28kV CU 100% EPR LCT LLDPE Primary UD

Single Conductor, 280 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, Longitudinally Corrugated Tape Shield, 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) 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
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, 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
- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ICEA S-97-682 Standard for Shielded Utility Cable Rated for 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
- Optional CSA: CSA 68.5 and -40C 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

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	inch	inch	mil	inch	mil	inch	lb /1000ft	inch	lb
TBA	1 (1)	0.289	0.886	280	0.946	80	1.206	898	14.5	670
TBA	1 (19)	0.322	0.919	280	0.979	80	1.239	935	14.9	670
TBA	1/0 (1)	0.325	0.922	280	0.982	80	1.242	987	14.9	845
TBA	1/0 (19)	0.362	0.959	280	1.019	80	1.279	1031	15.3	845
TBA	2/0 (19)	0.405	1.002	280	1.062	80	1.322	1146	15.9	1065
TBA	3/0 (19)	0.456	1.053	280	1.113	80	1.373	1291	16.5	1342
TBA	4/0 (19)	0.512	1.109	280	1.169	80	1.429	1467	17.1	1693
TBA	250 (37)	0.558	1.164	280	1.224	80	1.484	1626	17.8	2000
TBA	350 (37)	0.661	1.267	280	1.327	80	1.553	2054	18.6	2800
TBA	500 (37)	0.789	1.395	280	1.455	80	1.681	2615	20.2	4000
TBA	750 (61)	0.968	1.583	280	1.643	110	1.929	3609	23.1	6000
TBA	1000 (61)	1.117	1.732	280	1.792	110	2.078	4508	24.9	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	0.056	0.052	0.289	93.521	0.444+j0.168	0.162+j0.052	3757.5	175	220
1 (19)	0.129	0.161	0.053	0.050	0.308	99.477	0.438+j0.159	0.162+j0.050	3868.7	175	220
1/0 (1)	0.102	0.128	0.052	0.050	0.309	100.015	0.405+j0.159	0.129+j0.050	3878.8	200	250
1/0 (19)	0.102	0.128	0.049	0.048	0.330	106.627	0.398+j0.150	0.129+j0.048	4003.4	200	250
2/0 (19)	0.081	0.101	0.046	0.047	0.353	114.247	0.364+j0.141	0.102+j0.047	4148.3	230	285
3/0 (19)	0.0642	0.080	0.042	0.045	0.381	123.212	0.334+j0.132	0.081+j0.045	4320.1	260	325
4/0 (19)	0.051	0.064	0.039	0.044	0.411	132.986	0.310+j0.122	0.065+j0.044	4508.7	300	365
250 (37)	0.0431	0.054	0.037	0.042	0.441	142.528	0.292+j0.114	0.055+j0.042	4694.0		
350 (37)	0.0308	0.039	0.033	0.040	0.496	160.282	0.263+j0.101	0.040+j0.040	5041.0	390	480
500 (37)	0.0216	0.028	0.029	0.038	0.563	182.193	0.236+j0.088	0.029+j0.038	5472.2	470	575
750 (61)	0.0144	0.019	0.024	0.036	0.662	214.174	0.208+j0.073	0.021+j0.036	6105.5	585	695
1000 (61)	0.0108	0.015	0.022	0.035	0.740	239.408	0.190+j0.064	0.017+j0.035	6607.4	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-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	Jacket Thickness	Approx. OD	Approx. Weight	Min Bending Radius	Max Pull Tension*
	AWG/ Kcmil	mm	mm	mm	mm	mm	mm	kg/km	mm	newton
TBA	1 (1)	7.34	22.50	7.11	24.03	2.03	30.63	1336	368.30	2982
TBA	1 (19)	8.18	23.34	7.11	24.87	2.03	31.47	1391	378.46	2982
TBA	1/0 (1)	8.25	23.42	7.11	24.94	2.03	31.55	1469	378.46	3760
TBA	1/0 (19)	9.19	24.36	7.11	25.88	2.03	32.49	1534	388.62	3760
TBA	2/0 (19)	10.29	25.45	7.11	26.97	2.03	33.58	1705	403.86	4739
TBA	3/0 (19)	11.58	26.75	7.11	28.27	2.03	34.87	1921	419.10	5972
TBA	4/0 (19)	13.00	28.17	7.11	29.69	2.03	36.30	2183	434.34	7534
TBA	250 (37)	14.17	29.57	7.11	31.09	2.03	37.69	2420	452.12	8900
TBA	350 (37)	16.79	32.18	7.11	33.71	2.03	39.45	3057	472.44	12460
TBA	500 (37)	20.04	35.43	7.11	36.96	2.03	42.70	3892	513.08	17800
TBA	750 (61)	24.59	40.21	7.11	41.73	2.79	49.00	5371	586.74	26700
TBA	1000 (61)	28.37	43.99	7.11	45.52	2.79	52.78	6709	632.46	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	0.0171	0.1706	0.948	306.8274	0.444+j0.168	0.162+j0.052	3757.5	175	220
1 (19)	0.4232	0.53	0.0162	0.1640	1.010	326.3681	0.438+j0.159	0.162+j0.050	3868.7	175	220
1/0 (1)	0.3346	0.42	0.0158	0.1640	1.014	328.1332	0.405+j0.159	0.129+j0.050	3878.8	200	250
1/0 (19)	0.3346	0.42	0.0149	0.1575	1.083	349.8261	0.398+j0.150	0.129+j0.048	4003.4	200	250
2/0 (19)	0.2657	0.33	0.0140	0.1542	1.158	374.8261	0.364+j0.141	0.102+j0.047	4148.3	230	285
3/0 (19)	0.2106	0.26	0.0128	0.1476	1.250	404.2388	0.334+j0.132	0.081+j0.045	4320.1	260	325
4/0 (19)	0.1673	0.21	0.0119	0.1444	1.348	436.3058	0.310+j0.122	0.065+j0.044	4508.7	300	365
250 (37)	0.1414	0.18	0.0113	0.1378	1.447	467.6115	0.292+j0.114	0.055+j0.042	4694.0		
350 (37)	0.1010	0.13	0.0101	0.1312	1.627	525.8596	0.263+j0.101	0.040+j0.040	5041.0	390	480
500 (37)	0.0709	0.09	0.0088	0.1247	1.847	597.7461	0.236+j0.088	0.029+j0.038	5472.2	470	575
750 (61)	0.0472	0.06	0.0073	0.1181	2.172	702.6706	0.208+j0.073	0.021+j0.036	6105.5	585	695
1000 (61)	0.0354	0.05	0.0067	0.1148	2.428	785.4593	0.190+j0.064	0.017+j0.035	6607.4	670	785

* Calculations are based on three cables triplexed / tape shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohms-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)