

35kV CU 133% EPR LCT LLDPE Primary UD

Single Conductor, 420 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

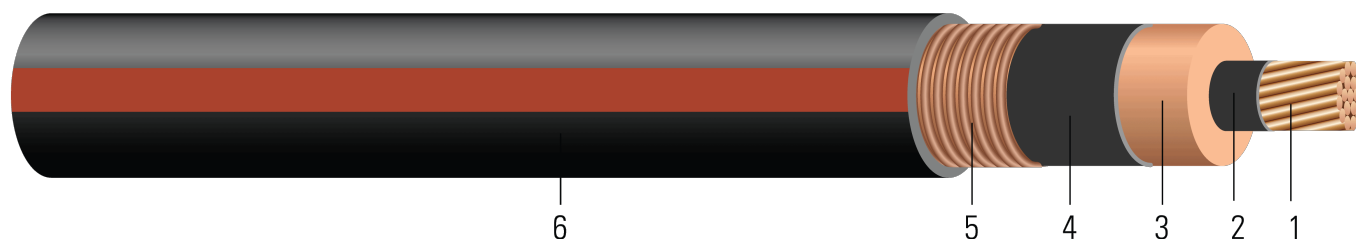


Image not to scale. See Table 1 for dimensions.

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 Ethylene Propylene Rubber (EPR) 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 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 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	1273	18.3	845
TBA	1/0 (19)	0.362	1.239	420	1.299	80	1.559	1325	18.7	845
TBA	2/0 (19)	0.405	1.282	420	1.342	80	1.568	1491	18.8	1065
TBA	3/0 (19)	0.456	1.333	420	1.393	80	1.619	1647	19.4	1342
TBA	4/0 (19)	0.512	1.389	420	1.449	80	1.675	1836	20.1	1693
TBA	250 (37)	0.558	1.444	420	1.504	110	1.790	2074	21.5	2000
TBA	350 (37)	0.661	1.547	420	1.607	110	1.893	2489	22.7	2800
TBA	500 (37)	0.789	1.675	420	1.735	110	2.021	3085	24.3	4000
TBA	750 (61)	0.968	1.863	420	1.923	110	2.209	4056	26.5	6000
TBA	1000 (61)	1.117	2.012	420	2.072	110	2.358	4990	28.3	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	0.067	0.055	0.301	121.741	0.360+j0.122	0.129+j0.055	4822.0	210	250
1/0 (19)	0.102	0.128	0.063	0.053	0.319	128.939	0.355+j0.117	0.129+j0.053	4946.7	210	250
2/0 (19)	0.081	0.101	0.060	0.051	0.339	137.201	0.323+j0.111	0.102+j0.051	5091.5	235	280
3/0 (19)	0.0642	0.080	0.056	0.049	0.363	146.883	0.295+j0.104	0.081+j0.049	5263.3	265	320
4/0 (19)	0.051	0.064	0.052	0.047	0.389	157.395	0.273+j0.098	0.065+j0.047	5452.0	300	360
250 (37)	0.0431	0.054	0.049	0.047	0.415	167.624	0.257+j0.092	0.056+j0.047	5637.2		
350 (37)	0.0308	0.039	0.044	0.044	0.462	186.581	0.231+j0.083	0.041+j0.044	5984.2	400	475
500 (37)	0.0216	0.028	0.039	0.042	0.519	209.874	0.208+j0.074	0.030+j0.042	6415.4	485	570
750 (61)	0.0144	0.019	0.034	0.039	0.603	243.726	0.184+j0.064	0.021+j0.039	7048.7	595	690
1000 (61)	0.0108	0.015	0.030	0.038	0.669	270.348	0.170+j0.057	0.017+j0.038	7550.7	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	30.53	10.67	32.05	2.03	38.66	1894	464.82	3760
TBA	1/0 (19)	9.19	31.47	10.67	32.99	2.03	39.60	1972	474.98	3760
TBA	2/0 (19)	10.29	32.56	10.67	34.09	2.03	39.83	2219	477.52	4739
TBA	3/0 (19)	11.58	33.86	10.67	35.38	2.03	41.12	2451	492.76	5972
TBA	4/0 (19)	13.00	35.28	10.67	36.80	2.03	42.55	2732	510.54	7534
TBA	250 (37)	14.17	36.68	10.67	38.20	2.79	45.47	3086	546.10	8900
TBA	350 (37)	16.79	39.29	10.67	40.82	2.79	48.08	3704	576.58	12460
TBA	500 (37)	20.04	42.55	10.67	44.07	2.79	51.33	4591	617.22	17800
TBA	750 (61)	24.59	47.32	10.67	48.84	2.79	56.11	6036	673.10	26700
TBA	1000 (61)	28.37	51.10	10.67	52.63	2.79	59.89	7426	718.82	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	0.0204	0.1804	0.988	399.4127	0.360+j0.122	0.129+j0.055	4822.0	210	250
1/0 (19)	0.3346	0.42	0.0192	0.1739	1.047	423.0282	0.355+j0.117	0.129+j0.053	4946.7	210	250
2/0 (19)	0.2657	0.33	0.0183	0.1673	1.112	450.1345	0.323+j0.111	0.102+j0.051	5091.5	235	280
3/0 (19)	0.2106	0.26	0.0171	0.1608	1.191	481.8996	0.295+j0.104	0.081+j0.049	5263.3	265	320
4/0 (19)	0.1673	0.21	0.0158	0.1542	1.276	516.3878	0.273+j0.098	0.065+j0.047	5452.0	300	360
250 (37)	0.1414	0.18	0.0149	0.1542	1.362	549.9475	0.257+j0.092	0.056+j0.047	5637.2		
350 (37)	0.1010	0.13	0.0134	0.1444	1.516	612.1424	0.231+j0.083	0.041+j0.044	5984.2	400	475
500 (37)	0.0709	0.09	0.0119	0.1378	1.703	688.5630	0.208+j0.074	0.030+j0.042	6415.4	485	570
750 (61)	0.0472	0.06	0.0104	0.1280	1.978	799.6260	0.184+j0.064	0.021+j0.039	7048.7	595	690
1000 (61)	0.0354	0.05	0.0091	0.1247	2.195	886.9685	0.170+j0.057	0.017+j0.038	7550.7	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)

