28kV CU 100% EPR (EAM) One-Third Neutral LLDPE

Single Conductor, 280 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

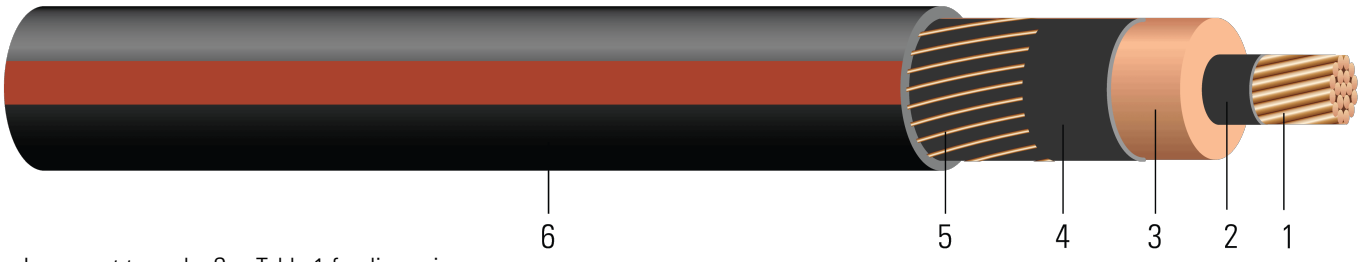


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **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)
2. **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
3. **Insulation:** 280 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
6. **Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 28kV cables are suited for use in wet and dry areas, conduits, ducts, 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 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 (Qualification Test Requirements)
- 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 68.5: -40ºC and MV 90ºC optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 28000 VOLTS EPR INSULATION 280 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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Table 1 – Weights and Measurements

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
1 (Solid)	0.289	0.887	280	0.977	7x14	0.375	50	1.205	820	9.6	669
1 (19)	0.322	0.920	280	1.010	7x14	0.375	50	1.238	841	9.9	669
1/0 (Solid)	0.324	0.922	280	1.012	9x14	0.292	50	1.240	937	9.9	844
1/0 (19)	0.361	0.959	280	1.049	9x14	0.292	50	1.277	961	10.2	844
2/0 (19)	0.405	1.003	280	1.113	11x14	0.239	50	1.341	1122	10.7	1064
3/0 (19)	0.456	1.054	280	1.164	14x14	0.187	50	1.392	1305	11.1	1342
4/0 (19)	0.512	1.110	280	1.220	18x14	0.146	50	1.448	1533	11.6	1692
250 (37)	0.558	1.164	280	1.274	21x14	0.125	50	1.502	1730	12.0	2000
350 (37)	0.661	1.267	280	1.377	29x14	0.090	75	1.655	2300	13.2	2800
500 (37)	0.789	1.395	280	1.505	26x12	0.063	75	1.817	3010	14.5	4000
750 (61)	0.968	1.584	280	1.724	25x10	0.041	75	2.078	4271	16.6	6000
1000 (61)	1.117	1.733	280	1.873	32x10	0.032	75	2.227	5389	17.8	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

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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 (Solid)	0.128	0.162	0.058	0.054	0.159	9.8	0.216 + j0.758	0.162 + j0.052	2441	180	220
1 (19)	0.128	0.162	0.054	0.053	0.170	10.4	0.216 + j0.757	0.162 + j0.053	2441	180	220
1/0 (Solid)	0.102	0.128	0.054	0.052	0.171	10.5	0.182 + j0.754	0.128 + j0.050	3138	200	250
1/0 (19)	0.102	0.128	0.050	0.051	0.183	11.2	0.182 + j0.753	0.128 + j0.051	3138	200	250
2/0 (19)	0.081	0.102	0.047	0.049	0.197	12.1	0.156 + j0.748	0.102 + j0.049	3836	230	285
3/0 (19)	0.064	0.081	0.043	0.047	0.213	13.1	0.135 + j0.743	0.081 + j0.048	4882	260	320
4/0 (19)	0.051	0.065	0.040	0.046	0.231	14.2	0.119 + j0.739	0.065 + j0.046	6277	300	360
250 (37)	0.043	0.056	0.038	0.044	0.243	14.9	0.110 + j0.735	0.056 + j0.045	7323	325	
350 (37)	0.031	0.041	0.033	0.043	0.275	16.9	0.095 + j0.727	0.041 + j0.043	10113	390	460
500 (37)	0.022	0.030	0.029	0.041	0.314	19.3	0.084 + j0.718	0.030 + j0.041	14406	455	525
750 (61)	0.014	0.023	0.025	0.039	0.363	22.3	0.077 + j0.707	0.023 + j0.039	22019	545	580
1000 (61)	0.011	0.019	0.022	0.038	0.407	25.0	0.073 + j0.701	0.019 + j0.038	28184		

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

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Table 3 – Weights and Measurements (Metric)

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
1 (Solid)	7.34	22.53	7.11	24.82	7x14	1.23	1.27	30.61	1220	243.84	2977
1 (19)	8.18	23.37	7.11	25.65	7x14	1.23	1.27	31.45	1252	251.46	2977
1/0 (Solid)	8.23	23.42	7.11	25.70	9x14	0.96	1.27	31.50	1394	251.46	3756
1/0 (19)	9.17	24.36	7.11	26.64	9x14	0.96	1.27	32.44	1430	259.08	3756
2/0 (19)	10.29	25.48	7.11	28.27	11x14	0.78	1.27	34.06	1670	271.78	4735
3/0 (19)	11.58	26.77	7.11	29.57	14x14	0.61	1.27	35.36	1942	281.94	5972
4/0 (19)	13.00	28.19	7.11	30.99	18x14	0.48	1.27	36.78	2281	294.64	7529
250 (37)	14.17	29.57	7.11	32.36	21x14	0.41	1.27	38.15	2575	304.80	8900
350 (37)	16.79	32.18	7.11	34.98	29x14	0.30	1.91	42.04	3423	335.28	12460
500 (37)	20.04	35.43	7.11	38.23	26x12	0.21	1.91	46.15	4479	368.30	17800
750 (61)	24.59	40.23	7.11	43.79	25x10	0.13	1.91	52.78	6356	421.64	26700
1000 (61)	28.37	44.02	7.11	47.57	32x10	0.10	1.91	56.57	8020	452.12	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

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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 (Solid)	0.4199	0.53	0.0177	0.1772	0.522	32.1522	0.216 + j0.758	0.162 + j0.052	2441	180	220
1 (19)	0.4199	0.53	0.0165	0.1739	0.558	34.1207	0.216 + j0.757	0.162 + j0.053	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0165	0.1706	0.561	34.4488	0.182 + j0.754	0.128 + j0.050	3138	200	250
1/0 (19)	0.3346	0.42	0.0152	0.1673	0.600	36.7454	0.182 + j0.753	0.128 + j0.051	3138	200	250
2/0 (19)	0.2657	0.33	0.0143	0.1608	0.646	39.6982	0.156 + j0.748	0.102 + j0.049	3836	230	285
3/0 (19)	0.2100	0.27	0.0131	0.1542	0.699	42.9790	0.135 + j0.743	0.081 + j0.048	4882	260	320
4/0 (19)	0.1673	0.21	0.0122	0.1509	0.758	46.5879	0.119 + j0.739	0.065 + j0.046	6277	300	360
250 (37)	0.1411	0.18	0.0116	0.1444	0.797	48.8845	0.110 + j0.735	0.056 + j0.045	7323	325	
350 (37)	0.1017	0.13	0.0101	0.1411	0.902	55.4462	0.095 + j0.727	0.041 + j0.043	10113	390	460
500 (37)	0.0722	0.10	0.0088	0.1345	1.030	63.3202	0.084 + j0.718	0.030 + j0.041	14406	455	525
750 (61)	0.0459	0.08	0.0076	0.1280	1.191	73.1627	0.077 + j0.707	0.023 + j0.039	22019	545	580
1000 (61)	0.0361	0.06	0.0067	0.1247	1.335	82.0210	0.073 + j0.701	0.019 + j0.038	28184		

*Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
*Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
*Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

CN Calculator