



# 35kV AL 100% TRXLPE Two-Thirds Neutral (Based on Short Circuit) HI-DRI-PLUS® Renewable (Solar or Wind)

Moisture Blocked Aluminum Conductors. TRXLP Insulation. Two-Thirds Copper Concentric Neutral. XLPE Jacket



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Moisture Blocked 1350 H16/H26 Aluminum, Class B Compressed or Compressed Unilay Stranded
2. **Strand Shield:** Semi-conducting Crosslinked Polyethylene
3. **Insulation:** Tree Retardant Crosslinked Polyethylene (TRXLP)
4. **Insulation Shield:** Strippable Semi-conducting Crosslinked Polyethylene
5. **Concentric Neutral:** Annealed Copper Wires Helically Applied Two-Thirds Concentric Neutral
6. **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
- The concentric neutral counts and sizes listed in Table 1 are based on the ICEA P-45-482 short circuit calculation of an MV-90 design. The short circuit value in Table 1 is calculated using a higher thermal limit of a crosslinked XLPE jacket MV-105 design.

## 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

## SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE(R) HI-DRI-PLUS(R) (UL) XXX AWG AL 345 MILS TRXLPE TYPE MV-105 35KV 100% INSUL LEVEL -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET





**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
626288	1/0 (19)	0.361	1.072	345	1.182	8x14	0.328	50	1.410	808	11.3	633
TBA	2/0 (19)	0.395	1.123	345	1.233	10x14	0.263	50	1.461	952	11.7	798
TBA	3/0 (19)	0.443	1.171	345	1.281	12x14	0.219	50	1.509	1049	12.1	1006
TBA	4/0 (19)	0.498	1.226	345	1.336	15x14	0.175	50	1.564	1172	12.5	1269
TBA	250 (37)	0.558	1.294	345	1.404	18x14	0.146	75	1.682	1386	13.5	1500
TBA	350 (37)	0.661	1.397	345	1.507	26x14	0.101	75	1.785	1674	14.3	2100
TBA	500 (37)	0.789	1.525	345	1.665	23x12	0.072	75	1.977	2094	15.8	3000

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

\* Pulling tension based on pulling eye directly connected to conductor

**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	0.067	0.053	0.301	1.8	0.265 + j0.743	0.211 + j0.054	4138	160	195
2/0 (19)	0.133	0.167	0.064	0.052	0.311	1.9	0.221 + j0.742	0.167 + j0.052	5173	185	220
3/0 (19)	0.105	0.132	0.060	0.050	0.333	2.0	0.186 + j0.738	0.132 + j0.050	6207	210	250
4/0 (19)	0.084	0.105	0.056	0.048	0.358	2.2	0.159 + j0.735	0.105 + j0.049	7759	235	280
250 (37)	0.071	0.090	0.051	0.047	0.389	2.4	0.144 + j0.729	0.090 + j0.048	9311		
350 (37)	0.050	0.065	0.046	0.045	0.435	2.6	0.119 + j0.723	0.065 + j0.045	13449	315	370
500 (37)	0.035	0.046	0.040	0.043	0.492	3.0	0.100 + j0.714	0.046 + j0.043	18903	380	435

\*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.





**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
626288	1/0 (19)	9.17	27.23	8.76	30.02	8x14	1.08	1.27	35.81	1202	287.02	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.32	10x14	0.86	1.27	37.11	1417	297.18	3551
TBA	3/0 (19)	11.25	29.74	8.76	32.54	12x14	0.72	1.27	38.33	1561	307.34	4477
TBA	4/0 (19)	12.65	31.14	8.76	33.93	15x14	0.57	1.27	39.73	1744	317.50	5647
TBA	250 (37)	14.17	32.87	8.76	35.66	18x14	0.48	1.91	42.72	2063	342.90	6675
TBA	350 (37)	16.79	35.48	8.76	38.28	26x14	0.33	1.91	45.34	2491	363.22	9345
TBA	500 (37)	20.04	38.73	8.76	42.29	23x12	0.24	1.91	50.22	3116	401.32	13350

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

\* Pulling tension based on pulling eye directly connected to conductor

**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	0.0204	0.1739	0.988	5.9055	0.265 + j0.743	0.211 + j0.054	4138	160	195
2/0 (19)	0.4364	0.55	0.0195	0.1706	1.020	6.2336	0.221 + j0.742	0.167 + j0.052	5173	185	220
3/0 (19)	0.3445	0.43	0.0183	0.1640	1.093	6.5617	0.186 + j0.738	0.132 + j0.050	6207	210	250
4/0 (19)	0.2756	0.34	0.0171	0.1575	1.175	7.2178	0.159 + j0.735	0.105 + j0.049	7759	235	280
250 (37)	0.2329	0.30	0.0155	0.1542	1.276	7.8740	0.144 + j0.729	0.090 + j0.048	9311		
350 (37)	0.1640	0.21	0.0140	0.1476	1.427	8.5302	0.119 + j0.723	0.065 + j0.045	13449	315	370
500 (37)	0.1148	0.15	0.0122	0.1411	1.614	9.8425	0.100 + j0.714	0.046 + j0.043	18903	380	435

\*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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Calculator

