# 3/C CSA TECK 90 1000V ALUMINUM POWER CABLE

Three Conductor 1000V Multi Conductor, FT4 - Flame Retardancy Rating, Direct Burial, XLPE Insulation, Aluminum Interlocked Armour, Sunlight Resistant, -40ºC Min, 90ºC Max, Rated HL (Hazardous Locations)

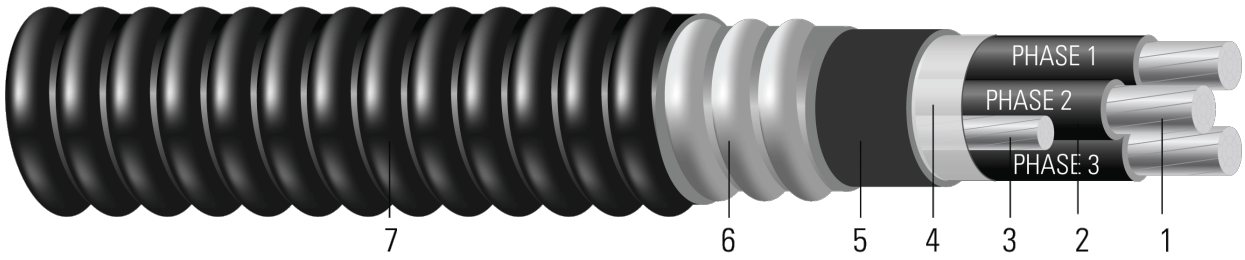



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series Aluminum.
2. **Insulation:** Cross-Linked Polyethylene (XLPE), Color Code: Black and numbered
3. **Grounding Conductors:** Uninsulated Aluminum Class B stranded grounding conductor
4. **Assembly:** Polypropylene tape
5. **Inner Jacket:** Black Polyvinyl Chloride (PVC)
6. **Armor:** Aluminum Interlocked Armour (AIA)
7. **Overall Jacket:** Black PVC (optional colours available)

## 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, hazardous locations or direct buried. 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. Voltage 1000V CSA / 600V UL.

## SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 1569 Metal-Clad Cables
- 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 HL - for Hazardous Locations rating
- CSA SUN RES - for Sunlight Resistant rating
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test

## SAMPLE PRINT LEGEND:

{SQMTR_DUAL} SOUTHWIRE® {CSA} LL90458 X/C XX AWG 8000 TECK 90 XLPE -40°C FT4 SUN RES 90°C 1000V HL USA {UL} E96627 TYPE MC XLPE 600V SUN. RES. DIRECT BURIAL 90°C


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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 |
| 584846^ | 6 | 7 | 0.169 | 0.295 | 60 | 1x6 | 6 | 65 | 0.773 | 1.09 | 55 | 1.2 | 0 | 537 |
| 674938^ | 4 | 7 | 0.213 | 0.339 | 60 | 1x6 | 6 | 85 | 0.908 | 1.227 | 55 | 1.337 | 0 | 685 |
| 584848^ | 2 | 6 | 0.268 | 0.394 | 60 | 1x6 | 6 | 85 | 1.027 | 1.346 | 55 | 1.456 | 0 | 819 |
| 584852 | 1 | 8 | 0.299 | 0.467 | 80 | 1x4 | 4 | 85 | 1.185 | 1.503 | 65 | 1.635 | 0 | 1031 |
| 584873 | 1/0 | 18 | 0.336 | 0.504 | 80 | 1x4 | 4 | 85 | 1.265 | 1.583 | 65 | 1.715 | 0 | 1144 |
| 584876 | 2/0 | 12 | 0.376 | 0.544 | 80 | 1x4 | 4 | 85 | 1.351 | 1.67 | 65 | 1.802 | 0 | 1294 |
| 584883 | 3/0 | 16 | 0.423 | 0.591 | 80 | 1x4 | 4 | 85 | 1.453 | 1.771 | 65 | 1.903 | 0 | 1459 |
| 584891 | 4/0 | 18 | 0.475 | 0.643 | 80 | 1x4 | 4 | 85 | 1.565 | 1.893 | 65 | 2.025 | 0 | 1717 |
| 583957 | 250 | 35 | 0.52 | 0.709 | 90 | 1x2 | 2 | 115 | 1.767 | 2.099 | 65 | 2.231 | 0 | 2105 |
| 615167 | 350 | 35 | 0.616 | 0.805 | 90 | 1x2 | 2 | 115 | 1.975 | 2.306 | 75 | 2.456 | 0 | 2593 |
| 583961 | 500 | 35 | 0.736 | 0.927 | 90 | 1x1 | 1 | 115 | 2.238 | 2.566 | 80 | 2.732 | 0 | 3285 |
| 668789 | 750 | 53 | 0.908 | 1.097 | 90 | 1x1/0 | 1/0 | 115 | 2.606 | 2.937 | 80 | 3.103 | 0 | 4318 |

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
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.

## 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 |
| 6 | 8.4 | 472 | 0.674 | 0.84 | 0.051 | 55 |
| 4 | 9.4 | 751 | 0.424 | 0.528 | 0.048 | 75 |
| 2 | 10.2 | 1194 | 0.266 | 0.331 | 0.045 | 100 |
| 1 | 11.4 | 1506 | 0.211 | 0.263 | 0.046 | 115 |
| 1/0 | 12 | 1900 | 0.167 | 0.208 | 0.044 | 135 |
| 2/0 | 12.6 | 2395 | 0.133 | 0.166 | 0.043 | 150 |
| 3/0 | 13.3 | 3020 | 0.105 | 0.131 | 0.042 | 175 |
| 4/0 | 14.2 | 3808 | 0.084 | 0.105 | 0.041 | 205 |
| 250 | 15.6 | 4500 | 0.07 | 0.087 | 0.041 | 230 |
| 350 | 17.2 | 6300 | 0.051 | 0.064 | 0.04 | 280 |
| 500 | 19.1 | 9000 | 0.036 | 0.045 | 0.039 | 350 |
| 750 | 21.7 | 13500 | 0.023 | 0.03 | 0.038 | 435 |

* 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 |
| 584846^ | 6 | 7 | 4.29 | 7.49 | 1.52 | 1x6 | 6 | 1.65 | 19.63 | 27.69 | 1.40 | 30.48 | 0 | 799 |
| 674938^ | 4 | 7 | 5.41 | 8.61 | 1.52 | 1x6 | 6 | 2.16 | 23.06 | 31.17 | 1.40 | 33.96 | 0 | 1019 |
| 584848^ | 2 | 6 | 6.81 | 10.01 | 1.52 | 1x6 | 6 | 2.16 | 26.09 | 34.19 | 1.40 | 36.98 | 0 | 1219 |
| 584852 | 1 | 8 | 7.59 | 11.86 | 2.03 | 1x4 | 4 | 2.16 | 30.10 | 38.18 | 1.65 | 41.53 | 0 | 1534 |
| 584873 | 1/0 | 18 | 8.53 | 12.80 | 2.03 | 1x4 | 4 | 2.16 | 32.13 | 40.21 | 1.65 | 43.56 | 0 | 1702 |
| 584876 | 2/0 | 12 | 9.55 | 13.82 | 2.03 | 1x4 | 4 | 2.16 | 34.32 | 42.42 | 1.65 | 45.77 | 0 | 1926 |
| 584883 | 3/0 | 16 | 10.74 | 15.01 | 2.03 | 1x4 | 4 | 2.16 | 36.91 | 44.98 | 1.65 | 48.34 | 0 | 2171 |
| 584891 | 4/0 | 18 | 12.07 | 16.33 | 2.03 | 1x4 | 4 | 2.16 | 39.75 | 48.08 | 1.65 | 51.43 | 0 | 2555 |
| 583957 | 250 | 35 | 13.21 | 18.01 | 2.29 | 1x2 | 2 | 2.92 | 44.88 | 53.31 | 1.65 | 56.67 | 0 | 3133 |
| 615167 | 350 | 35 | 15.65 | 20.45 | 2.29 | 1x2 | 2 | 2.92 | 50.17 | 58.57 | 1.91 | 62.38 | 0 | 3859 |
| 583961 | 500 | 35 | 18.69 | 23.55 | 2.29 | 1x1 | 1 | 2.92 | 56.85 | 65.18 | 2.03 | 69.39 | 0 | 4889 |
| 668789 | 750 | 53 | 23.06 | 27.86 | 2.29 | 1x1/0 | 1/0 | 2.92 | 66.19 | 74.60 | 2.03 | 78.82 | 0 | 6426 |

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
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.

## 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 |
| 6 | 213.36 | 2100 | 2.2113 | 2.76 | 0.1673 | 55 |
| 4 | 238.76 | 3342 | 1.3911 | 1.73 | 0.1575 | 75 |
| 2 | 259.08 | 5313 | 0.8727 | 1.09 | 0.1476 | 100 |
| 1 | 289.56 | 6702 | 0.6923 | 0.86 | 0.1509 | 115 |
| 1/0 | 304.80 | 8455 | 0.5479 | 0.68 | 0.1444 | 135 |
| 2/0 | 320.04 | 10658 | 0.4364 | 0.54 | 0.1411 | 150 |
| 3/0 | 337.82 | 13439 | 0.3445 | 0.43 | 0.1378 | 175 |
| 4/0 | 360.68 | 16946 | 0.2756 | 0.34 | 0.1345 | 205 |
| 250 | 396.24 | 20025 | 0.2297 | 0.29 | 0.1345 | 230 |
| 350 | 436.88 | 28035 | 0.1673 | 0.21 | 0.1312 | 280 |
| 500 | 485.14 | 40050 | 0.1181 | 0.15 | 0.1280 | 350 |
| 750 | 551.18 | 60075 | 0.0755 | 0.10 | 0.1247 | 435 |

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


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