

## 28kV CU 100% TRXLPE Full Neutral LLDPE Primary UD

Single Conductor, 280 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

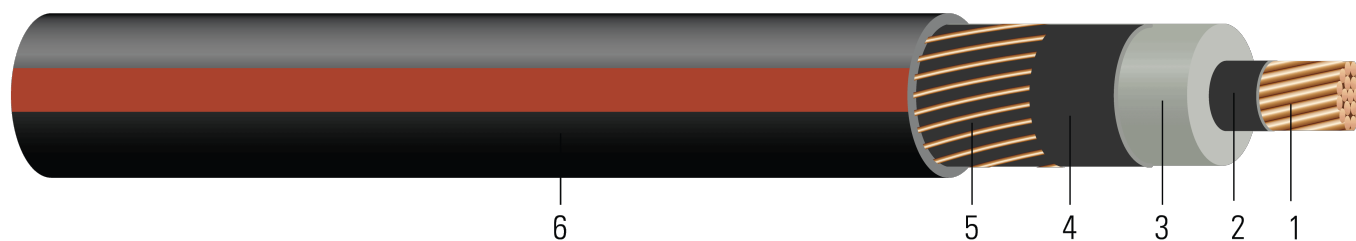


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (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:** 280 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper full concentric neutral
- 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 B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- 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 Listed as MV 90 When Specified

### SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 28000 VOLTS TRXLPE INSULATION 280 MILS -- (NESC) --  
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | [www.southwire.com](http://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	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	0.886	280	0.966	13x12	0.128	50	1.226	945	14.7	670
TBA	1 (19)	0.322	0.919	280	0.999	13x12	0.128	50	1.259	981	15.1	670
TBA	1/0 (1)	0.325	0.922	280	1.002	16x12	0.104	50	1.262	1086	15.1	845
TBA	1/0 (19)	0.362	0.959	280	1.039	16x12	0.104	50	1.299	1129	15.6	845
TBA	2/0 (19)	0.405	1.002	280	1.082	13x10	0.080	50	1.386	1363	16.6	1065
TBA	3/0 (19)	0.456	1.053	280	1.153	16x10	0.065	50	1.457	1614	17.5	1342
TBA	4/0 (19)	0.512	1.109	280	1.209	16x9	0.052	50	1.538	1932	18.5	1693
TBA	250 (37)	0.558	1.164	280	1.264	25x10	0.042	50	1.568	2203	18.8	2000

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	0.068	0.052	0.238	1.152	0.290+j0.064	0.164+j0.051	7560.0	175	220
1 (19)	0.129	0.161	0.064	0.051	0.253	1.226	0.290+j0.062	0.164+j0.050	7560.0	175	220
1/0 (1)	0.102	0.128	0.064	0.050	0.254	1.232	0.234+j0.053	0.132+j0.049	9304.6	200	250
1/0 (19)	0.102	0.128	0.060	0.049	0.271	1.314	0.234+j0.052	0.132+j0.048	9304.6	200	250
2/0 (19)	0.081	0.101	0.056	0.048	0.290	1.408	0.182+j0.045	0.106+j0.046	12017.3	225	285
3/0 (19)	0.0642	0.080	0.052	0.047	0.313	1.518	0.147+j0.039	0.085+j0.044	14790.5	260	320
4/0 (19)	0.051	0.064	0.048	0.045	0.338	1.639	0.117+j0.036	0.070+j0.042	18652.0	295	360
250 (37)	0.0431	0.054	0.045	0.044	0.362	1.756	0.097+j0.031	0.061+j0.039	23110.1		

\* Calculations are based on three cables triplexed / concentric 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 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	22.50	7.11	24.54	13x12	0.42	1.27	31.14	1406	373.38	2982
TBA	1 (19)	8.18	23.34	7.11	25.37	13x12	0.42	1.27	31.98	1460	383.54	2982
TBA	1/0 (1)	8.25	23.42	7.11	25.45	16x12	0.34	1.27	32.05	1616	383.54	3760
TBA	1/0 (19)	9.19	24.36	7.11	26.39	16x12	0.34	1.27	32.99	1680	396.24	3760
TBA	2/0 (19)	10.29	25.45	7.11	27.48	13x10	0.26	1.27	35.20	2028	421.64	4739
TBA	3/0 (19)	11.58	26.75	7.11	29.29	16x10	0.21	1.27	37.01	2402	444.50	5972
TBA	4/0 (19)	13.00	28.17	7.11	30.71	16x9	0.17	1.27	39.07	2875	469.90	7534
TBA	250 (37)	14.17	29.57	7.11	32.11	25x10	0.14	1.27	39.83	3278	477.52	8900

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	0.0207	0.1706	0.781	3.7795	0.290+j0.064	0.164+j0.051	7560.0	175	220
1 (19)	0.4232	0.53	0.0195	0.1673	0.830	4.0223	0.290+j0.062	0.164+j0.050	7560.0	175	220
1/0 (1)	0.3346	0.42	0.0195	0.1640	0.833	4.0420	0.234+j0.053	0.132+j0.049	9304.6	200	250
1/0 (19)	0.3346	0.42	0.0183	0.1608	0.889	4.3110	0.234+j0.052	0.132+j0.048	9304.6	200	250
2/0 (19)	0.2657	0.33	0.0171	0.1575	0.951	4.6194	0.182+j0.045	0.106+j0.046	12017.3	225	285
3/0 (19)	0.2106	0.26	0.0158	0.1542	1.027	4.9803	0.147+j0.039	0.085+j0.044	14790.5	260	320
4/0 (19)	0.1673	0.21	0.0146	0.1476	1.109	5.3773	0.117+j0.036	0.070+j0.042	18652.0	295	360
250 (37)	0.1414	0.18	0.0137	0.1444	1.188	5.7612	0.097+j0.031	0.061+j0.039	23110.1		



\* Calculations are based on three cables triplexed / concentric 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 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)

