



Armorlite® Type MC THHN/THWN Circuit Size Copper Conductor Multi Circuits

Copper THHN/THWN Insulated Singles. Multiple Circuits 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:** Solid or 19 strands class C compressed copper per ASTM B3 and ASTM B8
2. **Insulation:** All phases are insulated with Polyvinyl Chloride with Nylon Sheath Type THHN/THWN
3. **Ground:** Green insulated ground. Polyvinyl Chloride with Nylon Sheath Type THHN/THWN
4. **Binder:** Mylar tape
5. **Armor:** Aluminum Interlocked Armor

APPLICATIONS AND FEATURES:

Southwire Armorlite® Type MC Cable - Multi-Circuit is suitable for use as follow:

- Multiple circuits for 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 645.5(D) & 645.5(D)(2)
- 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 90°C Dry.

Southwire Armorlite® Type MC Cable - Multi-Circuit 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





- 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
- 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.

SAMPLE PRINT LEGEND:

E96627 {UL} TYPE MC XX AWG THHN OR THWN CDRS WITH X X XX AWG NEUTRAL 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 | Num x Neutral Size | Diameter Over Armor | Copper Weight | Overall Weight |
|-----------------------|---------------|------------------|--------------------------|-------------------------|---------------------|----------------------|--------------|--------------------|---------------------|----------------|----------------|
| | AWG/ Kcmil | | | inch | | mils | No. x AWG | No. x AWG | inch | lbs/ 1000ft | lbs/ 1000ft |
| 12 AWG Solid | | | | | | | | | | | |
| 555951◇ | 12 | 5 | BK,RD,BE,WE,WE/ BK,GN | 0.080 | Solid | 20 | 1x12 | 2x12 | 0.577 | 119 | 187 |
| 690057◇ | 12 | 6 | See Table | 0.080 | Solid | 20 | 1x12 | 2x12 | 0.577 | 139 | 211 |
| 563324◇ | 12 | 6 | See Table | 0.080 | Solid | 20 | 1x12 | 1x12 | 0.577 | 139 | 211 |
| 690065◇ | 12 | 8 | See Table | 0.080 | Solid | 20 | 1x12 | 2x12 | 0.652 | 179 | 266 |
| 596437◇ | 12 | 8 | See Table | 0.080 | Solid | 20 | 1x12 | | 0.661 | 179 | 266 |
| 586407◇ | 12 | 9 | See Table | 0.080 | Solid | 20 | 1x12 | 4x12 | 0.709 | 199 | 294 |
| 690073◇ | 12 | 12 | See Table | 0.080 | Solid | 20 | 1x12 | 3x12 | 0.810 | 259 | 401 |
| 10 AWG Solid | | | | | | | | | | | |
| 552970◇ | 10 | 6 | See Table | 0.101 | Solid | 25 | 1x10 | 2x10 | 0.671 | 216 | 311 |
| 690081◇ | 10 | 6 | See Table | 0.101 | Solid | 25 | 1x10 | 2x10 | 0.759 | 278 | 417 |
| 587714◇ | 10 | 6 | BK,RD,BE,OE,PK,PE,GN | 0.101 | Solid | 25 | 1x10 | | 0.680 | 216 | 311 |
| 552986◇ | 10 | 12 | See Table | 0.101 | Solid | 25 | 1x10 | 3x10 | 0.947 | 402 | 587 |

All dimensions are nominal and subject to normal manufacturing tolerances

◇ Cable marked with this symbol is a standard stock item

Note: Conductor number = Phase conductors plus neutrals. Does not include green ground.





Table 2 – Electrical and Engineering Data

| Cond. Size | Conductor Number | Neutral Stranding | Min. Bend Radius | 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 | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp |
| 12 AWG Solid | | | | | | | | |
| 12 | 5 | 2 | 4.1 | 1.662 | 2.002 | 0.054 | 20 | 24 |
| 12 | 6 | 2 | 4.1 | 1.662 | 2.002 | 0.054 | 20 | 24 |
| 12 | 6 | 1 | 4.1 | 1.662 | 2.002 | 0.054 | 20 | 24 |
| 12 | 8 | 2 | 4.6 | 1.662 | 2.002 | 0.054 | 17 | 21 |
| 12 | 8 | | 4.6 | 1.662 | 2.002 | 0.054 | 17 | 21 |
| 12 | 9 | 4 | 5.0 | 1.662 | 2.002 | 0.054 | 17 | 21 |
| 12 | 12 | 3 | 5.7 | 1.662 | 2.002 | 0.054 | 12 | 15 |
| 10 AWG Solid | | | | | | | | |
| 10 | 6 | 2 | 4.8 | 1.040 | 1.253 | 0.050 | 28 | 32 |
| 10 | 6 | 2 | 5.3 | 1.040 | 1.253 | 0.050 | 24 | 28 |
| 10 | 6 | | 4.8 | 1.040 | 1.253 | 0.050 | 28 | 32 |
| 10 | 12 | 3 | 6.6 | 1.040 | 1.253 | 0.050 | 17 | 20 |

* 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.

Color Table conductor number does not include green ground. (/ means stripe RD/WE is Red with White Stripe)

| Size (Strand) | Cond. Num | Stock Code | Color |
|---------------|-----------|------------|--|
| 12 (Solid) | 5 | 555951 | BK, RD, BE, WE, WE/BK, GN |
| 12 (Solid) | 6 | 690057 | BK, BK/WE, WE, WE/BK, RD, RD/WE, GN |
| 12 (Solid) | 6 | 563324 | BK, BK/WE, RD, RD/WE, BE, WE, GN |
| 12 (Solid) | 8 | 690065 | BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, BE/WE, GN |
| 12 (Solid) | 8 | 596437 | BK, RD, BE, BK/WE, RD/WE, BE/WE, RD/BK, BK/RD, GN |
| 12 (Solid) | 9 | 586407 | OE, GY/OE, BK, WE/BK, RD, WE/RD, BE, BK/WE, GN, WE |
| 12 (Solid) | 12 | 690073 | BK, BK/WE, BK/RD, RD, RD/WE, RD/BK, BE, BE/WE, BE/RD, WE, WE/BK, WE/RD, GN |
| 10 (Solid) | 6 | 552970 | BK, RD, BK/WE, RD/WE, WE, WE/BK, GN |
| 10 (Solid) | 6 | 690081 | BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, BE/WE, GN |
| 10 (Solid) | 6 | 587714 | BK, RD, BE, OE, PK, PE, GN |
| 10 (Solid) | 12 | 552986 | BK, BK/WE, BK/RD, WE, WE/BK, WE/RD, RD, RD/WE, RD/BE, BE, BE/WE, BE/RD, GN |

