CSA TECK 90 1000V LSZH POWER CABLE

1000V Multi Conductor, 8AWG -1000 Kcmil Copper, FT4 - Flame Retardancy Rating, XLPE Insulation, Aluminum Interlocked Armour, Sunlight Resistant, -40°C - 90°C, Rated HL, AG14



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. **Insulation:** Cross-Linked Polyethylene (XLPE), Colour Code: 2/C black, white; 3/C red, black, blue; 4/C red, black, blue, white; For cables larger than No. 2 AWG or more than 4/C, the insulation is black and numbered
3. **Grounding Conductors:** Uninsulated Class B stranded grounding conductor
4. **Inner Jacket:** Black Polyvinyl Chloride (PVC)
5. **Armor:** Aluminum Interlocked Armour (AIA)
6. **Overall Jacket:** Black Low Smoke Zero Halogen (LSZH)

APPLICATIONS AND FEATURES:

For exposed or concealed wiring in wet or dry locations. For use in ventilated, non-ventilated and ladder type cable troughs and ventilated flexible cableway in wet, dry, or hazardous locations. Sunlight Resistant. Typical applications are for control. lighting and power circuits in: pulp and paper mills, steel mills, food processing plants, commercial centers, mines, generating stations, refineries, industrial plants and chemical plants. Rated for 1000 lbs./FT maximum sidewall pressure.

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

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 1685 FT4-ST1 Vertical-Tray Fire Propagation and Smoke Release Test (1/0 and Larger)
- 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 ST1 Smoke Test - marked FT4-ST1
- CSA HL - for Hazardous Locations rating
- CSA SUN RES - for Sunlight Resistant rating
- CSA AG14 - Acid Gas Compliance
- IEEE 383 Flame Test (70,000 btu)

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- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems

SAMPLE PRINT LEGEND:

{SQMTR_DUAL} SOUTHWIRE MASTER-DESIGN {CSA} LL90458 TECK 90 XLPE X/X XX AWG CU LSZH JACKET -40{D}C FT4-ST1 SUN RES AG14 90{D}C 1000V HL -- USA

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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Ground	Ground Size	Inner Jacket Thickness	Dia. Over Inner Jacket	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	inch	inch	mil	No. x AWG	AWG	mil	inch	inch	mil	inch	lb/ 1000ft	lb/ 1000ft
138929	8	7	0.142	0.232	45	1x10	10	65	0.6	0.81	45	0.9	135	424
TBA	8	7	0.142	0.232	45	1x10	10	65	0.637	0.847	45	0.937	186	502
TBA	8	7	0.142	0.232	45	1x10	10	65	0.697	0.907	45	0.997	238	590
TBA	6	7	0.178	0.298	60	1x8	8	65	0.732	0.942	45	1.032	214	569
TBA	6	7	0.178	0.298	60	1x8	8	65	0.78	0.99	45	1.08	296	692
TBA	6	7	0.178	0.298	60	1x8	8	85	0.897	1.107	45	1.197	378	800
TBA	4	7	0.225	0.345	60	1x8	8	65	0.826	1.036	45	1.126	311	708
TBA	4	7	0.225	0.345	60	1x8	8	85	0.921	1.131	45	1.221	441	860
TBA	4	7	0.225	0.345	60	1x8	8	85	1.011	1.221	45	1.311	572	1048
138930	3	7	0.252	0.372	60	1x6	6	85	0.92	1.13	45	1.22	410	803
TBA	2	7	0.283	0.403	60	1x6	6	85	0.982	1.192	45	1.282	495	914
TBA	2	7	0.283	0.403	60	1x6	6	85	1.046	1.256	45	1.346	702	1177
TBA	2	7	0.283	0.403	60	1x6	6	85	1.151	1.361	45	1.451	909	1453
138931	1	19	0.322	0.482	80	1x6	6	85	1.14	1.35	45	1.44	602	1110
TBA	1	19	0.322	0.482	80	1x6	6	85	1.217	1.427	45	1.517	862	1450
TBA	1	19	0.322	0.482	80	1x6	6	85	1.342	1.652	45	1.742	1123	2112
TBA	1/0	19	0.362	0.522	80	1x6	6	85	1.304	1.614	45	1.704	1068	1996
TBA	1/0	19	0.362	0.522	80	1x6	6	85	1.439	1.749	45	1.839	1398	2456
138932	2/0	19	0.405	0.565	80	1x6	6	85	1.306	1.616	45	1.706	911	1791
668221	2/0	19	0.405	0.572	80	1x6	6	85	1.412	1.728	55	1.838	1327	2205
TBA	2/0	19	0.405	0.565	80	1x6	6	85	1.543	1.853	55	1.963	1741	2909
TBA	3/0	19	0.456	0.616	80	1x4	4	85	1.408	1.718	45	1.808	1175	2118
TBA	3/0	19	0.456	0.616	80	1x4	4	85	1.507	1.817	55	1.927	1698	2800
TBA	3/0	19	0.456	0.616	80	1x4	4	85	1.667	1.977	55	2.087	2221	3479
TBA	4/0	19	0.512	0.672	80	1x4	4	85	1.628	1.938	55	2.048	2107	3294
TBA	4/0	19	0.512	0.672	80	1x4	4	115	1.862	2.172	55	2.282	2767	4039
TBA	250	37	0.558	0.738	90	1x4	4	115	1.83	2.14	55	2.25	2468	3699
TBA	250	37	0.558	0.738	90	1x4	4	115	2.022	2.332	55	2.442	3247	4667
TBA	300	37	0.611	0.791	90	1x4	4	115	1.945	2.255	55	2.365	2934	4241
TBA	300	37	0.611	0.791	90	1x4	4	115	2.15	2.46	55	2.57	3870	5382
TBA	350	37	0.661	0.841	90	1x3	3	115	2.053	2.363	55	2.473	3438	4817
TBA	350	37	0.661	0.841	90	1x3	3	115	2.271	2.581	65	2.711	4530	6177
TBA	500	37	0.789	0.969	90	1x3	3	115	2.329	2.639	65	2.769	4841	6455
TBA	500	37	0.789	0.969	90	1x3	3	115	2.581	2.891	65	3.021	6400	8272
TBA	600	61	0.866	1.046	90	1x2	2	115	2.495	2.805	65	2.935	5819	7549
TBA	750	61	0.968	1.148	90	1x2	2	115	2.716	3.026	65	3.156	7222	9102
TBA	750	61	0.968	1.148	90	1x2	2	145	3.074	3.384	75	3.534	9561	11648
TBA	1000	61	1.117	1.297	90	1x1	1	145	3.098	3.408	75	3.558	9614	11611

All dimensions are nominal and subject to normal manufacturing tolerances

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◊ Cable marked with this symbol is a standard stock item
^ Colour Code: 2/C black, Red
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 Raceway 90°C
AWG/ Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp
8	6.3	264	0.653	0.81	0.052	55
8	6.6	396	0.653	0.81	0.052	55
8	7	528	0.653	0.81	0.052	44
6	7.2	419	0.411	0.51	0.051	75
6	7.6	629	0.411	0.51	0.051	75
6	8.4	839	0.411	0.51	0.051	60
4	7.9	667	0.258	0.32	0.048	95
4	8.5	1001	0.258	0.32	0.048	95
4	9.2	1335	0.258	0.32	0.048	76
3	8.5	841	0.205	0.254	0.047	115
2	9	1061	0.162	0.201	0.045	130
2	9.4	1592	0.162	0.201	0.045	130
2	10.2	2123	0.162	0.201	0.045	104
1	10.1	1339	0.128	0.159	0.046	145
1	10.6	2008	0.128	0.159	0.046	145
1	12.2	2678	0.128	0.159	0.046	116
1/0	11.9	2534	0.102	0.127	0.044	170
1/0	12.9	3379	0.102	0.127	0.044	136
2/0	11.9	2129	0.082	0.102	0.043	195
2/0	12.9	3194	0.082	0.102	0.043	195
2/0	13.7	4259	0.082	0.102	0.043	156
3/0	12.7	2684	0.064	0.079	0.042	225
3/0	13.5	4027	0.064	0.079	0.042	225
3/0	14.6	5369	0.064	0.079	0.042	180
4/0	14.3	5078	0.051	0.063	0.041	260
4/0	16	6771	0.051	0.063	0.041	208
250	15.8	6000	0.043	0.053	0.041	290
250	17.1	8000	0.043	0.053	0.041	232
300	16.6	7200	0.036	0.045	0.041	320
300	18	9600	0.036	0.045	0.041	256
350	17.3	8400	0.031	0.039	0.04	350
350	19	11200	0.031	0.039	0.04	280
500	19.4	12000	0.021	0.027	0.039	430
500	21.1	16000	0.021	0.027	0.039	344
600	20.5	14400	0.018	0.024	0.039	475
750	22.1	18000	0.014	0.019	0.038	535
750	24.7	24000	0.014	0.019	0.038	428
1000	24.9	24000	0.011	0.016	0.037	615

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

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Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Ground	Ground Size	Inner Jacket Thickness	Dia. Over Inner Jacket	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/ Kcmil	No.	mm	mm	mm	No. x AWG	AWG	mm	mm	mm	mm	mm	kg/km	kg/km
138929	8	7	3.61	5.89	1.14	1x10	10	1.65	15.24	20.57	1.14	22.86	201	631
TBA	8	7	3.61	5.89	1.14	1x10	10	1.65	16.18	21.51	1.14	23.80	277	747
TBA	8	7	3.61	5.89	1.14	1x10	10	1.65	17.70	23.04	1.14	25.32	354	878
TBA	6	7	4.52	7.57	1.52	1x8	8	1.65	18.59	23.93	1.14	26.21	318	847
TBA	6	7	4.52	7.57	1.52	1x8	8	1.65	19.81	25.15	1.14	27.43	440	1030
TBA	6	7	4.52	7.57	1.52	1x8	8	2.16	22.78	28.12	1.14	30.40	563	1191
TBA	4	7	5.72	8.76	1.52	1x8	8	1.65	20.98	26.31	1.14	28.60	463	1054
TBA	4	7	5.72	8.76	1.52	1x8	8	2.16	23.39	28.73	1.14	31.01	656	1280
TBA	4	7	5.72	8.76	1.52	1x8	8	2.16	25.68	31.01	1.14	33.30	851	1560
138930	3	7	6.40	9.45	1.52	1x6	6	2.16	23.37	28.70	1.14	30.99	610	1195
TBA	2	7	7.19	10.24	1.52	1x6	6	2.16	24.94	30.28	1.14	32.56	737	1360
TBA	2	7	7.19	10.24	1.52	1x6	6	2.16	26.57	31.90	1.14	34.19	1045	1752
TBA	2	7	7.19	10.24	1.52	1x6	6	2.16	29.24	34.57	1.14	36.86	1353	2162
138931	1	19	8.18	12.24	2.03	1x6	6	2.16	28.96	34.29	1.14	36.58	896	1652
TBA	1	19	8.18	12.24	2.03	1x6	6	2.16	30.91	36.25	1.14	38.53	1283	2158
TBA	1	19	8.18	12.24	2.03	1x6	6	2.16	34.09	41.96	1.14	44.25	1671	3143
TBA	1/0	19	9.19	13.26	2.03	1x6	6	2.16	33.12	41.00	1.14	43.28	1589	2970
TBA	1/0	19	9.19	13.26	2.03	1x6	6	2.16	36.55	44.42	1.14	46.71	2080	3655
138932	2/0	19	10.29	14.35	2.03	1x6	6	2.16	33.17	41.05	1.14	43.33	1356	2665
668221	2/0	19	10.29	14.53	2.03	1x6	6	2.16	35.86	43.89	1.40	46.69	1975	3281
TBA	2/0	19	10.29	14.35	2.03	1x6	6	2.16	39.19	47.07	1.40	49.86	2591	4329
TBA	3/0	19	11.58	15.65	2.03	1x4	4	2.16	35.76	43.64	1.14	45.92	1749	3152
TBA	3/0	19	11.58	15.65	2.03	1x4	4	2.16	38.28	46.15	1.40	48.95	2527	4167
TBA	3/0	19	11.58	15.65	2.03	1x4	4	2.16	42.34	50.22	1.40	53.01	3305	5177
TBA	4/0	19	13.00	17.07	2.03	1x4	4	2.16	41.35	49.23	1.40	52.02	3136	4902
TBA	4/0	19	13.00	17.07	2.03	1x4	4	2.92	47.29	55.17	1.40	57.96	4118	6011
TBA	250	37	14.17	18.75	2.29	1x4	4	2.92	46.48	54.36	1.40	57.15	3673	5505
TBA	250	37	14.17	18.75	2.29	1x4	4	2.92	51.36	59.23	1.40	62.03	4832	6945
TBA	300	37	15.52	20.09	2.29	1x4	4	2.92	49.40	57.28	1.40	60.07	4366	6311
TBA	300	37	15.52	20.09	2.29	1x4	4	2.92	54.61	62.48	1.40	65.28	5759	8009
TBA	350	37	16.79	21.36	2.29	1x3	3	2.92	52.15	60.02	1.40	62.81	5116	7168
TBA	350	37	16.79	21.36	2.29	1x3	3	2.92	57.68	65.56	1.65	68.86	6741	9192
TBA	500	37	20.04	24.61	2.29	1x3	3	2.92	59.16	67.03	1.65	70.33	7204	9606
TBA	500	37	20.04	24.61	2.29	1x3	3	2.92	65.56	73.43	1.65	76.73	9524	12310
TBA	600	61	22.00	26.57	2.29	1x2	2	2.92	63.37	71.25	1.65	74.55	8660	11234
TBA	750	61	24.59	29.16	2.29	1x2	2	2.92	68.99	76.86	1.65	80.16	10748	13545
TBA	750	61	24.59	29.16	2.29	1x2	2	3.68	78.08	85.95	1.91	89.76	14228	17334
TBA	1000	61	28.37	32.94	2.29	1x1	1	3.68	78.69	86.56	1.91	90.37	14307	17279

All dimensions are nominal and subject to normal manufacturing tolerances

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◊ Cable marked with this symbol is a standard stock item
^ Colour Code: 2/C black, Red
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

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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 Raceway 90°C
AWG/ Kcmil	mm	newton	Ω/km	Ω/km	Ω/km	Amp
8	160.02	1175	2.1424	2.66	0.1706	55
8	167.64	1762	2.1424	2.66	0.1706	55
8	177.80	2350	2.1424	2.66	0.1706	44
6	182.88	1865	1.3484	1.67	0.1673	75
6	193.04	2799	1.3484	1.67	0.1673	75
6	213.36	3734	1.3484	1.67	0.1673	60
4	200.66	2968	0.8465	1.05	0.1575	95
4	215.90	4454	0.8465	1.05	0.1575	95
4	233.68	5941	0.8465	1.05	0.1575	76
3	215.90	3742	0.6726	0.83	0.1542	115
2	228.60	4721	0.5315	0.66	0.1476	130
2	238.76	7084	0.5315	0.66	0.1476	130
2	259.08	9447	0.5315	0.66	0.1476	104
1	256.54	5959	0.4199	0.52	0.1509	145
1	269.24	8936	0.4199	0.52	0.1509	145
1	309.88	11917	0.4199	0.52	0.1509	116
1/0	302.26	11276	0.3346	0.42	0.1444	170
1/0	327.66	15037	0.3346	0.42	0.1444	136
2/0	302.26	9474	0.2690	0.33	0.1411	195
2/0	327.66	14213	0.2690	0.33	0.1411	195
2/0	347.98	18953	0.2690	0.33	0.1411	156
3/0	322.58	11944	0.2100	0.26	0.1378	225
3/0	342.90	17920	0.2100	0.26	0.1378	225
3/0	370.84	23892	0.2100	0.26	0.1378	180
4/0	363.22	22597	0.1673	0.21	0.1345	260
4/0	406.40	30131	0.1673	0.21	0.1345	208
250	401.32	26700	0.1411	0.17	0.1345	290
250	434.34	35600	0.1411	0.17	0.1345	232
300	421.64	32040	0.1181	0.15	0.1345	320
300	457.20	42720	0.1181	0.15	0.1345	256
350	439.42	37380	0.1017	0.13	0.1312	350
350	482.60	49840	0.1017	0.13	0.1312	280
500	492.76	53400	0.0689	0.09	0.1280	430
500	535.94	71200	0.0689	0.09	0.1280	344
600	520.70	64080	0.0591	0.08	0.1280	475
750	561.34	80100	0.0459	0.06	0.1247	535
750	627.38	106800	0.0459	0.06	0.1247	428
1000	632.46	106800	0.0361	0.05	0.1214	615

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

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