# Armorlite® Type MC THHN/THWN Intermediate Size Copper Conductor 120/208V Colors

Copper THHN/THWN Insulated Singles. Green Insulated Copper Grounding Conductor. UL Listed. 600 Volts Rated VW-1. Lightweight Aluminum Interlocked Armor.

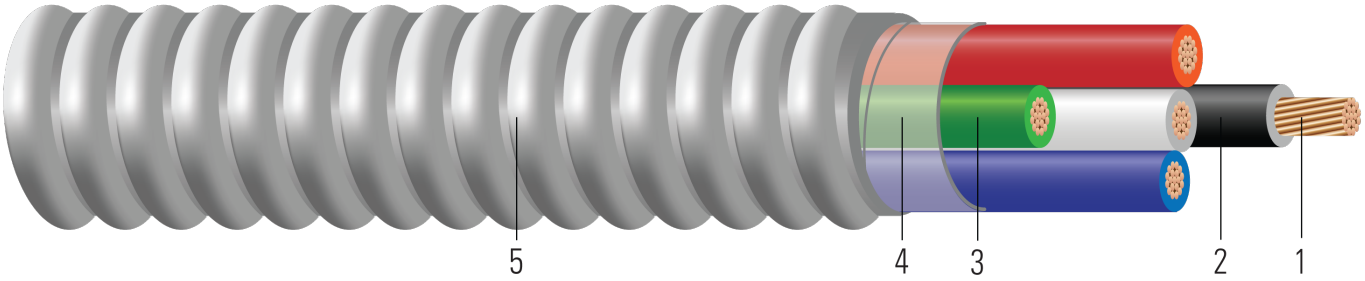



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** 19-strand class C compressed copper and ASTM B3 and B8 or 19-strand combination unilay copper per ASTM B3 and B787
2. **Insulation:** Polyvinyl Chloride with Nylon Sheath Type THHN/THWN
3. **Ground:** Green Polyvinyl Chloride with Nylon Sheath Type THHN/THWN insulated ground conductor
4. **Binder:** Mylar tape
5. **Armor:** Aluminum Interlocked Armor

## APPLICATIONS AND FEATURES:

**Southwire Armorlite® Type MC Cable is suitable for use as follows:**

- Branch, feeder and service power distribution in commercial, industrial, institutional, and multi-residential buildings
- Fished or embedded in plaster
- Concealed or exposed installations
- Environmental air-handling spaces per NEC 300.22 (C)
- Places of Assembly per NEC 518.4 and theaters per NEC 520.5
- Installation in cable tray and approved raceways
- Under raised floors for information technology equipment conductors and cables per NEC Article 645
- Class I Div. 2, Class II Div 2, & Class III Div. 1 Hazardous Locations
- Binder tape with print legend wrapped around assembly
- Type THHN/THWN rated 90ºC dry / 75ºC wet
- Unjacketed Type MC cables are rated for dry, indoor locations only per NEC 330.10(A)(10)

**Southwire Armorlite® Type MC Cable meets or exceeds the following requirements:**

- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) ( www.ul.com )
- Federal Specification A-A59544 (formerly J-C-30B)
- NFPA 70 (National Electrical Code), Article 330
- Listed for use in UL 1, 2 and 3 Hour Through Penetration Firestop Systems

## SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors


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- ASTM B787 19 Wire Combination Unilay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1569 Metal-Clad Cables
- UL 1479 Standard for Safety Fire Tests of Penetration Firestops
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- RoHS-2 (European Directive 2011/65/EU)
- Buy American: Compliant with Buy American Requirements, found in 49 U.S.C. § 5323(j); specify "Made in the USA Only!" when ordering to ensure your project receives American made products.
- VW-1 (Vertical-Wire) Flame Test

## SAMPLE PRINT LEGEND:

SOUTHWIRE E96627 {UL} TYPE MC XX AWG THHN OR THWN CDRS FOR USE IN CABLE TRAYS 600 VOLTS

### Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Conductor Number | Color | Diameter Over Conductor | Conductor Stranding | Insulation Thickness | Ground Size | Diameter Over Armor | Copper Weight | Overall Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | AWG/ Kcmil | | | inch | | mils | No. x AWG | inch | lbs/1000ft | lbs/1000ft |
| 551175 | 8 | 2 | RD,WE | 0.143 | 19 | 30 | 1x10 | 0.641 | 135 | 217 |
| 551177 | 8 | 2 | BE,WE | 0.143 | 19 | 30 | 1x10 | 0.641 | 135 | 217 |
| 687095 | 8 | 2 | BK,WE | 0.143 | 19 | 30 | 1x10 | 0.641 | 135 | 217 |
| 687137 | 8 | 3 | BK,RD,WE | 0.143 | 19 | 30 | 1x10 | 0.688 | 187 | 286 |
| 551180 | 8 | 3 | RD,BE,WE | 0.143 | 19 | 30 | 1x10 | 0.688 | 187 | 286 |
| 687210 | 8 | 4 | BK,RD,BE,WE | 0.143 | 19 | 30 | 1x10 | 0.826 | 238 | 390 |
| 687103 | 6 | 2 | BK,WE | 0.179 | 19 | 30 | 1x8 | 0.787 | 214 | 346 |
| 687145 | 6 | 3 | BK,RD,WE | 0.179 | 19 | 30 | 1x8 | 0.855 | 296 | 451 |
| 687251 | 6 | 4 | BK,RD,BE,WE | 0.179 | 19 | 30 | 1x8 | 0.933 | 377 | 558 |
| 687152 | 4 | 3 | BK,RD,WE | 0.226 | 19 | 40 | 1x8 | 0.986 | 442 | 646 |
| 687228 | 4 | 4 | BK,RD,BE,WE | 0.226 | 19 | 40 | 1x8 | 1.089 | 572 | 833 |
| 687160 | 3 | 3 | BK,RD,WE | 0.254 | 19 | 40 | 1x6 | 1.062 | 574 | 806 |
| 687236 | 3 | 4 | BK,RD,BE,WE | 0.254 | 19 | 40 | 1x6 | 1.166 | 738 | 1003 |
| 687178 | 2 | 3 | BK,RD,WE | 0.286 | 19 | 40 | 1x6 | 1.163 | 702 | 959 |
| 687244 | 2 | 4 | BK,RD,BE,WE | 0.286 | 19 | 40 | 1x6 | 1.238 | 909 | 1221 |
| 890347 | 1 | 3 | 1-BK,2-RD,WE,GN | 0.333 | 19 | 50 | 1x6 | 1.225 | 864 | 1170 |
| 890355 | 1 | 4 | 1-BK,2-RD,3-BE,WE,GN | 0.333 | 19 | 50 | 1x6 | 1.405 | 1125 | 1514 |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

**Note:** Conductor number = number of phase conductors plus neutral. Does not include green ground.



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## Table 2 – Electrical and Engineering Data

| Cond. Size | Conductor Number | Min. Bend Radius | Max Pull Tension | DC Resistance at 25°C | AC Resistance at 75°C | Inductive Reactance @ 60Hz | Allowable Ampacity Raceway 75°C | Allowable Ampacity Raceway 90°C |
|---|---|---|---|---|---|---|---|---|
| AWG/ Kcmil | | Inches | Lbs | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp |
| 8 | 2 | 4.5 | 264 | 0.653 | 0.81 | 0.052 | 50 | 55 |
| 8 | 2 | 4.5 | 264 | 0.653 | 0.81 | 0.052 | 50 | 55 |
| 8 | 2 | 4.5 | 264 | 0.653 | 0.81 | 0.052 | 50 | 55 |
| 8 | 3 | 4.8 | 396 | 0.653 | 0.81 | 0.052 | 50 | 55 |
| 8 | 3 | 4.8 | 396 | 0.653 | 0.81 | 0.052 | 50 | 55 |
| 8 | 4 | 5.8 | 528 | 0.653 | 0.81 | 0.052 | 40 | 44 |
| 6 | 2 | 5.5 | 419 | 0.411 | 0.51 | 0.051 | 65 | 75 |
| 6 | 3 | 6 | 629 | 0.411 | 0.51 | 0.051 | 65 | 75 |
| 6 | 4 | 6.5 | 839 | 0.411 | 0.51 | 0.051 | 52 | 60 |
| 4 | 3 | 6.9 | 1001 | 0.258 | 0.32 | 0.048 | 85 | 95 |
| 4 | 4 | 7.6 | 1335 | 0.258 | 0.32 | 0.048 | 68 | 76 |
| 3 | 3 | 7.4 | 1262 | 0.205 | 0.254 | 0.047 | 100 | 115 |
| 3 | 4 | 8.2 | 1683 | 0.205 | 0.254 | 0.047 | 80 | 92 |
| 2 | 3 | 8.1 | 1592 | 0.162 | 0.201 | 0.045 | 115 | 130 |
| 2 | 4 | 8.7 | 2123 | 0.162 | 0.201 | 0.045 | 92 | 104 |
| 1 | 3 | 8.6 | 2008 | 0.128 | 0.159 | 0.046 | 130 | 145 |
| 1 | 4 | 9.8 | 2678 | 0.128 | 0.159 | 0.046 | 104 | 116 |

***** 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.

***** Ampacities have been adjusted for more than Three Current-Carrying Conductors.


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