

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.

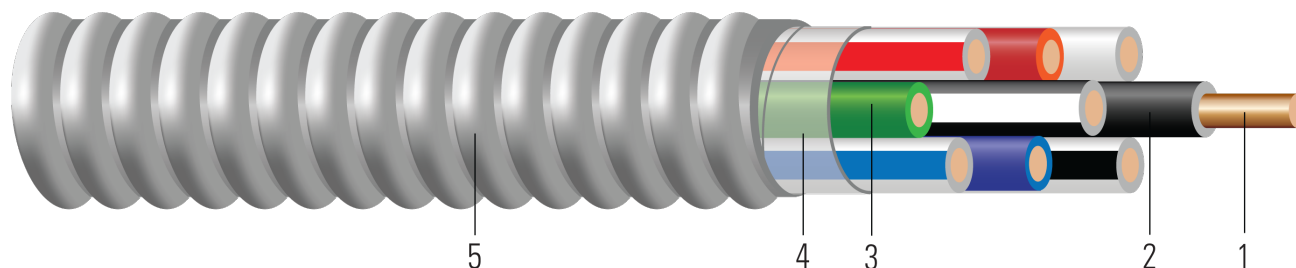


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid 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

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 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)



Southwire Company, LLC | One Southwire Drive, Carrollton, GA 30119 | www.southwire.com



Southwire

**CABLETECH
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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.
- REACH - European Community Regulation

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	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Num x Neutral Size	Diameter Over Armor	Overall Weight
	AWG/ Kcmil		inch		mils	No. x AWG	No. x AWG	inch	lbs/1000ft
674349◇	14	4	0.064	Solid	20	1x14	2 x14	0.508	116
554994◇	12	2	0.080	Solid	20	1x12	1x12	0.487	107
554991◇	12	4	0.080	Solid	20	1x12	2x12	0.553	162
610666◇	12	4	0.080	Solid	20	2x12	2x12	0.590	189
552795◇	12	4	0.080	Solid	20	1x12	2x12	0.553	162
554990◇	12	6	0.080	Solid	20	1x12	3x12	0.590	213
610669◇	12	6	0.080	Solid	20	2x12	3x12	0.628	240
566811◇	12	8	0.080	Solid	20	1x12	4x12	0.665	268
643570◇	12	8	0.080	Solid	20	1x12	4x12	0.665	268
589122◇	12	10	0.080	Solid	20	1x12	4x12	0.763	349
643654◇	12	12	0.080	Solid	20	1x12	6x12	0.813	404
580850◇	12	12	0.080	Solid	20	1x12	6x12	0.813	404
674313◇	12	14	0.080	Solid	20	1x12	7x12	0.850	455
679370◇	12	16	0.080	Solid	20	1x12	6x12	0.886	507
641211◇	12	18	0.080	Solid	20	1x12	9x12	0.812	494
567063◇	10	4	0.101	Solid	25	1x10	2x10	0.637	235
641220◇	10	4	0.101	Solid	25	2x10	2x10	0.683	278
552996◇	10	4	0.101	Solid	25	2x10	2x10	0.683	278
556259◇	10	6	0.101	Solid	25	1x10	3x10	0.683	315
610673◇	10	6	0.101	Solid	25	2x10	3x10	0.781	385
592678◇	10	6	0.101	Solid	25	1x10	3x10	0.683	385
554852◇	10	8	0.101	Solid	25	2x10	4x10	0.887	473
598031◇	10	10	0.101	Solid	25	1x10	4x10	0.887	510
677655◇	10	10	0.101	Solid	25	1x10	5x10	0.887	510
585848◇	10	10	0.101	Solid	25	1x10	5x10	0.887	512
679158◇	10	14	0.101	Solid	25	1x10	7x10	0.924	652
679161◇	10	16	0.101	Solid	25	1x10	6x10	1.041	753
566801◇	12	4	0.090	19	20	1x12	2x12	0.580	169
551322◇	12	4	0.090	19	20	2x12	2x12	0.620	197
562687◇	12	6	0.090	19	20	1x12	3x12	0.620	222
551324◇	12	6	0.090	19	20	2x12	3x12	0.661	251
551353◇	12	6	0.090	19	20	1x12	2x12	0.620	222
551354◇	12	8	0.090	19	20	1x12	2x12	0.701	279
590115◇	10	10	0.101	19	25	1x10	5x10	0.887	510
137842◇	10	3	0.117	19	25	1x10	3x10	0.779	368
563822◇	10	4	0.117	19	25	1x10	2x10	0.678	254
586636◇	10	4	0.117	19	25	2x10	2x10	0.779	328
553238◇	10	6	0.117	19	25	1x10	3x10	0.779	368
562456◇	10	6	0.117	19	25	1x10	3x10	0.779	368
551336◇	10	6	0.117	19	25	2x10	3x10	0.832	415



Stock Number	Cond. Size	Conductor Number	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Num x Neutral Size	Diameter Over Armor	Overall Weight
	AWG/ Kcmil		inch		mils	No. x AWG	No. x AWG	inch	lbs/1000ft
587625◇	10	6	0.117	19	25	1x10	3x10	0.779	368
674737◇	10	6	0.117	19	25	1x10	2x10	0.779	368
551356◇	10	8	0.117	19	25	1x10	2x10	0.882	461
566698◇	10	8	0.117	19	25	1x10	4x10	0.882	461
640523◇	10	9	0.117	19	25	1x10	4x10	0.948	509
647488◇	10	12	0.117	19	25	1x10	6x10	1.018	636
647335◇	10	16	0.117	19	25	1x10	8x10	1.023	768

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

Cond. Size	Conductor Number	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity Raceway 60°C	Allowable Ampacity Raceway 75°C	Allowable Ampacity Raceway 90°C
AWG/Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
14	4	3.5	2.631	3.170	0.032	12	16	20
12	2	3.4	1.662	2.002	0.038	20	25	30
12	4	3.8	1.662	2.002	0.038	16	20	24
12	4	4.1	1.662	2.002	0.038	16	20	24
12	4	3.8	1.662	2.002	0.038	16	20	24
12	6	4.1	1.662	2.002	0.038	16	20	24
12	6	4.3	1.662	2.002	0.038	16	20	24
12	8	4.6	1.662	2.002	0.038	14	17	21
12	8	4.6	1.662	2.002	0.038	14	17	21
12	10	5.3	2.631	3.170	0.058	10	12	15
12	12	5.6	1.662	2.002	0.038	10	12	15
12	12	5.6	1.662	2.002	0.038	10	12	15
12	14	5.9	1.662	2.002	0.038	10	12	15
12	16	6.2	1.662	2.002	0.038	10	12	15
12	18	5.6	1.662	2.002	0.038	10	12	15
10	4	4.4	1.040	1.253	0.030	24	28	32
10	4	4.7	1.040	1.253	0.030	24	28	32
10	4	4.7	1.040	1.253	0.030	24	28	32
10	6	4.7	1.040	1.253	0.030	24	28	32
10	6	5.4	1.040	1.253	0.030	24	28	32
10	6	4.7	1.040	1.253	0.030	24	28	32
10	8	6.2	1.040	1.253	0.030	21	24	28
10	10	6.2	1.040	1.253	0.050	15	17	20
10	10	6.2	1.040	1.253	0.030	15	17	20
10	10	6.2	1.040	1.253	0.030	15	17	20
10	14	6.4	1.040	1.253	0.030	15	17	20
10	16	7.2	1.040	1.253	0.030	15	17	20
12	4	4.0	1.662	2.002	0.038	16	20	24
12	4	4.3	1.662	2.002	0.038	16	20	24
12	6	4.3	1.662	2.002	0.038	16	20	24
12	6	4.6	1.662	2.002	0.038	16	20	24
12	6	4.3	1.662	2.002	0.054	16	20	24
12	8	4.9	1.662	2.002	0.054	14	17	21
10	10	6.2	1.040	1.253	0.030	15	17	20
10	3	5.4	1.040	1.253	0.030	24	28	32
10	4	4.7	1.040	1.253	0.030	24	28	32
10	4	5.4	1.040	1.253	0.030	24	28	32
10	6	5.4	1.040	1.253	0.030	24	28	32
10	6	5.4	1.040	1.253	0.030	24	28	32



Cond. Size	Conductor Number	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity Raceway 60°C	Allowable Ampacity Raceway 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
10	6	5.8	1.040	1.253	0.030	24	28	32
10	6	5.4	1.040	1.253	0.030	24	28	32
10	6	5.4	1.662	2.002	0.054	24	28	32
10	8	6.1	1.040	1.253	0.030	21	24	28
10	8	6.1	1.040	1.253	0.030	21	24	28
10	9	6.6	1.040	1.253	0.030	21	24	28
10	12	7.1	1.040	1.253	0.030	15	17	20
10	16	7.1	1.040	1.253	0.030	15	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

Stock Num.	Cond. Size	Cond. Num.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
674349	14	4	Black	Red	Green	White	White												
554994	12	2	Red	Green	White														
551322	12	4	Black	Red	Green	White	White	Green											
552795	12	4	Black	Red	Green	White	White												
554991	12	4	Black	Red	Green	White	White												
566801	12	4	Black	Red	Green	White	White												
610666	12	4	Black	Red	Green	White	White	Green											
551324	12	6	Black	Red	Blue	Green	White	White	Blue	Green									
551353	12	6	Black	Red	White	Black	Green	White	White										
554990	12	6	Black	Red	Blue	Green	White	White	Blue										
562687	12	6	Black	Red	Blue	Green	White	White	Blue										
610669	12	6	Black	Red	Blue	Green	White	White	Blue	Green									
551354	12	8	Black	Red	Blue	White	Black	Red	Blue	Green	White								
566811	12	8	Black	Red	Blue	White	Black	Green	White	White	Blue								
643570	12	8	Black	Red	Blue	Purple	White	White	White	Purple									
589122	12	10	Black	Red	Blue	White	Black	Red	Blue	Green	White	White	Blue						
580850	12	12	Black	Red	Blue	White	Black	Red	Blue	Green	2X	2X	Blue						
643654	12	12	Black	Red	Blue	Yellow	Purple	Purple	Green	White	White	Blue	Yellow	Purple	Purple				
674313	12	14	Black	Red	Blue	White	Black	Red	Blue	Green	2X	2X	2X						
679370	12	16	3X Black	Red	3X White	Black	Black	Red	Red	Blue	Blue	Green	White	White	Blue				
641211	12	18	3X Black	3X Red	3X Blue	9X White	Green												
552996	10	4	Black	Red	White	Green	White	Green											
563822	10	4	Black	Red	Green	White	White												
567063	10	4	Black	Red	Green	White	White												
586636	10	4	Black	Red	Green	White	White	Green											
641220	10	4	Black	Red	Green	White	White	Green											
551336	10	6	Black	Red	Blue	Green	White	White	Blue	Green									
553238	10	6	Black	Red	Blue	White	Green	White	White										
556259	10	6	Black	Red	Blue	Green	White	White	Blue										
562456	10	6	Black	Red	Blue	Green	White	White	Blue										
592678	10	6	Black	Red	Blue	Green	White	White	Blue										
610673	10	6	Black	Red	Blue	Green	White	White	Blue	Green									



Southwire

CABLETECH SUPPORT

Services

Stock Num.	Cond. Size	Cond. Num.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
674737	10	6																	
551356	10	8																	
554852	10	8																	
566698	10	8																	
640523	10	9																	
585848	10	10																	
590115	10	10	2X 	2X 			2X 	2X 											
598031	10	10																	
677655	10	10																	
647488	10	12	6X 	6X 															
679158	10	14																	
647335	10	16	8X 	8X 															
679161	10	16																	

