28kV AL 133% TRXLPE Full Neutral LLDPE Primary UD

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
2. **Conductor Shield:** Conventional Semi-conducting cross-linked copolymer; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 345 Mils Tree Retardant Cross Linked Polyethylene 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper full concentric neutral
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 28kV cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, sunlight, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation. 130°C for emergency overload, and 250°C for short circuit conditions. Jacket types available that can be installed in conduit without the aid of lubrication. Rated for 1000 lbs./FT maximum sidewall pressure.

SPECIFICATIONS:

- ASTM B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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
- UL 1072 - Listed Listed as MV 90 When Specified

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 28000 VOLTS TRXLPE INSULATION 345 MILS -- (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
TBA	1 (1)	0.289	1.016	345	1.096	13x14	0.202	50	1.324	762	15.9	502
TBA	1 (19)	0.322	1.049	345	1.149	13x14	0.202	50	1.377	817	16.5	502
TBA	1/0 (1)	0.325	1.052	345	1.152	16x14	0.164	50	1.380	861	16.6	634
TBA	1/0 (19)	0.352	1.079	345	1.179	16x14	0.164	50	1.407	889	16.9	634
TBA	2/0 (19)	0.395	1.122	345	1.222	13x12	0.128	50	1.482	1029	17.8	799
TBA	3/0 (19)	0.443	1.170	345	1.270	16x12	0.104	50	1.530	1152	18.4	1007
TBA	4/0 (19)	0.498	1.225	345	1.325	13x10	0.080	50	1.629	1362	19.5	1270
TBA	250 (37)	0.558	1.294	345	1.394	16x10	0.065	80	1.758	1614	21.1	1500
TBA	350 (37)	0.661	1.397	345	1.497	16x9	0.052	80	1.886	1947	22.6	2100

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 (1)	0.211	0.265	0.077	0.054	0.209	1.014	0.455+j0.098	0.267+j0.054	4878.8	140	175
1 (19)	0.211	0.265	0.073	0.053	0.222	1.074	0.455+j0.097	0.267+j0.052	4878.8	140	175
1/0 (1)	0.168	0.211	0.073	0.052	0.223	1.080	0.371+j0.078	0.213+j0.052	6004.7	155	195
1/0 (19)	0.168	0.211	0.069	0.051	0.233	1.129	0.371+j0.077	0.213+j0.051	6004.7	155	195
2/0 (19)	0.133	0.167	0.065	0.050	0.249	1.207	0.295+j0.063	0.170+j0.049	7751.5	180	225
3/0 (19)	0.105	0.132	0.061	0.048	0.267	1.293	0.238+j0.053	0.135+j0.047	9540.3	205	250
4/0 (19)	0.0836	0.105	0.056	0.047	0.287	1.391	0.186+j0.045	0.109+j0.046	12321.7	235	285
250 (37)	0.0707	0.089	0.052	0.046	0.312	1.512	0.156+j0.039	0.094+j0.044	15165.1		
350 (37)	0.0505	0.064	0.046	0.044	0.349	1.692	0.117+j0.035	0.070+j0.041	19124.4	305	370

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

‡ Ampacities are based on Figure 1 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

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 (1)	7.34	25.81	8.76	27.84	13x14	0.66	1.27	33.63	1134	403.86	2234
TBA	1 (19)	8.18	26.64	8.76	29.18	13x14	0.66	1.27	34.98	1216	419.10	2234
TBA	1/0 (1)	8.25	26.72	8.76	29.26	16x14	0.54	1.27	35.05	1281	421.64	2821
TBA	1/0 (19)	8.94	27.41	8.76	29.95	16x14	0.54	1.27	35.74	1323	429.26	2821
TBA	2/0 (19)	10.03	28.50	8.76	31.04	13x12	0.42	1.27	37.64	1531	452.12	3556
TBA	3/0 (19)	11.25	29.72	8.76	32.26	16x12	0.34	1.27	38.86	1714	467.36	4481
TBA	4/0 (19)	12.65	31.12	8.76	33.65	13x10	0.26	1.27	41.38	2027	495.30	5652
TBA	250 (37)	14.17	32.87	8.76	35.41	16x10	0.21	2.03	44.65	2402	535.94	6675
TBA	350 (37)	16.79	35.48	8.76	38.02	16x9	0.17	2.03	47.90	2897	574.04	9345

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 (1)	0.6923	0.87	0.0235	0.1772	0.686	3.3268	0.455+j0.098	0.267+j0.054	4878.8	140	175
1 (19)	0.6923	0.87	0.0223	0.1739	0.728	3.5236	0.455+j0.097	0.267+j0.052	4878.8	140	175
1/0 (1)	0.5512	0.69	0.0223	0.1706	0.732	3.5433	0.371+j0.078	0.213+j0.052	6004.7	155	195
1/0 (19)	0.5512	0.69	0.0210	0.1673	0.764	3.7041	0.371+j0.077	0.213+j0.051	6004.7	155	195
2/0 (19)	0.4364	0.55	0.0198	0.1640	0.817	3.9600	0.295+j0.063	0.170+j0.049	7751.5	180	225
3/0 (19)	0.3445	0.43	0.0186	0.1575	0.876	4.2421	0.238+j0.053	0.135+j0.047	9540.3	205	250
4/0 (19)	0.2743	0.34	0.0171	0.1542	0.942	4.5636	0.186+j0.045	0.109+j0.046	12321.7	235	285
250 (37)	0.2320	0.29	0.0158	0.1509	1.024	4.9606	0.156+j0.039	0.094+j0.044	15165.1		
350 (37)	0.1657	0.21	0.0140	0.1444	1.145	5.5512	0.117+j0.035	0.070+j0.041	19124.4	305	370

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-meter

† Ampacities are based on Figure 7 of ICEA T-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)

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