOTAGE MARKS

### Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/ Kcmil	inch	inch	mil	inch	No. x AWG	Ω /1000ft	mil	inch	lb / 1000ft	inch	lb
TBA	1/0 (19)	0.351	1.079	345	1.189	6x14	0.438	50	1.417	837	11.3	633
TBA	2/0 (19)	0.395	1.123	345	1.233	7x14	0.375	50	1.461	910	11.7	798
TBA	3/0 (19)	0.443	1.171	345	1.281	9x14	0.292	50	1.509	1007	12.1	1006
TBA	4/0 (19)	0.498	1.226	345	1.336	11x14	0.239	50	1.564	1116	12.5	1269
TBA	250 (37)	0.558	1.294	345	1.404	13x14	0.202	75	1.682	1317	13.5	1500
618443	1000 (61)	1.117	1.857	345	1.997	25x14	0.105	75	2.279	2610	18.2	6000

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

^ All Black Jacket

§ LLDPE Black Jacket. CSA Listed

### Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1/0 (19)	0.167	0.211	0.076	0.054	0.153	3.09	0.265 + j0.748	0.211 + j0.053	3103	160	195
2/0 (19)	0.133	0.167	0.071	0.052	0.164	3.31	0.221 + j0.744	0.167 + j0.051	3621	185	220
3/0 (19)	0.105	0.132	0.066	0.050	0.176	3.55	0.186 + j0.740	0.132 + j0.050	4655	210	250
4/0 (19)	0.084	0.105	0.061	0.048	0.190	3.83	0.159 + j0.735	0.105 + j0.048	5690	235	285
250 (37)	0.071	0.090	0.057	0.047	0.204	4.12	0.144 + j0.730	0.090 + j0.047	6724	257	302
1000 (61)	0.018	0.026	0.034	0.038	0.335	6.76	0.080 + j0.700	0.026 + j0.038	12932	550	615

\*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

\*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

\*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.



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**Table 3 – Weights and Measurements (Metric)**

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Concentric Neutral	Neutral DC Resistance 25°C	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension
	AWG/Kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	newton
TBA	1/0 (19)	8.92	27.41	8.76	30.20	6x14	1.44	1.27	35.99	1246	287.02	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.32	7x14	1.23	1.27	37.11	1354	297.18	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.54	9x14	0.96	1.27	38.33	1499	307.34	4477
TBA	4/0 (19)	12.65	31.14	8.76	33.93	11x14	0.78	1.27	39.73	1661	317.50	5647
TBA	250 (37)	14.17	32.87	8.76	35.66	13x14	0.66	1.91	42.72	1960	342.90	6675
618443	1000 (61)	28.37	47.17	8.76	50.72	25x14	0.34	1.91	57.89	3884	462.28	26700

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

^ All Black Jacket

§ LLDPE Black Jacket. CSA Listed

**Table 4 – Electrical and Engineering Data (Metric)**

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance*	Positive Sequence Impedance*	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/Kcmil	Ω/km	Ω/km	MΩ*km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1/0 (19)	0.5479	0.69	0.0232	0.1772	0.502	10.1378	0.265 + j0.748	0.211 + j0.053	3103	160	195
2/0 (19)	0.4364	0.55	0.0216	0.1706	0.538	10.8596	0.221 + j0.744	0.167 + j0.051	3621	185	220
3/0 (19)	0.3445	0.43	0.0201	0.1640	0.577	11.6470	0.186 + j0.740	0.132 + j0.050	4655	210	250
4/0 (19)	0.2756	0.34	0.0186	0.1575	0.623	12.5656	0.159 + j0.735	0.105 + j0.048	5690	235	285
250 (37)	0.2329	0.30	0.0174	0.1542	0.669	13.5171	0.144 + j0.730	0.090 + j0.047	6724	257	302
1000 (61)	0.0591	0.09	0.0104	0.1247	1.099	22.1785	0.080 + j0.700	0.026 + j0.038	12932	550	615

\*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3

\*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.

\*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

