Armorlite® Type MC THHN/THWN Circuit 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.

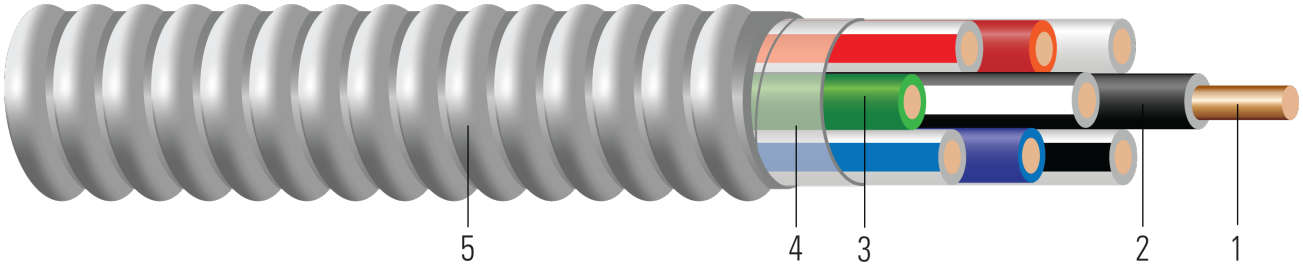

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid copper per ASTM B3 or 19-strands 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

APPLICATIONS AND FEATURES:

Southwire Armorlite® Type MC Cable Neutral-per-phase 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, multiwire branch, or ungrounded feeder). See NEC 200.4 for complete requirements.

Southwire Armorlite® Type MC Cable (neutral per phase) 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
- 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
- Unjacketed Type MC cables are rated for dry, indoor locations only per NEC 330.10(A)(10)
- Type THHN/THWN rated 90°C dry

Southwire Armorlite® Type MC Cable (neutral per phase) meets or exceeds the following requirements:

- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) (www.ul.com)

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- 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 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
10 AWG | 19 Strands											
586636	10	4	SEE TABLE	0.117	19	20	2x10	2x10	0.776	194	326

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 neutral. 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	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
10 AWG | 19 Strands							
10	4	5.4	1.04	1.291	0.05	28	32

• 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
14 (Solid)	2	674349	BK, RD, WE/BK, WE/RD, GN
12 (Solid)	1	554994	RD, WE/RD, GN
12 (Solid)	2	554991	BK, RD, GN, WE/BK, WE/RD
12 (Solid)	2	610666	BK, RD, GN, GN/YW, WE/BK, WE/RD
12 (Solid)	2	552795	BK, RD, WE/BK, WE/RD, GN
12 (Solid)	3	554990	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
12 (Solid)	3	610669	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
12 (Solid)	4	566811	BK, RD, BE, BK/WE, WE, WE/RD, WE/BE, WE/BK, GN
12 (Solid)	4	643570	BK, RD, BE, PE, WE/BK, WE/RD, WE/BE, WE/PE, GN
12 (Solid)	6	643654	BK, RD, BE, PK, PE, YW, GN, WE/BK, WE/RD, WE/BE, WE/PK, WE/PE, WE/YW
12 (Solid)	6	580850	BK, RD, BE, BK/RD, RD/BE, BE/BK, GN, WE, WE/BK, WE/RD, WE/BE, WE/BK, WE/RD
12 (Solid)	6	674321	BK, RD, BE, BN, OE, YW, WE/BK, WE/RD, WE/BE, WE/BN, WE/OE, WE/YW, BK, WE/BK, GN
12 (Solid)	7	674313	BK, RD, BE, BK/YW, RD/YW, BE/YW, BK/RD, WE, WE/BK, WE/RD, WE/BE, WE/BK, WE/RD, WE/BE, GN
10 (Solid)	2	567063	BK, RD, WE/BK, WE/RD, GN
10 (Solid)	2	641220	BK, RD, GN, GN/YW, WE/BK, WE/RD
10 (Solid)	2	552996	BK, RD, WE, WE/BE, GN, GN/YW
10 (Solid)	3	556259	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (Solid)	3	610673	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
10 (Solid)	4	567269	BK, RD, BE, BK/WE, GN, WE/BK, WE/RD, WE/BE, WE
10 (Solid)	4	554852	BK, RD, BE, BK/RD, WE, WE/BK, WE/RD, GN, GN/YW, WE/BE
10 (Solid)	5	590115	BK, BK, RD, RD, BE, WE/BK, WE/BK, WE/RD, WE/RD, WE/BE, GN
10 (Solid)	5	677655	BK, RD, BE, BK/RD, RD/BK, WE, WE/BK, WE/RD, WE/BE, WE/PK, GN
10 (Solid)	6	566546	BK, BK/WE, BE, BE/WE, RD, RD/WE, WE/RD, WE/RD, WE/BE, WE/BE, WE/BK, WE/BK, GN
10 (Solid)	7	679158	BK, WE, RD, WE/RD, BE, WE/BE, BK/WE, WE/BK, RD/YW, WE/YW, BE/OE, WE/OE, PE, WE/PE, GN
12 (19)	2	566801	BK, RD, GN, WE/BK, WE/RD
12 (19)	2	551322	BK, RD, GN, GN/YW, WE/BK, WE/RD
12 (19)	3	562687	BK, RD, BE, WE/BK, WE/RD, WE/BE, GN
12 (19)	3	551324	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
10 (19)	2	563822	BK, RD, GN, WE/BK, WE/RD
10 (19)	2	586636	BK, RD, GN, GN/YW, WE/BK, WE/RD
10 (19)	3	553238	BK, RD, BE, WE, WE/BK, GN, WE/RD
10 (19)	3	562456	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (19)	3	551336	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
10 (19)	4	566698	BK, BK/WE, RD, BE, GN, WE, WE/BK, WE/RD, WE/BE
10 (19)	8	647335	BK, BK, BK, BK, BK, BK, BK, BK, WE, WE, WE, WE, WE, WE, WE, WE, GN

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