

25kV AL 133% TRXLPE One-Third Neutral LLDPE Primary UD

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

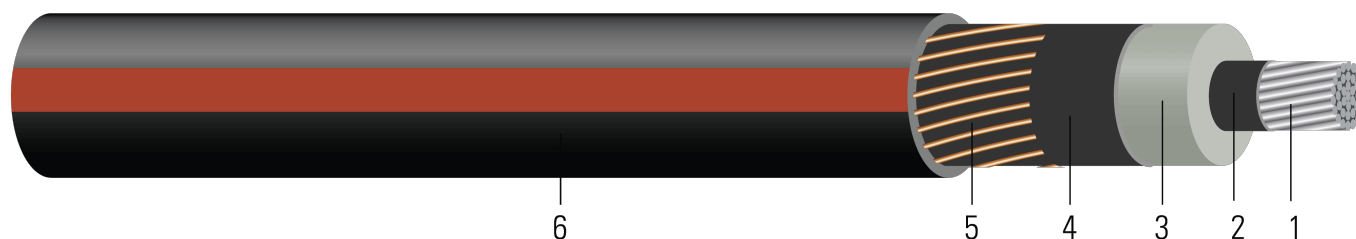


Image not to scale. See Table 1 for dimensions.

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:** 320 Mils Tree Retardant Cross Linked Polyethylene 133% 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 25kV 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 as MV 90 When Specified
- Optional CSA: CSA 68.5 and -40C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 25000 VOLTS TRXLPE INSULATION 320 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	0.966	320	1.046	6x14	0.438	50	1.274	643	15.3	502
TBA	1 (19)	0.322	0.999	320	1.079	6x14	0.438	50	1.307	676	15.7	502
TBA	1/0 (1)	0.325	1.002	320	1.082	6x14	0.438	50	1.310	686	15.7	634
TBA	1/0 (19)	0.352	1.029	320	1.109	6x14	0.438	50	1.337	713	16.0	634
TBA	2/0 (19)	0.395	1.072	320	1.172	7x14	0.376	50	1.400	801	16.8	799
TBA	3/0 (19)	0.443	1.120	320	1.220	9x14	0.292	50	1.448	890	17.4	1007
TBA	4/0 (19)	0.498	1.175	320	1.275	11x14	0.239	50	1.503	993	18.0	1270
TBA	250 (37)	0.558	1.244	320	1.344	13x14	0.202	50	1.572	1112	18.9	1500
TBA	350 (37)	0.661	1.347	320	1.447	18x14	0.146	80	1.735	1406	20.8	2100
TBA	500 (37)	0.789	1.475	320	1.575	16x12	0.104	80	1.895	1776	22.7	3000
TBA	750 (61)	0.968	1.663	320	1.793	24x12	0.069	80	2.113	2365	25.4	4500
TBA	1000 (61)	1.117	1.812	320	1.942	20x10	0.052	80	2.306	2937	27.7	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	0.074	0.053	0.195	0.846	0.578+j0.238	0.266+j0.053	2196.1	140	175
1 (19)	0.211	0.265	0.070	0.051	0.207	0.897	0.578+j0.236	0.266+j0.051	2196.1	140	175
1/0 (1)	0.168	0.211	0.069	0.051	0.208	0.902	0.524+j0.236	0.212+j0.051	2196.1	155	195
1/0 (19)	0.168	0.211	0.066	0.050	0.218	0.944	0.523+j0.235	0.212+j0.050	2196.1	155	195
2/0 (19)	0.133	0.167	0.062	0.049	0.233	1.011	0.457+j0.196	0.168+j0.049	2562.1	180	225
3/0 (19)	0.105	0.132	0.058	0.047	0.250	1.084	0.381+j0.143	0.133+j0.047	3294.2	200	255
4/0 (19)	0.0836	0.105	0.054	0.045	0.270	1.167	0.321+j0.111	0.106+j0.045	4026.2	235	285
250 (37)	0.0707	0.089	0.049	0.044	0.294	1.271	0.278+j0.089	0.091+j0.043	4758.3		
350 (37)	0.0505	0.064	0.044	0.042	0.329	1.425	0.207+j0.061	0.066+j0.042	6588.4	310	375
500 (37)	0.0354	0.045	0.039	0.041	0.373	1.614	0.151+j0.045	0.048+j0.040	9304.6	370	450
750 (61)	0.0236	0.030	0.033	0.038	0.437	1.890	0.102+j0.032	0.035+j0.037	13956.9	460	545
1000 (61)	0.0177	0.023	0.030	0.037	0.487	2.108	0.077+j0.029	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	24.54	8.13	26.57	6x14	1.44	1.27	32.36	957	388.62	2234
TBA	1 (19)	8.18	25.37	8.13	27.41	6x14	1.44	1.27	33.20	1006	398.78	2234
TBA	1/0 (1)	8.25	25.45	8.13	27.48	6x14	1.44	1.27	33.27	1021	398.78	2821
TBA	1/0 (19)	8.94	26.14	8.13	28.17	6x14	1.44	1.27	33.96	1061	406.40	2821
TBA	2/0 (19)	10.03	27.23	8.13	29.77	7x14	1.23	1.27	35.56	1192	426.72	3556
TBA	3/0 (19)	11.25	28.45	8.13	30.99	9x14	0.96	1.27	36.78	1324	441.96	4481
TBA	4/0 (19)	12.65	29.85	8.13	32.39	11x14	0.78	1.27	38.18	1478	457.20	5652
TBA	250 (37)	14.17	31.60	8.13	34.14	13x14	0.66	1.27	39.93	1655	480.06	6675
TBA	350 (37)	16.79	34.21	8.13	36.75	18x14	0.48	2.03	44.07	2092	528.32	9345
TBA	500 (37)	20.04	37.47	8.13	40.00	16x12	0.34	2.03	48.13	2643	576.58	13350
TBA	750 (61)	24.59	42.24	8.13	45.54	24x12	0.23	2.03	53.67	3520	645.16	20025
TBA	1000 (61)	28.37	46.02	8.13	49.33	20x10	0.17	2.03	58.57	4371	703.58	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	0.0226	0.1739	0.640	2.7756	0.578+j0.238	0.266+j0.053	2196.1	140	175
1 (19)	0.6923	0.87	0.0213	0.1673	0.679	2.9429	0.578+j0.236	0.266+j0.051	2196.1	140	175
1/0 (1)	0.5512	0.69	0.0210	0.1673	0.682	2.9593	0.524+j0.236	0.212+j0.051	2196.1	155	195
1/0 (19)	0.5512	0.69	0.0201	0.1640	0.715	3.0971	0.523+j0.235	0.212+j0.050	2196.1	155	195
2/0 (19)	0.4364	0.55	0.0189	0.1608	0.764	3.3169	0.457+j0.196	0.168+j0.049	2562.1	180	225
3/0 (19)	0.3445	0.43	0.0177	0.1542	0.820	3.5564	0.381+j0.143	0.133+j0.047	3294.2	200	255
4/0 (19)	0.2743	0.34	0.0165	0.1476	0.886	3.8287	0.321+j0.111	0.106+j0.045	4026.2	235	285
250 (37)	0.2320	0.29	0.0149	0.1444	0.965	4.1699	0.278+j0.089	0.091+j0.043	4758.3		
350 (37)	0.1657	0.21	0.0134	0.1378	1.079	4.6752	0.207+j0.061	0.066+j0.042	6588.4	310	375
500 (37)	0.1161	0.15	0.0119	0.1345	1.224	5.2953	0.151+j0.045	0.048+j0.040	9304.6	370	450
750 (61)	0.0774	0.10	0.0101	0.1247	1.434	6.2008	0.102+j0.032	0.035+j0.037	13956.9	460	545
1000 (61)	0.0581	0.08	0.0091	0.1214	1.598	6.9160	0.077+j0.029	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)

