

35kV CU 133% EPR Full Neutral LLDPE Primary UD

Single Conductor, 420 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

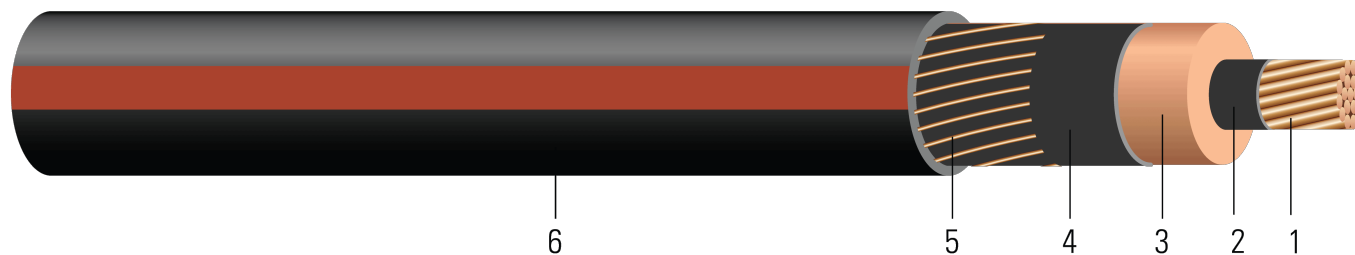


Image not to scale. See Table 1 for dimensions.

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
- 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 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-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
- 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: 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	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	1487	18.7	845
TBA	1/0 (19)	0.362	1.239	420	1.339	16x12	0.104	50	1.599	1543	19.2	845
TBA	2/0 (19)	0.405	1.282	420	1.382	13x10	0.080	80	1.746	1866	21.0	1065
TBA	3/0 (19)	0.456	1.333	420	1.433	16x10	0.065	80	1.797	2115	21.6	1342
TBA	4/0 (19)	0.512	1.389	420	1.489	16x9	0.052	80	1.878	2460	22.5	1693
TBA	250 (37)	0.558	1.444	420	1.544	25x10	0.042	80	1.908	2746	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	0.067	0.055	0.301	121.741	0.234+j0.060	0.131+j0.054	8825.9	205	250
1/0 (19)	0.102	0.128	0.063	0.054	0.319	128.939	0.234+j0.058	0.131+j0.053	8825.9	205	250
2/0 (19)	0.081	0.101	0.060	0.053	0.339	137.201	0.182+j0.051	0.106+j0.052	11399.0	235	280
3/0 (19)	0.0642	0.080	0.056	0.051	0.363	146.883	0.147+j0.045	0.085+j0.049	14029.6	265	315
4/0 (19)	0.051	0.064	0.052	0.050	0.389	157.395	0.117+j0.041	0.070+j0.047	17692.4	305	360
250 (37)	0.0431	0.054	0.049	0.048	0.415	167.624	0.097+j0.036	0.061+j0.044	21921.2		

* 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	2213	474.98	3760
TBA	1/0 (19)	9.19	31.47	10.67	34.01	16x12	0.34	1.27	40.61	2296	487.68	3760
TBA	2/0 (19)	10.29	32.56	10.67	35.10	13x10	0.26	2.03	44.35	2777	533.40	4739
TBA	3/0 (19)	11.58	33.86	10.67	36.40	16x10	0.21	2.03	45.64	3147	548.64	5972
TBA	4/0 (19)	13.00	35.28	10.67	37.82	16x9	0.17	2.03	47.70	3661	571.50	7534
TBA	250 (37)	14.17	36.68	10.67	39.22	25x10	0.14	2.03	48.46	4086	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	0.0204	0.1804	0.988	399.4127	0.234+j0.060	0.131+j0.054	8825.9	205	250
1/0 (19)	0.3346	0.42	0.0192	0.1772	1.047	423.0282	0.234+j0.058	0.131+j0.053	8825.9	205	250
2/0 (19)	0.2657	0.33	0.0183	0.1739	1.112	450.1345	0.182+j0.051	0.106+j0.052	11399.0	235	280
3/0 (19)	0.2106	0.26	0.0171	0.1673	1.191	481.8996	0.147+j0.045	0.085+j0.049	14029.6	265	315
4/0 (19)	0.1673	0.21	0.0158	0.1640	1.276	516.3878	0.117+j0.041	0.070+j0.047	17692.4	305	360
250 (37)	0.1414	0.18	0.0149	0.1575	1.362	549.9475	0.097+j0.036	0.061+j0.044	21921.2		

* 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)

