Southwire® RenewaFLEX™ Power Cables for Battery Energy Storage Systems

Single Conductor, Copper, 2000V, XLPE insulation Type RHH/RHW-2, Flexible Power Cable.



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Sizes 6 - 4/0 AWG: Class K, flexible stranded, bare copper per ASTM B3 and B172.
   Sizes 250 - 1000 kcmil: Class I, flexible stranded, bare copper per ASTM B3 and B172.
2. **Insulation:** Cross Linked Polyethylene (XLPE) Type RHH/RHW-2

APPLICATIONS AND FEATURES:

Southwire's 2000 Volt power cables are suited for use in the internal wiring of Battery Energy Storage Systems (BESS), in wet and dry locations, conduits, ducts, troughs, covered trays, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90°C for normal operation, 130°C for emergency overload, and 250°C for short circuit conditions. Gasoline and Oil Resistant. For CT USE sizes 1/0 AWG and larger. Rated 1000 lb/ft maximum sidewall pressure.

Also available in different colors like: black, red, green, brown, yellow, etc.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1685 Vertical-Tray Fire Propagation and Smoke Release Test
- RoHS-3 Complies with European Directive 2015/863
- Made in America: Compliant with both Buy American and Buy America Act (BAA) requirements per 49 U.S.C. § 5323(j) and the Federal Transit Administration Buy America requirements per 49 C.F.R. part 661

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SAMPLE PRINT LEGEND:

For 8 - 2 AWG:

{SQFTG} SOUTHWIRE E30117 {UL} XX AWG CU TYPE RHH OR RHW-2 XX MILS XLP PRI/II GRI/II 2000 VOLTS

For 1/0 - 4/0 AWG:

{SQFTG} SOUTHWIRE E30117 {UL} XX AWG CU TYPE RHH OR RHW-2 XX MILS XLP FOR CT USE PRI/II GRI/II 2000 VOLTS

For 250 -1000 kcmil:

{SQFTG} SOUTHWIRE E30117 {UL} XX kcmil CU TYPE RHH OR RHW-2 XX MILS XLP FOR CT USE PRI/II GRI/II 2000 VOLTS

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Insul. Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	No.	inch	mil	inch	lb/1000ft	lb/1000ft
TBA	8	168	0.153	70	0.293	52	73
665777	6	259	0.198	70	0.327	89	125
665776	4	413	0.235	70	0.383	130	174
665775	2	665	0.302	70	0.448	211	262
665422	1/0	1064	0.354	90	0.558	335	416
138923	2/0	1330	0.4	90	0.61	420	510
138924	4/0	2109	0.55	90	0.71	665	772
138925	250	627	0.605	105	0.825	764	909
138926	350	893	0.67	105	0.89	1084	1242
138927	500	1221	0.858	105	1.078	1514	1710
138950	600	1480	0.963	120	1.215	1860	2112
138951	750	1850	1.094	120	1.346	2368	2650
TBA	777.7	1924	0.966	120	1.206	2246	2423
TBA	1000	2516	1.19	120	1.43	3045	3259

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	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	1.2	132	0.666	0.827	0.052	55
6	1.3	209	0.419	0.52	0.051	75
4	1.5	333	0.263	0.326	0.048	95
2	1.8	530	0.167	0.207	0.045	130
1/0	2.2	844	0.105	0.13	0.044	170
2/0	2.4	1064	0.085	0.105	0.043	195
4/0	2.8	1692	0.053	0.066	0.041	260
250	3.3	2000	0.045	0.056	0.041	290
350	3.6	2800	0.032	0.041	0.04	350
500	5.4	4000	0.022	0.029	0.039	430
600	6.1	4800	0.018	0.024	0.039	475
750	6.7	6000	0.015	0.021	0.038	535
777.7	6	6221	0.015	0.021	0.038	543
1000	7.2	8000	0.011	0.016	0.037	615

• Ampacities based upon 2023 NEC Table 310.16 for Raceway, Cable, or Earth and NEC Table 310.17 for single conductors in Air. • Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
1 linearly interpolated value

Table 3 – Weights and Measurements (Metric)

Stock Number	Cond. Size	Strand	Diameter Over Conductor	Insul. Thickness	Approx. OD	Copper Weight	Approx. Weight
	AWG/Kcmil	No.	mm	mm	mm	kg/km	kg/km
TBA	8	168	3.89	1.78	7.44	77	109
665777	6	259	5.03	1.78	8.31	132	186
665776	4	413	5.97	1.78	9.73	193	259
665775	2	665	7.67	1.78	11.38	314	390
665422	1/0	1064	8.99	2.29	14.17	499	619
138923	2/0	1330	10.16	2.29	15.49	625	759
138924	4/0	2109	13.97	2.29	18.03	990	1149
138925	250	627	15.37	2.67	20.96	1137	1353
138926	350	893	17.02	2.67	22.61	1613	1848
138927	500	1221	21.79	2.67	27.38	2253	2545
138950	600	1480	24.46	3.05	30.86	2768	3143
138951	750	1850	27.79	3.05	34.19	3524	3944
TBA	777.7	1924	24.54	3.05	30.63	3342	3606
TBA	1000	2516	30.23	3.05	36.32	4531	4850

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 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	30.48	587	2.1850	2.71	0.1706	55
6	33.02	930	1.3747	1.71	0.1673	75
4	38.10	1482	0.8629	1.07	0.1575	95
2	45.72	2359	0.5479	0.68	0.1476	130
1/0	55.88	3756	0.3445	0.43	0.1444	170
2/0	60.96	4735	0.2789	0.34	0.1411	195
4/0	71.12	7529	0.1739	0.22	0.1345	260
250	83.82	8900	0.1476	0.18	0.1345	290
350	91.44	12460	0.1050	0.13	0.1312	350
500	137.16	17800	0.0722	0.10	0.1280	430
600	154.94	21360	0.0591	0.08	0.1280	475
750	170.18	26700	0.0492	0.07	0.1247	535
777.7	152.40	27683	0.0492	0.07	0.1247	543
1000	182.88	35600	0.0361	0.05	0.1214	615

• Ampacities based upon 2023 NEC Table 310.16 for Raceway, Cable, or Earth and NEC Table 310.17 for single conductors in Air. • Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
1 linearly interpolated value

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