

46kV CU 100% EPR One-Third Neutral LLDPE Primary UD

Single Conductor, 445 Mils Ethylene Propylene Rubber (EPR), 100% Insulation Level, One-third Concentric Neutral, Linear Low Density Polyethylene (LLDPE) Jacket. Silicone Free

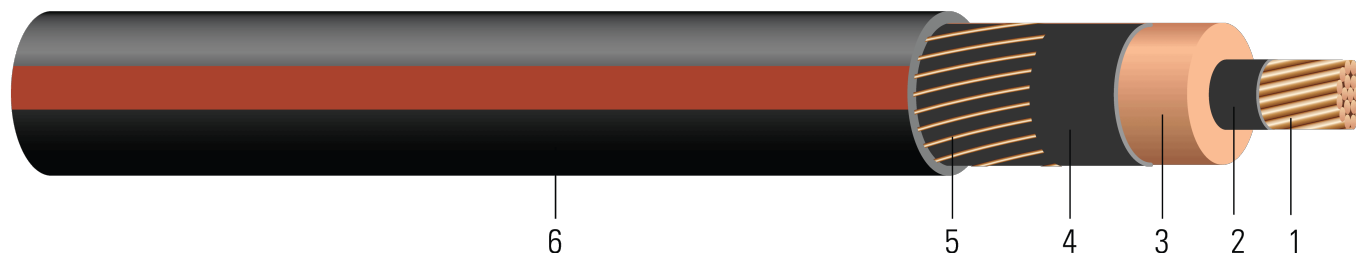


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

- Conductor:** Class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8; Conductor moisture block (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:** 445 Mils Ethylene Propylene Rubber (EPR) 100% insulation level
- Insulation Shield:** Strippable semi-conducting cross-linked copolymer
- Concentric Neutral:** Helically applied soft drawn bare copper one-third concentric neutral
- Overall Jacket:** Linear Low Density Polyethylene (LLDPE) Jacket, Black (red extruded stripes optional); PowerGlide® LLDPE jacket optional

APPLICATIONS AND FEATURES:

Southwire's 46kV 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 B3 Standard Specification for 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
- Optional CSA: CSA 68.5 and -40C optional marking available upon request

SAMPLE PRINT LEGEND:

SOUTHWIRE HI-DRI(R) [CONDUCTOR SIZE] [AWG or KCMIL] CU 46000 VOLTS EPR INSULATION 445 MILS -- (NESC) --
SOUTHWIRE {MMM} {YYYY} NON-CONDUCTING JACKET



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com



Southwire

**CABLETECH
SUPPORT™**

Services

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
628122	350 (37)	0.661	1.597	445	1.727	18x12	0.092	80	2.047	2860	24.6	2800
628126	500 (37)	0.789	1.725	445	1.855	17x10	0.061	80	2.219	3696	26.6	4000
TBA	750 (61)	0.968	1.913	445	2.043	20x9	0.041	80	2.432	4972	29.2	6000
628129	750 (61)	0.968	1.913	445	2.043	25x10	0.041	80	2.432	4972	29.2	6000
628118	1000 (61)	1.117	2.062	445	2.192	21x8	0.031	80	2.609	6213	31.3	8000
628114	1250 (91)	1.250	2.217	445	2.347	26x8	0.025	80	2.764	7421	33.2	10000
628108	1500 (91)	1.370	2.337	445	2.467	31x8	0.021	80	2.884	8581	34.6	12000

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
350 (37)	0.0308	0.039	0.046	0.046	0.583	309.709	0.134+j0.047	0.043+j0.045	9929.2	400	470
500 (37)	0.0216	0.028	0.041	0.044	0.655	347.828	0.091+j0.038	0.033+j0.042	14906.4	470	555
750 (61)	0.0144	0.019	0.035	0.042	0.759	403.185	0.062+j0.031	0.026+j0.038	22115.5	560	650
750 (61)	0.0144	0.019	0.035	0.042	0.759	403.185	0.062+j0.031	0.026+j0.038	22115.5	560	650
1000 (61)	0.0108	0.015	0.032	0.040	0.841	446.695	0.047+j0.028	0.022+j0.034	29288.2		
1250 (91)	0.00863	0.012	0.029	0.039	0.926	491.719	0.038+j0.025	0.020+j0.031	36261.6		
1500 (91)	0.00719	0.011	0.027	0.038	0.991	526.449	0.033+j0.024	0.019+j0.029	43235.0		

* 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
628122	350 (37)	16.79	40.56	11.30	43.87	18x12	0.30	2.03	51.99	4256	624.84	12460
628126	500 (37)	20.04	43.82	11.30	47.12	17x10	0.20	2.03	56.36	5500	675.64	17800
TBA	750 (61)	24.59	48.59	11.30	51.89	20x9	0.13	2.03	61.77	7399	741.68	26700
628129	750 (61)	24.59	48.59	11.30	51.89	25x10	0.13	2.03	61.77	7399	741.68	26700
628118	1000 (61)	28.37	52.37	11.30	55.68	21x8	0.10	2.03	66.27	9246	795.02	35600
628114	1250 (91)	31.75	56.31	11.30	59.61	26x8	0.08	2.03	70.21	11044	843.28	44500
628108	1500 (91)	34.80	59.36	11.30	62.66	31x8	0.07	2.03	73.25	12770	878.84	53400

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
350 (37)	0.1010	0.13	0.0140	0.1509	1.913	1016.1056	0.134+j0.047	0.043+j0.045	9929.2	400	470
500 (37)	0.0709	0.09	0.0125	0.1444	2.149	1141.1680	0.091+j0.038	0.033+j0.042	14906.4	470	555
750 (61)	0.0472	0.06	0.0107	0.1378	2.490	1322.7854	0.062+j0.031	0.026+j0.038	22115.5	560	650
750 (61)	0.0472	0.06	0.0107	0.1378	2.490	1322.7854	0.062+j0.031	0.026+j0.038	22115.5	560	650
1000 (61)	0.0354	0.05	0.0098	0.1312	2.759	1465.5348	0.047+j0.028	0.022+j0.034	29288.2		
1250 (91)	0.0283	0.04	0.0088	0.1280	3.038	1613.2513	0.038+j0.025	0.020+j0.031	36261.6		
1500 (91)	0.0236	0.04	0.0082	0.1247	3.251	1727.1949	0.033+j0.024	0.019+j0.029	43235.0		

* 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)

