

25kV CU 133% EPR One-Third Neutral LLDPE Primary UD

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

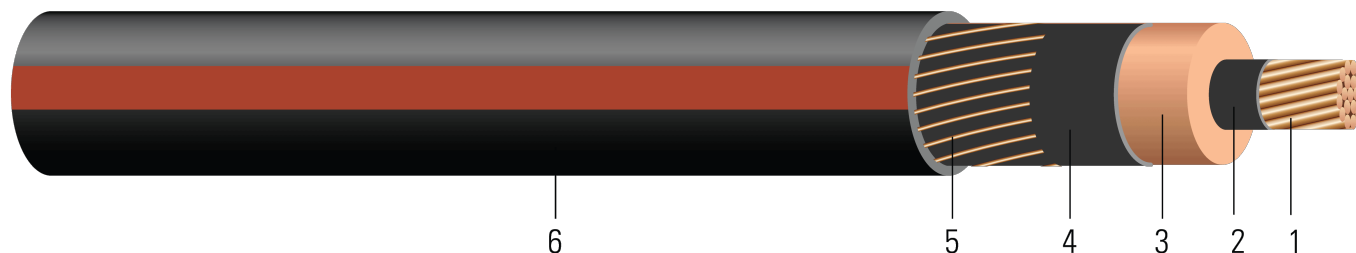


Image not to scale. See Table 1 for dimensions.

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; 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 one-third 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
- 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 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	7x14	0.376	50	1.274	911	15.3	670
TBA	1 (19)	0.322	0.999	320	1.079	7x14	0.376	50	1.307	952	15.7	670
TBA	1/0 (1)	0.325	1.002	320	1.082	9x14	0.292	50	1.310	1026	15.7	845
TBA	1/0 (19)	0.362	1.039	320	1.119	9x14	0.292	50	1.347	1075	16.2	845
TBA	2/0 (19)	0.405	1.082	320	1.182	11x14	0.239	50	1.410	1239	16.9	1065
TBA	3/0 (19)	0.456	1.133	320	1.233	14x14	0.188	50	1.461	1424	17.5	1342
TBA	4/0 (19)	0.512	1.189	320	1.289	18x14	0.146	50	1.517	1653	18.2	1693
TBA	250 (37)	0.558	1.244	320	1.344	21x14	0.125	50	1.572	1852	18.9	2000
TBA	350 (37)	0.661	1.347	320	1.447	18x12	0.092	80	1.767	2441	21.2	2800
TBA	500 (37)	0.789	1.475	320	1.575	17x10	0.061	80	1.939	3240	23.3	4000
TBA	750 (61)	0.968	1.663	320	1.793	20x9	0.041	80	2.182	4519	26.2	6000
TBA	1000 (61)	1.117	1.812	320	1.942	21x8	0.031	80	2.359	5725	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 (1)	0.129	0.161	0.061	0.053	0.238	68.622	0.452+j0.199	0.162+j0.053	2430.3	180	220
1 (19)	0.129	0.161	0.057	0.051	0.252	72.835	0.452+j0.198	0.162+j0.051	2430.3	180	220
1/0 (1)	0.102	0.128	0.057	0.051	0.254	73.215	0.378+j0.146	0.129+j0.051	3124.7	200	250
1/0 (19)	0.102	0.128	0.053	0.050	0.270	77.886	0.378+j0.145	0.129+j0.050	3124.7	200	250
2/0 (19)	0.081	0.101	0.050	0.048	0.288	83.262	0.317+j0.113	0.103+j0.048	3819.1	230	285
3/0 (19)	0.0642	0.080	0.047	0.047	0.310	89.581	0.258+j0.084	0.082+j0.046	4860.7	260	325
4/0 (19)	0.051	0.064	0.043	0.045	0.334	96.460	0.208+j0.064	0.066+j0.045	6249.4	300	365
250 (37)	0.0431	0.054	0.040	0.044	0.357	103.169	0.179+j0.054	0.057+j0.043	7291.0		
350 (37)	0.0308	0.039	0.036	0.043	0.401	115.639	0.134+j0.043	0.043+j0.042	9929.2	390	475
500 (37)	0.0216	0.028	0.032	0.041	0.454	131.008	0.091+j0.034	0.033+j0.039	14906.4	455	555
750 (61)	0.0144	0.019	0.027	0.039	0.531	153.414	0.062+j0.028	0.026+j0.035	22115.5	545	650
1000 (61)	0.0108	0.015	0.024	0.038	0.593	171.076	0.047+j0.025	0.022+j0.032	29288.2		

* 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	7x14	1.23	1.27	32.36	1356	388.62	2982
TBA	1 (19)	8.18	25.37	8.13	27.41	7x14	1.23	1.27	33.20	1417	398.78	2982
TBA	1/0 (1)	8.25	25.45	8.13	27.48	9x14	0.96	1.27	33.27	1527	398.78	3760
TBA	1/0 (19)	9.19	26.39	8.13	28.42	9x14	0.96	1.27	34.21	1600	411.48	3760
TBA	2/0 (19)	10.29	27.48	8.13	30.02	11x14	0.78	1.27	35.81	1844	429.26	4739
TBA	3/0 (19)	11.58	28.78	8.13	31.32	14x14	0.62	1.27	37.11	2119	444.50	5972
TBA	4/0 (19)	13.00	30.20	8.13	32.74	18x14	0.48	1.27	38.53	2460	462.28	7534
TBA	250 (37)	14.17	31.60	8.13	34.14	21x14	0.41	1.27	39.93	2756	480.06	8900
TBA	350 (37)	16.79	34.21	8.13	36.75	18x12	0.30	2.03	44.88	3633	538.48	12460
TBA	500 (37)	20.04	37.47	8.13	40.00	17x10	0.20	2.03	49.25	4822	591.82	17800
TBA	750 (61)	24.59	42.24	8.13	45.54	20x9	0.13	2.03	55.42	6725	665.48	26700
TBA	1000 (61)	28.37	46.02	8.13	49.33	21x8	0.10	2.03	59.92	8520	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 (1)	0.4232	0.53	0.0186	0.1739	0.781	225.1378	0.452+j0.199	0.162+j0.053	2430.3	180	220
1 (19)	0.4232	0.53	0.0174	0.1673	0.827	238.9600	0.452+j0.198	0.162+j0.051	2430.3	180	220
1/0 (1)	0.3346	0.42	0.0174	0.1673	0.833	240.2067	0.378+j0.146	0.129+j0.051	3124.7	200	250
1/0 (19)	0.3346	0.42	0.0162	0.1640	0.886	255.5315	0.378+j0.145	0.129+j0.050	3124.7	200	250
2/0 (19)	0.2657	0.33	0.0152	0.1575	0.945	273.1693	0.317+j0.113	0.103+j0.048	3819.1	230	285
3/0 (19)	0.2106	0.26	0.0143	0.1542	1.017	293.9009	0.258+j0.084	0.082+j0.046	4860.7	260	325
4/0 (19)	0.1673	0.21	0.0131	0.1476	1.096	316.4698	0.208+j0.064	0.066+j0.045	6249.4	300	365
250 (37)	0.1414	0.18	0.0122	0.1444	1.171	338.4810	0.179+j0.054	0.057+j0.043	7291.0		
350 (37)	0.1010	0.13	0.0110	0.1411	1.316	379.3930	0.134+j0.043	0.043+j0.042	9929.2	390	475
500 (37)	0.0709	0.09	0.0098	0.1345	1.490	429.8163	0.091+j0.034	0.033+j0.039	14906.4	455	555
750 (61)	0.0472	0.06	0.0082	0.1280	1.742	503.3268	0.062+j0.028	0.026+j0.035	22115.5	545	650
1000 (61)	0.0354	0.05	0.0073	0.1247	1.946	561.2730	0.047+j0.025	0.022+j0.032	29288.2		

* 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)

