

25kV CU 100% EPR One-Third Neutral LLDPE Primary UD

Single Conductor, 260 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

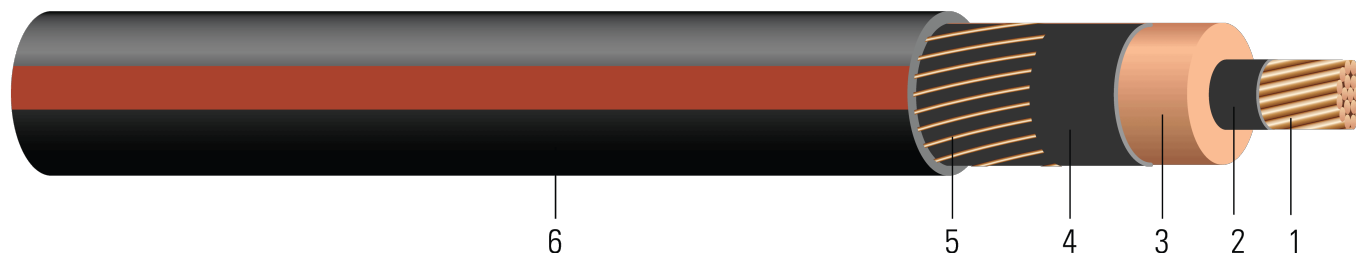


Image not to scale. See Table 1 for dimensions.

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:** 260 Mils Ethylene Propylene Rubber (EPR) 100% 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 as MV 90 When Specified

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 25000 VOLTS EPR INSULATION 260 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	0.846	260	0.926	7x14	0.376	50	1.154	797	13.8	670
TBA	1 (19)	0.322	0.879	260	0.959	7x14	0.376	50	1.187	834	14.2	670
TBA	1/0 (1)	0.325	0.882	260	0.962	9x14	0.292	50	1.190	909	14.3	845
627956	1/0 (19)	0.362	0.919	260	0.999	9x14	0.292	50	1.227	953	14.7	845
627173	2/0 (19)	0.405	0.962	260	1.042	11x14	0.239	50	1.270	1092	15.2	1065
TBA	3/0 (19)	0.456	1.013	260	1.093	14x14	0.188	50	1.321	1271	15.9	1342
627177	4/0 (19)	0.512	1.069	260	1.169	18x14	0.146	50	1.397	1515	16.8	1693
TBA	250 (37)	0.558	1.124	260	1.224	21x14	0.125	50	1.452	1709	17.4	2000
628003	350 (37)	0.661	1.227	260	1.327	18x12	0.092	50	1.587	2219	19.0	2800
628006	500 (37)	0.789	1.355	260	1.455	17x10	0.061	80	1.819	3064	21.8	4000
628010	750 (61)	0.968	1.543	260	1.643	25X10	0.041	80	2.032	4272	24.4	6000
628013	1000 (61)	1.117	1.692	260	1.822	26x9	0.031	80	2.239	5508	26.9	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	0.053	0.051	0.271	78.166	0.454+j0.195	0.162+j0.051	2430.3	180	220
1 (19)	0.129	0.161	0.050	0.049	0.288	83.243	0.453+j0.194	0.162+j0.049	2430.3	180	220
1/0 (1)	0.102	0.128	0.050	0.049	0.290	83.703	0.379+j0.143	0.129+j0.049	3124.7	200	250
1/0 (19)	0.102	0.128	0.047	0.048	0.309	89.343	0.379+j0.142	0.129+j0.047	3124.7	200	250
2/0 (19)	0.081	0.101	0.043	0.046	0.332	95.848	0.318+j0.109	0.103+j0.046	3819.1	230	285
3/0 (19)	0.0642	0.080	0.040	0.044	0.359	103.506	0.259+j0.081	0.082+j0.044	4860.7	260	325
4/0 (19)	0.051	0.064	0.037	0.043	0.387	111.860	0.208+j0.061	0.066+j0.043	6249.4	300	365
250 (37)	0.0431	0.054	0.035	0.042	0.416	120.020	0.179+j0.052	0.057+j0.041	7291.0		
350 (37)	0.0308	0.039	0.031	0.040	0.468	135.211	0.134+j0.041	0.043+j0.039	9929.2	390	475
500 (37)	0.0216	0.028	0.027	0.040	0.533	153.971	0.091+j0.032	0.034+j0.037	14906.4	455	555
750 (61)	0.0144	0.019	0.023	0.037	0.628	181.370	0.062+j0.026	0.026+j0.033	22115.5	545	650
1000 (61)	0.0108	0.015	0.021	0.037	0.703	202.999	0.047+j0.024	0.023+j0.030	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	21.49	6.60	23.52	7x14	1.23	1.27	29.31	1186	350.52	2982
TBA	1 (19)	8.18	22.33	6.60	24.36	7x14	1.23	1.27	30.15	1241	360.68	2982
TBA	1/0 (1)	8.25	22.40	6.60	24.43	9x14	0.96	1.27	30.23	1353	363.22	3760
627956	1/0 (19)	9.19	23.34	6.60	25.37	9x14	0.96	1.27	31.17	1418	373.38	3760
627173	2/0 (19)	10.29	24.43	6.60	26.47	11x14	0.78	1.27	32.26	1625	386.08	4739
TBA	3/0 (19)	11.58	25.73	6.60	27.76	14x14	0.62	1.27	33.55	1891	403.86	5972
627177	4/0 (19)	13.00	27.15	6.60	29.69	18x14	0.48	1.27	35.48	2255	426.72	7534
TBA	250 (37)	14.17	28.55	6.60	31.09	21x14	0.41	1.27	36.88	2543	441.96	8900
628003	350 (37)	16.79	31.17	6.60	33.71	18x12	0.30	1.27	40.31	3302	482.60	12460
628006	500 (37)	20.04	34.42	6.60	36.96	17x10	0.20	2.03	46.20	4560	553.72	17800
628010	750 (61)	24.59	39.19	6.60	41.73	25X10	0.13	2.03	51.61	6357	619.76	26700
628013	1000 (61)	28.37	42.98	6.60	46.28	26x9	0.10	2.03	56.87	8197	683.26	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	0.0162	0.1673	0.889	256.4501	0.454+j0.195	0.162+j0.051	2430.3	180	220
1 (19)	0.4232	0.53	0.0152	0.1608	0.945	273.1070	0.453+j0.194	0.162+j0.049	2430.3	180	220
1/0 (1)	0.3346	0.42	0.0152	0.1608	0.951	274.6161	0.379+j0.143	0.129+j0.049	3124.7	200	250
1/0 (19)	0.3346	0.42	0.0143	0.1575	1.014	293.1201	0.379+j0.142	0.129+j0.047	3124.7	200	250
2/0 (19)	0.2657	0.33	0.0131	0.1509	1.089	314.4619	0.318+j0.109	0.103+j0.046	3819.1	230	285
3/0 (19)	0.2106	0.26	0.0122	0.1444	1.178	339.5866	0.259+j0.081	0.082+j0.044	4860.7	260	325
4/0 (19)	0.1673	0.21	0.0113	0.1411	1.270	366.9948	0.208+j0.061	0.066+j0.043	6249.4	300	365
250 (37)	0.1414	0.18	0.0107	0.1378	1.365	393.7664	0.179+j0.052	0.057+j0.041	7291.0		
350 (37)	0.1010	0.13	0.0094	0.1312	1.535	443.6056	0.134+j0.041	0.043+j0.039	9929.2	390	475
500 (37)	0.0709	0.09	0.0082	0.1312	1.749	505.1542	0.091+j0.032	0.034+j0.037	14906.4	455	555
750 (61)	0.0472	0.06	0.0070	0.1214	2.060	595.0459	0.062+j0.026	0.026+j0.033	22115.5	545	650
1000 (61)	0.0354	0.05	0.0064	0.1214	2.306	666.0072	0.047+j0.024	0.023+j0.030	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)

