28kV AL 133% TRXLPE LCT LLDPE Primary UD

Single Conductor, 345 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

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. **Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
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-97-682 Standard for Shielded Utility Cable Rated for 5 - 46kV
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV
- Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
- UL 1072 Listed as MV 90 When Specified
- Optional CSA 68.5: -40ºC and MV 90ºC optional marking available upon request

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	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
TBA	1 (1)	0.289	1.016	345	1.076	80	1.336	753	10.6	502
TBA	1 (19)	0.322	1.049	345	1.109	80	1.369	785	10.9	502
TBA	1/0 (1)	0.325	1.052	345	1.112	80	1.372	795	10.9	634
TBA	1/0 (19)	0.352	1.079	345	1.139	80	1.399	822	11.1	634
TBA	2/0 (19)	0.395	1.122	345	1.182	80	1.442	876	11.5	799
TBA	3/0 (19)	0.443	1.170	345	1.230	80	1.490	941	11.	1007
TBA	4/0 (19)	0.498	1.225	345	1.285	80	1.545	1019	12.	1270
TBA	250 (37)	0.558	1.294	345	1.354	80	1.580	1154	12.	1500
TBA	350 (37)	0.661	1.397	345	1.457	110	1.743	1389	13.9	2100
TBA	500 (37)	0.789	1.525	345	1.585	110	1.871	1630	14.9	3000
TBA	750 (61)	0.968	1.713	345	1.773	110	2.059	2017	16.4	4500
TBA	1000 (61)	1.117	1.862	345	1.922	110	2.208	2375	17.6	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	0.077	0.054	0.209	1.014	0.525+j0.146	0.266+j0.054	4535.0	140	170
1 (19)	0.211	0.265	0.073	0.052	0.222	1.074	0.520+j0.139	0.266+j0.052	4655.2	140	170
1/0 (1)	0.168	0.211	0.073	0.052	0.223	1.080	0.466+j0.139	0.212+j0.052	4666.1	155	195
1/0 (19)	0.168	0.211	0.069	0.051	0.233	1.129	0.461+j0.134	0.212+j0.051	4764.4	155	195
2/0 (19)	0.133	0.167	0.065	0.049	0.249	1.207	0.411+j0.126	0.168+j0.049	4921.0	180	220
3/0 (19)	0.105	0.132	0.061	0.048	0.267	1.293	0.369+j0.119	0.133+j0.048	5095.8	200	250
4/0 (19)	0.0836	0.105	0.056	0.046	0.287	1.391	0.334+j0.111	0.106+j0.046	5296.1	235	285
250 (37)	0.0707	0.089	0.052	0.044	0.312	1.512	0.309+j0.102	0.090+j0.044	5547.3		
350 (37)	0.0505	0.064	0.046	0.042	0.349	1.692	0.272+j0.092	0.065+j0.042	5922.4	310	375
500 (37)	0.0354	0.045	0.041	0.040	0.394	1.913	0.239+j0.081	0.047+j0.040	6388.5	375	455
750 (61)	0.0236	0.030	0.035	0.038	0.461	2.235	0.207+j0.068	0.032+j0.038	7073.1	470	560
1000 (61)	0.0177	0.023	0.032	0.036	0.513	2.489	0.188+j0.060	0.025+j0.036	7615.6	540	645

* Calculations are based on three cables triplexed / tape 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 P-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 P-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	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
TBA	1 (1)	7.34	25.81	8.76	27.33	2.03	33.93	1121	269.24	2234
TBA	1 (19)	8.18	26.64	8.76	28.17	2.03	34.77	1168	276.86	2234
TBA	1/0 (1)	8.25	26.72	8.76	28.24	2.03	34.85	1183	276.86	2821
TBA	1/0 (19)	8.94	27.41	8.76	28.93	2.03	35.53	1223	281.94	2821
TBA	2/0 (19)	10.03	28.50	8.76	30.02	2.03	36.63	1304	292.10	3556
TBA	3/0 (19)	11.25	29.72	8.76	31.24	2.03	37.85	1400	279.40	4481
TBA	4/0 (19)	12.65	31.12	8.76	32.64	2.03	39.24	1516	304.80	5652
TBA	250 (37)	14.17	32.87	8.76	34.39	2.03	40.13	1717	304.80	6675
TBA	350 (37)	16.79	35.48	8.76	37.01	2.79	44.27	2067	353.06	9345
TBA	500 (37)	20.04	38.73	8.76	40.26	2.79	47.52	2426	378.46	13350
TBA	750 (61)	24.59	43.51	8.76	45.03	2.79	52.30	3002	416.56	20025
TBA	1000 (61)	28.37	47.29	8.76	48.82	2.79	56.08	3534	447.04	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	0.0235	0.1772	0.686	3.3268	0.525+j0.146	0.266+j0.054	4535.0	140	170
1 (19)	0.6923	0.87	0.0223	0.1706	0.728	3.5236	0.520+j0.139	0.266+j0.052	4655.2	140	170
1/0 (1)	0.5512	0.69	0.0223	0.1706	0.732	3.5433	0.466+j0.139	0.212+j0.052	4666.1	155	195
1/0 (19)	0.5512	0.69	0.0210	0.1673	0.764	3.7041	0.461+j0.134	0.212+j0.051	4764.4	155	195
2/0 (19)	0.4364	0.55	0.0198	0.1608	0.817	3.9600	0.411+j0.126	0.168+j0.049	4921.0	180	220
3/0 (19)	0.3445	0.43	0.0186	0.1575	0.876	4.2421	0.369+j0.119	0.133+j0.048	5095.8	200	250
4/0 (19)	0.2743	0.34	0.0171	0.1509	0.942	4.5636	0.334+j0.111	0.106+j0.046	5296.1	235	285
250 (37)	0.2320	0.29	0.0158	0.1444	1.024	4.9606	0.309+j0.102	0.090+j0.044	5547.3		
350 (37)	0.1657	0.21	0.0140	0.1378	1.145	5.5512	0.272+j0.092	0.065+j0.042	5922.4	310	375
500 (37)	0.1161	0.15	0.0125	0.1312	1.293	6.2762	0.239+j0.081	0.047+j0.040	6388.5	375	455
750 (61)	0.0774	0.10	0.0107	0.1247	1.512	7.3327	0.207+j0.068	0.032+j0.038	7073.1	470	560
1000 (61)	0.0581	0.08	0.0098	0.1181	1.683	8.1660	0.188+j0.060	0.025+j0.036	7615.6	540	645

* Calculations are based on three cables triplexed / tape 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 P-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 P-117-734 (Single circuit trefoil, 100% load factor, 90°C conductor temperature, earth RHO 90, 36" burial depth)