15kV CU 133% EPR (EAM) LCT LLDPE

Single Conductor, 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM), 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:

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. A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 220 Mils Ethylene Propylene Rubber (EPR) / Ethylene Alkene Copolymer (EAM) 133% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Tape Shield:** 10 mils Longitudinally Corrugated 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 15kV 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-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
- 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 15000 VOLTS EPR INSULATION 220 MILS -- (NESC) -- SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET

Copyright © 2024 Southwire Company, LLC. All Rights Reserved

Table 1 – Weights and Measurements

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
2 (Solid)	0.257	0.735	220	0.815	80	1.075	619	12.9	530
2 (7)	0.282	0.760	220	0.840	80	1.100	635	13.2	530
1 (Solid)	0.289	0.767	220	0.847	80	1.107	693	13.3	669
1 (19)	0.322	0.800	220	0.880	80	1.140	714	13.7	669
1/0 (Solid)	0.324	0.802	220	0.882	80	1.142	783	13.7	844
1/0 (19)	0.361	0.839	220	0.919	80	1.179	805	14.1	844
2/0 (19)	0.405	0.883	220	0.963	80	1.223	918	14.7	1064
3/0 (19)	0.456	0.934	220	1.014	80	1.274	1059	15.3	1342
4/0 (19)	0.512	0.990	220	1.070	80	1.330	1230	16.0	1692
250 (37)	0.558	1.044	220	1.124	80	1.384	1385	16.6	2000
350 (37)	0.661	1.147	220	1.227	80	1.487	1761	17.8	2800
500 (37)	0.789	1.275	220	1.355	80	1.615	2305	19.4	4000
750 (61)	0.968	1.464	220	1.544	110	1.864	3314	22.4	6000
1000 (61)	1.117	1.613	220	1.693	110	2.013	4192	24.2	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
2 (Solid)	0.162	0.204	0.054	0.055	0.091	2.99	0.258 + j0.767	0.204 + j0.053	2313	155	195
2 (7)	0.162	0.204	0.051	0.053	0.097	3.19	0.258 + j0.766	0.204 + j0.054	2383	155	195
1 (Solid)	0.128	0.162	0.050	0.053	0.098	3.23	0.216 + j0.762	0.162 + j0.050	2402	175	220
1 (19)	0.128	0.162	0.047	0.051	0.105	3.46	0.216 + j0.76	0.162 + j0.051	2494	175	220
1/0 (Solid)	0.102	0.128	0.047	0.051	0.106	3.49	0.182 + j0.758	0.128 + j0.048	2499	200	250
1/0 (19)	0.102	0.128	0.043	0.049	0.114	3.75	0.182 + j0.756	0.128 + j0.049	2602	200	250
2/0 (19)	0.081	0.102	0.040	0.047	0.123	4.05	0.156 + j0.752	0.102 + j0.047	2724	230	285
3/0 (19)	0.064	0.081	0.037	0.045	0.133	4.38	0.135 + j0.747	0.081 + j0.046	2865	260	320
4/0 (19)	0.051	0.065	0.034	0.044	0.145	4.77	0.119 + j0.743	0.065 + j0.044	3020	300	365
250 (37)	0.043	0.056	0.032	0.043	0.153	5.04	0.111 + j0.739	0.056 + j0.043	3170	315	396
350 (37)	0.031	0.041	0.028	0.040	0.174	5.73	0.095 + j0.731	0.041 + j0.040	3455	390	475
500 (37)	0.022	0.030	0.025	0.038	0.199	6.55	0.084 + j0.724	0.030 + j0.038	3810	470	565
750 (61)	0.014	0.023	0.021	0.037	0.231	7.60	0.077 + j0.712	0.023 + j0.037	4334	585	680
1000 (61)	0.011	0.019	0.019	0.035	0.261	8.59	0.073 + j0.705	0.019 + j0.035	4747	670	750

*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)

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
2 (Solid)	6.53	18.67	5.59	20.70	2.03	27.30	921	327.66	2359
2 (7)	7.16	19.30	5.59	21.34	2.03	27.94	945	335.28	2359
1 (Solid)	7.34	19.48	5.59	21.51	2.03	28.12	1031	337.82	2977
1 (19)	8.18	20.32	5.59	22.35	2.03	28.96	1063	347.98	2977
1/0 (Solid)	8.23	20.37	5.59	22.40	2.03	29.01	1165	347.98	3756
1/0 (19)	9.17	21.31	5.59	23.34	2.03	29.95	1198	358.14	3756
2/0 (19)	10.29	22.43	5.59	24.46	2.03	31.06	1366	373.38	4735
3/0 (19)	11.58	23.72	5.59	25.76	2.03	32.36	1576	388.62	5972
4/0 (19)	13.00	25.15	5.59	27.18	2.03	33.78	1830	406.40	7529
250 (37)	14.17	26.52	5.59	28.55	2.03	35.15	2061	421.64	8900
350 (37)	16.79	29.13	5.59	31.17	2.03	37.77	2621	452.12	12460
500 (37)	20.04	32.39	5.59	34.42	2.03	41.02	3430	492.76	17800
750 (61)	24.59	37.19	5.59	39.22	2.79	47.35	4932	568.96	26700
1000 (61)	28.37	40.97	5.59	43.00	2.79	51.13	6238	614.68	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
2 (Solid)	0.5315	0.67	0.0165	0.1804	0.299	9.8097	0.258 + j0.767	0.204 + j0.053	2313	155	195
2 (7)	0.5315	0.67	0.0155	0.1739	0.318	10.4659	0.258 + j0.766	0.204 + j0.054	2383	155	195
1 (Solid)	0.4199	0.53	0.0152	0.1739	0.322	10.5971	0.216 + j0.762	0.162 + j0.050	2402	175	220
1 (19)	0.4199	0.53	0.0143	0.1673	0.344	11.3517	0.216 + j0.76	0.162 + j0.051	2494	175	220
1/0 (Solid)	0.3346	0.42	0.0143	0.1673	0.348	11.4501	0.182 + j0.758	0.128 + j0.048	2499	200	250
1/0 (19)	0.3346	0.42	0.0131	0.1608	0.374	12.3031	0.182 + j0.756	0.128 + j0.049	2602	200	250
2/0 (19)	0.2657	0.33	0.0122	0.1542	0.404	13.2874	0.156 + j0.752	0.102 + j0.047	2724	230	285
3/0 (19)	0.2100	0.27	0.0113	0.1476	0.436	14.3701	0.135 + j0.747	0.081 + j0.046	2865	260	320
4/0 (19)	0.1673	0.21	0.0104	0.1444	0.476	15.6496	0.119 + j0.743	0.065 + j0.044	3020	300	365
250 (37)	0.1411	0.18	0.0098	0.1411	0.502	16.5354	0.111 + j0.739	0.056 + j0.043	3170	315	396
350 (37)	0.1017	0.13	0.0085	0.1312	0.571	18.7992	0.095 + j0.731	0.041 + j0.040	3455	390	475
500 (37)	0.0722	0.10	0.0076	0.1247	0.653	21.4895	0.084 + j0.724	0.030 + j0.038	3810	470	565
750 (61)	0.0459	0.08	0.0064	0.1214	0.758	24.9344	0.077 + j0.712	0.023 + j0.037	4334	585	680
1000 (61)	0.0361	0.06	0.0058	0.1148	0.856	28.1824	0.073 + j0.705	0.019 + j0.035	4747	670	750

*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.