Southwire® CANADA

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 (tree retardant cross linked polyethylene)
- Thickness: 0.090 inches (2.3 mm) - nominal
- Insulation Level: 100% - ungrounded system
- Temperature Rating: 90°C

Concentric Bonding Conductors
- Class B
  - concentric bare copper wire serve

Inner Jacket
- Black PVC
- Thickness:
  - No. 2 AWG to No. 1/0 AWG = 0.045" (1.2 mm)
  - No. 2/0 AWG to 1000 kcmil = 0.060" (1.6 mm)

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

Overall Jacket
- Orange PVC (optional colours available)
- Thickness:
  - No. 2 AWG to 400 kcmil = 0.045" (1.2 mm)
  - 500 kcmil to 1000 kcmil = 0.055" (1.4 mm)

Print Legend
- SOUTHWIRE [symbol - lightning bolt] #P# CSA LL90458 1/C [AWG 2 to 1000 kcmil] CU TECK 90 TR-XLP WITH *BOND CDR* -40°C FT4 SUN. RES. AG14 5000V HL YEAR SEQUENTIAL METER MARKS

TABLE 1 - WEIGHTS & MEASUREMENTS

	Conductor Size*	Conductor Diameter		Diameter Over Insulation		Concentric Bonding Wire Serve (equiv. single cond)	Inner Jacket Diameter		Armour Diameter		Approx. Overall Diameter		Approx. Weight of Cable		Max. Reel Weight (reel and cable)**		Max. Reel Diameter**		Max. Reel Width**		Max. Length of Cable on Reel**	
TECK90 Product Code	AWG or Kcmil	inches	mm	inches	mm	AWG	inches	mm	inches	mm	inches	mm	lb / 1000ft	kg/km	lbs	kg	inches	m	inches	m	feet	m
CU105C33-002	2 (7)	0.28	7.0	0.49	12.4	7 x No.14 (No.6)	0.72	18.2	1.03	26.0	1.12	28.3	644	959	5,024	2279	96	2.44	54.5	1.38	6000	1829
CU105C33-001	1 (19)	0.32	8.2	0.53	13.5	11 x No.14 (No.4)	0.77	19.6	1.08	27.4	1.17	29.7	793	1180	5,918	2684	96	2.44	54.5	1.38	6000	1829
CU105C33-010	1/0 (19)	0.36	9.1	0.57	14.5	11 x No.14 (No.4)	0.82	20.8	1.11	28.2	1.20	30.5	866	1289	6,355	2883	96	2.44	54.5	1.38	6000	1829
CU105C33-020	2/0 (19)	0.41	10.4	0.62	15.7	11 x No.14 (No.4)	0.87	22.1	1.16	29.4	1.25	31.7	962	1432	6,930	3144	96	2.44	54.5	1.38	6000	1829
CU105C33-030	3/0 (19)	0.46	11.6	0.67	17.0	13 x No.14 (No.3)	0.93	23.6	1.22	30.9	1.31	33.2	1159	1725	8,113	3680	96	2.44	54.5	1.38	6000	1829
CU105C33-040	4/0 (19)	0.51	13.0	0.72	18.4	13 x No.14 (No.3)	0.99	25.2	1.28	32.6	1.39	35.4	1331	1981	9,146	4148	96	2.44	54.5	1.38	6000	1829
CU105C33-250	250 (37)	0.56	14.2	0.77	19.5	17 x No.14 (No.2)	1.03	26.1	1.35	34.2	1.44	36.5	1517	2257	10,259	4653	96	2.44	54.5	1.38	6000	1829
CU105C33-300	300 (37)	0.61	15.5	0.83	21.1	17 x No.14 (No.2)	1.11	28.2	1.40	35.5	1.49	37.8	1704	2537	11,385	5164	96	2.44	54.5	1.38	6000	1829
CU105C33-350	350 (37)	0.66	16.8	0.88	22.4	21 x No.14 (No.1)	1.15	29.2	1.45	36.8	1.55	39.3	1943	2892	12,331	5593	96	2.44	54.5	1.38	5750	1753
CU105C33-400	400 (37)	0.71	17.9	0.93	23.5	21 x No.14 (No.1)	1.21	30.6	1.49	37.9	1.58	40.2	2115	3147	12,367	5610	96	2.44	54.5	1.38	5300	1615
CU105C33-500	500 (61)	0.79	20.1	1.01	25.7	17 x No.12 (No.1/0)	1.31	33.4	1.61	40.9	1.73	44.0	2597	3865	12,327	5592	96	2.44	54.5	1.38	4300	1311
CU105C33-600	600 (37)	0.87	22.0	1.10	27.8	17 x No.12 (No.1/0)	1.41	35.8	1.70	43.1	1.81	45.9	2948	4387	12,360	5606	96	2.44	54.5	1.38	3800	1158
CU105C33-750	750 (61)	0.97	24.6	1.20	30.4	21 x No.12 (No.2/0)	1.49	37.9	1.80	45.7	1.93	49.0	3546	5278	12,507	5673	96	2.44	54.5	1.38	3200	975
CU105C33-1000	1000 (61)	1.12	28.4	1.35	34.2	21 x No.12 (No.2/0)	1.66	42.2	2.00	50.8	2.11	53.6	4466	6647	12,325	5591	96	2.44	54.5	1.38	2500	762

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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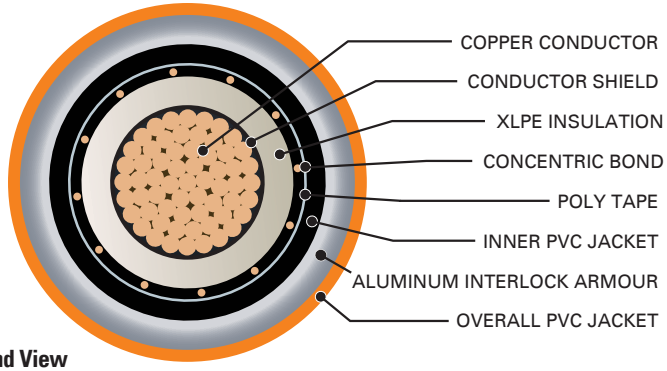
DESIGN

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
- All Applicable ASTM Standards

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 1202 - Flame Test (70,000 BTU/Hr - Vertical Tray Test)
- IEEE 383 - Flame Test (70,000 BTU/Hr)

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

Operating Temperatures
- -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



End View

TABLE 2 - ENGINEERING SPECIFICATIONS

TECK90 Product Code	Conductor Size*	Minimum Bend Radius		Maximum Pulling Tension		DC Resistance @ 25°C R_{DC}		Inductance *(3 single conductor cables in triplexed formation)* L		Capacitance *(each phase conducor)* C		Inductive Reactance @ 60Hz X_L		Capacitive Reactance @ 60Hz *(phase to bond)* X_C		Capacitive Susceptance @ 60Hz *(phase to bond)* B_C		Short Circuit Current *(each Phase Conductor)* @ 60 Hz	Allowable Ampacities in Free Air *(30°C amb temperature)*†	Allowable Ampacities Directly Buried in Earth‡
	AWG or Kcmil	inches	mm	lb	Newtons	Ω / 1000 ft.	Ω / km	mH / 1000 ft	mH / km	µF / 1000 ft	µF / km	Ω / 1000 ft.	Ω / km	MΩ • 1000ft	MΩ • km	µS • 1000ft	µS • km	kAmps	Amps	Amps
CU105C33-002	2 (7)	7.8	198	1593	7084	0.1620	0.5315	0.1425	0.4675	0.0721	0.2365	0.0537	0.176	0.0368	0.0112	27.17	89.16	4.8	190	~
CU105C33-001	1 (19)	8.2	208	2009	8935	0.1290	0.4232	0.1364	0.4476	0.0808	0.2651	0.0514	0.169	0.0328	0.0100	30.46	99.95	5.9	220	~
CU105C33-010	1/0 (19)	8.4	213	2534	11274	0.1020	0.3347	0.1310	0.4297	0.0885	0.2904	0.0494	0.162	0.0300	0.0091	33.37	109.48	6.3	260	245
CU105C33-020	2/0 (19)	8.7	222	3194	14209	0.0810	0.2658	0.1254	0.4116	0.0983	0.3227	0.0473	0.155	0.0270	0.0082	37.08	121.65	10.0	300	285
CU105C33-030	3/0 (19)	9.1	232	4027	17914	0.0642	0.2106	0.1217	0.3994	0.1065	0.3495	0.0459	0.151	0.0249	0.0076	40.16	131.77	12.5	350	330
CU105C33-040	4/0 (19)	9.7	247	5078	22590	0.0510	0.1673	0.1186	0.3890	0.1174	0.3852	0.0447	0.147	0.0226	0.0069	44.26	145.20	14.0	405	385
CU105C33-250	250 (37)	10.1	256	6000	26689	0.0431	0.1414	0.1153	0.3783	0.1273	0.4178	0.0435	0.143	0.0208	0.0063	48.00	157.49	18.0	455	425
CU105C33-300	300 (37)	10.4	265	7200	32027	0.0360	0.1181	0.1119	0.3671	0.1323	0.4339	0.0422	0.138	0.0201	0.0061	49.86	163.59	22.0	500	~
CU105C33-350	350 (37)	10.8	275	8400	37365	0.0308	0.1011	0.1095	0.3592	0.1416	0.4645	0.0413	0.135	0.0187	0.0057	53.37	175.11	25.0	570	530
CU105C33-400	400 (37)	11.1	282	9600	42703	0.0269	0.0883	0.1068	0.3505	0.1499	0.4920	0.0403	0.132	0.0177	0.0054	56.53	185.46	30.0	615	~
CU105C33-500	500 (61)	12.1	308	12000	53379	0.0216	0.0709	0.1054	0.3459	0.1656	0.5432	0.0397	0.130	0.0160	0.0049	62.41	204.78	36.0	700	660
CU105C33-600	600 (37)	12.7	321	14400	64054	0.0180	0.0591	0.1024	0.3361	0.1727	0.5666	0.0386	0.127	0.0154	0.0047	65.10	213.59	43.5	780	740
CU105C33-750	750 (61)	13.5	343	18000	80068	0.0144	0.0472	0.0996	0.3269	0.1908	0.6260	0.0376	0.123	0.0139	0.0042	71.93	235.99	51.0	885	845
CU105C33-1000	1000 (61)	14.8	375	24000	106757	0.0108	0.0354	0.0964	0.3162	0.2172	0.7127	0.0363	0.119	0.0122	0.0037	81.89	268.69	70.0	1055	980

* Other conductor sizes and outer jacket colours are available upon request. (#s in brackets represent # of strands / conductor)
† Ampacities are based on Table 21 of the 2012 Canadian Electrical Code Part I (30°C Ambient Temperature)
‡ Ampacities are based on Table D8A and Detail 1 of Diagram B4-1 of the 2012 Canadian Electrical Code Part I

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