

25kV AL 133% EPR LCT LLDPE Primary UD

Single Conductor, 320 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Longitudinally Corrugated Tape Shield, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

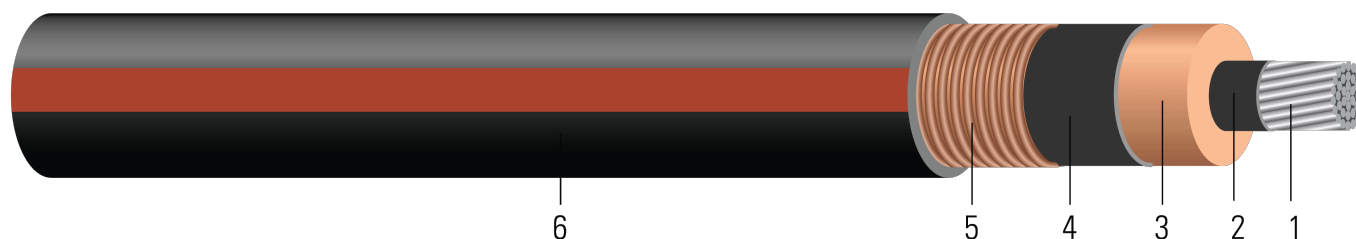


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Moisture blocked class B compressed Aluminum ASTM B231 1350 ¾ hard H16/H26 (Non Moisture Blocked Optional)
- 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
- Insulation:** 320 Mils Ethylene Propylene Rubber (EPR) 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Tape Shield:** 10 mils Longitudinally Corrugated Tape Shield
- 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, 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 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
- 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] AL 25000 VOLTS EPR INSULATION 320 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 (1)	0.289	0.966	320	1.026	80	1.286	795	15.4	502
TBA	1 (19)	0.322	0.999	320	1.059	80	1.319	829	15.8	502
TBA	1/0 (1)	0.325	1.002	320	1.062	80	1.322	840	15.9	634
TBA	1/0 (19)	0.352	1.029	320	1.089	80	1.349	869	16.2	634
TBA	2/0 (19)	0.395	1.072	320	1.132	80	1.392	927	16.7	799
TBA	3/0 (19)	0.443	1.120	320	1.180	80	1.440	996	17.3	1007
TBA	4/0 (19)	0.498	1.175	320	1.235	80	1.495	1079	17.9	1270
TBA	250 (37)	0.558	1.244	320	1.304	80	1.530	1221	18.4	1500
TBA	350 (37)	0.661	1.347	320	1.407	80	1.633	1400	19.6	2100
TBA	500 (37)	0.789	1.475	320	1.535	110	1.821	1716	21.9	3000
TBA	750 (61)	0.968	1.663	320	1.723	110	2.009	2120	24.1	4500
TBA	1000 (61)	1.117	1.812	320	1.872	110	2.158	2492	25.9	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



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)	0.211	0.265	0.061	0.053	0.238	68.622	0.534+j0.154	0.266+j0.053	4027.0	140	170
1 (19)	0.211	0.265	0.057	0.052	0.252	72.835	0.528+j0.146	0.266+j0.051	4138.2	140	170
1/0 (1)	0.168	0.211	0.057	0.051	0.254	73.215	0.474+j0.146	0.212+j0.051	4148.3	155	195
1/0 (19)	0.168	0.211	0.054	0.050	0.265	76.628	0.469+j0.140	0.212+j0.050	4239.2	155	195
2/0 (19)	0.133	0.167	0.051	0.049	0.284	82.017	0.418+j0.132	0.168+j0.048	4384.1	180	220
3/0 (19)	0.105	0.132	0.047	0.047	0.305	87.975	0.376+j0.124	0.133+j0.047	4545.8	200	250
4/0 (19)	0.0836	0.105	0.044	0.045	0.328	94.745	0.341+j0.116	0.106+j0.045	4731.1	235	285
250 (37)	0.0707	0.089	0.040	0.043	0.357	103.169	0.316+j0.107	0.090+j0.043	4963.5		
350 (37)	0.0505	0.064	0.036	0.041	0.401	115.639	0.278+j0.095	0.065+j0.041	5310.5	310	375
500 (37)	0.0354	0.045	0.032	0.040	0.454	131.008	0.244+j0.083	0.047+j0.039	5741.7	375	455
750 (61)	0.0236	0.030	0.027	0.037	0.531	153.414	0.211+j0.070	0.032+j0.037	6375.0	470	560
1000 (61)	0.0177	0.023	0.024	0.036	0.593	171.076	0.192+j0.062	0.025+j0.036	6876.9	540	645

* 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	24.54	8.13	26.06	2.03	32.66	1183	391.16	2234
TBA	1 (19)	8.18	25.37	8.13	26.90	2.03	33.50	1234	401.32	2234
TBA	1/0 (1)	8.25	25.45	8.13	26.97	2.03	33.58	1250	403.86	2821
TBA	1/0 (19)	8.94	26.14	8.13	27.66	2.03	34.26	1293	411.48	2821
TBA	2/0 (19)	10.03	27.23	8.13	28.75	2.03	35.36	1380	424.18	3556
TBA	3/0 (19)	11.25	28.45	8.13	29.97	2.03	36.58	1482	439.42	4481
TBA	4/0 (19)	12.65	29.85	8.13	31.37	2.03	37.97	1606	454.66	5652
TBA	250 (37)	14.17	31.60	8.13	33.12	2.03	38.86	1817	467.36	6675
TBA	350 (37)	16.79	34.21	8.13	35.74	2.03	41.48	2083	497.84	9345
TBA	500 (37)	20.04	37.47	8.13	38.99	2.79	46.25	2554	556.26	13350
TBA	750 (61)	24.59	42.24	8.13	43.76	2.79	51.03	3155	612.14	20025
TBA	1000 (61)	28.37	46.02	8.13	47.55	2.79	54.81	3709	657.86	26700

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)	0.6923	0.87	0.0186	0.1739	0.781	225.1378	0.534+j0.154	0.266+j0.053	4027.0	140	170
1 (19)	0.6923	0.87	0.0174	0.1706	0.827	238.9600	0.528+j0.146	0.266+j0.051	4138.2	140	170
1/0 (1)	0.5512	0.69	0.0174	0.1673	0.833	240.2067	0.474+j0.146	0.212+j0.051	4148.3	155	195
1/0 (19)	0.5512	0.69	0.0165	0.1640	0.869	251.4042	0.469+j0.140	0.212+j0.050	4239.2	155	195
2/0 (19)	0.4364	0.55	0.0155	0.1608	0.932	269.0846	0.418+j0.132	0.168+j0.048	4384.1	180	220
3/0 (19)	0.3445	0.43	0.0143	0.1542	1.001	288.6319	0.376+j0.124	0.133+j0.047	4545.8	200	250
4/0 (19)	0.2743	0.34	0.0134	0.1476	1.076	310.8432	0.341+j0.116	0.106+j0.045	4731.1	235	285
250 (37)	0.2320	0.29	0.0122	0.1411	1.171	338.4810	0.316+j0.107	0.090+j0.043	4963.5		
350 (37)	0.1657	0.21	0.0110	0.1345	1.316	379.3930	0.278+j0.095	0.065+j0.041	5310.5	310	375
500 (37)	0.1161	0.15	0.0098	0.1312	1.490	429.8163	0.244+j0.083	0.047+j0.039	5741.7	375	455
750 (61)	0.0774	0.10	0.0082	0.1214	1.742	503.3268	0.211+j0.070	0.032+j0.037	6375.0	470	560
1000 (61)	0.0581	0.08	0.0073	0.1181	1.946	561.2730	0.192+j0.062	0.025+j0.036	6876.9	540	645

* 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)

