Southwire® CANADA

TECK 90 SPECIFICATIONS

CSA TECK 90 5000V NON-SHIELDED EPR POWER CABLE

PRODUCT HIGHLIGHTS

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, -40C, 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.

CONSTRUCTION

Conductor
- Class B stranded copper
  - compressed or compact
  - in accordance with ASTM B3 and ASTM B8
- Optional Class B compact stranded 8000 Series Aluminum ACM

Conductor Shield
- Extruded semi-conducting thermosetting polymeric layer

Insulation
- No-Lead EPR (ethylene propylene rubber)
- Thickness: 0.090" (2.3 mm) - nominal
- 90°C rated

Grounding Conductor
- Class B compressed or compact stranded bare copper
  - in accordance with ASTM B3 and B8

Fillers
- Non-wicking, non-hygroscopic

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)

Armour
- Aluminum Interlocked Armour (AIA)
- Optional Galvanized Steel Interlocked Armour (GSIA)

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)

Print Legend
- SOUTHWIRE [symbol - lightning bolt] #P# CSA LL90458 3/C [AWG 2 to 1000 kcmil] CU TECK 90 EPR CDRS WITH GROUND -40°C FT4 SUN. RES. AG14 5000V HL YEAR SEQUENTIAL METER MARKS

TABLE 1 - WEIGHTS & MEASUREMENTS

	Conductor Size*	Conductor Diameter		Diameter Over Insulation		Ground Wire Size	Inner Jacket Diameter		Armour Diameter		Approx. Overall Diameter		Approx. Weight of Cable		Std. Reel Weight (reel and cable)**		Std. Reel Diameter**		Std. Reel Width**		Std. Length of Cable on Reel**	
TECK 90 Stock Number	AWG or Kcmil	inches	mm	inches	mm	AWG	inches	mm	inches	mm	inches	mm	lbs / 1000ft	kg/km	lbs	kg	inches	m	inches	m	feet	m
568467	2 (7)	0.28	7.2	0.49	12.4	6	1.22	31.1	1.55	39.2	1.68	42.5	1503	2237	7567	3432	108	2.74	70.5	1.79	4000	1219
568468	1 (19)	0.32	8.2	0.53	13.5	6	1.32	33.6	1.64	41.7	1.75	44.3	1745	2597	8535	3871	108	2.74	70.5	1.79	4000	1219
568470	1/0 (19)	0.36	9.2	0.57	14.5	6	1.41	35.8	1.73	43.9	1.83	46.5	2015	2999	9615	4361	108	2.74	70.5	1.79	4000	1219
568471	2/0 (19)	0.41	10.3	0.62	15.7	6	1.50	38.1	1.82	46.2	1.95	49.5	2336	3476	10899	4944	108	2.74	70.5	1.79	4000	1219
568472	3/0 (19)	0.46	11.6	0.67	16.9	4	1.61	40.8	1.94	49.2	2.06	52.2	2882	4289	13081	5934	108	2.74	70.5	1.79	4000	1219
577560	4/0 (19)	0.51	13.0	0.72	18.3	4	1.79	45.4	2.12	53.8	2.22	56.4	3474	5170	14756	6693	108	2.74	70.5	1.79	3800	1158
577561	250 (37)	0.56	14.2	0.78	19.8	4	1.91	48.6	2.24	57.0	2.36	60.0	3975	5916	15070	6835	108	2.74	70.5	1.79	3400	1036
568475	350 (37)	0.66	16.8	0.88	22.4	3	2.14	54.2	2.47	62.6	2.62	66.4	5209	7752	15098	6849	108	2.74	70.5	1.79	2600	792
577562	500 (37)	0.79	20.1	1.01	25.7	3	2.41	61.3	2.74	69.7	2.89	73.5	6860	10209	15275	6928	108	2.74	70.5	1.79	2000	610
S000363§	750 (61)	0.97	24.6	1.20	30.4	2	2.58	65.6	3.21	81.4	3.41	86.5	9750	14510	15205	6897	108	2.74	70.5	1.79	1400	427
S741532§	1000 (61)	1.12	28.4	1.35	34.2	1	3.20	81.3	3.55	90.2	3.70	94.0	12353	18385	15144	6869	108	2.74	70.5	1.79	1100	335

NOTE: These are minimum dimensions as per CSA Standards.

* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of of strands / conductor)

** These are maximum reel sizes and cable lengths. Standard sizes and lengths will be supplied. Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements.

§ Non-stock item. Please consult the factory when ordering.

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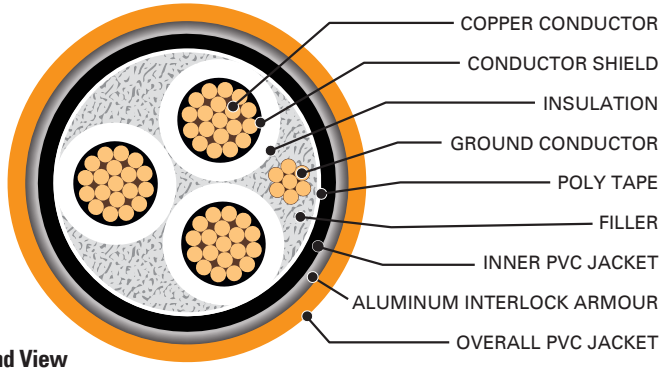
DESIGN

Qualification Standards
- CSA C22.2 No. 131 - Type TECK 90 Cable
- CSA C22.2 No. 174 - Cables in Hazardous Locations
- CSA C22.2 No. 2556 & No. 0.3. - Wire and Cable Test Methods
- ICEA S-96-659 (NEMA WC71) - Nonshielded Cables Rated 2001-5000 Volts

Flame Test Ratings
- FT1 - Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)
- FT4 - Flame Test (70,000 BTU/Hr - Vertical Tray Flame Test)
- IEEE 383 - Flame Test (70,000 BTU/Hr)
- IEEE 1202 - Flame Test (70,000 BTU/Hr - Vertical Tray Test)

Product Ratings
- 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 FT4 - for Flame Retardancy rating
- CSA SUN RES - for Sunlight Resistant rating
- CSA AG14 - for Acid Gas Compliance

Operating Temperatures
- -40°C - CSA Cold Bend and Impact Temperature
- -25°C - Min. Installation Temperature
- 90°C - Max. Continuous Operating Temperature



End View

TABLE 2 - ENGINEERING SPECIFICATIONS

TECK 90 Stock Number	Conductor Size* AWG or Kcmil	Minimum Bend Radius inches	Minimum Bend Radius mm	Maximum Pulling Tension lbs	Maximum Pulling Tension Newtons	DC Resistance @ 25°C R_{DC} Ω / 1000 ft.	DC Resistance @ 25°C R_{DC} Ω / km	AC Resistance Ratios @ 90°C & 60 Hz (each conductor) R_{AC} Ω / 1000 ft.	AC Resistance Ratios @ 90°C & 60 Hz (each conductor) R_{AC} Ω / km	Inductance L mH / 1000 ft	Inductance L mH / km	Capacitance (each phase conducor) C µF / 1000 ft	Capacitance (each phase conducor) C µF / km	Inductive Reactance @ 60Hz X_L Ω / 1000 ft.	Inductive Reactance @ 60Hz X_L Ω / km	Capacitive Reactance @ 60Hz (phase to neutral) X_C MΩ • 1000ft	Capacitive Reactance @ 60Hz (phase to neutral) X_C MΩ • km	Capacitive Susceptance @ 60Hz (phase to neutral) B_C µSiemens /1000ft	Capacitive Susceptance @ 60Hz (phase to neutral) B_C µSiemens /km	Short Circuit Current (each phase conductor) @ 60Hz kAmps	Allowable Ampacities in Raceway or Cable† Amps	Allowable Ampacities Directly Buried in Earth‡ Amps
568467	2 (7)	11.7	298	1593	7084	0.1620	0.5315	0.2180	0.7153	0.0907	0.2975	0.0905	0.2971	0.0342	0.112	0.0293	0.0089	34.13	111.99	4.8	130	~
568468	1 (19)	12.2	310	2009	8935	0.1290	0.4232	0.1730	0.5676	0.0882	0.2893	0.0979	0.3212	0.0332	0.109	0.0271	0.0083	36.90	121.07	5.9	145	~
568470	1/0 (19)	12.8	326	2534	11274	0.1020	0.3347	0.1340	0.4397	0.0855	0.2804	0.1074	0.3525	0.0322	0.106	0.0247	0.0075	40.50	132.87	6.3	170	243
568471	2/0 (19)	13.6	346	3194	14209	0.0810	0.2658	0.1070	0.3511	0.0832	0.2731	0.1167	0.3830	0.0314	0.103	0.0227	0.0069	44.01	144.40	10.0	195	274
568472	3/0 (19)	14.4	366	4027	17914	0.0642	0.2106	0.0850	0.2789	0.0807	0.2647	0.1297	0.4257	0.0304	0.100	0.0204	0.0062	48.91	160.48	12.5	225	311
577560	4/0 (19)	15.5	395	5078	22590	0.0510	0.1673	0.0680	0.2231	0.0785	0.2576	0.1430	0.4692	0.0296	0.097	0.0186	0.0057	53.91	176.87	14.0	260	360
577561	250 (37)	16.5	420	6000	26689	0.0431	0.1414	0.0570	0.1870	0.0778	0.2554	0.1479	0.4852	0.0293	0.096	0.0179	0.0055	55.74	182.90	18.0	290	383
568475	350 (37)	18.3	465	8400	37365	0.0308	0.1011	0.0410	0.1345	0.0751	0.2463	0.1711	0.5613	0.0283	0.093	0.0155	0.0047	64.49	211.59	25.0	350	470
577562	500 (37)	20.3	514	12000	53379	0.0216	0.0709	0.0290	0.0951	0.0725	0.2380	0.2000	0.6564	0.0273	0.090	0.0133	0.0040	75.42	247.44	36.0	430	548
S000363§	750 (61)	23.8	605	18000	80068	0.0144	0.0472	0.0200	0.0656	0.0706	0.2315	0.2305	0.7564	0.0266	0.087	0.0115	0.0035	86.91	285.16	51.0	535	667
S741532§	1000 (61)	25.9	658	24000	106757	0.0108	0.0354	0.0155	0.0509	0.0690	0.2263	0.2625	0.8612	0.0260	0.085	0.0101	0.0031	98.96	324.67	70.0	615	758

* Other conductor sizes and outer jacket colours are available upon request.
† Ampacities are based on Table 2 of the 2012 Canadian Electrical Code Part I (30°C Ambient Temperature)
‡ Ampacities are based on Table D12A and Detail 1 of Diagram B4-3 of the 2012 Canadian Electrical Code Part I
§ Non-stock item. Please consult the factory when ordering.

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