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	Num x Neutral Size	Jacket Thickness	Approx. OD	Overall Weight
	AWG/ Kcmil		inch		mils	No. x AWG	mil	inch	lbs/1000ft
130989◊	8	3	0.129	SOLID	31	1x8	30	0.654	142
326678◊	6	2	0.169	7	31	1x6	30	0.652	148
130997◊	6	3	0.169	7	31	1x6	30	0.652	187
552500◊	4	2	0.213	7	45	1x6	30	0.738	190
131003◊	4	3	0.213	7	45	1x6	30	0.757	254
131029◊	2	3	0.268	6	45	1x4	30	0.895	361
277186◊	2	4	0.268	7	45	1x4	30	1.054	460
131037◊	1	3	0.299	8	55	1x3	30	1.079	460
131045◊	1/0	3	0.336	10	55	1x2	30	1.183	557
131052◊	2/0	3	0.376	12	55	1x1	30	1.279	670
327445◊	2/0	4	0.376	12	55	1x1	30	1.422	848
131060◊	3/0	3	0.423	16	55	1x1/0	30	1.393	812
552503◊	4/0	2	0.475	19	55	1x2/0	30	1.366	725
131078◊	4/0	3	0.475	19	55	1x2/0	30	1.518	988
279968◊	4/0	4	0.475	19	55	1x2/0	30	1.689	1252
552504◊	250	3	0.52	22	65	1x3/0	30	1.67	1178
555869◊	250	4	0.52	22	65	1x3/0	30	1.859	1492

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 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Lbs	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
8	3	2.6	297	0.653	0.81	0.052	40	45
6	2	2.6	314	0.674	0.84	0.051	50	55
6	3	2.6	472	0.674	0.84	0.051	50	55
4	2	3	500	0.424	0.528	0.048	65	75
4	3	3	751	0.424	0.528	0.048	65	75
2	3	3.6	1194	0.266	0.331	0.045	90	100
2	4	5.3	1592	0.266	0.331	0.045	72	80
1	3	5.4	1506	0.211	0.263	0.046	100	115
1/0	3	5.9	1900	0.167	0.208	0.044	120	135
2/0	3	6.4	2395	0.133	0.166	0.043	135	150
2/0	4	7.1	3194	0.133	0.166	0.043	108	120
3/0	3	7	3020	0.105	0.131	0.042	155	175
4/0	2	6.8	2539	0.084	0.105	0.041	180	205
4/0	3	7.6	3808	0.084	0.105	0.041	180	205
4/0	4	8.4	5078	0.084	0.105	0.041	144	164
250	3	8.4	4500	0.07	0.087	0.041	205	230
250	4	9.3	6000	0.07	0.087	0.041	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.

Award Winning Patent Pending Building Wire Selector

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