

## Armorlite® Type MC THHN/THWN Circuit 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:** 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 with print legend wrapped around assembly.
5. **Armor:** Aluminum Interlocked Armor

### APPLICATIONS AND FEATURES:

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

- Branch 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 90°C Dry.
- Anti-Short bushing not required

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

- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) ( [www.ul.com](http://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 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | [www.southwire.com](http://www.southwire.com)



Southwire

**CABLETECH  
SUPPORT™**

Services

- 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
- REACH/RoHS-2 (Chemical Limit) Compliant
- 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 MASTER-DESIGN {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	Overall Weight
	AWG/ Kcmil			inch		mils	No. x AWG	inch	lbs/1000ft
685792◇	14	2	BK/WE	0.064	Solid	20	1x14	0.451	80
685826◇	14	3	BK/RD/WE	0.064	Solid	20	1x14	0.478	98
687186◇	14	4	BK/RD/BE/ WE	0.064	Solid	20	1x14	0.508	116
689489◇	12	2	BE/WE	0.08	Solid	20	1x12	0.487	107
689521◇	12	2	RD/WE	0.08	Solid	20	1x12	0.487	107
685800◇	12	2	BK/WE	0.08	Solid	20	1x12	0.487	107
610971◇	12	3	RD/BE/WE	0.08	Solid	20	1x12	0.518	134
610973◇	12	3	BK/BE/WE	0.08	Solid	20	1x12	0.518	134
685834◇	12	3	BK/RD/WE	0.08	Solid	20	1x12	0.518	134
687194◇	12	4	BK/RD/BE/ WE	0.08	Solid	20	1x12	0.553	162
550172◇	12	4	BK/RD/BE/ WE	0.08	Solid	20	1x12	0.500	148
610520◇	10	2	PE/GY	0.101	Solid	25	1x10	0.554	154
685818◇	10	2	BK/WE	0.101	Solid	25	1x10	0.554	154
610521◇	10	2	RD/WE	0.101	Solid	25	1x10	0.554	154
610518◇	10	2	BE/WE	0.101	Solid	25	1x10	0.554	154
685842◇	10	3	BK/RD/WE	0.101	Solid	25	1x10	0.593	194
687202◇	10	4	BK/RD/BE/ WE	0.101	Solid	25	1x10	0.637	235
550177◇	14	2	BK/WE	0.073	19	20	1x14	0.468	83
550180◇	14	3	BK/RD/WE	0.073	19	20	1x14	0.497	103
691147◇	12	2	BK/WE	0.09	19	20	1x12	0.508	111
691154◇	12	3	BK/RD/WE	0.09	19	20	1x12	0.542	140
691162◇	12	4	BK/RD/BE/ WE	0.09	19	20	1x12	0.58	169
691170◇	10	2	BK/WE	0.117	19	25	1x10	0.587	166
691188◇	10	3	BK/RD/BE	0.117	19	25	1x10	0.630	209
691196◇	10	4	BK/RD/BE/ WE	0.117	19	25	1x10	0.678	254

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.



**Table 2 – Electrical and Engineering Data**

Stock Number	Cond. Size	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Allowable Ampacity Raceway 60°C <sup>†</sup>	Allowable Ampacity Raceway 75°C <sup>†</sup>	Allowable Ampacity Raceway 90°C <sup>†</sup>
	AWG/Kcmil	Inches	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
685792◇	14	3.1	2.631	3.170	15	20	25
685826◇	14	3.3	2.631	3.170	15	20	25
687186◇	14	3.5	2.631	3.170	12	16	20
689489◇	12	3.4	1.662	2.002	20	25	30
689521◇	12	3.4	1.662	2.002	20	25	30
685800◇	12	3.4	1.662	2.002	20	25	30
610971◇	12	3.6	1.662	2.002	20	25	30
610973◇	12	3.6	1.662	2.002	20	25	30
685834◇	12	3.6	1.662	2.002	20	25	30
687194◇	12	3.8	1.662	2.002	16	20	24
550172◇	12	3.5	1.662	2.002	16	20	24
610520◇	10	3.8	1.040	1.253	30	35	40
685818◇	10	3.8	1.040	1.253	30	35	40
610521◇	10	3.8	1.040	1.253	30	35	40
610518◇	10	3.8	1.040	1.253	30	35	40
685842◇	10	4.1	1.040	1.253	30	35	40
687202◇	10	4.4	1.040	1.253	24	28	32
550177◇	14	3.2	2.631	3.170	15	20	25
550180◇	14	3.4	2.631	3.170	15	20	25
691147◇	12	3.5	1.662	2.002	20	25	30
691154◇	12	3.7	1.662	2.002	20	25	30
691162◇	12	4.0	1.662	2.002	16	20	24
691170◇	10	4.1	1.040	1.253	30	35	40
691188◇	10	4.4	1.040	1.253	30	35	40
691196◇	10	4.7	1.040	1.253	24	28	32

<sup>†</sup> Ampacities have been adjusted for more than Three Current-Carrying Conductors

<sup>†</sup> 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). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

