SIMpull XHHW-2®/RW90 Aluminum with AlumaFlex® Brand Conductors

Power Cable 600 or 1000 Volts. Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. Cross-linked Polyethylene (XLPE) Insulation. Moisture Resistant High Heat.

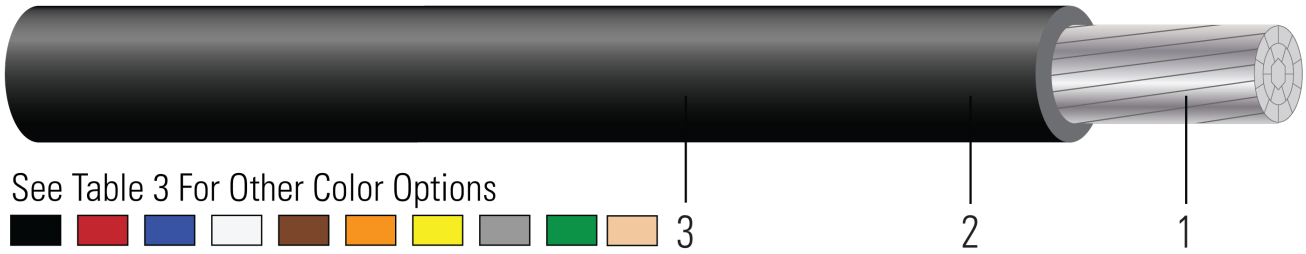

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded bare aluminum per ASTM B800 and ASTM B801 or Single Input Wire (SIW) compact aluminum per ASTM B836
2. **Insulation:** Flame-Retardant and Moisture-Resistant Thermoset Cross-Linked Polyethylene (XLPE) with Patented SIMpull® Technology in various colors

APPLICATIONS AND FEATURES:

Southwire SIMpull XHHW-2®/RW90 with AlumaFlex® Brand Conductors Wire & Cable with Alumaflex® Brand conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the National Electrical Code. XHHW-2/RW90 conductors is suitable for use in wet or dry locations at temperatures not to exceed 90°C. Voltage for all applications is up to 1000 volts. Suitable for use in Health Care Facilities per section 517.160 of the NEC where a dielectric constant of 3.5 or less may be specified. This cable can be installed without application of pulling lubricant. RW90 is for open wiring and use in raceways (except cable troughs and ventilated flexible cableways) in dry or wet locations as per Canadian Electrical Code. For open wiring exposed to the weather.

Southwire Aluminum SIMpull® XHHW-2/RW90 conductors comply with the following:

- Federal Specification AA-59544
- NOM-ANCE, XHHW-2, 90ºC
- CT Rated- Sizes 1/0 AWG and larger
- FT4 350 Kcmil and larger
- National Electrical Code
- Gas and Oil Resistant II- All sizes
- Sunlight Resistant- Sizes 6 AWG and larger
- RoHS/Reach Compliant

SPECIFICATIONS:

- ASTM B800 8000 Series Aluminum Alloy Wire
- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- UL 44 Thermoset-Insulated Wires and Cables

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- CSA C22.2 No. 38 Thermoset-insulated wires and cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- NMX-J-451-ANCE Thermoset insulated wires and cables
- NOM-063-SCFI Electrical Products – Conductors – Safety Requirements

SAMPLE PRINT LEGEND:

6 AWG thru 1 AWG

{SQFTG} SOUTHWIRE{R} {NOLUBE}{R} {SIMPULL}{R} {ALUMAFLEX}{R} E30117 {UL} TYPE XHHW-2 6 AWG (13.3{MM2}) AL AA8176 600V/1000V SR GRII PRII - LL90458 {CSA} RW90 XLPE 6 AWG (13.3{mm2}) AL AA8176 600V GRI PRI -40{D}C SR FT1 - {NOM}-ANCE LS - PAT WWW.PATENTSW.COM

1/0 AWG thru 300 kcmil

{SQFTG} SOUTHWIRE{R} {NOLUBE}{R} {SIMPULL}{R} {ALUMAFLEX}{R} E30117 {UL} TYPE XHHW-2 1/0 AWG (53.5{MM2}) AL AA8176 600V/1000V SR FOR CT USE GRII PRII - LL90458 {CSA} RW90 XLPE 1/0 AWG (53.5{mm2}) AL AA8176 600V GRI PRI -40{D}C SR FT1 - {NOM}-ANCE LS - PAT WWW.PATENTSW.COM

350 kcmil and Larger

{SQFTG} SOUTHWIRE{R} {NOLUBE}{R} {SIMPULL}{R} {ALUMAFLEX}{R} E30117 {UL} TYPE XHHW-2 350 KCMIL (177{MM2}) AL AA8176 600V/1000V SR FOR CT USE GRII PRII FT4 - LL90458 {CSA} RW90 XLPE 350 KCMIL (177{mm2}) AL AA8176 600V GRI PRI -40{D}C SR FT4 - {NOM}-ANCE LS - PAT WWW.PATENTSW.COM

Table 1 – Weights and Measurements

Cond. Size	Strand Count	Diameter Over Conductor	Insul. Thickness	Insulation Color	Approx. OD	Aluminum Weight	Approx. Weight
AWG/Kcmil	No. of Strands	inch	mil		inch	lb/1000ft	lb/1000ft
8	7	0.134	45	GN	0.23	15	28
6	7	0.169	45	BE	0.265	24	40
4	7	0.213	45	GY	0.309	39	58
2	6	0.268	45	RD	0.364	62	86
1	8	0.299	55	GN	0.415	78	110
1/0	10	0.336	55	PE	0.452	99	134
2/0	12	0.376	55	PE	0.492	125	163
3/0	16	0.423	55	GN	0.539	158	200
3/0	15	0.423	55	BK	0.539	158	200
4/0	19	0.475	55	BK	0.591	199	246
250	22	0.52	65	PK	0.658	235	296
300	21	0.57	65	PE	0.708	282	350
350	35	0.616	65	PE	0.754	329	401
400	35	0.659	65	TN	0.797	376	453
500	34	0.736	65	TN	0.874	471	556
600	37	0.813	80	TN	0.981	565	679
700	58	0.877	80	GN	1.045	659	781
750	61	0.908	80	TN	1.076	706	832
900	56	0.999	80	RD	1.167	847	986
900	58	0.999	80	BK	1.167	861	986
1000	61	1.117	80	BK	1.228	942	1088

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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 @ 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/ Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
8	0.9	99	1.071	1.334	0.052	40	45
6	1.1	157	0.674	0.84	0.051	50	55
4	1.2	250	0.424	0.528	0.048	65	75
2	1.5	398	0.266	0.331	0.045	90	100
1	1.7	502	0.211	0.263	0.046	100	115
1/0	1.8	633	0.167	0.208	0.044	120	135
2/0	2	798	0.133	0.166	0.043	135	150
3/0	2.2	1006	0.105	0.131	0.042	155	175
3/0	2.2	1006	0.105	0.131	0.042	155	175
4/0	2.4	1269	0.084	0.105	0.041	180	205
250	2.6	1500	0.07	0.087	0.041	205	230
300	2.8	1800	0.059	0.074	0.041	230	260
350	3	2100	0.051	0.064	0.04	250	280
400	3.2	2400	0.044	0.055	0.04	270	305
500	3.5	3000	0.036	0.045	0.039	310	350
600	3.9	3600	0.03	0.038	0.039	340	385
700	5.2	4200	0.026	0.034	0.038	375	425
750	5.4	4500	0.023	0.03	0.038	385	435
900	5.8	5400	0.019	0.025	0.037	425	480
900	5.8	5400	0.019	0.025	0.037	425	480
1000	6.1	6000	0.017	0.023	0.037	445	500

***** Ampacities based upon 2023 NEC Table 310.16 Raceway or Cable, Not more than 3 copper conductors on an ambient temperature of 30°C.
***** Ampacities derived from the 2021 Canadian Electrical Code. - Table 4 - for Raceway or Cable. Not more than 3 aluminum conductors on an ambient temperature of 30°C.
***** Inductive Reactance is based on non-ferrous conduit with one diameter spacing center-to-center.

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Table 3 - Stock Code Colors

Size (strand)	Black	Red	Blue	White	Brown	Orange	Yellow	Gray	Green	Purple	Pink	Tan
8 (7)	455950								138627			
6 (7)	112706	643836	643837	591212	591209	591210	591211		585321			
4 (7)	112714	591114	591115	591116	591201	591202	591203	598051	585320			
2 (6)	112722	643620	643621	592621	591213	591214	591215	598052	585319			
1 (8)	112730	591204	591205	591206	591207	591208	591216	596497	585318			
1/0 (10)	112748	591284	591285	591286	585291	585292	585293	585294	585290	596423		
2/0 (12)	112755	591288	591289	591290	585296	585297	585298	585300	585295	596422		
3/0 (16)	112763	585302	585303	585304	585305	585306	585308	585309	585301			
4/0 (19)		585317	585316	585314	585313	585312	585311	585310	567439			
250 (22)	278341	576390	576391	576392	576385	576386	576387	576388	567440	592468		
300 (21)	278358	576382	576383	576384	576133	576134	576135	576136	576361	593380		
350 (35)	278366	576378	576379	576380	576374	576375	576376	576377	567437	592562	669682	669683
400 (35)	278374	576370	576372	576373	576127	576129	576130	576131	567384	593379	455994	455995
500 (34)	278382	576367	576368	576369	576362	576364	576365	576366	576394	589196	669675	669681
600 (37)	278390	576350	576351	576352	576345	576346	576347	576349	567375	589197		
700 (58)	278408				576341	576342	576343	576344				
750 (61)	278416	592233	592234	592235	567432	567433	567434	567435	567436	592469		
900 (56)	554059	671912	671915	671918	560445	560446	560447	560448				
1000 (61)	278424	138626	138625	672168	662187	662321	662186	662541	653124			

Award Winning Patent Pending Building Wire Selector

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