# 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

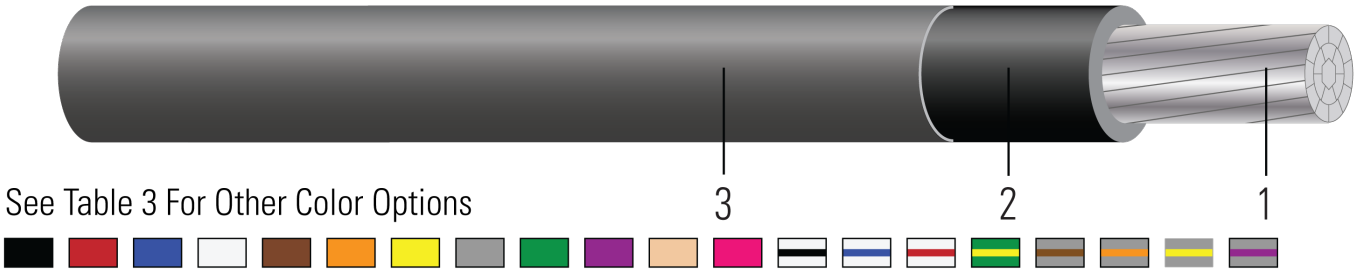


Image not to scale. See Table 1 for dimensions.

## 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 | Cond. Number | Strand Count | Diameter Over Conductor | Insul. Thickness | Insulation Color | Dia. Over Insulation | Jacket Thickness | Approx. OD | Aluminum Weight | Approx. Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| AWG/ Kcmil | | No. of Strands | inch | mil | | inch | mil | inch | lb/1000ft | lb/1000ft |
| 3/0 | 1 | 15 | 0.423 | 52 | PE | 0.543 | 8 | 0.543 | 158 | 213 |

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 | Cond. Number | 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 |
| 3/0 | 1 | 2.2 | 1006 | 0.105 | 0.131 | 0.042 | 155 | 175 |

***** 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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