35kV AL 100% EPR (EAM) LCT LLDPE

Single Conductor, 345 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 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 Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked 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. **Tape Shield:** 10 mils Longitudinally Corrugated Copper 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 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 B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- 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 (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

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 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	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	1/0 (SOLID)	0.325	1.053	345	1.133	50	1.333	1449	16	633
TBA	1/0 (19)	0.352	1.08	345	1.16	50	1.36	1486	16.3	633
TBA	2/0 (19)	0.395	1.123	345	1.203	50	1.403	1572	16.8	798
TBA	3/0 (19)	0.443	1.171	345	1.251	50	1.451	1671	17.4	1006
TBA	4/0 (19)	0.498	1.226	345	1.306	50	1.506	1789	18.1	1269
TBA	250 (37)	0.558	1.294	345	1.374	50	1.574	1925	18.9	1500
TBA	350 (37)	0.661	1.397	345	1.477	75	1.727	2238	20.7	2100
TBA	500 (37)	0.789	1.525	345	1.605	75	1.855	2562	22.3	3000
TBA	750 (61)	0.968	1.714	345	1.794	75	2.044	3094	24.5	4500
663041#	1000 (61)	1.117	1.857	345	1.937	75	2.257	2717	27.1	6000

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
# Solid Black Jacket
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	0.14	0.056	0.054	0.36	7.4	0.390+j0.135	0.142+j0.057	4407	160	195
1/0 (19)	0.167	0.229	0.053	0.053	0.38	7.7	0.475+j0.132	0.231+j0.058	4498	160	195
2/0 (19)	0.133	0.182	0.05	0.051	0.41	8.2	0.422+j0.125	0.184+j0.056	4644	185	220
3/0 (19)	0.105	0.144	0.046	0.049	0.44	8.8	0.378+j0.118	0.146+j0.054	4806	210	250
4/0 (19)	0.084	0.115	0.043	0.047	0.47	9.5	0.342+j0.111	0.117+j0.052	4992	235	280
250 (37)	0.07	0.096	0.04	0.046	0.51	10.3	0.316+j0.104	0.098+j0.051	5223		
350 (37)	0.051	0.07	0.036	0.044	0.57	11.5	0.278+j0.094	0.073+j0.049	5571	315	370
500 (37)	0.036	0.05	0.031	0.041	0.64	13	0.246+j0.084	0.053+j0.046	6004	380	435
750 (61)	0.023	0.033	0.027	0.039	0.75	15.2	0.213+j0.072	0.036+j0.044	6644	480	545
1000 (61)	0.017	0.025	0.024	0.038	0.84	17	0.195+j0.064	0.028+j0.043	7128	550	625

*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	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	1/0 (SOLID)	8.25	26.75	8.76	28.78	1.27	33.86	2156	406.40	2817
TBA	1/0 (19)	8.94	27.43	8.76	29.46	1.27	34.54	2211	414.02	2817
TBA	2/0 (19)	10.03	28.52	8.76	30.56	1.27	35.64	2339	426.72	3551
TBA	3/0 (19)	11.25	29.74	8.76	31.78	1.27	36.86	2487	441.96	4477
TBA	4/0 (19)	12.65	31.14	8.76	33.17	1.27	38.25	2662	459.74	5647
TBA	250 (37)	14.17	32.87	8.76	34.90	1.27	39.98	2865	480.06	6675
TBA	350 (37)	16.79	35.48	8.76	37.52	1.91	43.87	3331	525.78	9345
TBA	500 (37)	20.04	38.73	8.76	40.77	1.91	47.12	3813	566.42	13350
TBA	750 (61)	24.59	43.54	8.76	45.57	1.91	51.92	4604	622.30	20025
663041#	1000 (61)	28.37	47.17	8.76	49.20	1.91	57.33	4043	688.34	26700

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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	0.1772	1.181	24.2782	0.390+j0.135	0.142+j0.057	4407	160	195
1/0 (19)	0.5479	0.75	0.0162	0.1739	1.247	25.2625	0.475+j0.132	0.231+j0.058	4498	160	195
2/0 (19)	0.4364	0.60	0.0152	0.1673	1.345	26.9029	0.422+j0.125	0.184+j0.056	4644	185	220
3/0 (19)	0.3445	0.47	0.0140	0.1608	1.444	28.8714	0.378+j0.118	0.146+j0.054	4806	210	250
4/0 (19)	0.2756	0.38	0.0131	0.1542	1.542	31.1680	0.342+j0.111	0.117+j0.052	4992	235	280
250 (37)	0.2297	0.31	0.0122	0.1509	1.673	33.7927	0.316+j0.104	0.098+j0.051	5223		
350 (37)	0.1673	0.23	0.0110	0.1444	1.870	37.7297	0.278+j0.094	0.073+j0.049	5571	315	370
500 (37)	0.1181	0.16	0.0094	0.1345	2.100	42.6509	0.246+j0.084	0.053+j0.046	6004	380	435
750 (61)	0.0755	0.11	0.0082	0.1280	2.461	49.8688	0.213+j0.072	0.036+j0.044	6644	480	545
1000 (61)	0.0558	0.08	0.0073	0.1247	2.756	55.7743	0.195+j0.064	0.028+j0.043	7128	550	625

*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.
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