

35kV CU 133% TRXLPE Full Neutral LLDPE Primary UD

Single Conductor, 420 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

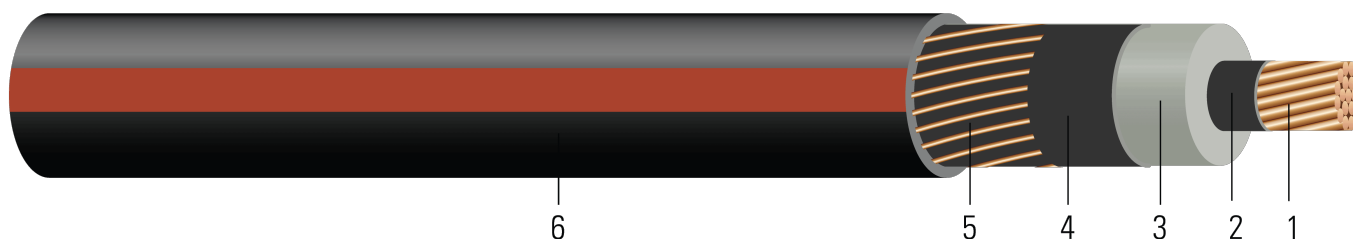


Image not to scale. See Table 1 for dimensions.

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:** 420 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 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 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 420 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	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	1.202	420	1.302	16x12	0.104	50	1.562	1360	18.7	845
TBA	1/0 (19)	0.362	1.239	420	1.339	16x12	0.104	50	1.599	1410	19.2	845
TBA	2/0 (19)	0.405	1.282	420	1.382	13x10	0.080	80	1.746	1726	21.0	1065
TBA	3/0 (19)	0.456	1.333	420	1.433	16x10	0.065	80	1.797	1967	21.6	1342
TBA	4/0 (19)	0.512	1.389	420	1.489	16x9	0.052	80	1.878	2302	22.5	1693
TBA	250 (37)	0.558	1.444	420	1.544	25x10	0.042	80	1.908	2580	22.9	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	0.082	0.055	0.247	1.500	0.234+j0.060	0.131+j0.054	9540.3	205	250
1/0 (19)	0.102	0.128	0.077	0.054	0.262	1.589	0.234+j0.058	0.131+j0.053	9540.3	205	250
2/0 (19)	0.081	0.101	0.072	0.053	0.279	1.691	0.182+j0.051	0.106+j0.052	12321.7	235	280
3/0 (19)	0.0642	0.080	0.068	0.051	0.299	1.810	0.147+j0.045	0.085+j0.049	15165.1	265	315
4/0 (19)	0.051	0.064	0.063	0.050	0.320	1.939	0.117+j0.041	0.070+j0.047	19124.4	305	360
250 (37)	0.0431	0.054	0.059	0.048	0.341	2.065	0.097+j0.036	0.061+j0.044	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 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	1/0 (1)	8.25	30.53	10.67	33.07	16x12	0.34	1.27	39.67	2024	474.98	3760
TBA	1/0 (19)	9.19	31.47	10.67	34.01	16x12	0.34	1.27	40.61	2098	487.68	3760
TBA	2/0 (19)	10.29	32.56	10.67	35.10	13x10	0.26	2.03	44.35	2569	533.40	4739
TBA	3/0 (19)	11.58	33.86	10.67	36.40	16x10	0.21	2.03	45.64	2927	548.64	5972
TBA	4/0 (19)	13.00	35.28	10.67	37.82	16x9	0.17	2.03	47.70	3426	571.50	7534
TBA	250 (37)	14.17	36.68	10.67	39.22	25x10	0.14	2.03	48.46	3839	581.66	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	0.0250	0.1804	0.810	4.9213	0.234+j0.060	0.131+j0.054	9540.3	205	250
1/0 (19)	0.3346	0.42	0.0235	0.1772	0.860	5.2133	0.234+j0.058	0.131+j0.053	9540.3	205	250
2/0 (19)	0.2657	0.33	0.0219	0.1739	0.915	5.5479	0.182+j0.051	0.106+j0.052	12321.7	235	280
3/0 (19)	0.2106	0.26	0.0207	0.1673	0.981	5.9383	0.147+j0.045	0.085+j0.049	15165.1	265	315
4/0 (19)	0.1673	0.21	0.0192	0.1640	1.050	6.3615	0.117+j0.041	0.070+j0.047	19124.4	305	360
250 (37)	0.1414	0.18	0.0180	0.1575	1.119	6.7749	0.097+j0.036	0.061+j0.044	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 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)

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