



# CSA TECK 90 CU 3/C 5000V NON-SHIELDED EPR POWER CABLE

5000V, Non-Shielded, EPR Insulated, FT4, -40°C, HL (Hazardous Locations), AG14 & 90°C

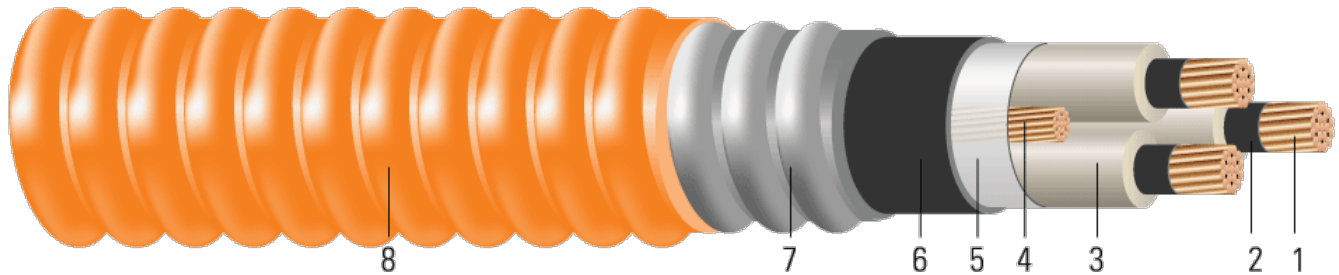


Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Class B stranded copper, compressed or compact, in accordance with ASTM B3 and B8.
2. **Conductor Shield:** Extruded semi-conducting thermosetting polymeric layer
3. **Insulation:** No-Lead EPR (ethylene propylene rubber), Thickness: 0.090" (2.3 mm) - nominal, 90°C
4. **Grounding Conductor:** Class B compressed or compact stranded bare copper, in accordance with ASTM B3 and B8
5. **Binder:** Polypropylene tape
6. **Inner Jacket:** Black PVC, Thickness: No. 2 AWG to No. 3/0 AWG = 0.080" (2.0 mm); No. 4/0 AWG to 500 kcmil = 0.110" (2.8 mm); 750 kcmil to 1000 kcmil = 0.140" (3.6 mm)
7. **Armor:** Aluminum Interlocked Armour (AIA)
8. **Overall Jacket:** Orange PVC (optional colours available), Thickness: No. 2 AWG to 250 kcmil = 0.060" (1.5 mm); 350 kcmil to 750 kcmil = 0.075" (1.9 mm); 1000 kcmil = 0.090" (2.3 mm)

## APPLICATIONS AND FEATURES:

Southwire's 5KV TECK 90, 5000V, non-shielded, EPR insulated power cable is a CSA approved armoured cable for industrial and commercial medium voltage applications. FT4, -40°C, HL, AG14 and 90°C rated for use in harsh Canadian environments. Rated for installation in cable trays, duct banks, direct burial, troughs, hazardous locations, continuous rigid cable supports, and is concrete encaseable.

- -40°C - CSA Cold Bend and Impact Temperature
- -25°C - Min. Installation Temperature
- 90°C - Max. Continuous Operating Temperature
- 140°C for Emergency Overload Temperature
- 250°C for Short Circuit Temperature

## SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- CSA C22.2 No. 174 Cables in Hazardous Locations
- CSA C22.2 No. 131 Type TECK 90 Cable
- CSA C22.2 No. 2556 & No. 0.3 Wire and Cable Test Methods
- CSA LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating



- CSA SUN RES - for Sunlight Resistant rating
- CSA AG14 - Acid Gas Compliance
- ICEA S-96-659 (NEMA WC 71) 2001-5000 V Nonshielded Cables
- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)

**SAMPLE PRINT LEGEND:**

SOUTHWIRE {CSA} LL90458 3/C XX KCMIL CU TECK 90 EPCV CDRS WITH GROUND -40°C FT4 SUN. RES. AG14 5000V HL {YYYY} USA {SEQUENTIAL METER MARKS}

**Table 1 – Weights and Measurements**

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Insul. Thickness	Ground	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	No.	inch	mil	No. x AWG	mil	inch	mil	inch	lb/1000ft	lb/1000ft
568467◇	2	7	0.282	90	1x6	85	1.585	55	1.695	702	1541
568468◇	1	19	0.322	90	1x6	85	1.682	55	1.792	864	1788
568470◇	1/0	19	0.361	90	1x6	85	1.768	55	1.878	1069	2055
568471◇	2/0	19	0.405	90	1x6	85	1.874	55	1.984	1326	2439
568472◇	3/0	19	0.456	90	1x4	85	1.982	55	2.092	1699	2894
568473◇	4/0	19	0.512	90	1x4	115	2.135	55	2.245	2109	3501
568474◇	250	37	0.558	90	1x4	115	2.248	55	2.358	2469	3959
568475◇	350	37	0.661	90	1x3	115	2.505	65	2.637	3438	5196
568476◇	500	37	0.789	90	1x3	115	2.731	65	2.863	4841	6806

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

\* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor. Number of strands may vary as per CSA standard.)

**Table 2 – Electrical and Engineering Data**

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Allowable Ampacity In Air 90°C
AWG/Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp
2	11.8	1592	0.162	0.195	0.035	172
1	12.5	2008	0.128	0.154	0.034	197
1/0	13.1	2534	0.102	0.122	0.033	225
2/0	13.8	3194	0.081	0.097	0.032	260
3/0	14.6	4027	0.064	0.078	0.031	297
4/0	15.7	5078	0.051	0.062	0.030	342
250	16.5	6000	0.043	0.053	0.030	376
350	18.4	8400	0.031	0.039	0.028	460
500	20.0	12000	0.022	0.029	0.027	556

\* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.



**Table 3 – Weights and Measurements (Metric)**

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Insul. Thickness	Ground	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	No. x AWG	mm	mm	mm	mm	kg/km	kg/km
568467◇	2	7	7.16	2.29	1x6	2.16	40.26	1.40	43.05	1045	2293
568468◇	1	19	8.18	2.29	1x6	2.16	42.72	1.40	45.52	1286	2661
568470◇	1/0	19	9.17	2.29	1x6	2.16	44.91	1.40	47.70	1591	3058
568471◇	2/0	19	10.29	2.29	1x6	2.16	47.60	1.40	50.39	1973	3630
568472◇	3/0	19	11.58	2.29	1x4	2.16	50.34	1.40	53.14	2528	4307
568473◇	4/0	19	13.00	2.29	1x4	2.92	54.23	1.40	57.02	3139	5210
568474◇	250	37	14.17	2.29	1x4	2.92	57.10	1.40	59.89	3674	5892
568475◇	350	37	16.79	2.29	1x3	2.92	63.63	1.65	66.98	5116	7732
568476◇	500	37	20.04	2.29	1x3	2.92	69.37	1.65	72.72	7204	10128

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

\* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor. Number of strands may vary as per CSA standard.)

**Table 4 – Electrical and Engineering Data (Metric)**

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance @ 60Hz	Allowable Ampacity In Air 90°C
AWG/ Kcmil	mm	newton	Ω/km	Ω/km	Ω/km	Amp
2	299.72	7084	0.5315	0.64	0.1148	172
1	317.50	8936	0.4199	0.51	0.1115	197
1/0	332.74	11276	0.3346	0.40	0.1083	225
2/0	350.52	14213	0.2657	0.32	0.1050	260
3/0	370.84	17920	0.2100	0.26	0.1017	297
4/0	398.78	22597	0.1673	0.20	0.0984	342
250	419.10	26700	0.1411	0.17	0.0984	376
350	467.36	37380	0.1017	0.13	0.0919	460
500	508.00	53400	0.0722	0.10	0.0886	556

\* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

