

35kV CU 100% EPR LCT LLDPE Primary UD

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

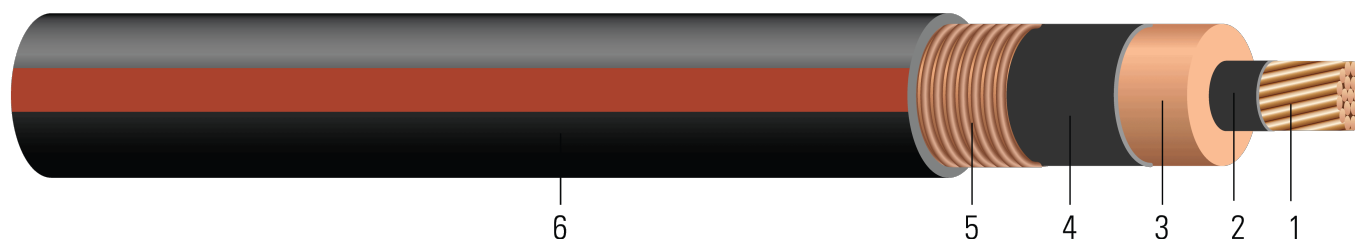


Image not to scale. See Table 1 for dimensions.

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:** 345 Mils Ethylene Propylene Rubber (EPR) 100% 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 105°C for normal operation, 140°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
- 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] CU 35000 VOLTS EPR INSULATION 345 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	1.052	345	1.112	80	1.372	1112	16.5	845
TBA	1/0 (19)	0.362	1.089	345	1.149	80	1.409	1159	16.9	845
TBA	2/0 (19)	0.405	1.132	345	1.192	80	1.452	1279	17.4	1065
TBA	3/0 (19)	0.456	1.183	345	1.243	80	1.503	1429	18.0	1342
TBA	4/0 (19)	0.512	1.239	345	1.299	80	1.559	1612	18.7	1693
TBA	250 (37)	0.558	1.294	345	1.354	80	1.580	1817	19.0	2000
TBA	350 (37)	0.661	1.397	345	1.457	110	1.743	2280	20.9	2800
TBA	500 (37)	0.789	1.525	345	1.585	110	1.871	2860	22.5	4000
TBA	750 (61)	0.968	1.713	345	1.773	110	2.059	3809	24.7	6000
TBA	1000 (61)	1.117	1.862	345	1.922	110	2.208	4724	26.5	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	0.060	0.052	0.339	136.952	0.383+j0.139	0.129+j0.052	4316.7	210	250
1/0 (19)	0.102	0.128	0.056	0.051	0.360	145.511	0.377+j0.132	0.129+j0.051	4441.4	210	250
2/0 (19)	0.081	0.101	0.053	0.049	0.384	155.355	0.343+j0.125	0.102+j0.049	4586.2	235	280
3/0 (19)	0.0642	0.080	0.049	0.047	0.413	166.915	0.315+j0.117	0.081+j0.047	4758.0	265	320
4/0 (19)	0.051	0.064	0.046	0.046	0.444	179.494	0.291+j0.109	0.065+j0.046	4946.7	300	360
250 (37)	0.0431	0.054	0.043	0.044	0.474	191.754	0.274+j0.102	0.055+j0.044	5131.9		
350 (37)	0.0308	0.039	0.038	0.042	0.531	214.523	0.247+j0.092	0.040+j0.042	5478.9	400	475
500 (37)	0.0216	0.028	0.034	0.040	0.600	242.564	0.222+j0.081	0.030+j0.040	5910.1	485	570
750 (61)	0.0144	0.019	0.029	0.038	0.701	283.412	0.196+j0.068	0.021+j0.038	6543.4	595	690
1000 (61)	0.0108	0.015	0.026	0.036	0.781	315.594	0.180+j0.060	0.017+j0.036	7045.4	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 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	26.72	8.76	28.24	2.03	34.85	1655	419.10	3760
TBA	1/0 (19)	9.19	27.66	8.76	29.18	2.03	35.79	1725	429.26	3760
TBA	2/0 (19)	10.29	28.75	8.76	30.28	2.03	36.88	1903	441.96	4739
TBA	3/0 (19)	11.58	30.05	8.76	31.57	2.03	38.18	2127	457.20	5972
TBA	4/0 (19)	13.00	31.47	8.76	32.99	2.03	39.60	2399	474.98	7534
TBA	250 (37)	14.17	32.87	8.76	34.39	2.03	40.13	2704	482.60	8900
TBA	350 (37)	16.79	35.48	8.76	37.01	2.79	44.27	3393	530.86	12460
TBA	500 (37)	20.04	38.73	8.76	40.26	2.79	47.52	4256	571.50	17800
TBA	750 (61)	24.59	43.51	8.76	45.03	2.79	52.30	5668	627.38	26700
TBA	1000 (61)	28.37	47.29	8.76	48.82	2.79	56.08	7030	673.10	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	0.0183	0.1706	1.112	449.3176	0.383+j0.139	0.129+j0.052	4316.7	210	250
1/0 (19)	0.3346	0.42	0.0171	0.1673	1.181	477.3983	0.377+j0.132	0.129+j0.051	4441.4	210	250
2/0 (19)	0.2657	0.33	0.0162	0.1608	1.260	509.6949	0.343+j0.125	0.102+j0.049	4586.2	235	280
3/0 (19)	0.2106	0.26	0.0149	0.1542	1.355	547.6214	0.315+j0.117	0.081+j0.047	4758.0	265	320
4/0 (19)	0.1673	0.21	0.0140	0.1509	1.457	588.8911	0.291+j0.109	0.065+j0.046	4946.7	300	360
250 (37)	0.1414	0.18	0.0131	0.1444	1.555	629.1142	0.274+j0.102	0.055+j0.044	5131.9		
350 (37)	0.1010	0.13	0.0116	0.1378	1.742	703.8156	0.247+j0.092	0.040+j0.042	5478.9	400	475
500 (37)	0.0709	0.09	0.0104	0.1312	1.969	795.8136	0.222+j0.081	0.030+j0.040	5910.1	485	570
750 (61)	0.0472	0.06	0.0088	0.1247	2.300	929.8294	0.196+j0.068	0.021+j0.038	6543.4	595	690
1000 (61)	0.0354	0.05	0.0079	0.1181	2.562	1035.4134	0.180+j0.060	0.017+j0.036	7045.4	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 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)

