

## 35kV CU 133% TRXLPE LCT LLDPE Primary UD

Single Conductor, 420 Mils Tree Retardant Cross Linked Polyethylene, 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

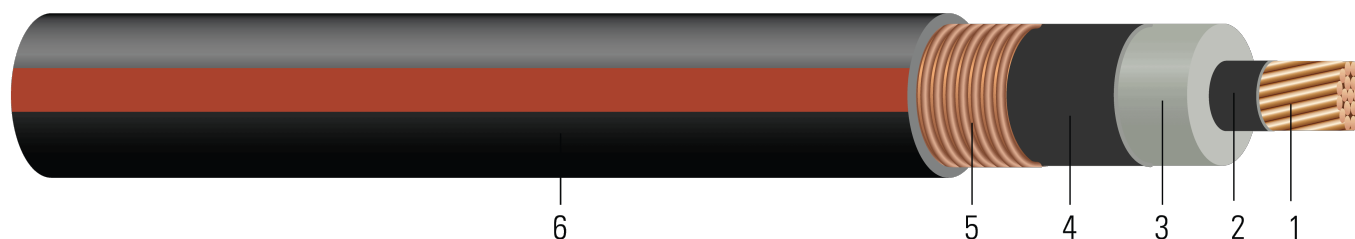


Image not to scale. See Table 1 for dimensions.

### 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:** 420 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 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
- 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 35000 VOLTS TRXLPE INSULATION 420 MILS -- (NESC) --  
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



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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	1/0 (1)	0.325	1.202	420	1.262	80	1.522	1146	12.1	845
TBA	1/0 (19)	0.362	1.239	420	1.299	80	1.559	1192	12.4	845
TBA	2/0 (19)	0.405	1.282	420	1.342	80	1.568	1351	12.5	1065
TBA	3/0 (19)	0.456	1.333	420	1.393	80	1.619	1500	12.9	1342
TBA	4/0 (19)	0.512	1.389	420	1.449	80	1.675	1680	130	1693
TBA	250 (37)	0.558	1.444	420	1.504	110	1.790	1909	14.	2000
TBA	350 (37)	0.661	1.547	420	1.607	110	1.941	2381	15.5	2800
TBA	500 (37)	0.789	1.675	420	1.735	110	2.021	2882	16.1	4000
TBA	750 (61)	0.968	1.863	420	1.923	110	2.209	3823	17.6	6000
TBA	1000 (61)	1.117	2.012	420	2.072	110	2.358	4733	18.8	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
1/0 (1)	0.102	0.128	0.082	0.055	0.247	1.500	0.360+j0.122	0.129+j0.055	5212.3	210	250
1/0 (19)	0.102	0.128	0.077	0.053	0.262	1.589	0.355+j0.117	0.129+j0.053	5347.1	210	250
2/0 (19)	0.081	0.101	0.072	0.051	0.279	1.691	0.323+j0.111	0.102+j0.051	5503.6	235	280
3/0 (19)	0.0642	0.080	0.068	0.049	0.299	1.810	0.295+j0.104	0.081+j0.049	5689.3	265	320
4/0 (19)	0.051	0.064	0.063	0.047	0.320	1.939	0.273+j0.098	0.065+j0.047	5893.3	300	360
250 (37)	0.0431	0.054	0.059	0.047	0.341	2.065	0.257+j0.092	0.056+j0.047	6093.5		
350 (37)	0.0308	0.039	0.053	0.044	0.379	2.299	0.231+j0.083	0.041+j0.044	6468.6	400	475
500 (37)	0.0216	0.028	0.047	0.042	0.427	2.586	0.208+j0.074	0.030+j0.042	6934.7	485	570
750 (61)	0.0144	0.019	0.041	0.039	0.495	3.003	0.184+j0.064	0.021+j0.039	7619.3	595	690
1000 (61)	0.0108	0.015	0.037	0.038	0.549	3.331	0.170+j0.057	0.017+j0.038	8161.8	675	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	1/0 (1)	8.25	30.53	10.67	32.05	2.03	38.66	1705	307.34	3760
TBA	1/0 (19)	9.19	31.47	10.67	32.99	2.03	39.60	1774	314.96	3760
TBA	2/0 (19)	10.29	32.56	10.67	34.09	2.03	39.83	2011	317.50	4739
TBA	3/0 (19)	11.58	33.86	10.67	35.38	2.03	41.12	2232	327.66	5972
TBA	4/0 (19)	13.00	35.28	10.67	36.80	2.03	42.55	2500	3302.00	7534
TBA	250 (37)	14.17	36.68	10.67	38.20	2.79	45.47	2841	355.60	8900
TBA	350 (37)	16.79	39.29	10.67	40.82	2.79	49.30	3543	393.70	12460
TBA	500 (37)	20.04	42.55	10.67	44.07	2.79	51.33	4289	408.94	17800
TBA	750 (61)	24.59	47.32	10.67	48.84	2.79	56.11	5689	447.04	26700
TBA	1000 (61)	28.37	51.10	10.67	52.63	2.79	59.89	7043	477.52	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
1/0 (1)	0.3346	0.42	0.0250	0.1804	0.810	4.9213	0.360+j0.122	0.129+j0.055	5212.3	210	250
1/0 (19)	0.3346	0.42	0.0235	0.1739	0.860	5.2133	0.355+j0.117	0.129+j0.053	5347.1	210	250
2/0 (19)	0.2657	0.33	0.0219	0.1673	0.915	5.5479	0.323+j0.111	0.102+j0.051	5503.6	235	280
3/0 (19)	0.2106	0.26	0.0207	0.1608	0.981	5.9383	0.295+j0.104	0.081+j0.049	5689.3	265	320
4/0 (19)	0.1673	0.21	0.0192	0.1542	1.050	6.3615	0.273+j0.098	0.065+j0.047	5893.3	300	360
250 (37)	0.1414	0.18	0.0180	0.1542	1.119	6.7749	0.257+j0.092	0.056+j0.047	6093.5		
350 (37)	0.1010	0.13	0.0162	0.1444	1.243	7.5427	0.231+j0.083	0.041+j0.044	6468.6	400	475
500 (37)	0.0709	0.09	0.0143	0.1378	1.401	8.4843	0.208+j0.074	0.030+j0.042	6934.7	485	570
750 (61)	0.0472	0.06	0.0125	0.1280	1.624	9.8524	0.184+j0.064	0.021+j0.039	7619.3	595	690
1000 (61)	0.0354	0.05	0.0113	0.1247	1.801	10.9285	0.170+j0.057	0.017+j0.038	8161.8	675	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

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‡ 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)

