Armorlite® Type MC THHN/THWN Circuit Size Copper Conductor Multi Circuits

Copper THHN/THWN Insulated Singles. Multiple Circuits Green Insulated Copper Grounding Conductor. UL Listed 600 Volts. Rated VW-1. Lightweight Aluminum Interlocked Armor.

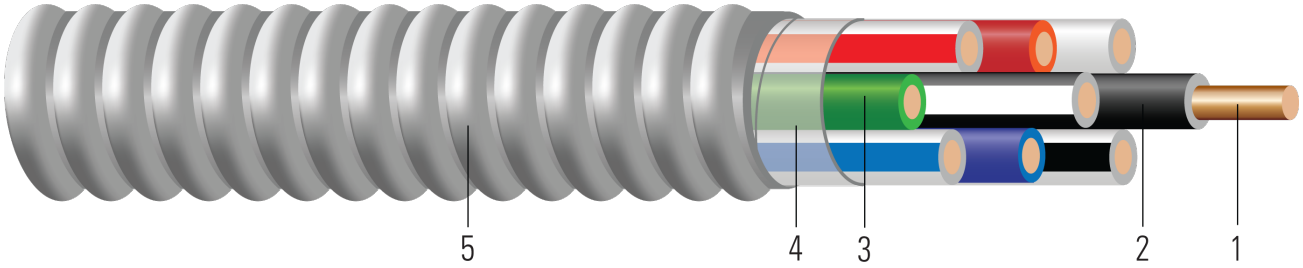

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid copper per ASTM B3 or 19-strand class C compressed copper and 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 Multi-Circuit Cable is suitable for use as follow:

- 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 90ºC dry

Southwire Armorlite® Type MC Multi-Circuit Cable 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 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 WITH X X XX AWG NEUTRAL 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
12 AWG | Solid											
587820	12	4	BN,BN/GY,OE,OE/GY,GY,GY/BN,GN	0.08	Solid	15	1x12	2x12	0.577	139	210
580743	12	6	BK,BK/WE,RD,RD/WE,BE,BE/WE,GN	0.08	Solid	15	1x12		0.577	139	210
641929	12	6	BK,BK,RD,RD,BE,BE,GN	0.08	Solid	20	1x12	3x12	0.577	139	210
644479	12	9	BK1,RD1,WE1,BK2,RD2,WE2,BK3,RD3,WeE	0.08	Solid	20	1x12	3x12	0.843	201	338
555951◊	12	5	BK,RD,BE,WE,WE/BK,GN	0.080	Solid	20	1x12	2x12	0.577	119	187
589122◊	12	6	See Table	0.080	Solid	20	1x12	4x12	0.700	219	318
563324◊	12	6	See Table	0.080	Solid	20	1x12	1x12	0.577	139	211
690057◊	12	6	See Table	0.080	Solid	20	1x12	2x12	0.577	139	211
596437◊	12	8	See Table	0.080	Solid	20	1x12		0.661	179	266
690065◊	12	8	See Table	0.080	Solid	20	1x12	2x12	0.652	179	266
586407◊	12	9	See Table	0.080	Solid	20	1x12	4x12	0.709	199	294
679370◊	12	10	See Table	0.080	Solid	20	1x12	6x12	0.886	339	507
690073◊	12	12	See Table	0.080	Solid	20	1x12	3x12	0.810	259	401
12 AWG | 19 Strands											
591220	12	6	BK,RD,BE,WE,PK,PK/WE,GN	0.088	19	20	1x12	2x12	0.607	140	219
551353◊	12	4	See Table	0.090	19	20	1x12	2x12	0.607	140	220
10 AWG | Solid											
587714◊	10	6	BK,RD,BE,OE,PK,PE,GN	0.101	Solid	25	1x10		0.680	216	311
690081◊	10	6	See Table	0.101	Solid	25	1x10	2x10	0.759	278	417
552970◊	10	6	See Table	0.101	Solid	25	1x10	2x10	0.671	216	311
679161◊	10	10	See Table	0.101	Solid	25	1x10	6x10	1.042	528	753
598031◊	10	10	See Table	0.101	Solid	25	1x10	4x10	0.884	340	506
552986◊	10	12	See Table	0.101	Solid	25	1x10	3x10	0.947	402	587
586878	10	4	BK,RD,BE,GN,WE/BK,WE/RD,WE/BE	0.101	Solid	20	1x10	3x10	0.683	216	410
10 AWG | 19 Strands											
597936	10	12	BK,BK,RD,RD,BE,BE,WT,WT,WT,WT,WT,WT,GN	0.113	19	25	1x10	6x10	1.014	420	632
677836	10	12	BK,RD,BE,WT,BK,RD,BE,WT,BK,RD,WT,WT,GN	0.113	19	25	1x10	4x10	1.014	420	632
674737◊	10	4	See Table	0.117	19	25	1x10	2x10	0.776	226	365
640523◊	10	5	See Table	0.117	19	25	1x10	4x10	0.945	323	504
551356◊	10	8	See Table	0.117	19	25	1x10	2x10	0.879	291	457
583642◊	8	8	See Table	0.143	19	35	1x8	3x8	1.049	463	696

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
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	Max Pull Tension	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	Lbs	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
12 AWG | Solid										
12	4	2	4	250	1.662	2.002	0.054	16	20	24
12	6		4	250	1.662	2.002	0.054	16	20	24
12	6	3	4		1.662	2.002	0.054		20	24
12	9	3	5.9		1.662	2.002	0.054		17	15
12	5	2	4.1		1.662	2.002	0.054		20	24
12	6	4	5.0		1.662	2.002	0.054		12	15
12	6	1	4.1		1.662	2.002	0.054		20	24
12	6	2	4.1		1.662	2.002	0.054		20	24
12	8		4.6		1.662	2.002	0.054		17	21
12	8	2	4.6		1.662	2.002	0.054		17	21
12	9	4	5.0		1.662	2.002	0.054		17	21
12	10	6	6.2		1.662	2.002	0.054		12	15
12	12	3	5.7		1.662	2.002	0.054		12	15
12 AWG | 19 Strands										
12	6	2	4.2		1.662	2.002	0.054		17	21
12	4	2	4.3		1.662	2.002	0.054		20	24
10 AWG | Solid										
10	6		4.8		1.040	1.253	0.050		28	32
10	6	2	5.3		1.040	1.253	0.050		24	28
10	6	2	4.8		1.040	1.253	0.050		28	32
10	10	6	7.3		1.040	1.253	0.050		17	20
10	10	4	6.2		1.040	1.253	0.050		17	20
10	12	3	6.6		1.040	1.253	0.050		17	20
10	4	3	5.5	398	1.04	1.253	0.05	24	28	32
10 AWG | 19 Strands										
10	12	6	7.1		1.04	1.253	0.05		17	20
10	12	4	7.1		1.04	1.253	0.05		17	20
10	4	2	5.4		1.040	1.253	0.050		28	32
10	5	4	6.6		1.040	1.253	0.050		24	28
10	8	2	6.1		1.040	1.253	0.050		17	20
8	8	3	7.3	845	0.653	0.786	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.

Color Table - (/ means stripe RD/WE is Red with White Stripe)

Size (Strand)	Cond. Num	Stock Code	Color
12 (Solid)	5	555951	BK, RD, BE, WE, WE/BK, GN
12 (Solid)	6	690057	BK, BK/WE, WE, WE/BK, RD, RD/WE, GN
12 (Solid)	6	589122	BK, RD, BE, BK/WE, RD/WE, BE/WE, WE, WE/BK, WE/RD, WE/BE, GN
12 (Solid)	6	563324	BK, BK/WE, RD, RD/WE, BE, WE, GN
12 (Solid)	8	690065	BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, BE/WE, GN
12 (Solid)	8	596437	BK, RD, BE, BK/WE, RD/WE, BE/WE, RD/BK, BK/RD, GN
12 (Solid)	9	586407	OE, GY/OE, BK, WE/BK, RD, WE/RD, BE, BK/WE, GN, WE
12 (Solid)	10	679370	BK, RD, BK/RD, RD/BK, BE/RD, BK 1, BK 2, BK/WE, RD/WE, BE/WE, WE/BK, WE/BE, WE/RD, WE, WE 1, WE 2, GN
12 (Solid)	12	690073	BK, BK/WE, BK/RD, RD, RD/WE, RD/BK, BE, BE/WE, BE/RD, WE, WE/BK, WE/RD, GN
12 (19)	4	551353	BK, BK/WE, WE, WE/BK, RD, GN, RD/WE
10 (Solid)	6	552970	BK, RD, BK/WE, RD/WE, WE, WE/BK, GN
10 (Solid)	6	690081	BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, BE/WE, GN
10 (Solid)	6	587714	BK, RD, BE, OE, PK, PE, GN
10 (Solid)	10	679161	BK, WE, RD, WE/RD, BE, WE/BE, BK/WE, WE/BK, RD/YW, WE/YW, BE/OE, WE/OE, PE, PE/WE, PK, PK/WE, GN
10 (Solid)	10	598031	BK, RD, BE, BK/WE, RD/WE, BE/WE, WE, WE/BK, WE/RD, WE/BE, GN
10 (Solid)	12	552986	BK, BK/WE, BK/RD, WE, WE/BK, WE/RD, RD, RD/WE, RD/BE, BE, BE/WE, BE/RD, GN
10 (19)	4	674737	BK, BK/WE, RD, RD/WE, WE, WE/BK, GN
10 (19)	5	640523	BK, RD, BE, OE, YW, WE/BK, WE/RD, WE/OE, WE/YW, GN
10 (19)	8	551356	BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, GN, BE/WE
8 (19)	8	583642	BK, BK/WE, RD, RD/WE, BE, WE, WE/BK, WE/RD, GN