

25kV CU 133% EPR Full Neutral LLDPE Primary UD

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

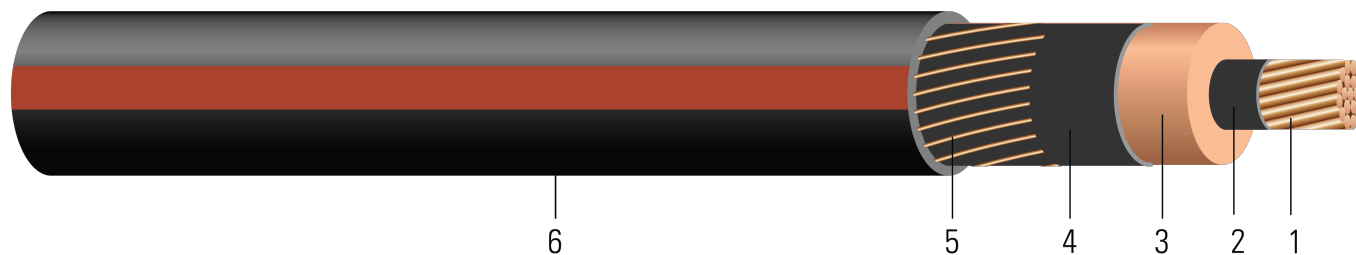


Image not to scale. See Table 1 for dimensions.

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:** 320 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 25kV 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
- 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 25000 VOLTS EPR INSULATION 320 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 (1)	0.289	0.966	320	1.046	13x12	0.128	50	1.306	1090	15.7	670
TBA	1 (19)	0.322	0.999	320	1.079	13x12	0.128	50	1.339	1131	16.1	670
TBA	1/0 (1)	0.325	1.002	320	1.082	16x12	0.104	50	1.342	1237	16.1	845
TBA	1/0 (19)	0.362	1.039	320	1.119	16x12	0.104	50	1.379	1286	16.5	845
TBA	2/0 (19)	0.405	1.082	320	1.182	13x10	0.080	50	1.486	1552	17.8	1065
TBA	3/0 (19)	0.456	1.133	320	1.233	16x10	0.065	50	1.537	1791	18.4	1342
TBA	4/0 (19)	0.512	1.189	320	1.289	16x9	0.052	50	1.618	2121	19.4	1693
TBA	250 (37)	0.558	1.244	320	1.344	25x10	0.042	50	1.648	2400	19.8	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 (1)	0.129	0.161	0.061	0.054	0.238	68.622	0.290+j0.066	0.164+j0.053	7171.1	175	220
1 (19)	0.129	0.161	0.057	0.052	0.252	72.835	0.289+j0.064	0.164+j0.051	7171.1	175	220
1/0 (1)	0.102	0.128	0.057	0.052	0.254	73.215	0.234+j0.055	0.132+j0.051	8825.9	200	250
1/0 (19)	0.102	0.128	0.053	0.050	0.270	77.886	0.234+j0.054	0.132+j0.049	8825.9	200	250
2/0 (19)	0.081	0.101	0.050	0.050	0.288	83.262	0.182+j0.047	0.106+j0.048	11399.0	225	285
3/0 (19)	0.0642	0.080	0.047	0.048	0.310	89.581	0.147+j0.041	0.085+j0.046	14029.6	260	320
4/0 (19)	0.051	0.064	0.043	0.047	0.334	96.460	0.117+j0.037	0.070+j0.043	17692.4	295	360
250 (37)	0.0431	0.054	0.040	0.045	0.357	103.169	0.097+j0.032	0.061+j0.041	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 (1)	7.34	24.54	8.13	26.57	13x12	0.42	1.27	33.17	1622	398.78	2982
TBA	1 (19)	8.18	25.37	8.13	27.41	13x12	0.42	1.27	34.01	1683	408.94	2982
TBA	1/0 (1)	8.25	25.45	8.13	27.48	16x12	0.34	1.27	34.09	1841	408.94	3760
TBA	1/0 (19)	9.19	26.39	8.13	28.42	16x12	0.34	1.27	35.03	1914	419.10	3760
TBA	2/0 (19)	10.29	27.48	8.13	30.02	13x10	0.26	1.27	37.74	2310	452.12	4739
TBA	3/0 (19)	11.58	28.78	8.13	31.32	16x10	0.21	1.27	39.04	2665	467.36	5972
TBA	4/0 (19)	13.00	30.20	8.13	32.74	16x9	0.17	1.27	41.10	3156	492.76	7534
TBA	250 (37)	14.17	31.60	8.13	34.14	25x10	0.14	1.27	41.86	3572	502.92	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 (1)	0.4232	0.53	0.0186	0.1772	0.781	225.1378	0.290+j0.066	0.164+j0.053	7171.1	175	220
1 (19)	0.4232	0.53	0.0174	0.1706	0.827	238.9600	0.289+j0.064	0.164+j0.051	7171.1	175	220
1/0 (1)	0.3346	0.42	0.0174	0.1706	0.833	240.2067	0.234+j0.055	0.132+j0.051	8825.9	200	250
1/0 (19)	0.3346	0.42	0.0162	0.1640	0.886	255.5315	0.234+j0.054	0.132+j0.049	8825.9	200	250
2/0 (19)	0.2657	0.33	0.0152	0.1640	0.945	273.1693	0.182+j0.047	0.106+j0.048	11399.0	225	285
3/0 (19)	0.2106	0.26	0.0143	0.1575	1.017	293.9009	0.147+j0.041	0.085+j0.046	14029.6	260	320
4/0 (19)	0.1673	0.21	0.0131	0.1542	1.096	316.4698	0.117+j0.037	0.070+j0.043	17692.4	295	360
250 (37)	0.1414	0.18	0.0122	0.1476	1.171	338.4810	0.097+j0.032	0.061+j0.041	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 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)

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