25kV CU 100% EPR (EAM) One-Third Neutral LLDPE

Single Conductor, 260 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

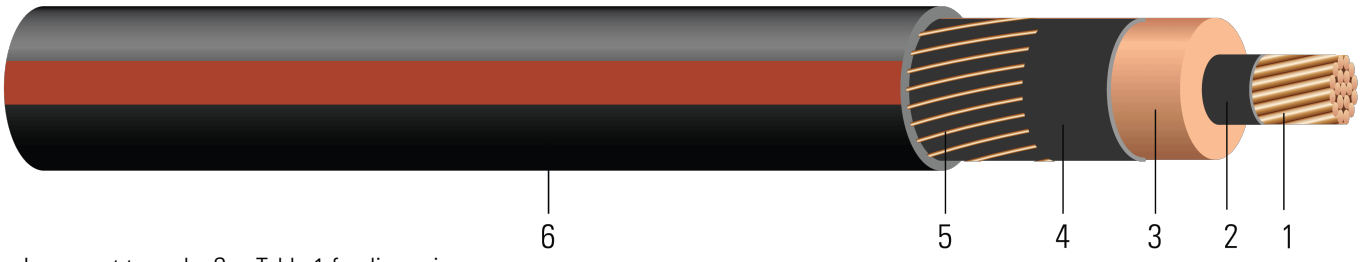

Image not to scale. See Table 1 for dimensions.

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; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 260 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 25kV 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 25000 VOLTS EPR INSULATION 260 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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 (Solid)	0.289	0.847	260	0.937	7x14	0.375	50	1.165	784	9.3	669
TBA	1 (19)	0.322	0.880	260	0.970	7x14	0.375	50	1.198	804	9.6	669
TBA	1/0 (Solid)	0.324	0.882	260	0.972	9x14	0.292	50	1.200	900	9.6	844
627956	1/0 (19)	0.361	0.912	260	1.002	9x14	0.292	50	1.230	957	9.8	844
627173	2/0 (19)	0.405	0.956	260	1.046	11x14	0.239	50	1.274	1097	10.2	1064
TBA	3/0 (19)	0.456	1.014	260	1.124	14x14	0.187	50	1.352	1263	10.8	1342
627177	4/0 (19)	0.512	1.062	260	1.172	18x14	0.146	50	1.400	1521	11.2	1692
TBA	250 (37)	0.558	1.124	260	1.234	21x14	0.125	50	1.462	1685	11.7	2000
628003	350 (37)	0.661	1.221	260	1.331	18x12	0.092	50	1.592	2233	12.7	2800
628006	500 (37)	0.789	1.349	260	1.459	17x10	0.061	75	1.816	3078	14.5	4000
628010	750 (61)	0.968	1.538	260	1.648	25x10	0.041	75	2.005	4264	16.0	6000
628013	1000 (61)	1.117	1.687	260	1.827	26x9	0.031	75	2.209	5492	17.7	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.056	0.054	0.148	8.12	0.216 + j0.759	0.162 + j0.052	2441	180	220
1 (19)	0.128	0.162	0.052	0.052	0.159	8.72	0.216 + j0.758	0.162 + j0.052	2441	180	220
1/0 (Solid)	0.102	0.128	0.052	0.052	0.160	8.78	0.182 + j0.755	0.128 + j0.050	3138	200	250
1/0 (19)	0.102	0.128	0.048	0.050	0.171	9.38	0.182 + j0.754	0.128 + j0.050	3138	200	250
2/0 (19)	0.081	0.102	0.045	0.048	0.184	10.09	0.156 + j0.750	0.102 + j0.048	3836	230	285
3/0 (19)	0.064	0.081	0.041	0.047	0.200	10.97	0.135 + j0.745	0.081 + j0.047	4882	260	320
4/0 (19)	0.051	0.065	0.038	0.045	0.216	11.85	0.119 + j0.740	0.065 + j0.045	6277	300	360
250 (37)	0.043	0.056	0.036	0.044	0.228	12.51	0.110 + j0.736	0.056 + j0.044	7323	325	
350 (37)	0.031	0.041	0.032	0.042	0.258	14.15	0.095 + j0.728	0.041 + j0.042	9973	390	460
500 (37)	0.022	0.030	0.028	0.041	0.295	16.18	0.084 + j0.718	0.030 + j0.041	14973	455	525
750 (61)	0.014	0.023	0.024	0.039	0.342	18.76	0.077 + j0.708	0.023 + j0.039	22019	545	580
1000 (61)	0.011	0.019	0.021	0.037	0.384	21.06	0.073 + j0.702	0.019 + j0.037	28878		

*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.

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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 (Solid)	7.34	21.51	6.60	23.80	7x14	1.23	1.27	29.59	1167	236.22	2977
TBA	1 (19)	8.18	22.35	6.60	24.64	7x14	1.23	1.27	30.43	1196	243.84	2977
TBA	1/0 (Solid)	8.23	22.40	6.60	24.69	9x14	0.96	1.27	30.48	1339	243.84	3756
627956	1/0 (19)	9.17	23.16	6.60	25.45	9x14	0.96	1.27	31.24	1424	248.92	3756
627173	2/0 (19)	10.29	24.28	6.60	26.57	11x14	0.78	1.27	32.36	1633	259.08	4735
TBA	3/0 (19)	11.58	25.76	6.60	28.55	14x14	0.61	1.27	34.34	1880	274.32	5972
627177	4/0 (19)	13.00	26.97	6.60	29.77	18x14	0.48	1.27	35.56	2263	284.48	7529
TBA	250 (37)	14.17	28.55	6.60	31.34	21x14	0.41	1.27	37.13	2508	297.18	8900
628003	350 (37)	16.79	31.01	6.60	33.81	18x12	0.30	1.27	40.44	3323	322.58	12460
628006	500 (37)	20.04	34.26	6.60	37.06	17x10	0.20	1.91	46.13	4581	368.30	17800
628010	750 (61)	24.59	39.07	6.60	41.86	25x10	0.13	1.91	50.93	6346	406.40	26700
628013	1000 (61)	28.37	42.85	6.60	46.41	26x9	0.10	1.91	56.11	8173	449.58	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

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

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	0.0171	0.1772	0.486	26.6404	0.216 + j0.759	0.162 + j0.052	2441	180	220
1 (19)	0.4199	0.53	0.0158	0.1706	0.522	28.6089	0.216 + j0.758	0.162 + j0.052	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0158	0.1706	0.525	28.8058	0.182 + j0.755	0.128 + j0.050	3138	200	250
1/0 (19)	0.3346	0.42	0.0146	0.1640	0.561	30.7743	0.182 + j0.754	0.128 + j0.050	3138	200	250
2/0 (19)	0.2657	0.33	0.0137	0.1575	0.604	33.1037	0.156 + j0.750	0.102 + j0.048	3836	230	285
3/0 (19)	0.2100	0.27	0.0125	0.1542	0.656	35.9908	0.135 + j0.745	0.081 + j0.047	4882	260	320
4/0 (19)	0.1673	0.21	0.0116	0.1476	0.709	38.8780	0.119 + j0.740	0.065 + j0.045	6277	300	360
250 (37)	0.1411	0.18	0.0110	0.1444	0.748	41.0433	0.110 + j0.736	0.056 + j0.044	7323	325	
350 (37)	0.1017	0.13	0.0098	0.1378	0.846	46.4239	0.095 + j0.728	0.041 + j0.042	9973	390	460
500 (37)	0.0722	0.10	0.0085	0.1345	0.968	53.0840	0.084 + j0.718	0.030 + j0.041	14973	455	525
750 (61)	0.0459	0.08	0.0073	0.1280	1.122	61.5486	0.077 + j0.708	0.023 + j0.039	22019	545	580
1000 (61)	0.0361	0.06	0.0064	0.1214	1.260	69.0945	0.073 + j0.702	0.019 + j0.037	28878		

*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