15kV CU 100% TRXLPE One-Third Neutral LLDPE

Single Conductor, 175 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, One-third Concentric Neutral, 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; Supersmooth conductor shield optional; A conductor tape is used for cable size larger than or equal to 1500 Kcmil
3. **Insulation:** 175 Mils Tree Retardant Cross Linked Polyethylene 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

For information about our Cable-Rejuvenation Services please visit us at: Cable-Rejuvenation Services
You can email us at: Cable-Rejuvenation Services

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 90°C for normal operation. 130°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-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 (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

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SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 15000 VOLTS TRXLPE INSULATION 175 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 (SOLID)	0.258	0.646	175	0.746	6x14	0.54	50	0.974	582	6.8	530
628184	2 (7)	0.283	0.663	175	0.753	6x14	0.54	50	0.981	571	6.9	530
689828#!	2 (7)	0.283	0.663	175	0.753	6x14	0.54	50	0.981	570	6.9	530
TBA	1 (SOLID)	0.289	0.677	175	0.777	7x14	0.463	50	1.005	664	7	669
TBA	1 (19)	0.322	0.71	175	0.81	7x14	0.463	50	1.038	681	7.3	669
TBA	1/0 (SOLID)	0.325	0.713	175	0.813	9x14	0.36	50	1.041	777	7.3	844
616154	1/0 (19)	0.362	0.742	175	0.832	9x14	0.36	50	1.06	767	7.4	844
628187	2/0 (19)	0.405	0.786	175	0.876	11x14	0.295	50	1.104	898	7.7	1064
TBA	3/0 (19)	0.456	0.844	175	0.944	14x14	0.231	50	1.172	1102	8.2	1342
628189	4/0 (19)	0.512	0.892	175	0.982	18x14	0.18	50	1.21	1278	8.5	1692
614035#	4/0 (19)	0.512	0.892	175	0.982	11x12	0.186	50	1.244	1289	8.7	1692
600829§	250 (37)	0.558	0.948	175	1.038	13x12	0.157	50	1.3	1490	9.1	2000
628192	350 (37)	0.661	1.051	175	1.161	18x12	0.114	50	1.423	1973	10	2800
614878#	350 (37)	0.661	1.051	175	1.161	18x12	0.114	50	1.423	1953	10	2800
622071	500 (37)	0.789	1.179	175	1.289	26x12	0.079	50	1.551	2664	10.9	4000
611445#	500 (37)	0.789	1.179	175	1.289	26x12	0.079	50	1.551	2663	10.9	4000
628194	500 (37)	0.789	1.179	175	1.289	17x10	0.075	50	1.593	2725	11.2	4000
628195	750 (61)	0.968	1.368	175	1.478	25x10	0.051	75	1.836	3928	12.9	6000
628197	1000 (61)	1.117	1.517	175	1.627	26x9	0.039	75	2.01	5071	14.1	8000
628576^	1000 (61)	1.117	1.517	175	1.627	26x9	0.039	75	2.01	5072	14.1	8000
628199	1000 (61)	1.117	1.517	175	1.627	21x8	0.038	75	2.038	5393	14.3	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
! No moisture block on conductor

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^ HiDri Plus - Water Blocking Powder. Black Jacket
# All black jacket
§ HiDri Plus - Water Blocking Powder. Black Jacket. CSA Listed
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
2 (SOLID)	0.162	0.221	0.053	0.052	0.16	1.4	0.564+j0.272	0.222+j0.056	2095	160	195
2 (7)	0.162	0.221	0.049	0.05	0.18	1.5	0.563+j0.273	0.222+j0.057	2095	160	195
2 (7)	0.162	0.221	0.049	0.05	0.18	1.5	0.563+j0.273	0.222+j0.057	2095	160	195
1 (SOLID)	0.128	0.175	0.05	0.05	0.17	1.5	0.497+j0.225	0.176+j0.053	2444	180	220
1 (19)	0.128	0.175	0.046	0.049	0.19	1.6	0.497+j0.226	0.176+j0.054	2444	180	220
1/0 (SOLID)	0.102	0.139	0.046	0.048	0.19	1.6	0.421+j0.162	0.141+j0.051	3142	200	250
1/0 (19)	0.102	0.139	0.042	0.046	0.21	1.8	0.421+j0.163	0.141+j0.052	3142	200	250
2/0 (19)	0.082	0.112	0.039	0.045	0.22	1.9	0.359+j0.124	0.114+j0.050	3840	230	285
3/0 (19)	0.064	0.087	0.036	0.043	0.24	2.1	0.293+j0.089	0.09+j0.0490	4887	260	320
4/0 (19)	0.051	0.07	0.033	0.041	0.26	2.3	0.237+j0.064	0.073+j0.047	6284	300	360
4/0 (19)	0.051	0.07	0.033	0.042	0.26	2.3	0.241+j0.067	0.073+j0.047	6095	300	360
250 (37)	0.043	0.059	0.031	0.041	0.28	2.4	0.207+j0.054	0.063+j0.046	7203	325	
350 (37)	0.031	0.043	0.027	0.039	0.32	2.8	0.153+j0.038	0.048+j0.044	9974	390	460
350 (37)	0.031	0.043	0.027	0.039	0.32	2.8	0.153+j0.038	0.048+j0.044	9974	390	460
500 (37)	0.021	0.03	0.023	0.037	0.37	3.2	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.021	0.03	0.023	0.037	0.37	3.2	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.021	0.03	0.023	0.038	0.37	3.2	0.104+j0.027	0.037+j0.041	14973	455	525
750 (61)	0.014	0.021	0.02	0.036	0.44	3.8	0.072+j0.020	0.031+j0.037	22019	545	580
1000 (61)	0.011	0.018	0.018	0.035	0.49	4.3	0.057+j0.018	0.029+j0.033	28879		
1000 (61)	0.011	0.018	0.018	0.035	0.49	4.3	0.057+j0.018	0.029+j0.033	28879		
1000 (61)	0.011	0.018	0.018	0.036	0.49	4.3	0.056+j0.018	0.030+j0.033	29419		

*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	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 (SOLID)	6.55	16.41	4.44	18.95	6x14	1.77	1.27	24.74	866	172.72	2359
628184	2 (7)	7.19	16.84	4.44	19.13	6x14	1.77	1.27	24.92	850	175.26	2359
689828#!	2 (7)	7.19	16.84	4.44	19.13	6x14	1.77	1.27	24.92	848	175.26	2359
TBA	1 (SOLID)	7.34	17.20	4.44	19.74	7x14	1.52	1.27	25.53	988	177.80	2977
TBA	1 (19)	8.18	18.03	4.44	20.57	7x14	1.52	1.27	26.37	1013	185.42	2977
TBA	1/0 (SOLID)	8.25	18.11	4.44	20.65	9x14	1.18	1.27	26.44	1156	185.42	3756
616154	1/0 (19)	9.19	18.85	4.44	21.13	9x14	1.18	1.27	26.92	1141	187.96	3756
628187	2/0 (19)	10.29	19.96	4.44	22.25	11x14	0.97	1.27	28.04	1336	195.58	4735
TBA	3/0 (19)	11.58	21.44	4.44	23.98	14x14	0.76	1.27	29.77	1640	208.28	5972
628189	4/0 (19)	13.00	22.66	4.44	24.94	18x14	0.59	1.27	30.73	1902	215.90	7529
614035#	4/0 (19)	13.00	22.66	4.44	24.94	11x12	0.61	1.27	31.60	1918	220.98	7529
600829§	250 (37)	14.17	24.08	4.44	26.37	13x12	0.52	1.27	33.02	2217	231.14	8900
628192	350 (37)	16.79	26.70	4.44	29.49	18x12	0.37	1.27	36.14	2936	254.00	12460
614878#	350 (37)	16.79	26.70	4.44	29.49	18x12	0.37	1.27	36.14	2906	254.00	12460
622071	500 (37)	20.04	29.95	4.44	32.74	26x12	0.26	1.27	39.40	3964	276.86	17800
611445#	500 (37)	20.04	29.95	4.44	32.74	26x12	0.26	1.27	39.40	3963	276.86	17800
628194	500 (37)	20.04	29.95	4.44	32.74	17x10	0.25	1.27	40.46	4055	284.48	17800
628195	750 (61)	24.59	34.75	4.44	37.54	25x10	0.17	1.91	46.63	5846	327.66	26700
628197	1000 (61)	28.37	38.53	4.44	41.33	26x9	0.13	1.91	51.05	7546	358.14	35600
628576^	1000 (61)	28.37	38.53	4.44	41.33	26x9	0.13	1.91	51.05	7548	358.14	35600
628199	1000 (61)	28.37	38.53	4.44	41.33	21x8	0.12	1.91	51.77	8026	363.22	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
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^ HiDri Plus - Water Blocking Powder. Black Jacket
# All black jacket
§ HiDri Plus - Water Blocking Powder. Black Jacket. CSA Listed
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 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	0.73	0.0162	0.1706	0.525	4.5932	0.564+j0.272	0.222+j0.056	2095	160	195
2 (7)	0.5315	0.73	0.0149	0.1640	0.591	4.9213	0.563+j0.273	0.222+j0.057	2095	160	195
2 (7)	0.5315	0.73	0.0149	0.1640	0.591	4.9213	0.563+j0.273	0.222+j0.057	2095	160	195
1 (SOLID)	0.4199	0.57	0.0152	0.1640	0.558	4.9213	0.497+j0.225	0.176+j0.053	2444	180	220
1 (19)	0.4199	0.57	0.0140	0.1608	0.623	5.2493	0.497+j0.226	0.176+j0.054	2444	180	220
1/0 (SOLID)	0.3346	0.46	0.0140	0.1575	0.623	5.2493	0.421+j0.162	0.141+j0.051	3142	200	250
1/0 (19)	0.3346	0.46	0.0128	0.1509	0.689	5.9055	0.421+j0.163	0.141+j0.052	3142	200	250
2/0 (19)	0.2690	0.37	0.0119	0.1476	0.722	6.2336	0.359+j0.124	0.114+j0.050	3840	230	285
3/0 (19)	0.2100	0.29	0.0110	0.1411	0.787	6.8898	0.293+j0.089	0.09+j0.0490	4887	260	320
4/0 (19)	0.1673	0.23	0.0101	0.1345	0.853	7.5459	0.237+j0.064	0.073+j0.047	6284	300	360
4/0 (19)	0.1673	0.23	0.0101	0.1378	0.853	7.5459	0.241+j0.067	0.073+j0.047	6095	300	360
250 (37)	0.1411	0.19	0.0094	0.1345	0.919	7.8740	0.207+j0.054	0.063+j0.046	7203	325	
350 (37)	0.1017	0.14	0.0082	0.1280	1.050	9.1864	0.153+j0.038	0.048+j0.044	9974	390	460
350 (37)	0.1017	0.14	0.0082	0.1280	1.050	9.1864	0.153+j0.038	0.048+j0.044	9974	390	460
500 (37)	0.0689	0.10	0.0070	0.1214	1.214	10.4987	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.0689	0.10	0.0070	0.1214	1.214	10.4987	0.107+j0.027	0.037+j0.041	14406	455	525
500 (37)	0.0689	0.10	0.0070	0.1247	1.214	10.4987	0.104+j0.027	0.037+j0.041	14973	455	525
750 (61)	0.0459	0.07	0.0061	0.1181	1.444	12.4672	0.072+j0.020	0.031+j0.037	22019	545	580
1000 (61)	0.0361	0.06	0.0055	0.1148	1.608	14.1076	0.057+j0.018	0.029+j0.033	28879		
1000 (61)	0.0361	0.06	0.0055	0.1148	1.608	14.1076	0.057+j0.018	0.029+j0.033	28879		
1000 (61)	0.0361	0.06	0.0055	0.1181	1.608	14.1076	0.056+j0.018	0.030+j0.033	29419		

*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.

Concentric Neutral Calculator

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