Armorlite® Type MC THHN/THWN Circuit Size Copper Conductor Neutral Per Phase With Phase ID

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. Phase With Phase ID

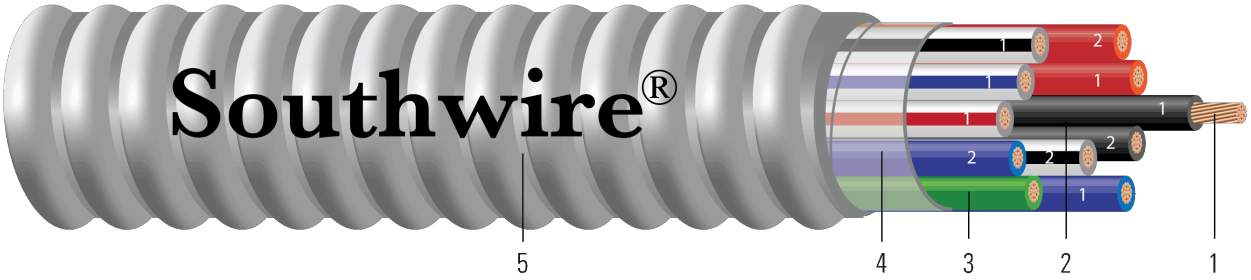

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** 19 strands class C compressed copper per 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

Contact Southwire *SPEED™* Services to request a quote.

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.
- Type THHN/THWN rated 90ºC 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)

- 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 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	Conductor Stranding	Insulation Thickness	Ground Size	Num x Neutral Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil				mils	No. x AWG	No. x AWG	inch	lbs/1000ft	lbs/1000ft
12 AWG | 19 Strands										
TBA	12	1	See Table	19	20	1x12	1x12	0.508	60	111
TBA	12	2	See Table	19	20	1x12	2x12	0.580	100	169
137844	12	3	See Table	19	20	1x12	3x12	0.620	160	222
665362	12	6	See Table	19	20	1x12	6x12	0.854	265	422
665364	12	9	See Table	19	20	1x12	9x12	0.932	387	580
10 AWG | 19 Strands										
TBA	10	1	See Table	19	25	1x10	1x10	0.587	97	166
TBA	10	2	See Table	19	25	1x10	2x10	0.678	161	254
137842	10	3	See Table	19	25	1x10	3x10	0.776	226	366
677554	10	6	See Table	19	25	1x10	6x10	0.929	420	637
647488	10	6	See Table	19	25	1x10	6x10	1.014	420	631
678254	10	9	See Table	19	25	1x10	9x10	1.027	379	495

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. Does not include neutrals and 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	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 | 19 Strands								
12	1	1	3.5	1.662	2.002	0.054	25	30
12	2	2	4.0	1.662	2.002	0.054	20	24
12	3	3	4.3	1.662	2.002	0.054	20	24
12	6	6	5.9	1.662	2.002	0.054	12	15
12	9	9	6.5	1.662	2.002	0.054	12	15
10 AWG | 19 Strands								
10	1	1	4.1	1.040	1.253	0.050	35	40
10	2	2	4.7	1.040	1.253	0.050	28	32
10	3	3	5.4	1.040	1.253	0.050	28	32
10	6	6	6.5	1.040	1.253	0.050	17	20
10	6	6	7.1	1.040	1.253	0.050	17	20
10	9	9	7.2	1.040	1.253	0.050	18	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.
* Inductive impedance is based on non-ferrous conduit with one diameter spacing.

Color Table - Conductor number = total number of conductors

Cond. Num.	Black 1	Black 2	Black 3	Red 1	Red 2	Red 3	Blue 1	Blue 2	Blue 3	White/ Black 1	White/ Black 2	White/ Black 3	White/ Red 1	White/ Red 2	White/ Red 3	White/ Blue 1	White/ Blue 2	White/ Blue 3	Green
2	X									X									X
4	X			X						X			X						X
6	X			X			X			X			X			X			X
12	X	X		X	X		X	X		X	X		X	X		X	X		X
18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X