

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:

- Conductor:** Class B compact stranded bare aluminum Alumaflex[®] per ASTM B800 and ASTM B801
- 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
- Neutral:** Insulated bare soft annealed neutral
- Ground:** Bare soft annealed ground
- Binder:** Reinforcement binder
- 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





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





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.

