25kV AL 100% EPR One-Third Neutral LLDPE Primary UD

Single Conductor, 260 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket

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; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 260 Mils Ethylene Propylene Rubber (EPR) 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 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-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 Listed as MV 90 When Specified

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] AL 25000 VOLTS EPR INSULATION 260 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

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 (1)	0.289	0.846	260	0.926	6x14	0.438	50	1.154	609	13.8	502
TBA	1 (19)	0.322	0.879	260	0.959	6x14	0.438	50	1.187	643	14.2	502
TBA	1/0 (1)	0.325	0.882	260	0.962	6x14	0.438	50	1.190	653	14.3	634
TBA	1/0 (19)	0.352	0.909	260	0.989	6x14	0.438	50	1.217	681	14.6	634
TBA	2/0 (19)	0.395	0.952	260	1.032	7x14	0.376	50	1.260	749	15.1	799
TBA	3/0 (19)	0.443	1.000	260	1.080	9x14	0.292	50	1.308	838	15.7	1007
616138	4/0 (19)	0.498	1.055	260	1.155	11x14	0.239	50	1.383	963	16.6	1270
TBA	250 (37)	0.558	1.124	260	1.224	13x14	0.202	50	1.452	1083	17.4	1500
607538	350 (37)	0.661	1.227	260	1.327	18x14	0.146	50	1.559	1310	18.7	2100
621555	500 (37)	0.789	1.355	260	1.459	16x12	0.104	80	1.775	1735	21.3	3000
625465^	750 (61)	0.968	1.543	260	1.643	24x12	0.069	80	1.963	2291	23.6	4500
606625	1000 (61)	1.117	1.692	260	1.822	20x10	0.052	80	2.184	2908	26.2	6000
604505^^	1000 (61)	1.117	1.692	260	1.822	16x9	0.052	80	2.209	2950	26.2	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
^^ HIDRI Plus Moisture Absorbing Powder Jacket

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	0.053	0.051	0.271	78.166	0.580+j0.234	0.266+j0.051	2083.1	140	175
1 (19)	0.211	0.265	0.050	0.049	0.288	83.243	0.580+j0.233	0.266+j0.049	2083.1	140	175
1/0 (1)	0.168	0.211	0.050	0.049	0.290	83.703	0.526+j0.233	0.212+j0.049	2083.1	155	195
1/0 (19)	0.168	0.211	0.047	0.048	0.304	87.823	0.525+j0.232	0.212+j0.048	2083.1	155	195
2/0 (19)	0.133	0.167	0.044	0.046	0.327	94.339	0.458+j0.192	0.168+j0.046	2430.3	180	225
3/0 (19)	0.105	0.132	0.041	0.045	0.352	101.559	0.382+j0.140	0.133+j0.045	3124.7	200	255
4/0 (19)	0.0836	0.105	0.038	0.044	0.380	109.776	0.321+j0.108	0.107+j0.043	3819.1	235	285
250 (37)	0.0707	0.089	0.035	0.042	0.416	120.020	0.279+j0.087	0.091+j0.042	4513.5		
350 (37)	0.0505	0.064	0.031	0.040	0.468	135.211	0.208+j0.059	0.066+j0.039	6249.4	310	375
500 (37)	0.0354	0.045	0.027	0.039	0.533	153.971	0.151+j0.043	0.048+j0.038	8825.9	370	450
750 (61)	0.0236	0.030	0.023	0.037	0.628	181.370	0.102+j0.030	0.035+j0.035	13238.9	460	545
1000 (61)	0.0177	0.023	0.021	0.036	0.703	202.999	0.077+j0.027	0.029+j0.033	17537.0	520	620
1000 (61)	0.0177	0.023	0.021	0.036	0.703	202.999	0.077+j0.027	0.029+j0.033	17537.0	520	620

* Calculations are based on three cables triplexed / concentric 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	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 (1)	7.34	21.49	6.60	23.52	6x14	1.44	1.27	29.31	906	350.52	2234
TBA	1 (19)	8.18	22.33	6.60	24.36	6x14	1.44	1.27	30.15	957	360.68	2234
TBA	1/0 (1)	8.25	22.40	6.60	24.43	6x14	1.44	1.27	30.23	972	363.22	2821
TBA	1/0 (19)	8.94	23.09	6.60	25.12	6x14	1.44	1.27	30.91	1013	370.84	2821
TBA	2/0 (19)	10.03	24.18	6.60	26.21	7x14	1.23	1.27	32.00	1115	383.54	3556
TBA	3/0 (19)	11.25	25.40	6.60	27.43	9x14	0.96	1.27	33.22	1247	398.78	4481
616138	4/0 (19)	12.65	26.80	6.60	29.34	11x14	0.78	1.27	35.13	1433	421.64	5652
TBA	250 (37)	14.17	28.55	6.60	31.09	13x14	0.66	1.27	36.88	1612	441.96	6675
607538	350 (37)	16.79	31.17	6.60	33.71	18x14	0.48	1.27	39.60	1949	474.98	9345
621555	500 (37)	20.04	34.42	6.60	37.06	16x12	0.34	2.03	45.08	2582	541.02	13350
625465^	750 (61)	24.59	39.19	6.60	41.73	24x12	0.23	2.03	49.86	3409	599.44	20025
606625	1000 (61)	28.37	42.98	6.60	46.28	20x10	0.17	2.03	55.47	4328	665.48	26700
604505^^	1000 (61)	28.37	42.98	6.60	46.28	16x9	0.17	2.03	56.11	4390	665.48	26700

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* Pulling tension based on pulling eye directly connected to conductor
^ Solid Black Jacket
^^ HIDRI Plus Moisture Absorbing Powder Jacket

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	0.0162	0.1673	0.889	256.4501	0.580+j0.234	0.266+j0.051	2083.1	140	175
1 (19)	0.6923	0.87	0.0152	0.1608	0.945	273.1070	0.580+j0.233	0.266+j0.049	2083.1	140	175
1/0 (1)	0.5512	0.69	0.0152	0.1608	0.951	274.6161	0.526+j0.233	0.212+j0.049	2083.1	155	195
1/0 (19)	0.5512	0.69	0.0143	0.1575	0.997	288.1332	0.525+j0.232	0.212+j0.048	2083.1	155	195
2/0 (19)	0.4364	0.55	0.0134	0.1509	1.073	309.5112	0.458+j0.192	0.168+j0.046	2430.3	180	225
3/0 (19)	0.3445	0.43	0.0125	0.1476	1.155	333.1988	0.382+j0.140	0.133+j0.045	3124.7	200	255
4/0 (19)	0.2743	0.34	0.0116	0.1444	1.247	360.1575	0.321+j0.108	0.107+j0.043	3819.1	235	285
250 (37)	0.2320	0.29	0.0107	0.1378	1.365	393.7664	0.279+j0.087	0.091+j0.042	4513.5		
350 (37)	0.1657	0.21	0.0094	0.1312	1.535	443.6056	0.208+j0.059	0.066+j0.039	6249.4	310	375
500 (37)	0.1161	0.15	0.0082	0.1280	1.749	505.1542	0.151+j0.043	0.048+j0.038	8825.9	370	450
750 (61)	0.0774	0.10	0.0070	0.1214	2.060	595.0459	0.102+j0.030	0.035+j0.035	13238.9	460	545
1000 (61)	0.0581	0.08	0.0064	0.1181	2.306	666.0072	0.077+j0.027	0.029+j0.033	17537.0	520	620
1000 (61)	0.0581	0.08	0.0064	0.1181	2.306	666.0072	0.077+j0.027	0.029+j0.033	17537.0	520	620

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

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