# Armorlite® Type MC THHN/THWN Intermediate Size Copper Conductor Neutral Per Phase

Copper, THHN/THWN Insulated Singles. Dedicated Neutral Conductor for Each Phase Conductor. Green Insulated Copper Grounding Conductor. UL Listed 600 Volts. Rated VW-1. Lightweight Aluminum Interlocked Armor.

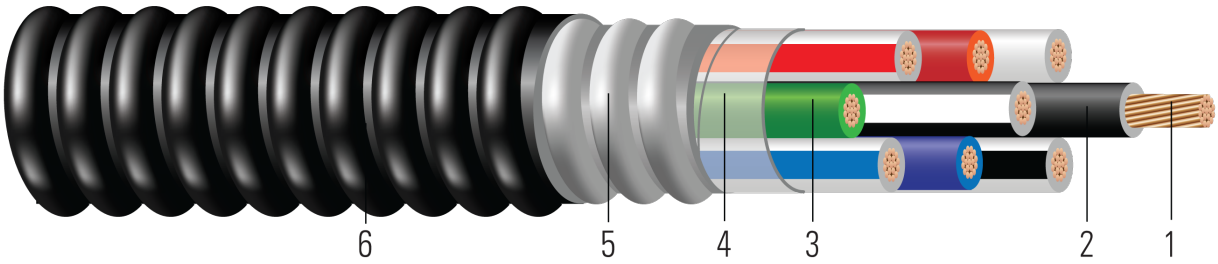



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** 19-strand, class C, compressed, copper per ASTM B3 and B8
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
6. **Jacket:** Sunlight resistant and corrosion resistant Polyvinyl Chloride (PVC)

## APPLICATIONS AND FEATURES:

Southwire Armorlite® Type MC Neutral Per Phase Cable products comply with NEC 200.4 requirements (added in the 2011 NEC) for the installation and marking of neutral conductors. Neutrals are not to be used for more than one circuit (branch, multi-wire branch, or ungrounded feeder). See NEC 200.4 for complete requirements.

### Southwire Armorlite® Type MC Neutral Per Phase Cable is suitable for use as follow:

- Applications affected by harmonics generated from non-linear switching loads, such as computers, variable frequency drives, electrical test equipment, and office equipment
- Multiple circuits for branch, feeder and service power distribution in commercial, industrial, institutional, and multi-residential buildings
- Where exposed to cinder fills, strong chlorides, caustic alkalis, or vapors of chlorine or of hydrochloric acids
- Fished or embedded in plaster
- Concealed or exposed installations
- Places of Assembly per NEC 518.4 and theaters per NEC 520.5
- Suitable for Wet Location per NEC 330.10(A)(11)
- 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

### Southwire Armorlite® Type MC Neutral Per Phase Cable meets or exceeds the following requirements:


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- 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.
- VW-1 (Vertical-Wire) Flame Test

## SAMPLE PRINT LEGEND:

ALUMINUM CLAD CABLE WITH COPPER CDRS TYPE THHN OR THWN MAX VOLTAGE 600V, FOR USE IN CABLE TRAY 90°C - WET OR DRY LOCATIONS GASOLINE & OIL RESISTANT CDRS LISTED FOR FIREWALL PENETRATION (GREEN INSULATED GROUND)

### 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 | Jacket Thickness | Approx. OD | Copper Weight | Overall Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | AWG/ Kcmil | | | inch | | mils | No. x AWG | No. x AWG | inch | mil | inch | lbs/ 1000ft | lbs/ 1000ft |
| 456683 | 8 | 6 | SEE TABLE | 0.143 | 19 | 30 | 1x8 | 1x8 | 0.917 | 50 | 1.023 | 360 | 652 |
| 668450 | 8 | 8 | SEE TABLE | 0.143 | 19 | 30 | 1x8 | 4x8 | 1.049 | 50 | 1.155 | 463 | 810 |

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 and neutrals. Does not include green ground.

• 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 | 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 | 6 | 7.2 | 792 | 0.653 | 0.81 | 0.052 | 40 | 44 |
| 8 | 8 | 8.1 | 1056 | 0.653 | 0.81 | 0.052 | 35 | 38 |

• 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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## Color Table - Conductor number = number of phase conductors. Does not include neutrals and green ground. ( / means stripe RD/WE is Red with White Stripe)

| Size (Strand) | Cond. Number | Stock Code | Color |
|---|---|---|---|
| 8 (19) | 3 | 456683 | BK, RD, BE, BK/WE, WE, RE/WE, GN |
| 8 (19) | 4 | 668450 | BK, RD, BE, BK/WE, WE, WE/BK, WE/RD, WE/BE, GN |


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