

28kV AL 100% TRXLPE One-Third Neutral LLDPE Primary UD

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

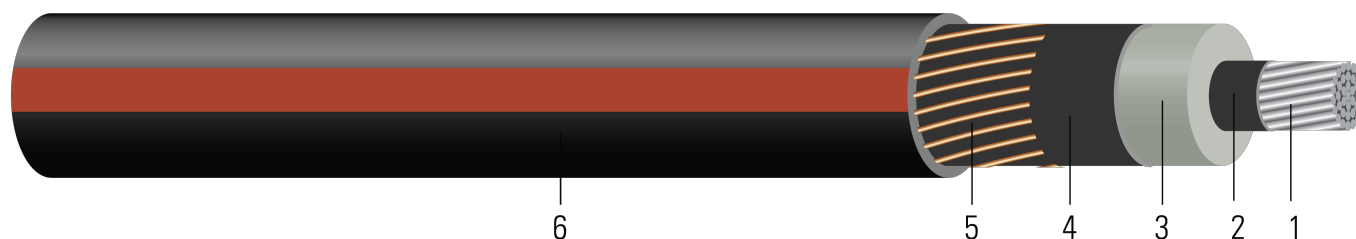


Image not to scale. See Table 1 for dimensions.

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 one-third 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 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



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com



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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	6x14	0.438	50	1.194	580	14.3	502
TBA	1 (19)	0.322	0.919	280	0.999	6x14	0.438	50	1.227	611	14.7	502
TBA	1/0 (1)	0.325	0.922	280	1.002	6x14	0.438	50	1.230	621	14.8	634
TBA	1/0 (19)	0.352	0.949	280	1.029	6x14	0.438	50	1.257	647	15.1	634
TBA	2/0 (19)	0.395	0.992	280	1.072	7x14	0.376	50	1.300	712	15.6	799
TBA	3/0 (19)	0.443	1.040	280	1.120	9x14	0.292	50	1.348	797	16.2	1007
618979	4/0 (19)	0.498	1.095	280	1.195	11x14	0.239	50	1.423	918	17.1	1270
TBA	250 (37)	0.558	1.164	280	1.264	13x14	0.202	50	1.492	1034	17.9	1500
TBA	350 (37)	0.661	1.267	280	1.367	18x14	0.146	50	1.595	1258	19.1	2100
TBA	500 (37)	0.789	1.395	280	1.495	16x12	0.104	80	1.815	1681	21.8	3000
TBA	750 (61)	0.968	1.583	280	1.713	24x12	0.069	80	2.033	2259	24.4	4500
TBA	1000 (61)	1.117	1.732	280	1.862	20x10	0.052	80	2.226	2821	26.7	6000

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	0.068	0.052	0.238	1.152	0.580+j0.235	0.266+j0.051	2196.1	140	175
1 (19)	0.211	0.265	0.064	0.050	0.253	1.226	0.579+j0.234	0.266+j0.050	2196.1	140	175
1/0 (1)	0.168	0.211	0.064	0.050	0.254	1.232	0.525+j0.234	0.212+j0.050	2196.1	155	195
1/0 (19)	0.168	0.211	0.061	0.049	0.266	1.292	0.525+j0.233	0.212+j0.049	2196.1	155	195
2/0 (19)	0.133	0.167	0.057	0.047	0.286	1.386	0.458+j0.193	0.168+j0.047	2562.1	180	225
3/0 (19)	0.105	0.132	0.053	0.045	0.307	1.490	0.382+j0.141	0.133+j0.045	3294.2	200	255
4/0 (19)	0.0836	0.105	0.049	0.044	0.332	1.609	0.321+j0.109	0.107+j0.044	4026.2	235	285
250 (37)	0.0707	0.089	0.045	0.042	0.362	1.756	0.278+j0.088	0.091+j0.042	4758.3		
350 (37)	0.0505	0.064	0.040	0.040	0.407	1.975	0.208+j0.059	0.066+j0.040	6588.4	310	375
500 (37)	0.0354	0.045	0.035	0.040	0.463	2.245	0.151+j0.044	0.048+j0.039	9304.6	370	450
750 (61)	0.0236	0.030	0.030	0.037	0.544	2.639	0.102+j0.031	0.035+j0.036	13956.9	460	545
1000 (61)	0.0177	0.023	0.027	0.036	0.608	2.950	0.077+j0.028	0.029+j0.034	18488.1	520	620

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohm-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	6x14	1.44	1.27	30.33	863	363.22	2234
TBA	1 (19)	8.18	23.34	7.11	25.37	6x14	1.44	1.27	31.17	909	373.38	2234
TBA	1/0 (1)	8.25	23.42	7.11	25.45	6x14	1.44	1.27	31.24	924	375.92	2821
TBA	1/0 (19)	8.94	24.10	7.11	26.14	6x14	1.44	1.27	31.93	963	383.54	2821
TBA	2/0 (19)	10.03	25.20	7.11	27.23	7x14	1.23	1.27	33.02	1060	396.24	3556
TBA	3/0 (19)	11.25	26.42	7.11	28.45	9x14	0.96	1.27	34.24	1186	411.48	4481
618979	4/0 (19)	12.65	27.81	7.11	30.35	11x14	0.78	1.27	36.14	1366	434.34	5652
TBA	250 (37)	14.17	29.57	7.11	32.11	13x14	0.66	1.27	37.90	1539	454.66	6675
TBA	350 (37)	16.79	32.18	7.11	34.72	18x14	0.48	1.27	40.51	1872	485.14	9345
TBA	500 (37)	20.04	35.43	7.11	37.97	16x12	0.34	2.03	46.10	2502	553.72	13350
TBA	750 (61)	24.59	40.21	7.11	43.51	24x12	0.23	2.03	51.64	3362	619.76	20025
TBA	1000 (61)	28.37	43.99	7.11	47.29	20x10	0.17	2.03	56.54	4198	678.18	26700

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	0.0207	0.1706	0.781	3.7795	0.580+j0.235	0.266+j0.051	2196.1	140	175
1 (19)	0.6923	0.87	0.0195	0.1640	0.830	4.0223	0.579+j0.234	0.266+j0.050	2196.1	140	175
1/0 (1)	0.5512	0.69	0.0195	0.1640	0.833	4.0420	0.525+j0.234	0.212+j0.050	2196.1	155	195
1/0 (19)	0.5512	0.69	0.0186	0.1608	0.873	4.2388	0.525+j0.233	0.212+j0.049	2196.1	155	195
2/0 (19)	0.4364	0.55	0.0174	0.1542	0.938	4.5472	0.458+j0.193	0.168+j0.047	2562.1	180	225
3/0 (19)	0.3445	0.43	0.0162	0.1476	1.007	4.8885	0.382+j0.141	0.133+j0.045	3294.2	200	255
4/0 (19)	0.2743	0.34	0.0149	0.1444	1.089	5.2789	0.321+j0.109	0.107+j0.044	4026.2	235	285
250 (37)	0.2320	0.29	0.0137	0.1378	1.188	5.7612	0.278+j0.088	0.091+j0.042	4758.3		
350 (37)	0.1657	0.21	0.0122	0.1312	1.335	6.4797	0.208+j0.059	0.066+j0.040	6588.4	310	375
500 (37)	0.1161	0.15	0.0107	0.1312	1.519	7.3655	0.151+j0.044	0.048+j0.039	9304.6	370	450
750 (61)	0.0774	0.10	0.0091	0.1214	1.785	8.6581	0.102+j0.031	0.035+j0.036	13956.9	460	545
1000 (61)	0.0581	0.08	0.0082	0.1181	1.995	9.6785	0.077+j0.028	0.029+j0.034	18488.1	520	620

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