35kV AL 100% TRXLPE One-Half (Based on Short Circuit) HI-DRI-PLUS®. Renewable (Solar or Wind)

Moisture Blocked Aluminum Conductors. TRXLP Insulation. One-Half Copper Concentric Neutrals. 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 One-Half 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 105ºC normal operation.
- UL listed MV-105
- The concentric neutral count and size 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:

SOUTHWIRE(R) HI-DRI(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
662906	1/0 (19)	0.361	1.072	345	1.182	6x14	0.438	50	1.410	783	11.3	633
TBA	2/0 (19)	0.395	1.123	345	1.233	7x14	0.375	50	1.461	912	11.7	798
620651? A?	4/0 (19)	0.498	1.218	345	1.328	12x14	0.219	50	1.556	1061	12.4	1269
626306	4/0 (19)	0.498	1.218	345	1.328	12x14	0.219	50	1.556	1062	12.4	1269
TBA	250 (37)	0.558	1.294	345	1.404	14x14	0.187	75	1.682	1332	13.5	1500
TBA	350 (37)	0.661	1.397	345	1.507	19x14	0.138	75	1.785	1579	14.3	2100
TBA	500 (37)	0.789	1.525	345	1.665	27x14	0.097	75	1.943	1976	15.5	3000

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† Hi-Dri only (not HI-DRI-PLUS®). No water swellable powder.

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	0.264 + j0.741	0.211 + j0.054	3103	160	195
2/0 (19)	0.133	0.167	0.064	0.052	0.311	1.9	0.221 + j0.739	0.167 + j0.052	3621	185	220
4/0 (19)	0.084	0.105	0.055	0.048	0.361	2.2	0.159 + j0.734	0.105 + j0.049	6207	235	280
4/0 (19)	0.084	0.105	0.055	0.048	0.361	2.2	0.159 + j0.734	0.105 + j0.049	6207	235	280
250 (37)	0.071	0.090	0.051	0.047	0.389	2.4	0.144 + j0.728	0.090 + j0.048	7242		
350 (37)	0.050	0.065	0.046	0.045	0.435	2.6	0.119 + j0.722	0.065 + j0.045	9828	315	370
500 (37)	0.035	0.046	0.040	0.042	0.492	3.0	0.100 + j0.715	0.046 + j0.043	13967	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
662906	1/0 (19)	9.17	27.23	8.76	30.02	6x14	1.44	1.27	35.81	1165	287.02	2817
TBA	2/0 (19)	10.03	28.52	8.76	31.32	7x14	1.23	1.27	37.11	1357	297.18	3551
620651? A?	4/0 (19)	12.65	30.94	8.76	33.73	12x14	0.72	1.27	39.52	1579	314.96	5647
626306	4/0 (19)	12.65	30.94	8.76	33.73	12x14	0.72	1.27	39.52	1580	314.96	5647
TBA	250 (37)	14.17	32.87	8.76	35.66	14x14	0.61	1.91	42.72	1982	342.90	6675
TBA	350 (37)	16.79	35.48	8.76	38.28	19x14	0.45	1.91	45.34	2350	363.22	9345
TBA	500 (37)	20.04	38.73	8.76	42.29	27x14	0.32	1.91	49.35	2941	393.70	13350

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† Hi-Dri only (not HI-DRI-PLUS®). No water swellable powder.

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	0.264 + j0.741	0.211 + j0.054	3103	160	195
2/0 (19)	0.4364	0.55	0.0195	0.1706	1.020	6.2336	0.221 + j0.739	0.167 + j0.052	3621	185	220
4/0 (19)	0.2756	0.34	0.0168	0.1575	1.184	7.2178	0.159 + j0.734	0.105 + j0.049	6207	235	280
4/0 (19)	0.2756	0.34	0.0168	0.1575	1.184	7.2178	0.159 + j0.734	0.105 + j0.049	6207	235	280
250 (37)	0.2329	0.30	0.0155	0.1542	1.276	7.8740	0.144 + j0.728	0.090 + j0.048	7242		
350 (37)	0.1640	0.21	0.0140	0.1476	1.427	8.5302	0.119 + j0.722	0.065 + j0.045	9828	315	370
500 (37)	0.1148	0.15	0.0122	0.1378	1.614	9.8425	0.100 + j0.715	0.046 + j0.043	13967	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.

CN Calculator