TECK 90 SPECIFICATIONS

CSA TECK 90 5000V NON-SHIELDED TR-XLPE POWER CABLE

PRODUCT HIGHLIGHTS

Southwire's Teck 90, 5000V, non-shielded, TR-XLPE insulated (treeing resistant) 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
- TR-XLPE (cross-linked polyethylene)
- 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 TR-XLPE 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 Product Code	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
CU305T39-002	2 (7)	0.28	7.0	0.49	12.4	6	1.23	31.1	1.55	39.2	1.67	42.3	1502	2236	7564	3431	108	2.74	70.5	1.79	4000	1219
CU305T39-001	1 (19)	0.32	8.2	0.53	13.5	6	1.32	33.6	1.64	41.7	1.75	44.3	1744	2595	8531	3870	108	2.74	70.5	1.79	4000	1219
CU305T39-010	1/0 (19)	0.36	9.2	0.57	14.5	6	1.42	36.1	1.76	44.8	1.87	47.5	2001	2978	9559	4336	108	2.74	70.5	1.79	4000	1219
CU305T39-020	2/0 (19)	0.41	10.4	0.62	15.7	6	1.50	38.1	1.82	46.2	1.94	49.2	2319	3451	10830	4912	108	2.74	70.5	1.79	4000	1219
CU305T39-030	3/0 (19)	0.45	11.5	0.66	16.9	4	1.61	40.8	1.94	49.2	2.06	52.2	2831	4213	12877	5841	108	2.74	70.5	1.79	4000	1219
CU305T39-040	4/0 (19)	0.51	13.0	0.72	18.3	4	1.79	45.4	2.12	53.8	2.24	56.8	3451	5136	14668	6653	108	2.74	70.5	1.79	3800	1158
CU305T39-250	250 (37)	0.56	14.2	0.78	19.8	4	1.91	48.6	2.23	56.5	2.36	60.0	3913	5823	14858	6739	108	2.74	70.5	1.79	3400	1036
CU305T39-350	350 (37)	0.66	16.8	0.88	22.4	3	2.14	54.2	2.47	62.6	2.62	66.4	5136	7644	14909	6762	108	2.74	70.5	1.79	2600	792
CU305T39-500	500 (37)	0.79	20.1	1.01	25.7	3	2.41	61.3	2.74	69.7	2.89	73.5	6875	10231	15304	6942	108	2.74	70.5	1.79	2000	610
CU305T39-750	750 (61)	0.97	24.6	1.20	30.4	2	2.88	73.2	3.23	82.0	3.38	86.0	9666	14385	15087	6843	108	2.74	70.5	1.79	1400	427
CU305T39-1000	1000 (61)	1.12	28.4	1.35	34.2	1	3.20	81.3	3.55	90.2	3.70	94.0	12247	18226	14377	6521	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 strands / conductor)

** These are typical sizes and capacity. Non-Standard sizes are available upon request - Reel sizes are not guaranteed. The factory reserves the right to make changes as necessary to optimize manufacturing requirements

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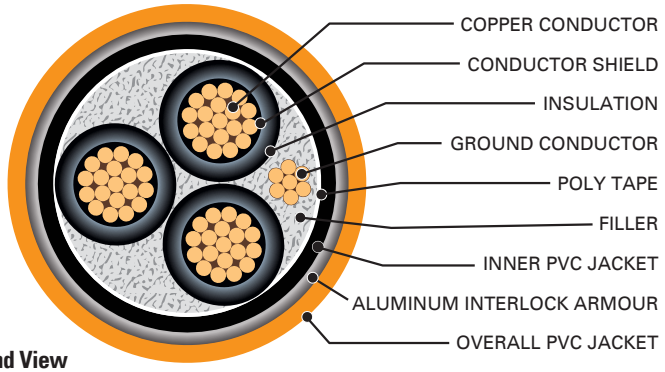
DESIGN

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
CU305T39-002	2 (7)	11.7	296	1593	7084	0.1620	0.5315	0.2180	0.7153	0.0920	0.3018	0.0721	0.2365	0.0347	0.114	0.0368	0.0112	27.17	89.16	4.8	130	~
CU305T39-001	1 (19)	12.2	310	2009	8935	0.1290	0.4232	0.1730	0.5676	0.0882	0.2893	0.0810	0.2658	0.0332	0.109	0.0327	0.0100	30.54	100.20	5.9	145	~
CU305T39-010	1/0 (19)	13.1	333	2534	11274	0.1020	0.3347	0.1340	0.4397	0.0855	0.2804	0.0889	0.2917	0.0322	0.106	0.0298	0.0091	33.52	109.97	6.3	170	243
CU305T39-020	2/0 (19)	13.6	345	3194	14209	0.0810	0.2658	0.1070	0.3511	0.0825	0.2706	0.0995	0.3265	0.0311	0.102	0.0267	0.0081	37.52	123.09	10.0	195	274
CU305T39-030	3/0 (19)	14.4	366	4027	17914	0.0642	0.2106	0.0850	0.2789	0.0807	0.2649	0.1070	0.3510	0.0304	0.100	0.0248	0.0076	40.33	132.33	12.5	225	311
CU305T39-040	4/0 (19)	15.7	398	5078	22590	0.0510	0.1673	0.0680	0.2231	0.0786	0.2579	0.1179	0.3870	0.0296	0.097	0.0225	0.0069	44.46	145.89	14.0	260	360
CU305T39-250	250 (37)	16.5	420	6000	26689	0.0431	0.1414	0.0570	0.1870	0.0778	0.2554	0.1224	0.4015	0.0293	0.096	0.0217	0.0066	46.13	151.36	18.0	290	383
CU305T39-350	350 (37)	18.3	465	8400	37365	0.0308	0.1011	0.0410	0.1345	0.0751	0.2463	0.1416	0.4645	0.0283	0.093	0.0187	0.0057	53.37	175.11	25.0	350	470
CU305T39-500	500 (37)	20.3	514	12000	53379	0.0216	0.0709	0.0290	0.0951	0.0725	0.2380	0.1656	0.5432	0.0273	0.090	0.0160	0.0049	62.41	204.78	36.0	430	548
CU305T39-750	750 (61)	23.7	602	18000	80068	0.0144	0.0472	0.0200	0.0656	0.0706	0.2315	0.1908	0.6260	0.0266	0.087	0.0139	0.0042	71.93	235.99	51.0	535	667
CU305T39-1000	1000 (61)	25.9	658	24000	106757	0.0108	0.0354	0.0155	0.0509	0.0690	0.2263	0.2172	0.7127	0.0260	0.085	0.0122	0.0037	81.89	268.69	70.0	615	758

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

† 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

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