# SER Aluminum Service Entrance

Aluminum Service Entrance Cable, Type SER Service Entrance Cable, 600 Volt. Individual Conductors Rated XHHW-2 or THHN/THWN. Jacket and Individual Conductors Sunlight Resistant.

Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Class B compact stranded bare aluminum Alumaflex® per ASTM B800 and ASTM B801
2. **Insulation:** All phases and neutral are insulated with Cross Linked Polyethylene (XLPE) Type XHHW-2 or Polyvinyl Chloride with Nylon Sheath THHN/THWN. Identification: 3/C - Black, Black 3 Red Stripes, Black 3 White Stripes. 4/C Black, Black 3 Red Stripes, Black 3 White Stripes, Black 3 Blue Stripes
3. **Neutral:** Insulated bare soft annealed neutral
4. **Ground:** Bare soft annealed ground
5. **Binder:** Reinforcement binder
6. **Jacket:** Gray Polyvinyl Chloride PVC jacket. Sunlight resistant.

## APPLICATIONS AND FEATURES:

Southwire Type SER, service entrance cable is primarily used to convey power from the service drop to the meter base and from the meter base to the distribution panelboard; however, the cable may be used in all applications where Type SE cable is permitted. SER may be used in wet or dry locations at temperatures not to exceed 90°C. Voltage rating is 600 volts. SE cables are not permitted underground, with or without a raceway, per NEC 338.12(A)(2).

## SPECIFICATIONS:

- ASTM B800 8000 Series Aluminum Alloy Wire
- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- UL 44 Thermoset-Insulated Wires and Cables
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 854 Service Entrance Cable
- RoHS-2 (European Directive 2011/65/EU)
- NEC National Electrical Code NFPA 70
- Federal Specification A-A-59544

## SAMPLE PRINT LEGEND:

{SQFTG} SOUTHWIRE{R} E32071 {UL} X CDR X AWG COMPACT AL.--- {ALUMAFLEX}{R} AA8176 TYPE SE CABLE STYLE SER TYPE THHN CDRS 600 VOLTS MADE IN USA


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## Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Conductor Number | Diameter Over Conductor | Conductor Stranding | Insulation Thickness | Ground Size | Num x Neutral Size | Jacket Thickness | Approx. OD | Overall Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | AWG/ Kcmil | | inch | | mils | No. x AWG | No. x AWG | mil | inch | lbs/1000ft |
| 130989◊ | 8 | 3 | 0.128 | Solid | 30 | 1x8 | 1x8 | 30 | 0.542 | 134 |
| 326678◊ | 6 | 2 | 0.169 | 7 | 30 | 1x6 | 1x6 | 30 | 0.599 | 144 |
| 130997◊ | 6 | 3 | 0.169 | 7 | 30 | 1x6 | 1x6 | 30 | 0.651 | 187 |
| 552500◊ | 4 | 2 | 0.212 | 7 | 45 | 1x6 | 1x6 | 30 | 0.738 | 190 |
| 131003◊ | 4 | 3 | 0.212 | 7 | 45 | 1x6 | 1x6 | 30 | 0.757 | 253 |
| 131029◊ | 2 | 3 | 0.268 | 6 | 45 | 1x4 | 1x4 | 30 | 0.895 | 361 |
| 277186◊ | 2 | 4 | 0.268 | 7 | 45 | 1x4 | 1x4 | 30 | 1.054 | 459 |
| 131037◊ | 1 | 3 | 0.298 | 8 | 55 | 1x3 | 1x3 | 30 | 1.078 | 460 |
| 131045◊ | 1/0 | 3 | 0.336 | 10 | 55 | 1x2 | 1x2 | 30 | 1.182 | 557 |
| 131052◊ | 2/0 | 3 | 0.376 | 12 | 55 | 1x1 | 1x1 | 30 | 1.279 | 670 |
| 327445◊ | 2/0 | 4 | 0.376 | 12 | 55 | 1x1 | 1x1 | 30 | 1.421 | 847 |
| 131060◊ | 3/0 | 3 | 0.422 | 16 | 55 | 1x1/0 | 1x1/0 | 30 | 1.392 | 812 |
| 552503◊ | 4/0 | 2 | 0.474 | 19 | 55 | 1x2/0 | 1x2/0 | 30 | 1.366 | 725 |
| 131078◊ | 4/0 | 3 | 0.474 | 19 | 55 | 1x2/0 | 1x2/0 | 30 | 1.518 | 987 |
| 279968◊ | 4/0 | 4 | 0.474 | 19 | 55 | 1x2/0 | 1x2/0 | 30 | 1.688 | 1251 |
| 552504◊ | 250 | 3 | 0.520 | 22 | 65 | 1x3/0 | 1x3/0 | 30 | 1.670 | 1177 |
| 555869◊ | 250 | 4 | 0.520 | 22 | 65 | 1x3/0 | 1x3/0 | 30 | 1.859 | 1491 |

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
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 | Conductor Number | Min. Bend Radius | Max Pull Tension | DC Resistance at 25°C | AC Resistance at 75°C | Inductive Reactance @ 60Hz | Allowable Ampacity Raceway 60°C | Allowable Ampacity Raceway 75°C | Allowable Ampacity Raceway 90°C |
|---|---|---|---|---|---|---|---|---|---|
| AWG/ Kcmil | | Inches | Lbs | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp | Amp |
| 8 | 3 | 2.2 | 297 | 0.653 | 0.786 | 0.052 | 35 | 40 | 45 |
| 6 | 2 | 2.4 | 314 | 0.674 | 0.812 | 0.051 | 40 | 50 | 55 |
| 6 | 3 | 2.6 | 472 | 0.674 | 0.812 | 0.051 | 40 | 50 | 55 |
| 4 | 2 | 3.0 | 500 | 0.424 | 0.510 | 0.048 | 55 | 65 | 75 |
| 4 | 3 | 3.0 | 751 | 0.424 | 0.510 | 0.048 | 55 | 65 | 75 |
| 2 | 3 | 3.6 | 1194 | 0.267 | 0.321 | 0.045 | 75 | 90 | 100 |
| 2 | 4 | 5.3 | 1274 | 0.267 | 0.321 | 0.045 | 60 | 72 | 80 |
| 1 | 3 | 5.4 | 1506 | 0.211 | 0.254 | 0.046 | 85 | 100 | 115 |
| 1/0 | 3 | 5.9 | 1900 | 0.168 | 0.201 | 0.044 | 100 | 120 | 135 |
| 2/0 | 3 | 6.4 | 2395 | 0.133 | 0.160 | 0.043 | 115 | 135 | 150 |
| 2/0 | 4 | 7.1 | 2555 | 0.133 | 0.160 | 0.043 | 92 | 108 | 120 |
| 3/0 | 3 | 7.0 | 3020 | 0.105 | 0.126 | 0.042 | 130 | 155 | 175 |
| 4/0 | 2 | 6.8 | 2539 | 0.084 | 0.100 | 0.041 | 150 | 180 | 205 |
| 4/0 | 3 | 7.6 | 3808 | 0.084 | 0.100 | 0.041 | 150 | 180 | 205 |
| 4/0 | 4 | 8.4 | 4062 | 0.084 | 0.100 | 0.041 | 120 | 144 | 164 |
| 250 | 3 | 8.4 | 4500 | 0.071 | 0.086 | 0.041 | 170 | 205 | 230 |
| 250 | 4 | 9.3 | 4800 | 0.071 | 0.086 | 0.041 | 136 | 164 | 184 |

***** Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

***** Ampacities have been adjusted for more than Three Current-Carrying Conductors.

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