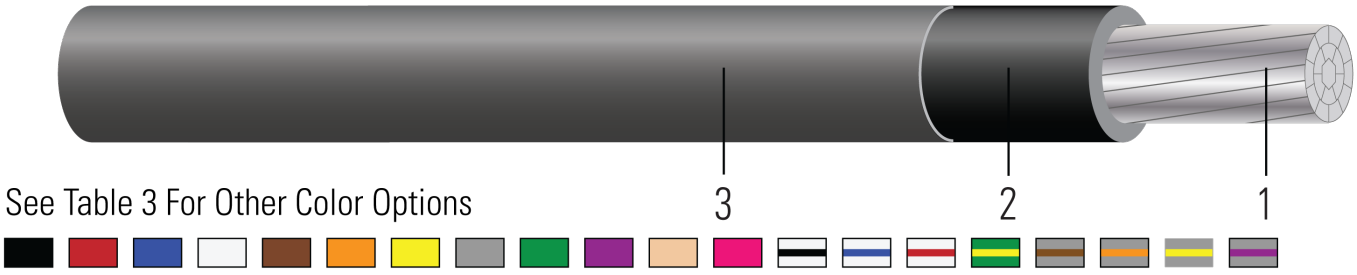
SIMpull® THHN/THWN-2 Aluminum with AlumaFlex® Brand Conductors

600 Volt Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. PVC Insulation/SIMpull® Nylon Sheath, Heat, Moisture, Gasoline and Oil Sunlight Resistant. Also Rated THWN-2. SIMpull® Technology for Easier Pulling



See Table 3 For Other Color Options

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 AL per ASTM B836
2. **Insulation:** Heat and moisture resistant PVC insulation in various colors
3. **Insulation:** Nylon jacket utilizing SIMpull® Technology

APPLICATIONS AND FEATURES:

APPLICATION

Southwire SIMpull® THHN Aluminum 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 and other applicable codes and standards. Voltage for all applications is 600 volts. SIMpull® THHN/THWN-2 aluminum conductors are designed to be installed without the application of a pulling lubricant. These conductors have multiple ratings depending on the product application. Allowable temperatures are as follows:
- THHN or T90 Nylon- Dry locations not to exceed 90°C
- THWN-2 Wet or dry locations not to exceed 90°C or locations not to exceed 75°C when exposed to oil
- TWN75 Wet locations not to exceed 75°C

FEATURES - Sunlight Resistant- Sizes #2 and larger
- Oil and Gasoline Resistant II
- CT- Sizes 1/0 AWG and larger
- VW-1 All Sizes
- FT1 All Sizes
- T90 Nylon on all sizes
- TWN75 All sizes
- National Electrical Code, NFPA
- NEMA WC-70 Construction Requirements
- RoHS Compliant

SPECIFICATIONS:

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- 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 83 Thermoplastic Insulated Wires and Cables
- CSA C22.2 No. 75 Thermoplastic Insulated Wires and Cables
- Federal Specification A-A-59544

SAMPLE PRINT LEGEND:

SOUTHWIRE SIMpull{TM} E23919 {UL} 600 VOLTS (XXX KCMIL) XXX{mm2} COMPACT AL. --- {ALUMAFLEX}® AA8176 TYPE THWN-2 OR THHN OR GASOLINE AND OIL RESISTANT II FOR CT USE SUNLIGHT RESISTANT VW-1 --- {CUL} T90 NYLON OR TWN75 600 VOLTS FT1 90°C --- RoHS SOUTHWIRE® {NOLUBE}® {900} {SIMpull} {THHN}® {SIMpull} {T90} {TM} {listed THWN-2} PAT www.patentSW.com

Table 1 – Weights and Measurements

Cond. Size	Strand Count	Diameter Over Conductor	Insul. Thickness	Insulation Color	Jacket Thickness	Approx. OD	Aluminum Weight	Approx. Weight
AWG/ Kcmil	No. of Strands	inch	mil		mil	inch	lb/1000ft	lb/1000ft
6	7	0.169	31	BK	6	0.243	24	39
4	7	0.213	42	BK	7	0.311	39	64
2	6	0.268	42	BK	7	0.366	62	93
1	8	0.299	52	BK	8	0.419	78	119
1/0	10	0.336	52	BK	8	0.456	99	144
2/0	12	0.376	52	BK	8	0.496	125	175
3/0	16	0.423	52	GY/PE	8	0.543	158	213
3/0	15	0.423	52	PK	8	0.543	158	213
4/0	19	0.475	52	BK	8	0.595	199	261
250	22	0.52	62	PK	9	0.662	235	315
300	21	0.57	62	BK	9	0.712	282	371
350	35	0.616	62	GY/PE	9	0.758	329	423
400	35	0.659	62	PK	9	0.801	376	476
500	35	0.736	62	BK	9	0.878	471	582
500	34	0.736	62	TN	9	0.878	471	582
600	58	0.813	72	BK	10	0.977	565	708
700	58	0.877	72	PE	10	1.041	659	811
750	58	0.908	72	BK	10	1.072	706	864
900	58	0.999	72	BK	10	1.163	847	1021
1000	58	1.117	72	GY	10	1.224	941	1126

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.

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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
6	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
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
1000	6.1	6000	0.017	0.023	0.037	445	500

***** 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.

***** Inductive Reactance is based on non-ferrous conduit with one diameter spacing center-to-center.

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Table 3 - Stock Code Colors (/ means stripe. Blue/White: Blue with White Stripe)

Size (strand)	Black	Red	Blue	White	Brown	Orange	Yellow
6 (7)	563768	573834	573835	578332			
4 (7)	563769	573544	573833	577628			
2 (6)	563770	573541	573542	563493	587026	587027	587028
1 (8)	563771	583155	583156	578328	587023	587024	587025
1/0 (10)	562747	562748	562749	562750	562753	562754	562752
2/0 (12)	562212	562214	562621	562213	562758	562759	562757
3/0 (16)	562663	562665	562666	562664	562763	562764	562762
4/0 (19)	562671	562673	562674	562672	561805	561806	561807
250 (22)	560444	562626	562627	562625	561863	561864	561865
300 (21)	562667	562669	562670	562668	562771	562772	562770
350 (35)	560443	562623	562624	562622	561858	561859	561861
400 (35)	562677	562776	562778	562779	562781	562782	562780
500 (34)	560442	562696	562697	562698	561853	561854	561855
600 (58)	560441	562630	562631	562628	561847	561848	561849
700 (58)	562689	562690	562691	562692	561843	561844	561846
750 (58)	562632	562634	562635	562633	561838	561839	561840
900 (58)	562679	562681	562682	562683	561782	561783	561785
1000 (58)	562680				564280		564282

Table 3 - Cont. Stock Code Colors (/ means stripe. Blue/White: Blue with White Stripe)

Size (strand)	Gray	Green	Purple	Pink	Tan	Gray/Purple	Gray/Orange
6 (7)		566358					
4 (7)		562211					
2 (6)	578329	562745					
1 (8)	578327	562746					
1/0 (10)	562755	562756	573380				
2/0 (10)	562760	562761					
3/0 (10)	562765	562766	573371	671296	671192	671310	
4/0 (19)	562767	562768					
250 (22)	561866	561867	573373	581834	581833		
300 (21)	562773	562774	573374				
350 (35)	561862	562775	573375	641125	641127		669737
400 (35)	562783	562699	573376	678467	674297		
500 (34)	561856	561857	573377	584173	584172		675375
600 (58)	561850	561851	573379	589106			
700 (58)	562693		671948	671945	671674		
750 (58)	561841	561842	573481	590187			
900 (58)	561786	562684					
1000 (58)		564281					

Award Winning Patent Pending Building Wire Selector

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