28kV AL 100% TRXLPE Full Neutral LLDPE

Single Conductor, 280 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Full Concentric Neutral, 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:** 280 Mils Tree Retardant Cross Linked Polyethylene 100% 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, 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 (Qualification Test Requirements)
- 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 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 (Solid)	0.289	0.887	280	0.977	12x14	0.219	50	1.205	708	9.6	502
TBA	1 (19)	0.322	0.920	280	1.010	12x14	0.219	50	1.238	728	9.9	502
TBA	1/0 (Solid)	0.324	0.922	280	1.012	16x14	0.164	50	1.240	805	9.9	633
662998^	1/0 (19)	0.351	0.942	280	1.032	16x14	0.164	50	1.260	774	10.1	633
TBA	2/0 (19)	0.395	0.993	280	1.083	20x14	0.131	50	1.311	932	10.5	798
663273	3/0 (19)	0.443	1.033	280	1.123	16x12	0.103	50	1.384	1032	11.1	1006
600937	4/0 (19)	0.498	1.088	280	1.198	20x12	0.083	50	1.459	1207	11.7	1269
TBA	250 (37)	0.558	1.164	280	1.274	23x12	0.072	50	1.536	1388	12.3	1500
TBA	350 (37)	0.661	1.267	280	1.377	33x12	0.050	75	1.689	1840	13.5	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. HiDri Plus - Moisture absorbing powder under jacket
§ HiDri Plus - moisture absorbing powder under jacket. CSA Listed

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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 (Solid)	0.129	0.162	0.071	0.054	0.22	1.09	0.216 + j0.758	0.162 + j0.052	4331	140	170
1 (19)	0.211	0.266	0.067	0.053	0.24	1.16	0.320 + j0.757	0.266 + j0.053	4331	140	170
1/0 (Solid)	0.102	0.128	0.067	0.052	0.24	1.16	0.182 + j0.754	0.128 + j0.050	5465	155	195
1/0 (19)	0.167	0.211	0.063	0.051	0.25	1.23	0.265 + j0.753	0.211 + j0.051	5465	155	195
2/0 (19)	0.133	0.167	0.059	0.049	0.27	1.31	0.221 + j0.749	0.167 + j0.049	6889	180	220
3/0 (19)	0.105	0.132	0.054	0.048	0.30	1.43	0.186 + j0.744	0.132 + j0.048	8685	205	250
4/0 (19)	0.084	0.105	0.050	0.046	0.32	1.55	0.159 + j0.738	0.105 + j0.046	10952	235	285
250 (37)	0.071	0.090	0.047	0.045	0.34	1.65	0.144 + j0.734	0.090 + j0.045	12940	254	307
350 (37)	0.050	0.065	0.041	0.043	0.39	1.87	0.119 + j0.726	0.065 + j0.043	18116	305	365

*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
TBA	1 (Solid)	7.34	22.53	7.11	24.82	12x14	0.72	1.27	30.61	1054	243.84	2234
TBA	1 (19)	8.18	23.37	7.11	25.65	12x14	0.72	1.27	31.45	1083	251.46	2234
TBA	1/0 (Solid)	8.23	23.42	7.11	25.70	16x14	0.54	1.27	31.50	1198	251.46	2817
662998^	1/0 (19)	8.92	23.93	7.11	26.21	16x14	0.54	1.27	32.00	1152	256.54	2817
TBA	2/0 (19)	10.03	25.22	7.11	27.51	20x14	0.43	1.27	33.30	1387	266.70	3551
663273	3/0 (19)	11.25	26.24	7.11	28.52	16x12	0.34	1.27	35.15	1536	281.94	4477
600937	4/0 (19)	12.65	27.64	7.11	30.43	20x12	0.27	1.27	37.06	1796	297.18	5647
TBA	250 (37)	14.17	29.57	7.11	32.36	23x12	0.24	1.27	39.01	2066	312.42	6675
TBA	350 (37)	16.79	32.18	7.11	34.98	33x12	0.16	1.91	42.90	2738	342.90	9345

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^ Super-Smooth conductor shield. HiDri Plus - Moisture absorbing powder under jacket
§ HiDri Plus - moisture absorbing powder under jacket. CSA Listed

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 (Solid)	0.4232	0.53	0.0216	0.1772	0.722	3.5761	0.216 + j0.758	0.162 + j0.052	4331	140	170
1 (19)	0.6923	0.87	0.0204	0.1739	0.787	3.8058	0.320 + j0.757	0.266 + j0.053	4331	140	170
1/0 (Solid)	0.3346	0.42	0.0204	0.1706	0.787	3.8058	0.182 + j0.754	0.128 + j0.050	5465	155	195
1/0 (19)	0.5479	0.69	0.0192	0.1673	0.820	4.0354	0.265 + j0.753	0.211 + j0.051	5465	155	195
2/0 (19)	0.4364	0.55	0.0180	0.1608	0.886	4.2979	0.221 + j0.749	0.167 + j0.049	6889	180	220
3/0 (19)	0.3445	0.43	0.0165	0.1575	0.984	4.6916	0.186 + j0.744	0.132 + j0.048	8685	205	250
4/0 (19)	0.2756	0.34	0.0152	0.1509	1.050	5.0853	0.159 + j0.738	0.105 + j0.046	10952	235	285
250 (37)	0.2329	0.30	0.0143	0.1476	1.115	5.4134	0.144 + j0.734	0.090 + j0.045	12940	254	307
350 (37)	0.1640	0.21	0.0125	0.1411	1.280	6.1352	0.119 + j0.726	0.065 + j0.043	18116	305	365

*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