

25kV CU 133% TRXLPE LCT LLDPE Primary UD

Single Conductor, 320 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

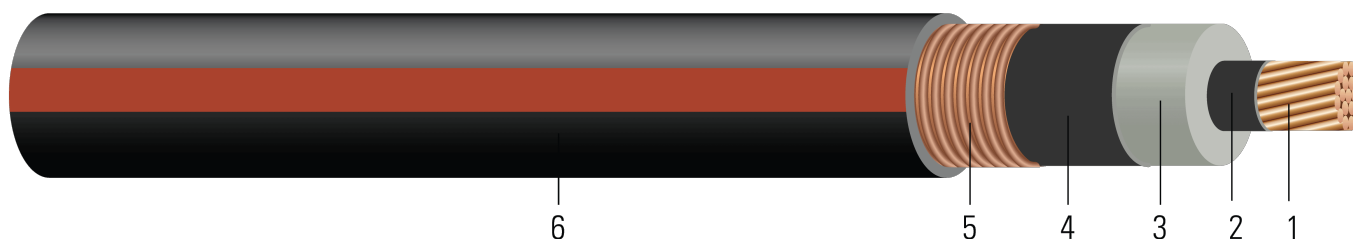


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- 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
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- 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-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: -40°C and MV 90°C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DR(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 25000 VOLTS TRXLPE INSULATION 320 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	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	0.966	320	1.026	80	1.286	891	15.4	670
TBA	1 (19)	0.322	0.999	320	1.059	80	1.319	926	15.8	670
TBA	1/0 (1)	0.325	1.002	320	1.062	80	1.322	978	15.9	845
TBA	1/0 (19)	0.362	1.039	320	1.099	80	1.359	1020	16.3	845
TBA	2/0 (19)	0.405	1.082	320	1.142	80	1.402	1132	16.8	1065
TBA	3/0 (19)	0.456	1.133	320	1.193	80	1.453	1274	17.4	1342
TBA	4/0 (19)	0.512	1.189	320	1.249	80	1.509	1447	18.1	1693
TBA	250 (37)	0.558	1.244	320	1.304	80	1.530	1644	18.4	2000
TBA	350 (37)	0.661	1.347	320	1.407	80	1.633	2025	19.6	2800
TBA	500 (37)	0.789	1.475	320	1.535	110	1.821	2647	21.9	4000
TBA	750 (61)	0.968	1.663	320	1.723	110	2.009	3565	24.1	6000
TBA	1000 (61)	1.117	1.812	320	1.872	110	2.158	4455	25.9	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	0.430+j0.154	0.162+j0.053	4245.4	175	220
1 (19)	0.129	0.161	0.070	0.052	0.207	0.897	0.424+j0.146	0.162+j0.051	4362.6	175	220
1/0 (1)	0.102	0.128	0.069	0.051	0.208	0.902	0.391+j0.146	0.129+j0.051	4373.3	200	250
1/0 (19)	0.102	0.128	0.065	0.050	0.222	0.960	0.385+j0.138	0.129+j0.050	4504.7	200	250
2/0 (19)	0.081	0.101	0.061	0.048	0.237	1.026	0.351+j0.130	0.102+j0.048	4657.4	230	285
3/0 (19)	0.0642	0.080	0.057	0.047	0.255	1.104	0.322+j0.122	0.081+j0.046	4838.5	260	325
4/0 (19)	0.051	0.064	0.053	0.045	0.274	1.189	0.298+j0.114	0.065+j0.045	5037.4	300	365
250 (37)	0.0431	0.054	0.049	0.043	0.294	1.271	0.281+j0.107	0.055+j0.043	5232.7		
350 (37)	0.0308	0.039	0.044	0.041	0.329	1.425	0.253+j0.095	0.040+j0.041	5598.5	390	480
500 (37)	0.0216	0.028	0.039	0.040	0.373	1.614	0.227+j0.083	0.030+j0.039	6053.1	470	575
750 (61)	0.0144	0.019	0.033	0.037	0.437	1.890	0.200+j0.070	0.021+j0.037	6720.7	585	695
1000 (61)	0.0108	0.015	0.030	0.036	0.487	2.108	0.184+j0.062	0.017+j0.036	7249.9	670	785

* 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	24.54	8.13	26.06	2.03	32.66	1326	391.16	2982
TBA	1 (19)	8.18	25.37	8.13	26.90	2.03	33.50	1378	401.32	2982
TBA	1/0 (1)	8.25	25.45	8.13	26.97	2.03	33.58	1455	403.86	3760
TBA	1/0 (19)	9.19	26.39	8.13	27.91	2.03	34.52	1518	414.02	3760
TBA	2/0 (19)	10.29	27.48	8.13	29.01	2.03	35.61	1685	426.72	4739
TBA	3/0 (19)	11.58	28.78	8.13	30.30	2.03	36.91	1896	441.96	5972
TBA	4/0 (19)	13.00	30.20	8.13	31.72	2.03	38.33	2153	459.74	7534
TBA	250 (37)	14.17	31.60	8.13	33.12	2.03	38.86	2447	467.36	8900
TBA	350 (37)	16.79	34.21	8.13	35.74	2.03	41.48	3014	497.84	12460
TBA	500 (37)	20.04	37.47	8.13	38.99	2.79	46.25	3939	556.26	17800
TBA	750 (61)	24.59	42.24	8.13	43.76	2.79	51.03	5305	612.14	26700
TBA	1000 (61)	28.37	46.02	8.13	47.55	2.79	54.81	6630	657.86	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	0.430+j0.154	0.162+j0.053	4245.4	175	220
1 (19)	0.4232	0.53	0.0213	0.1706	0.679	2.9429	0.424+j0.146	0.162+j0.051	4362.6	175	220
1/0 (1)	0.3346	0.42	0.0210	0.1673	0.682	2.9593	0.391+j0.146	0.129+j0.051	4373.3	200	250
1/0 (19)	0.3346	0.42	0.0198	0.1640	0.728	3.1496	0.385+j0.138	0.129+j0.050	4504.7	200	250
2/0 (19)	0.2657	0.33	0.0186	0.1575	0.778	3.3661	0.351+j0.130	0.102+j0.048	4657.4	230	285
3/0 (19)	0.2106	0.26	0.0174	0.1542	0.837	3.6220	0.322+j0.122	0.081+j0.046	4838.5	260	325
4/0 (19)	0.1673	0.21	0.0162	0.1476	0.899	3.9009	0.298+j0.114	0.065+j0.045	5037.4	300	365
250 (37)	0.1414	0.18	0.0149	0.1411	0.965	4.1699	0.281+j0.107	0.055+j0.043	5232.7		
350 (37)	0.1010	0.13	0.0134	0.1345	1.079	4.6752	0.253+j0.095	0.040+j0.041	5598.5	390	480
500 (37)	0.0709	0.09	0.0119	0.1312	1.224	5.2953	0.227+j0.083	0.030+j0.039	6053.1	470	575
750 (61)	0.0472	0.06	0.0101	0.1214	1.434	6.2008	0.200+j0.070	0.021+j0.037	6720.7	585	695
1000 (61)	0.0354	0.05	0.0091	0.1181	1.598	6.9160	0.184+j0.062	0.017+j0.036	7249.9	670	785

* 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)

