35kV CU 100% TRXLPE Full Neutral LLDPE Primary UD

Single Conductor, 345 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:

1. **Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (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:** 345 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 35kV 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 35000 VOLTS TRXLPE INSULATION 345 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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	1/0 (1)	0.325	1.052	345	1.152	16x12	0.104	50	1.412	1218	16.9	845
628306	1/0 (19)	0.362	1.089	345	1.189	16x12	0.104	50	1.449	1264	17.4	845
628308	2/0 (19)	0.405	1.132	345	1.232	13x10	0.080	50	1.536	1506	18.4	1065
TBA	3/0 (19)	0.456	1.183	345	1.283	16x10	0.065	50	1.587	1740	19.0	1342
628310	4/0 (19)	0.512	1.239	345	1.339	20x10	0.052	80	1.728	2130	20.7	1693
628312	4/0 (19)	0.512	1.239	345	1.339	16x9	0.052	80	1.728	2130	20.7	1693
TBA	250 (37)	0.558	1.294	345	1.394	25x10	0.042	80	1.758	2405	21.1	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
1/0 (1)	0.102	0.128	0.073	0.053	0.278	1.687	0.234+j0.057	0.131+j0.052	9540.3	205	250
1/0 (19)	0.102	0.128	0.068	0.051	0.296	1.793	0.234+j0.055	0.131+j0.050	9540.3	205	250
2/0 (19)	0.081	0.101	0.064	0.050	0.316	1.914	0.182+j0.048	0.106+j0.049	12321.7	235	280
3/0 (19)	0.0642	0.080	0.060	0.049	0.339	2.057	0.147+j0.042	0.085+j0.046	15165.1	265	315
4/0 (19)	0.051	0.064	0.055	0.048	0.365	2.212	0.117+j0.038	0.071+j0.045	19124.4	305	360
4/0 (19)	0.051	0.064	0.055	0.048	0.365	2.212	0.117+j0.038	0.071+j0.045	19124.4	305	360
250 (37)	0.0431	0.054	0.052	0.046	0.390	2.363	0.097+j0.033	0.061+j0.042	23695.5		

* 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	1/0 (1)	8.25	26.72	8.76	29.26	16x12	0.34	1.27	35.86	1813	429.26	3760
628306	1/0 (19)	9.19	27.66	8.76	30.20	16x12	0.34	1.27	36.80	1881	441.96	3760
628308	2/0 (19)	10.29	28.75	8.76	31.29	13x10	0.26	1.27	39.01	2241	467.36	4739
TBA	3/0 (19)	11.58	30.05	8.76	32.59	16x10	0.21	1.27	40.31	2589	482.60	5972
628310	4/0 (19)	13.00	31.47	8.76	34.01	20x10	0.17	2.03	43.89	3170	525.78	7534
628312	4/0 (19)	13.00	31.47	8.76	34.01	16x9	0.17	2.03	43.89	3170	525.78	7534
TBA	250 (37)	14.17	32.87	8.76	35.41	25x10	0.14	2.03	44.65	3579	535.94	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
1/0 (1)	0.3346	0.42	0.0223	0.1739	0.912	5.5348	0.234+j0.057	0.131+j0.052	9540.3	205	250
1/0 (19)	0.3346	0.42	0.0207	0.1673	0.971	5.8825	0.234+j0.055	0.131+j0.050	9540.3	205	250
2/0 (19)	0.2657	0.33	0.0195	0.1640	1.037	6.2795	0.182+j0.048	0.106+j0.049	12321.7	235	280
3/0 (19)	0.2106	0.26	0.0183	0.1608	1.112	6.7487	0.147+j0.042	0.085+j0.046	15165.1	265	315
4/0 (19)	0.1673	0.21	0.0168	0.1575	1.198	7.2572	0.117+j0.038	0.071+j0.045	19124.4	305	360
4/0 (19)	0.1673	0.21	0.0168	0.1575	1.198	7.2572	0.117+j0.038	0.071+j0.045	19124.4	305	360
250 (37)	0.1414	0.18	0.0158	0.1509	1.280	7.7526	0.097+j0.033	0.061+j0.042	23695.5		

* 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)