

25kV CU 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

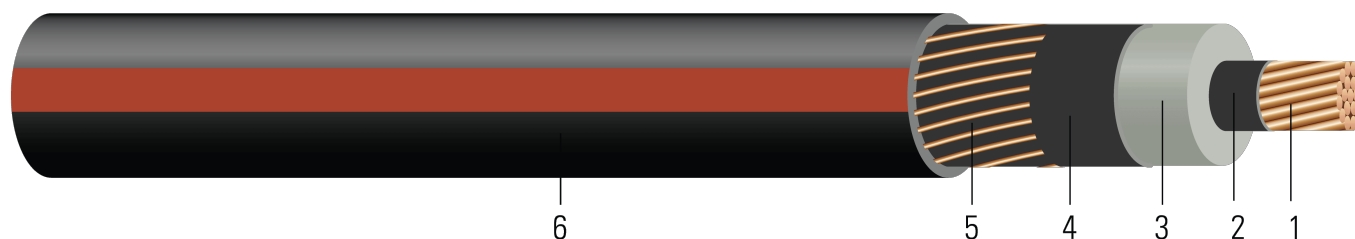


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 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 B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- 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] CU 25000 VOLTS TRXLPE INSULATION 320 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



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Southwire

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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	7x14	0.376	50	1.274	831	15.3	670
TBA	1 (19)	0.322	0.999	320	1.079	7x14	0.376	50	1.307	867	15.7	670
TBA	1/0 (1)	0.325	1.002	320	1.082	9x14	0.292	50	1.310	942	15.7	845
TBA	1/0 (19)	0.362	1.039	320	1.119	9x14	0.292	50	1.347	986	16.2	845
TBA	2/0 (19)	0.405	1.082	320	1.182	11x14	0.239	50	1.410	1144	16.9	1065
TBA	3/0 (19)	0.456	1.133	320	1.233	14x14	0.188	50	1.461	1323	17.5	1342
TBA	4/0 (19)	0.512	1.189	320	1.289	18x14	0.146	50	1.517	1545	18.2	1693
TBA	250 (37)	0.558	1.244	320	1.344	21x14	0.125	50	1.572	1738	18.9	2000
TBA	350 (37)	0.661	1.347	320	1.447	18x12	0.092	80	1.767	2313	21.2	2800
TBA	500 (37)	0.789	1.475	320	1.575	17x10	0.061	80	1.939	3097	23.3	4000
TBA	750 (61)	0.968	1.663	320	1.793	20x9	0.041	80	2.182	4352	26.2	6000
TBA	1000 (61)	1.117	1.812	320	1.942	21x8	0.031	80	2.359	5539	28.3	8000

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)	0.129	0.161	0.074	0.053	0.195	0.846	0.452+j0.199	0.162+j0.053	2562.1	180	220
1 (19)	0.129	0.161	0.070	0.051	0.207	0.897	0.452+j0.198	0.162+j0.051	2562.1	180	220
1/0 (1)	0.102	0.128	0.069	0.051	0.208	0.902	0.378+j0.146	0.129+j0.051	3294.2	200	250
1/0 (19)	0.102	0.128	0.065	0.050	0.222	0.960	0.378+j0.145	0.129+j0.050	3294.2	200	250
2/0 (19)	0.081	0.101	0.061	0.048	0.237	1.026	0.317+j0.113	0.103+j0.048	4026.2	230	285
3/0 (19)	0.0642	0.080	0.057	0.047	0.255	1.104	0.258+j0.084	0.082+j0.046	5124.3	260	325
4/0 (19)	0.051	0.064	0.053	0.045	0.274	1.189	0.208+j0.064	0.066+j0.045	6588.4	300	365
250 (37)	0.0431	0.054	0.049	0.044	0.294	1.271	0.179+j0.054	0.057+j0.043	7686.4		
350 (37)	0.0308	0.039	0.044	0.043	0.329	1.425	0.134+j0.043	0.043+j0.042	10467.7	390	475
500 (37)	0.0216	0.028	0.039	0.041	0.373	1.614	0.091+j0.034	0.033+j0.039	15714.9	455	555
750 (61)	0.0144	0.019	0.033	0.039	0.437	1.890	0.062+j0.028	0.026+j0.035	23314.9	545	650
1000 (61)	0.0108	0.015	0.030	0.038	0.487	2.108	0.047+j0.025	0.022+j0.032	30876.7		

* 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	7x14	1.23	1.27	32.36	1237	388.62	2982
TBA	1 (19)	8.18	25.37	8.13	27.41	7x14	1.23	1.27	33.20	1290	398.78	2982
TBA	1/0 (1)	8.25	25.45	8.13	27.48	9x14	0.96	1.27	33.27	1402	398.78	3760
TBA	1/0 (19)	9.19	26.39	8.13	28.42	9x14	0.96	1.27	34.21	1467	411.48	3760
TBA	2/0 (19)	10.29	27.48	8.13	30.02	11x14	0.78	1.27	35.81	1702	429.26	4739
TBA	3/0 (19)	11.58	28.78	8.13	31.32	14x14	0.62	1.27	37.11	1969	444.50	5972
TBA	4/0 (19)	13.00	30.20	8.13	32.74	18x14	0.48	1.27	38.53	2299	462.28	7534
TBA	250 (37)	14.17	31.60	8.13	34.14	21x14	0.41	1.27	39.93	2586	480.06	8900
TBA	350 (37)	16.79	34.21	8.13	36.75	18x12	0.30	2.03	44.88	3442	538.48	12460
TBA	500 (37)	20.04	37.47	8.13	40.00	17x10	0.20	2.03	49.25	4609	591.82	17800
TBA	750 (61)	24.59	42.24	8.13	45.54	20x9	0.13	2.03	55.42	6476	665.48	26700
TBA	1000 (61)	28.37	46.02	8.13	49.33	21x8	0.10	2.03	59.92	8243	718.82	35600

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)	0.4232	0.53	0.0226	0.1739	0.640	2.7756	0.452+j0.199	0.162+j0.053	2562.1	180	220
1 (19)	0.4232	0.53	0.0213	0.1673	0.679	2.9429	0.452+j0.198	0.162+j0.051	2562.1	180	220
1/0 (1)	0.3346	0.42	0.0210	0.1673	0.682	2.9593	0.378+j0.146	0.129+j0.051	3294.2	200	250
1/0 (19)	0.3346	0.42	0.0198	0.1640	0.728	3.1496	0.378+j0.145	0.129+j0.050	3294.2	200	250
2/0 (19)	0.2657	0.33	0.0186	0.1575	0.778	3.3661	0.317+j0.113	0.103+j0.048	4026.2	230	285
3/0 (19)	0.2106	0.26	0.0174	0.1542	0.837	3.6220	0.258+j0.084	0.082+j0.046	5124.3	260	325
4/0 (19)	0.1673	0.21	0.0162	0.1476	0.899	3.9009	0.208+j0.064	0.066+j0.045	6588.4	300	365
250 (37)	0.1414	0.18	0.0149	0.1444	0.965	4.1699	0.179+j0.054	0.057+j0.043	7686.4		
350 (37)	0.1010	0.13	0.0134	0.1411	1.079	4.6752	0.134+j0.043	0.043+j0.042	10467.7	390	475
500 (37)	0.0709	0.09	0.0119	0.1345	1.224	5.2953	0.091+j0.034	0.033+j0.039	15714.9	455	555
750 (61)	0.0472	0.06	0.0101	0.1280	1.434	6.2008	0.062+j0.028	0.026+j0.035	23314.9	545	650
1000 (61)	0.0354	0.05	0.0091	0.1247	1.598	6.9160	0.047+j0.025	0.022+j0.032	30876.7		

* 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)

