

15kV AL 133% EPR Full Neutral LLDPE Primary UD

Single Conductor, 220 Mils Ethylene Propylene Rubber (EPR), 133% Insulation Level, Full Concentric Neutral, 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 $\frac{3}{4}$ 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:** 220 Mils Ethylene Propylene Rubber (EPR) 133% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper full concentric neutral
- Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes; PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 15kV 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-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
- 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 15000 VOLTS EPR INSULATION 220 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	2 (1)	0.258	0.735	220	0.815	10x14	0.263	50	1.043	549	12.5	398
618502#	2 (7)	0.283	0.760	220	0.840	10x14	0.263	50	1.068	575	12.8	398
616131	2 (7)	0.283	0.760	220	0.840	10x14	0.263	50	1.068	575	12.8	398
TBA	1 (1)	0.289	0.766	220	0.846	13x14	0.202	50	1.074	617	12.9	502
TBA	1 (19)	0.322	0.799	220	0.879	13x14	0.202	50	1.107	649	13.3	502
616584#	1/0 (1)	0.325	0.802	220	0.882	16x14	0.164	50	1.110	692	13.3	634
617504	1/0 (1)	0.325	0.802	220	0.882	16x14	0.164	50	1.110	692	13.3	634
616132	1/0 (19)	0.352	0.829	220	0.909	16x14	0.164	50	1.137	718	13.6	634
625309	2/0 (19)	0.395	0.872	220	0.952	13x12	0.128	50	1.212	849	14.5	799
TBA	3/0 (19)	0.443	0.920	220	1.000	16x12	0.104	50	1.260	967	15.1	1007
616137	4/0 (19)	0.498	0.975	220	1.055	13x10	0.080	50	1.359	1165	16.3	1270
TBA	250 (37)	0.558	1.044	220	1.144	16x10	0.065	50	1.448	1368	17.4	1500
TBA	350 (37)	0.661	1.147	220	1.247	16x9	0.052	50	1.576	1685	18.9	2100

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

Hi-Dri-Plus® - Water Blocking Powder

^ Super Smooth Conductor Shield



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
2 (1)	0.266	0.334	0.051	0.051	0.170	29.395	0.568+j0.125	0.336+j0.051	3376.1	120	150
2 (7)	0.266	0.334	0.048	0.049	0.179	31.023	0.568+j0.124	0.336+j0.049	3376.1	120	150
2 (7)	0.266	0.334	0.048	0.049	0.179	31.023	0.568+j0.124	0.336+j0.049	3376.1	120	150
1 (1)	0.211	0.265	0.048	0.049	0.181	31.412	0.456+j0.091	0.267+j0.049	4388.9	140	175
1 (19)	0.211	0.265	0.045	0.048	0.194	33.542	0.456+j0.090	0.267+j0.047	4388.9	140	175
1/0 (1)	0.168	0.211	0.044	0.047	0.195	33.735	0.371+j0.071	0.213+j0.047	5401.7	155	195
1/0 (1)	0.168	0.211	0.044	0.047	0.195	33.735	0.371+j0.071	0.213+j0.047	5401.7	155	195
1/0 (19)	0.168	0.211	0.042	0.046	0.205	35.466	0.371+j0.070	0.213+j0.046	5401.7	155	195
2/0 (19)	0.133	0.167	0.039	0.045	0.221	38.206	0.296+j0.057	0.170+j0.045	6973.1	180	225
3/0 (19)	0.105	0.132	0.036	0.044	0.238	41.247	0.238+j0.047	0.136+j0.043	8582.3	205	250
4/0 (19)	0.0836	0.105	0.034	0.043	0.258	44.712	0.186+j0.040	0.110+j0.041	11084.4	235	285
250 (37)	0.0707	0.089	0.031	0.042	0.283	49.037	0.156+j0.034	0.095+j0.039	13642.3		
350 (37)	0.0505	0.064	0.027	0.040	0.320	55.458	0.117+j0.031	0.070+j0.037	17204.0	305	370

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohm-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	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	2 (1)	6.55	18.67	5.59	20.70	10x14	0.86	1.27	26.49	817	317.50	1771
618502#	2 (7)	7.19	19.30	5.59	21.34	10x14	0.86	1.27	27.13	856	325.12	1771
616131	2 (7)	7.19	19.30	5.59	21.34	10x14	0.86	1.27	27.13	856	325.12	1771
TBA	1 (1)	7.34	19.46	5.59	21.49	13x14	0.66	1.27	27.28	918	327.66	2234
TBA	1 (19)	8.18	20.29	5.59	22.33	13x14	0.66	1.27	28.12	966	337.82	2234
616584#	1/0 (1)	8.25	20.37	5.59	22.40	16x14	0.54	1.27	28.19	1030	337.82	2821
617504	1/0 (1)	8.25	20.37	5.59	22.40	16x14	0.54	1.27	28.19	1030	337.82	2821
616132	1/0 (19)	8.94	21.06	5.59	23.09	16x14	0.54	1.27	28.88	1069	345.44	2821
625309	2/0 (19)	10.03	22.15	5.59	24.18	13x12	0.42	1.27	30.78	1263	368.30	3556
TBA	3/0 (19)	11.25	23.37	5.59	25.40	16x12	0.34	1.27	32.00	1439	383.54	4481
616137	4/0 (19)	12.65	24.76	5.59	26.80	13x10	0.26	1.27	34.52	1734	414.02	5652
TBA	250 (37)	14.17	26.52	5.59	29.06	16x10	0.21	1.27	36.78	2036	441.96	6675
TBA	350 (37)	16.79	29.13	5.59	31.67	16x9	0.17	1.27	40.03	2508	480.06	9345

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

Hi-Dri-Plus® - Water Blocking Powder

^ Super Smooth Conductor Shield



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
2 (1)	0.8727	1.10	0.0155	0.1673	0.558	96.4403	0.568+j0.125	0.336+j0.051	3376.1	120	150
2 (7)	0.8727	1.10	0.0146	0.1608	0.587	101.7815	0.568+j0.124	0.336+j0.049	3376.1	120	150
2 (7)	0.8727	1.10	0.0146	0.1608	0.587	101.7815	0.568+j0.124	0.336+j0.049	3376.1	120	150
1 (1)	0.6923	0.87	0.0146	0.1608	0.594	103.0577	0.456+j0.091	0.267+j0.049	4388.9	140	175
1 (19)	0.6923	0.87	0.0137	0.1575	0.636	110.0459	0.456+j0.090	0.267+j0.047	4388.9	140	175
1/0 (1)	0.5512	0.69	0.0134	0.1542	0.640	110.6791	0.371+j0.071	0.213+j0.047	5401.7	155	195
1/0 (1)	0.5512	0.69	0.0134	0.1542	0.640	110.6791	0.371+j0.071	0.213+j0.047	5401.7	155	195
1/0 (19)	0.5512	0.69	0.0128	0.1509	0.673	116.3583	0.371+j0.070	0.213+j0.046	5401.7	155	195
2/0 (19)	0.4364	0.55	0.0119	0.1476	0.725	125.3478	0.296+j0.057	0.170+j0.045	6973.1	180	225
3/0 (19)	0.3445	0.43	0.0110	0.1444	0.781	135.3248	0.238+j0.047	0.136+j0.043	8582.3	205	250
4/0 (19)	0.2743	0.34	0.0104	0.1411	0.846	146.6929	0.186+j0.040	0.110+j0.041	11084.4	235	285
250 (37)	0.2320	0.29	0.0094	0.1378	0.928	160.8825	0.156+j0.034	0.095+j0.039	13642.3		
350 (37)	0.1657	0.21	0.0082	0.1312	1.050	181.9488	0.117+j0.031	0.070+j0.037	17204.0	305	370

* Calculations are based on three cables triplexed / concentric shield / Conductor temperature of 90°C / Shield temperature of 45°C / Earth resistivity of 100 ohm-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)

