35kV CU 100% EPR (EAM) One-Third Neutral LLDPE

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

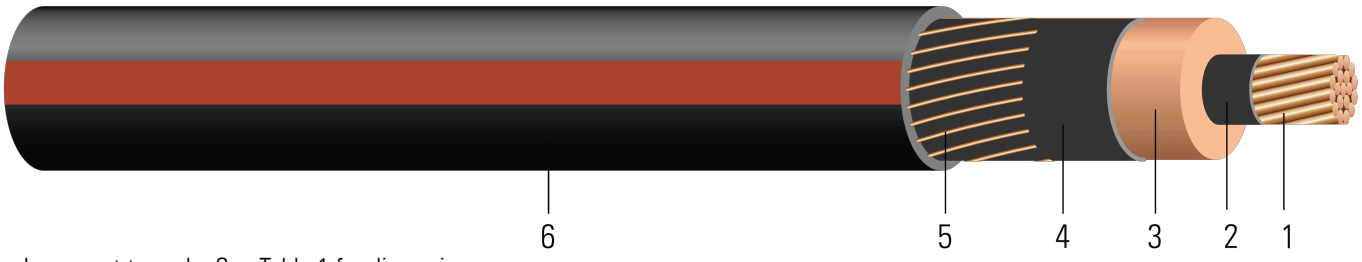


Image not to scale. See Table 1 for dimensions.

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:** 345 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 35kV 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 35000 VOLTS EPR INSULATION 345 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	1/0 (SOLID)	0.325	1.053	345	1.173	9x14	0.36	50	1.401	1125	9.8	844
628034	1/0 (19)	0.362	1.082	345	1.192	9x14	0.36	50	1.42	1155	9.9	844
628037	2/0 (19)	0.405	1.126	345	1.236	11x14	0.295	50	1.464	1301	10.2	1064
TBA	3/0 (19)	0.456	1.184	345	1.304	14x14	0.231	50	1.532	1492	10.7	1342
628038	4/0 (19)	0.512	1.232	345	1.342	18x14	0.18	50	1.57	1720	11	1692
TBA	250 (37)	0.558	1.294	345	1.414	21x14	0.154	75	1.692	2008	11.8	2000
TBA	350 (37)	0.661	1.397	345	1.517	29x14	0.112	75	1.795	2513	12.6	2800
628043	350 (37)	0.661	1.541	345	1.651	18x12	0.114	75	1.967	2742	13.8	2800
603739†	500 (37)	0.789	1.519	345	1.629	26x12	0.079	75	1.945	3259	13.6	4000
628046	500 (37)	0.789	1.519	345	1.629	17x10	0.075	75	1.987	3331	13.9	4000
628049	750 (61)	0.968	1.708	345	1.848	25x10	0.051	75	2.206	4595	15.4	6000
628051	750 (61)	0.968	1.708	345	1.848	20x9	0.051	75	2.231	4637	15.6	6000
628054	1000 (61)	1.117	1.857	345	1.997	26x9	0.039	75	2.38	5799	16.7	8000
TBA	1000 (61)	1.117	1.863	345	2.013	21x8	0.038	75	2.421	5713	16.9	8000

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† HI-DRI-PLUS®: Moisture absorbing powder under jacket
* Pulling tension based on pulling eye directly connected to conductor
* TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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
1/0 (SOLID)	0.102	0.139	0.056	0.055	0.36	7.4	0.417+j0.172	0.141+j0.058	3142	210	250
1/0 (19)	0.102	0.139	0.052	0.053	0.39	7.9	0.417+j0.173	0.141+j0.059	3142	210	250
2/0 (19)	0.082	0.112	0.049	0.051	0.42	8.4	0.356+j0.133	0.114+j0.057	3840	235	280
3/0 (19)	0.064	0.087	0.046	0.05	0.44	9	0.291+j0.098	0.089+j0.055	4887	265	320
4/0 (19)	0.051	0.07	0.042	0.047	0.48	9.7	0.236+j0.072	0.073+j0.053	6284	300	360
250 (37)	0.043	0.059	0.04	0.047	0.51	10.3	0.204+j0.060	0.063+j0.052	7331	328	
350 (37)	0.031	0.043	0.036	0.045	0.57	11.5	0.151+j0.043	0.048+j0.049	10123	400	460
350 (37)	0.031	0.043	0.041	0.047	0.5	10	0.152+j0.046	0.048+j0.051	9974	400	460
500 (37)	0.021	0.03	0.031	0.042	0.65	13.1	0.107+j0.032	0.037+j0.046	14406	470	525
500 (37)	0.021	0.03	0.031	0.043	0.65	13.1	0.104+j0.032	0.037+j0.046	14973	470	525
750 (61)	0.014	0.021	0.027	0.041	0.76	15.3	0.072+j0.025	0.030+j0.041	22019	560	590
750 (61)	0.014	0.021	0.027	0.041	0.76	15.3	0.071+j0.026	0.031+j0.041	22214	560	590
1000 (61)	0.011	0.018	0.024	0.039	0.84	17	0.057+j0.022	0.029+j0.038	28879		
1000 (61)	0.011	0.018	0.024	0.039	0.84	16.9	0.056+j0.023	0.029+j0.038	29419		

*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, Spacing: one diameter spacing center-to-center.

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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	1/0 (SOLID)	8.25	26.75	8.76	29.79	9x14	1.18	1.27	35.59	1674	248.92	3756
628034	1/0 (19)	9.19	27.48	8.76	30.28	9x14	1.18	1.27	36.07	1719	251.46	3756
628037	2/0 (19)	10.29	28.60	8.76	31.39	11x14	0.97	1.27	37.19	1936	259.08	4735
TBA	3/0 (19)	11.58	30.07	8.76	33.12	14x14	0.76	1.27	38.91	2220	271.78	5972
628038	4/0 (19)	13.00	31.29	8.76	34.09	18x14	0.59	1.27	39.88	2560	279.40	7529
TBA	250 (37)	14.17	32.87	8.76	35.92	21x14	0.51	1.91	42.98	2988	299.72	8900
TBA	350 (37)	16.79	35.48	8.76	38.53	29x14	0.37	1.91	45.59	3740	320.04	12460
628043	350 (37)	16.79	39.14	8.76	41.94	18x12	0.37	1.91	49.96	4081	350.52	12460
603739†	500 (37)	20.04	38.58	8.76	41.38	26x12	0.26	1.91	49.40	4850	345.44	17800
628046	500 (37)	20.04	38.58	8.76	41.38	17x10	0.25	1.91	50.47	4957	353.06	17800
628049	750 (61)	24.59	43.38	8.76	46.94	25x10	0.17	1.91	56.03	6838	391.16	26700
628051	750 (61)	24.59	43.38	8.76	46.94	20x9	0.17	1.91	56.67	6901	396.24	26700
628054	1000 (61)	28.37	47.17	8.76	50.72	26x9	0.13	1.91	60.45	8630	424.18	35600
TBA	1000 (61)	28.37	47.32	8.76	51.13	21x8	0.12	1.91	61.49	8502	429.26	35600

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
† HI-DRI-PLUS®: Moisture absorbing powder under jacket
* Pulling tension based on pulling eye directly connected to conductor
* TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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
1/0 (SOLID)	0.3346	0.46	0.0171	0.1804	1.181	24.2782	0.417+j0.172	0.141+j0.058	3142	210	250
1/0 (19)	0.3346	0.46	0.0158	0.1739	1.280	25.9186	0.417+j0.173	0.141+j0.059	3142	210	250
2/0 (19)	0.2690	0.37	0.0149	0.1673	1.378	27.5591	0.356+j0.133	0.114+j0.057	3840	235	280
3/0 (19)	0.2100	0.29	0.0140	0.1640	1.444	29.5276	0.291+j0.098	0.089+j0.055	4887	265	320
4/0 (19)	0.1673	0.23	0.0128	0.1542	1.575	31.8241	0.236+j0.072	0.073+j0.053	6284	300	360
250 (37)	0.1411	0.19	0.0122	0.1542	1.673	33.7927	0.204+j0.060	0.063+j0.052	7331	328	
350 (37)	0.1017	0.14	0.0110	0.1476	1.870	37.7297	0.151+j0.043	0.048+j0.049	10123	400	460
350 (37)	0.1017	0.14	0.0125	0.1542	1.640	32.8084	0.152+j0.046	0.048+j0.051	9974	400	460
500 (37)	0.0689	0.10	0.0094	0.1378	2.133	42.9790	0.107+j0.032	0.037+j0.046	14406	470	525
500 (37)	0.0689	0.10	0.0094	0.1411	2.133	42.9790	0.104+j0.032	0.037+j0.046	14973	470	525
750 (61)	0.0459	0.07	0.0082	0.1345	2.493	50.1969	0.072+j0.025	0.030+j0.041	22019	560	590
750 (61)	0.0459	0.07	0.0082	0.1345	2.493	50.1969	0.071+j0.026	0.031+j0.041	22214	560	590
1000 (61)	0.0361	0.06	0.0073	0.1280	2.756	55.7743	0.057+j0.022	0.029+j0.038	28879		
1000 (61)	0.0361	0.06	0.0073	0.1280	2.756	55.4462	0.056+j0.023	0.029+j0.038	29419		

*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, Spacing: one diameter spacing center-to-center.

Concentric Neutral Calculator

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