

## 15kV CU 100% EPR Full Neutral LLDPE Primary UD

Single Conductor, 175 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Full Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

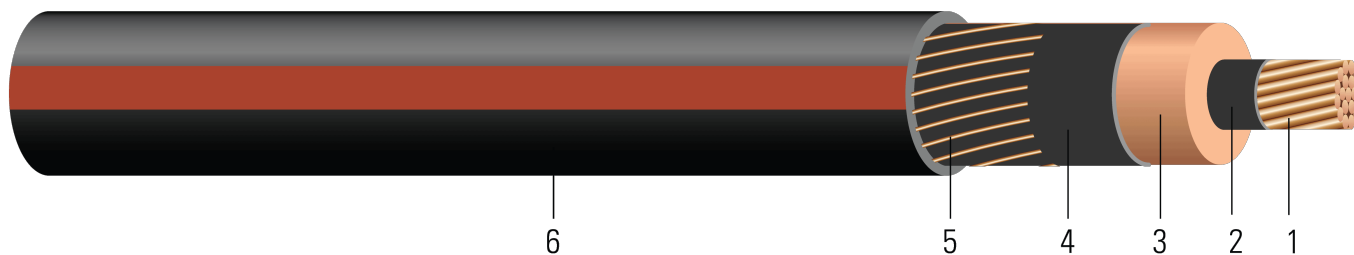


Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Non Moisture Blocked Optional)
- Conductor Shield:** Conventional Semi-conducting cross-linked copolymer. A conductor tape is used for cable size larger than or equal to 1500 Kcmil
- Insulation:** 175 Mils Ethylene Propylene Rubber (EPR) 100% 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 15kV 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
- 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 Listed as MV 90 When Specified

### SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 15000 VOLTS EPR INSULATION 175 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	2 (1)	0.258	0.645	175	0.725	16x14	0.164	50	0.953	686	11.4	531
TBA	1 (1)	0.289	0.676	175	0.756	13x12	0.128	50	1.016	828	12.2	670
TBA	1 (19)	0.322	0.709	175	0.789	13x12	0.128	50	1.049	862	12.6	670
TBA	1/0 (1)	0.325	0.712	175	0.792	16x12	0.104	50	1.052	967	12.6	845
TBA	3/0 (19)	0.456	0.843	175	0.923	16x10	0.065	50	1.227	1459	14.7	1342
TBA	250 (37)	0.558	0.954	175	1.034	25x10	0.042	50	1.338	2040	16.1	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
2 (1)	0.162	0.203	0.044	0.049	0.198	34.304	0.364+j0.071	0.206+j0.048	5401.7	155	195
1 (1)	0.129	0.161	0.041	0.048	0.212	36.796	0.290+j0.057	0.164+j0.047	6973.1	175	220
1 (19)	0.129	0.161	0.038	0.046	0.228	39.432	0.290+j0.056	0.164+j0.046	6973.1	175	220
1/0 (1)	0.102	0.128	0.038	0.046	0.229	39.671	0.235+j0.047	0.132+j0.045	8582.3	200	250
3/0 (19)	0.0642	0.081	0.030	0.043	0.289	50.022	0.148+j0.034	0.087+j0.040	13642.3	260	320
250 (37)	0.0431	0.054	0.026	0.040	0.339	58.708	0.097+j0.026	0.062+j0.035	21316.1		

\* 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	2 (1)	6.55	16.38	4.44	18.42	16x14	0.54	1.27	24.21	1021	289.56	2363
TBA	1 (1)	7.34	17.17	4.44	19.20	13x12	0.42	1.27	25.81	1232	309.88	2982
TBA	1 (19)	8.18	18.01	4.44	20.04	13x12	0.42	1.27	26.64	1283	320.04	2982
TBA	1/0 (1)	8.25	18.08	4.44	20.12	16x12	0.34	1.27	26.72	1439	320.04	3760
TBA	3/0 (19)	11.58	21.41	4.44	23.44	16x10	0.21	1.27	31.17	2171	373.38	5972
TBA	250 (37)	14.17	24.23	4.44	26.26	25x10	0.14	1.27	33.99	3036	408.94	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
2 (1)	0.5315	0.67	0.0134	0.1608	0.650	112.5459	0.364+j0.071	0.206+j0.048	5401.7	155	195
1 (1)	0.4232	0.53	0.0125	0.1575	0.696	120.7218	0.290+j0.057	0.164+j0.047	6973.1	175	220
1 (19)	0.4232	0.53	0.0116	0.1509	0.748	129.3701	0.290+j0.056	0.164+j0.046	6973.1	175	220
1/0 (1)	0.3346	0.42	0.0116	0.1509	0.751	130.1542	0.235+j0.047	0.132+j0.045	8582.3	200	250
3/0 (19)	0.2106	0.27	0.0091	0.1411	0.948	164.1142	0.148+j0.034	0.087+j0.040	13642.3	260	320
250 (37)	0.1414	0.18	0.0079	0.1312	1.112	192.6115	0.097+j0.026	0.062+j0.035	21316.1		

\* 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)

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