

## 35kV AL 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

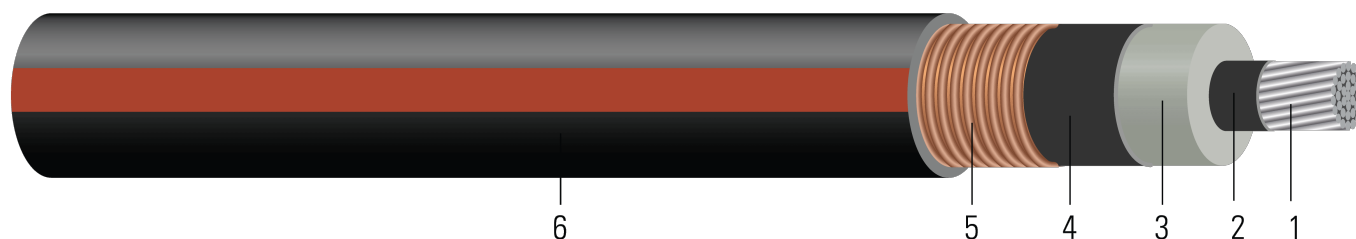


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350  $\frac{3}{4}$  hard H16/H26 ( 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
- 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 B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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
- UL 1072 Listed as MV 90 When Specified
- Optional CSA: CSA 68.5 and -40C optional marking available upon request

### SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 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	924	18.3	634
TBA	1/0 (19)	0.352	1.229	420	1.289	80	1.549	953	18.6	634
TBA	2/0 (19)	0.395	1.272	420	1.332	80	1.558	1052	18.7	799
TBA	3/0 (19)	0.443	1.320	420	1.380	80	1.606	1121	19.3	1007
TBA	4/0 (19)	0.498	1.375	420	1.435	80	1.661	1205	19.9	1270
TBA	250 (37)	0.558	1.444	420	1.504	110	1.790	1372	21.5	1500
TBA	350 (37)	0.661	1.547	420	1.607	110	1.893	1555	22.7	2100
TBA	500 (37)	0.789	1.675	420	1.735	110	2.021	1809	24.3	3000
TBA	750 (61)	0.968	1.863	420	1.923	110	2.209	2213	26.5	4500
TBA	1000 (61)	1.117	2.012	420	2.072	110	2.358	2586	28.3	6000

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)	0.168	0.211	0.082	0.055	0.247	1.500	0.443+j0.122	0.212+j0.055	5212.3	160	195
1/0 (19)	0.168	0.211	0.078	0.053	0.258	1.565	0.440+j0.118	0.212+j0.053	5310.6	160	195
2/0 (19)	0.133	0.167	0.073	0.051	0.275	1.667	0.390+j0.112	0.168+j0.051	5467.2	185	220
3/0 (19)	0.105	0.132	0.069	0.049	0.294	1.780	0.349+j0.106	0.133+j0.049	5642.0	210	250
4/0 (19)	0.0836	0.105	0.064	0.048	0.315	1.907	0.315+j0.099	0.106+j0.048	5842.3	235	285
250 (37)	0.0707	0.089	0.059	0.047	0.341	2.065	0.292+j0.092	0.091+j0.047	6093.5		
350 (37)	0.0505	0.064	0.053	0.044	0.379	2.299	0.256+j0.083	0.066+j0.044	6468.6	315	375
500 (37)	0.0354	0.045	0.047	0.042	0.427	2.586	0.225+j0.074	0.047+j0.042	6934.7	380	450
750 (61)	0.0236	0.030	0.041	0.039	0.495	3.003	0.195+j0.064	0.032+j0.039	7619.3	480	555
1000 (61)	0.0177	0.023	0.037	0.038	0.549	3.331	0.178+j0.057	0.025+j0.038	8161.8	550	640

\* 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 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	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	1375	464.82	2821
TBA	1/0 (19)	8.94	31.22	10.67	32.74	2.03	39.34	1418	472.44	2821
TBA	2/0 (19)	10.03	32.31	10.67	33.83	2.03	39.57	1566	474.98	3556
TBA	3/0 (19)	11.25	33.53	10.67	35.05	2.03	40.79	1668	490.22	4481
TBA	4/0 (19)	12.65	34.93	10.67	36.45	2.03	42.19	1793	505.46	5652
TBA	250 (37)	14.17	36.68	10.67	38.20	2.79	45.47	2042	546.10	6675
TBA	350 (37)	16.79	39.29	10.67	40.82	2.79	48.08	2314	576.58	9345
TBA	500 (37)	20.04	42.55	10.67	44.07	2.79	51.33	2692	617.22	13350
TBA	750 (61)	24.59	47.32	10.67	48.84	2.79	56.11	3293	673.10	20025
TBA	1000 (61)	28.37	51.10	10.67	52.63	2.79	59.89	3848	718.82	26700

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)	0.5512	0.69	0.0250	0.1804	0.810	4.9213	0.443+j0.122	0.212+j0.055	5212.3	160	195
1/0 (19)	0.5512	0.69	0.0238	0.1739	0.846	5.1345	0.440+j0.118	0.212+j0.053	5310.6	160	195
2/0 (19)	0.4364	0.55	0.0223	0.1673	0.902	5.4692	0.390+j0.112	0.168+j0.051	5467.2	185	220
3/0 (19)	0.3445	0.43	0.0210	0.1608	0.965	5.8399	0.349+j0.106	0.133+j0.049	5642.0	210	250
4/0 (19)	0.2743	0.34	0.0195	0.1575	1.033	6.2566	0.315+j0.099	0.106+j0.048	5842.3	235	285
250 (37)	0.2320	0.29	0.0180	0.1542	1.119	6.7749	0.292+j0.092	0.091+j0.047	6093.5		
350 (37)	0.1657	0.21	0.0162	0.1444	1.243	7.5427	0.256+j0.083	0.066+j0.044	6468.6	315	375
500 (37)	0.1161	0.15	0.0143	0.1378	1.401	8.4843	0.225+j0.074	0.047+j0.042	6934.7	380	450
750 (61)	0.0774	0.10	0.0125	0.1280	1.624	9.8524	0.195+j0.064	0.032+j0.039	7619.3	480	555
1000 (61)	0.0581	0.08	0.0113	0.1247	1.801	10.9285	0.178+j0.057	0.025+j0.038	8161.8	550	640

\* 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 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)

