28kV CU 100% EPR (EAM) Full Neutral LLDPE

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

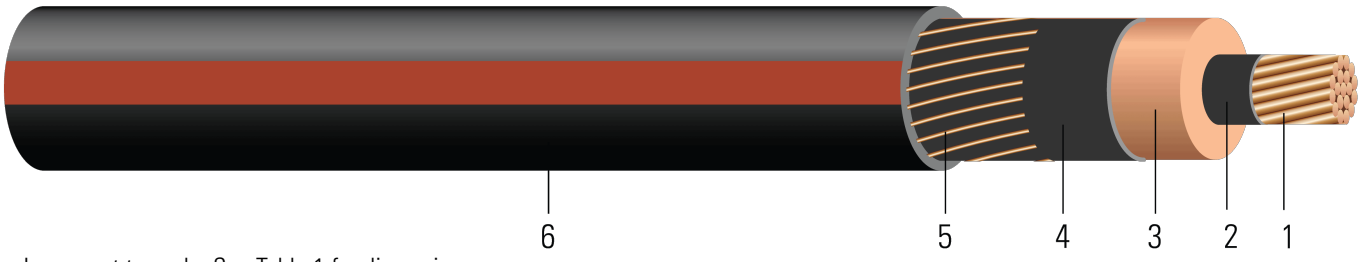


Image not to scale. See Table 1 for dimensions.

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 full 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	20x14	0.131	50	1.205	996	9.6	669
1 (19)	0.322	0.920	280	1.010	20x14	0.131	50	1.238	1017	9.9	669
1/0 (Solid)	0.324	0.922	280	1.012	25x14	0.105	50	1.240	1153	9.9	844
1/0 (19)	0.361	0.959	280	1.049	25x14	0.105	50	1.277	1177	10.2	844
2/0 (19)	0.405	1.003	280	1.113	32x14	0.082	50	1.341	1406	10.7	1064
3/0 (19)	0.456	1.054	280	1.164	25x12	0.066	50	1.426	1640	11.4	1342
4/0 (19)	0.512	1.110	280	1.220	32x12	0.051	50	1.482	1958	11.9	1692
250 (37)	0.558	1.164	280	1.274	25x10	0.041	50	1.578	2286	12.6	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 (Solid)	0.128	0.162	0.058	0.054	0.159	9.77	0.216 + j0.758	0.162 + j0.052	6974	175	220
1 (19)	0.128	0.162	0.054	0.053	0.170	10.44	0.216 + j0.757	0.162 + j0.053	6974	175	220
1/0 (Solid)	0.102	0.128	0.054	0.052	0.171	10.50	0.182 + j0.754	0.128 + j0.050	8718	200	250
1/0 (19)	0.102	0.128	0.050	0.051	0.183	11.24	0.182 + j0.753	0.128 + j0.051	8718	200	250
2/0 (19)	0.081	0.102	0.047	0.049	0.197	12.10	0.156 + j0.748	0.102 + j0.049	11159	225	280
3/0 (19)	0.064	0.081	0.043	0.048	0.213	13.08	0.135 + j0.742	0.081 + j0.048	13852	260	315
4/0 (19)	0.051	0.065	0.040	0.046	0.231	14.19	0.119 + j0.738	0.065 + j0.046	17730	295	355
250 (37)	0.043	0.056	0.038	0.046	0.243	14.93	0.110 + j0.733	0.056 + j0.046	22019	318	360

*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	20x14	0.43	1.27	30.61	1482	243.84	2977
1 (19)	8.18	23.37	7.11	25.65	20x14	0.43	1.27	31.45	1513	251.46	2977
1/0 (Solid)	8.23	23.42	7.11	25.70	25x14	0.34	1.27	31.50	1716	251.46	3756
1/0 (19)	9.17	24.36	7.11	26.64	25x14	0.34	1.27	32.44	1752	259.08	3756
2/0 (19)	10.29	25.48	7.11	28.27	32x14	0.27	1.27	34.06	2092	271.78	4735
3/0 (19)	11.58	26.77	7.11	29.57	25x12	0.22	1.27	36.22	2441	289.56	5972
4/0 (19)	13.00	28.19	7.11	30.99	32x12	0.17	1.27	37.64	2914	302.26	7529
250 (37)	14.17	29.57	7.11	32.36	25x10	0.13	1.27	40.08	3402	320.04	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 (Solid)	0.4199	0.53	0.0177	0.1772	0.522	32.0538	0.216 + j0.758	0.162 + j0.052	6974	175	220
1 (19)	0.4199	0.53	0.0165	0.1739	0.558	34.2520	0.216 + j0.757	0.162 + j0.053	6974	175	220
1/0 (Solid)	0.3346	0.42	0.0165	0.1706	0.561	34.4488	0.182 + j0.754	0.128 + j0.050	8718	200	250
1/0 (19)	0.3346	0.42	0.0152	0.1673	0.600	36.8766	0.182 + j0.753	0.128 + j0.051	8718	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	11159	225	280
3/0 (19)	0.2100	0.27	0.0131	0.1575	0.699	42.9134	0.135 + j0.742	0.081 + j0.048	13852	260	315
4/0 (19)	0.1673	0.21	0.0122	0.1509	0.758	46.5551	0.119 + j0.738	0.065 + j0.046	17730	295	355
250 (37)	0.1411	0.18	0.0116	0.1509	0.797	48.9829	0.110 + j0.733	0.056 + j0.046	22019	318	360

*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

Southwire CABLETECH SUPPORT™ Services