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

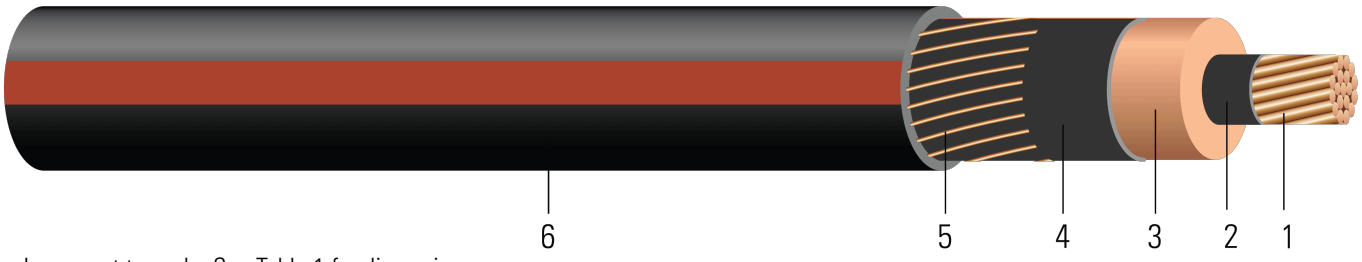


Image not to scale. See Table 1 for dimensions.

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; Supersmooth conductor shield optional; 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

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	1/0 (Solid)	0.324	1.052	345	1.162	9x14	0.292	50	1.390	1084	11.1	844
628034	1/0 (19)	0.361	1.082	345	1.192	9x14	0.292	50	1.420	1154	11.4	844
628037	2/0 (19)	0.405	1.126	345	1.236	11x14	0.239	50	1.464	1301	11.7	1064
TBA	3/0 (19)	0.456	1.184	345	1.294	14x14	0.187	50	1.522	1448	12.2	1342
628038	4/0 (19)	0.512	1.232	345	1.342	18x14	0.146	50	1.570	1719	12.6	1692
TBA	250 (37)	0.558	1.294	345	1.404	21x14	0.125	75	1.682	1967	13.5	2000
628043	350 (37)	0.661	1.541	345	1.651	18x12	0.092	75	1.966	2742	15.7	2800
628046	500 (37)	0.789	1.519	345	1.629	17x10	0.061	75	1.986	3330	15.9	4000
628049	750 (61)	0.968	1.708	345	1.848	25x10	0.041	75	2.205	4595	17.6	6000
628051	750 (61)	0.968	1.708	345	1.848	20x9	0.041	75	2.230	4637	17.8	6000
TBA	1000 (61)	1.117	1.863	345	2.003	32x10	0.032	75	2.357	5614	18.9	8000
628054	1000 (61)	1.117	1.857	345	1.997	26x9	0.031	75	2.379	5798	19.0	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
1/0 (Solid)	0.102	0.128	0.061	0.055	0.190	14.6	0.182 + j0.749	0.128 + j0.053	3138	210	250
1/0 (19)	0.102	0.128	0.057	0.053	0.203	15.6	0.182 + j0.747	0.128 + j0.054	3138	210	250
2/0 (19)	0.081	0.102	0.053	0.051	0.217	16.7	0.156 + j0.743	0.102 + j0.052	3836	235	280
3/0 (19)	0.064	0.081	0.049	0.049	0.234	18.0	0.135 + j0.739	0.081 + j0.050	4882	265	320
4/0 (19)	0.051	0.065	0.046	0.048	0.253	19.4	0.119 + j0.735	0.065 + j0.048	6277	300	360
250 (37)	0.043	0.056	0.043	0.047	0.266	20.4	0.110 + j0.730	0.056 + j0.047	7323	328	
350 (37)	0.031	0.041	0.039	0.045	0.299	23.0	0.095 + j0.722	0.041 + j0.045	9973	400	460
500 (37)	0.022	0.030	0.034	0.043	0.339	26.0	0.084 + j0.713	0.030 + j0.043	14973	470	525
750 (61)	0.014	0.023	0.029	0.041	0.391	30.0	0.077 + j0.704	0.023 + j0.041	22019	560	590
750 (61)	0.014	0.023	0.029	0.041	0.391	30.0	0.077 + j0.704	0.023 + j0.041	22214	560	590
1000 (61)	0.011	0.019	0.026	0.039	0.437	33.6	0.073 + j0.698	0.019 + j0.039	28184		
1000 (61)	0.011	0.019	0.026	0.039	0.437	33.6	0.073 + j0.698	0.019 + j0.039	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	1/0 (Solid)	8.23	26.72	8.76	29.51	9x14	0.96	1.27	35.31	1613	281.94	3756
628034	1/0 (19)	9.17	27.48	8.76	30.28	9x14	0.96	1.27	36.07	1717	289.56	3756
628037	2/0 (19)	10.29	28.60	8.76	31.39	11x14	0.78	1.27	37.19	1936	297.18	4735
TBA	3/0 (19)	11.58	30.07	8.76	32.87	14x14	0.61	1.27	38.66	2155	309.88	5972
628038	4/0 (19)	13.00	31.29	8.76	34.09	18x14	0.48	1.27	39.88	2558	320.04	7529
TBA	250 (37)	14.17	32.87	8.76	35.66	21x14	0.41	1.91	42.72	2927	342.90	8900
628043	350 (37)	16.79	39.14	8.76	41.94	18x12	0.30	1.91	49.94	4081	398.78	12460
628046	500 (37)	20.04	38.58	8.76	41.38	17x10	0.20	1.91	50.44	4956	403.86	17800
628049	750 (61)	24.59	43.38	8.76	46.94	25x10	0.13	1.91	56.01	6838	447.04	26700
628051	750 (61)	24.59	43.38	8.76	46.94	20x9	0.13	1.91	56.64	6901	452.12	26700
TBA	1000 (61)	28.37	47.32	8.76	50.88	32x10	0.10	1.91	59.87	8355	480.06	35600
628054	1000 (61)	28.37	47.17	8.76	50.72	26x9	0.10	1.91	60.43	8628	482.60	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
1/0 (Solid)	0.3346	0.42	0.0186	0.1804	0.623	47.9003	0.182 + j0.749	0.128 + j0.053	3138	210	250
1/0 (19)	0.3346	0.42	0.0174	0.1739	0.666	51.1811	0.182 + j0.747	0.128 + j0.054	3138	210	250
2/0 (19)	0.2657	0.33	0.0162	0.1673	0.712	54.7900	0.156 + j0.743	0.102 + j0.052	3836	235	280
3/0 (19)	0.2100	0.27	0.0149	0.1608	0.768	59.0551	0.135 + j0.739	0.081 + j0.050	4882	265	320
4/0 (19)	0.1673	0.21	0.0140	0.1575	0.830	63.6483	0.119 + j0.735	0.065 + j0.048	6277	300	360
250 (37)	0.1411	0.18	0.0131	0.1542	0.873	66.9291	0.110 + j0.730	0.056 + j0.047	7323	328	
350 (37)	0.1017	0.13	0.0119	0.1476	0.981	75.4593	0.095 + j0.722	0.041 + j0.045	9973	400	460
500 (37)	0.0722	0.10	0.0104	0.1411	1.112	85.3018	0.084 + j0.713	0.030 + j0.043	14973	470	525
750 (61)	0.0459	0.08	0.0088	0.1345	1.283	98.4252	0.077 + j0.704	0.023 + j0.041	22019	560	590
750 (61)	0.0459	0.08	0.0088	0.1345	1.283	98.4252	0.077 + j0.704	0.023 + j0.041	22214	560	590
1000 (61)	0.0361	0.06	0.0079	0.1280	1.434	110.2362	0.073 + j0.698	0.019 + j0.039	28184		
1000 (61)	0.0361	0.06	0.0079	0.1280	1.434	110.2362	0.073 + j0.698	0.019 + j0.039	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