

28kV AL 100% TRXLPE Full Neutral LLDPE Primary UD

Single Conductor, 280 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

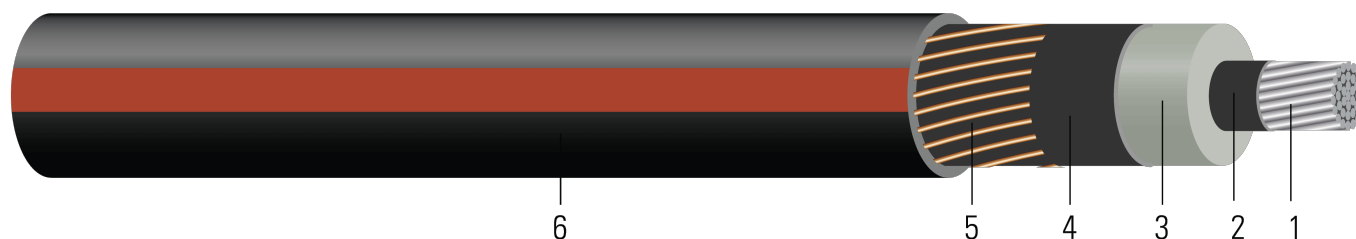


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
- 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
- Insulation:** 280 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper full concentric neutral
- 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 280 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



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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	0.886	280	0.966	13x14	0.202	50	1.194	658	14.3	502
TBA	1 (19)	0.322	0.919	280	0.999	13x14	0.202	50	1.227	689	14.7	502
TBA	1/0 (1)	0.325	0.922	280	1.002	16x14	0.164	50	1.230	732	14.8	634
662998 [^]	1/0 (19)	0.352	0.949	280	1.029	16x14	0.164	50	1.257	758	15.1	634
TBA	2/0 (19)	0.395	0.992	280	1.072	13x12	0.128	50	1.332	891	16.0	799
TBA	3/0 (19)	0.443	1.040	280	1.120	16x12	0.104	50	1.380	1009	16.6	1007
TBA	4/0 (19)	0.498	1.095	280	1.195	13x10	0.080	50	1.499	1232	18.0	1270
TBA	250 (37)	0.558	1.164	280	1.264	16x10	0.065	50	1.568	1413	18.8	1500
TBA	350 (37)	0.661	1.267	280	1.367	16x9	0.052	80	1.756	1796	21.1	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

[^] Super-Smooth conductor shield and HIDRI PLUS Jacket



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	0.068	0.052	0.238	1.152	0.456+j0.095	0.267+j0.051	4758.3	140	175
1 (19)	0.211	0.265	0.064	0.050	0.253	1.226	0.455+j0.093	0.267+j0.050	4758.3	140	175
1/0 (1)	0.168	0.211	0.064	0.050	0.254	1.232	0.371+j0.075	0.213+j0.049	5856.3	155	195
1/0 (19)	0.168	0.211	0.061	0.049	0.266	1.292	0.371+j0.074	0.213+j0.048	5856.3	155	195
2/0 (19)	0.133	0.167	0.057	0.048	0.286	1.386	0.295+j0.060	0.170+j0.047	7560.0	180	225
3/0 (19)	0.105	0.132	0.053	0.046	0.307	1.490	0.238+j0.049	0.136+j0.045	9304.6	205	250
4/0 (19)	0.0836	0.105	0.049	0.045	0.332	1.609	0.186+j0.043	0.110+j0.044	12017.3	235	285
250 (37)	0.0707	0.089	0.045	0.044	0.362	1.756	0.156+j0.037	0.094+j0.041	14790.5		
350 (37)	0.0505	0.064	0.040	0.043	0.407	1.975	0.117+j0.033	0.071+j0.039	18652.0	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	22.50	7.11	24.54	13x14	0.66	1.27	30.33	979	363.22	2234
TBA	1 (19)	8.18	23.34	7.11	25.37	13x14	0.66	1.27	31.17	1025	373.38	2234
TBA	1/0 (1)	8.25	23.42	7.11	25.45	16x14	0.54	1.27	31.24	1089	375.92	2821
662998 [^]	1/0 (19)	8.94	24.10	7.11	26.14	16x14	0.54	1.27	31.93	1128	383.54	2821
TBA	2/0 (19)	10.03	25.20	7.11	27.23	13x12	0.42	1.27	33.83	1326	406.40	3556
TBA	3/0 (19)	11.25	26.42	7.11	28.45	16x12	0.34	1.27	35.05	1502	421.64	4481
TBA	4/0 (19)	12.65	27.81	7.11	30.35	13x10	0.26	1.27	38.07	1833	457.20	5652
TBA	250 (37)	14.17	29.57	7.11	32.11	16x10	0.21	1.27	39.83	2103	477.52	6675
TBA	350 (37)	16.79	32.18	7.11	34.72	16x9	0.17	2.03	44.60	2673	535.94	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

[^] Super-Smooth conductor shield and HIDRI PLUS Jacket



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	0.0207	0.1706	0.781	3.7795	0.456+j0.095	0.267+j0.051	4758.3	140	175
1 (19)	0.6923	0.87	0.0195	0.1640	0.830	4.0223	0.455+j0.093	0.267+j0.050	4758.3	140	175
1/0 (1)	0.5512	0.69	0.0195	0.1640	0.833	4.0420	0.371+j0.075	0.213+j0.049	5856.3	155	195
1/0 (19)	0.5512	0.69	0.0186	0.1608	0.873	4.2388	0.371+j0.074	0.213+j0.048	5856.3	155	195
2/0 (19)	0.4364	0.55	0.0174	0.1575	0.938	4.5472	0.295+j0.060	0.170+j0.047	7560.0	180	225
3/0 (19)	0.3445	0.43	0.0162	0.1509	1.007	4.8885	0.238+j0.049	0.136+j0.045	9304.6	205	250
4/0 (19)	0.2743	0.34	0.0149	0.1476	1.089	5.2789	0.186+j0.043	0.110+j0.044	12017.3	235	285
250 (37)	0.2320	0.29	0.0137	0.1444	1.188	5.7612	0.156+j0.037	0.094+j0.041	14790.5		
350 (37)	0.1657	0.21	0.0122	0.1411	1.335	6.4797	0.117+j0.033	0.071+j0.039	18652.0	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)

