

# SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand Conductors



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

## APPLICATIONS

Southwire SIMpull THHN® Aluminum THHN 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 2011 National Electrical Code. When used as Type THHN or T90 Nylon conductor is suitable for use in dry locations at temperatures not to exceed 90°C. When used as Type THWN-2 or TWN75, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant. Voltage for all applications is 600 volts. This cable should be installed without application of pulling lubricant.

## STANDARDS & REFERENCES

Southwire Aluminum SIMpull THHN® conductors comply with the following:

- ASTM B-800 and B-801
- UL Standard 83
- CSA
- Federal Specification A-A-59544
- VW-1 – Sizes 4 through 1 AWG
- CT - Sizes 1/0 AWG and larger Sizes Rated for CT use
- FT1 - Sizes 4 AWG through 750 kcmil
- T90 Nylon – Sizes 4 AWG through 750 kcmil
- TWN 75 – Sizes 8 AWG through 750 kcmil
- National Electrical Code, NFPA 70, 2011 Edition
- NEMA WC-70 Construction Requirements
- RoHS/Reach Compliant

## CONSTRUCTION

Southwire SIMpull THHN® conductors are Alumaflex® Brand AA-8000 series aluminum alloy, compact stranded. Insulated with a tough heat and moisture-resistant polyvinyl chloride (PVC), over which a SIM (SLIKQWIK® Infused Membrane) nylon (polyamide) or UL-listed equal jacket is applied. Conductor sizes 1/0 AWG and larger are listed and marked sunlight resistant in colors. Available in black, white, red, blue,



| Conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                | Insulation Thickness (mils) | Jacket Thickness (mils) | Nominal O.D. (mils) | Net Wt. Per 1000' (lbs.) | Allowable Ampacities+ |       |       | Standard Package                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------|-------------------------|---------------------|--------------------------|-----------------------|-------|-------|-------------------------------------------------------------|
| Size (AWG or kcm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No. of strands |                             |                         |                     |                          | 60 °C                 | 75 °C | 90 °C |                                                             |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7              | 30                          | 5                       | 204                 | 27                       | 35                    | 40    | 45    | B                                                           |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7              | 30                          | 5                       | 239                 | 38                       | 40                    | 50    | 60    | C                                                           |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7              | 40                          | 6                       | 305                 | 62                       | 55                    | 65    | 75    | BCD                                                         |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 7              | 40                          | 6                       | 360                 | 91                       | 75                    | 90    | 100   | BC                                                          |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 18             | 50                          | 7                       | 413                 | 117                      | 85                    | 100   | 115   | BC                                                          |
| 1/0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18             | 50                          | 7                       | 450                 | 141                      | 100                   | 120   | 135   | BCD                                                         |
| 2/0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18             | 50                          | 7                       | 490                 | 172                      | 115                   | 135   | 150   | BCD                                                         |
| 3/0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18             | 50                          | 7                       | 537                 | 210                      | 130                   | 155   | 175   | BCD                                                         |
| 4/0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 18             | 50                          | 7                       | 589                 | 257                      | 150                   | 180   | 205   | BCD                                                         |
| 250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22             | 60                          | 8                       | 656                 | 311                      | 170                   | 205   | 230   | ABC                                                         |
| 300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35             | 60                          | 8                       | 706                 | 365                      | 190                   | 230   | 255   | BC                                                          |
| 350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35             | 60                          | 8                       | 752                 | 418                      | 210                   | 250   | 280   | BC                                                          |
| 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35             | 60                          | 8                       | 795                 | 471                      | 225                   | 270   | 305   | BC                                                          |
| 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35             | 60                          | 8                       | 872                 | 576                      | 260                   | 310   | 350   | BC                                                          |
| 600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 58             | 70                          | 9                       | 971                 | 700                      | 285                   | 340   | 385   | BC                                                          |
| 700                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 58             | 70                          | 9                       | 1035                | 804                      | 310                   | 375   | 420   | C                                                           |
| 750                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 58             | 70                          | 9                       | 1066                | 856                      | 320                   | 385   | 435   | ABC                                                         |
| 900                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 58             | 70                          | 9                       | 1139                | 1013                     | 355                   | 425   | 480   | N/A                                                         |
| 1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 58             | 70                          | 9                       | 1218                | 1117                     | 375                   | 445   | 500   | N/A                                                         |
| + Allowable Ampacities shown are for general use as specified by the National Electrical Code 2011 Edition, Section 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors. 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15. |                |                             |                         |                     |                          |                       |       |       | Package Codes<br>A-500'<br>B-2,500'<br>C-1,000'<br>D-5,000' |

purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity.

#### RECOMMENDED SAMPLE SPECIFICATIONS:

Conductors shall be UL-listed Type THHN and THWN-2, suitable for operation at 600 volts, as specified in the National Electrical Code. Sizes 8 through 1 AWG shall be rated VW-1, larger sizes shall be rated for CT Use. Conductors shall be AlumaFlex aluminum alloy, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL-listed equivalent as manufactured by Southwire Company or approved equal.



| Conductor                                                                                                                                                                                                                                             |                |                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| Size (AWG<br>or kcmil)                                                                                                                                                                                                                                | No. of strands | Stock Numbers                                                                                                                    |
| 8                                                                                                                                                                                                                                                     | 7              | <b>Stock #: N/A</b>                                                                                                              |
| 6                                                                                                                                                                                                                                                     | 7              | <b>Stock #: BK:563768, RD:573834, BE:573835, WE:578332, GN:566358</b>                                                            |
| 4                                                                                                                                                                                                                                                     | 7              | <b>Stock #: BK:563769, RD:573544, BE:573833, WE:577628, GN:562211</b>                                                            |
| 2                                                                                                                                                                                                                                                     | 7              | <b>Stock #: BK:563770, RD:573541, BE:573542, WE:563493,<br/>BN:587026, OE:587027, YW:587028, GY:578329, GN:562745</b>            |
| 1                                                                                                                                                                                                                                                     | 18             | <b>Stock #: BK:563771, RD:583155, BE:583156, WE:578328,<br/>BN:587023, OE:587024, YW:587025, GY:578327, GN:562746</b>            |
| 1/0                                                                                                                                                                                                                                                   | 18             | <b>Stock #: BK:562747, RD:562748, BE:562749, WE:562750,<br/>BN:562753, OE:562754, YW:562752, GY:562755, GN:562756, PE:573380</b> |
| 2/0                                                                                                                                                                                                                                                   | 18             | <b>Stock #: BK:562212, RD:562214, BE:562621, WE:562213,<br/>BN:562758, OE:562759, YW:562757, GY:562760, GN:562761, PE:573370</b> |
| 3/0                                                                                                                                                                                                                                                   | 18             | <b>Stock #: BK:562663, RD:562665, BE:562666, WE:562664,<br/>BN:562763, OE:562764, YW:562762, GY:562765, GN:562766, PE:573371</b> |
| 4/0                                                                                                                                                                                                                                                   | 18             | <b>Stock #: BK:562671, RD:562673, BE:562674, WE:562672,<br/>BN:561805, OE:561806, YW:561807, GY:562767, GN:562768, PE:573372</b> |
| 250                                                                                                                                                                                                                                                   | 22             | <b>Stock #: BK:560444, RD:562626, BE:562627, WE:562625,<br/>BN:561863, OE:561864, YW:561865, GY:561866, GN:561867, PE:573373</b> |
| 300                                                                                                                                                                                                                                                   | 35             | <b>Stock #: BK:562667, RD:562669, BE:562670, WE:562668,<br/>BN:562771, OE:562772, YW:562770, GY:562773, GN:562774, PE:573374</b> |
| 350                                                                                                                                                                                                                                                   | 35             | <b>Stock #: BK:560443, RD:562623, BE:562624, WE:562622,<br/>BN:561858, OE:561859, YW:561861, GY:561862, GN:562775, PE:573375</b> |
| 400                                                                                                                                                                                                                                                   | 35             | <b>Stock #: BK:562677, RD:562776, BE:562778, WE:562779,<br/>BN:562781, OE:562782, YW:562780, GY:562783, GN:562699, PE:573376</b> |
| 500                                                                                                                                                                                                                                                   | 35             | <b>Stock #: BK:560442, RD:562696, BE:562697, WE:562698,<br/>BN:561853, OE:561854, YW:561855, GY:561856, GN:561857, PE:573377</b> |
| 600                                                                                                                                                                                                                                                   | 58             | <b>Stock #: BK:560441, RD:562630, BE:562631, WE:562628,<br/>BN:561847, OE:561848, YW:561849, GY:561850, GN:561851, PE:573379</b> |
| 700                                                                                                                                                                                                                                                   | 58             | <b>Stock #: BK:562689, RD:562690, BE:562691,<br/>WE:562692, BN:561843, OE:561844, YW:561846, GY:562693</b>                       |
| 750                                                                                                                                                                                                                                                   | 58             | <b>Stock #: BK:562632, RD:562634, BE:562635, WE:562633,<br/>BN:561838, OE:561839, YW:561840, GY:561841, GN:561842, PE:573481</b> |
| 900                                                                                                                                                                                                                                                   | 58             | <b>Stock #: BK:562679, RD:562681, BE:562682, WE:562683, BN:561782, OE:561783,<br/>YW:561785, GY:561786, GN:562684</b>            |
| 1000                                                                                                                                                                                                                                                  | 58             | <b>Stock #: BK:562680, BN:564280, OE:564281, YW:564282, GY:564283</b>                                                            |
| <p style="text-align: center;"><b>Color Abbreviations</b></p> <p style="text-align: center;">BK-Black      RD-Red      BE-Blue      WE-White      BN-Brown</p> <p style="text-align: center;">OE-Orange      YW-Yellow      GY-Grey      GN-Green</p> |                |                                                                                                                                  |

