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.

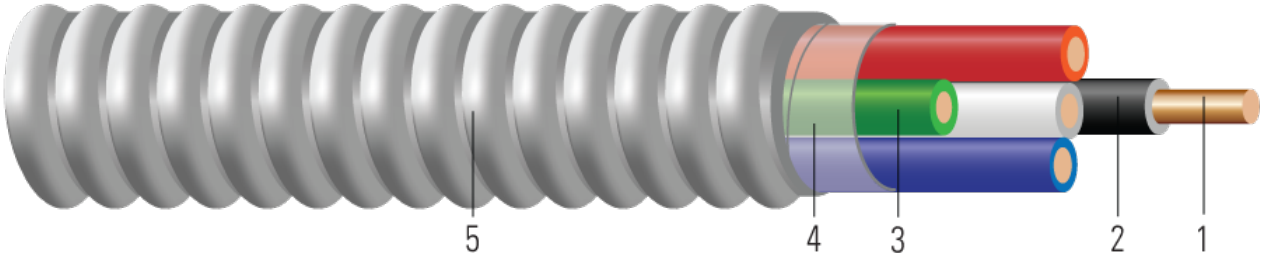

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid copper per ASTM B3 or 19-strand 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 copper ground conductor
4. **Binder:** Mylar or PET 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 90ºC dry
- Unjacketed Type MC cables are rated for dry, indoor locations only per NEC 330.10(A)(10)
- 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)
- 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
- RoHS-2 (European Directive 2011/65/EU)
- 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 {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	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	No. x AWG	inch	lbs/1000ft	lbs/1000ft
14 AWG | Solid										
551394	14	2	RD,WE,GN	0.064	Solid	20	1x14	0.442	37	79
553208	14	2	BE,WE,GN	0.064	Solid	20	1x14	0.442	37	79
685792◊	14	2	BK,WE	0.064	Solid	20	1x14	0.451	37	79
685826◊	14	3	BK,RD,WE	0.064	Solid	20	1x14	0.478	50	97
687186◊	14	4	BK,RD,BE,WE	0.064	Solid	20	1x14	0.508	62	116
12 AWG | Solid										
580367	12	2	BE,WE/BE,GN	0.08	Solid	20	1x12	0.474	59	105
590615	12	2	BE,WE/BE,GN	0.08	Solid	20	1x12	0.474	59	105
593377	12	2	BK,RD	0.08	Solid	20	1x12	0.444	59	99
553200	12	2	BK,RD,GN	0.08	Solid	20	1x12	0.475	59	107
590611	12	2	BK,WE/BK,GN	0.08	Solid	20	1x12	0.474	59	105
553213	12	2	BE,WE,GN	0.08	Solid	20	1x12	0.475	59	105
590118	12	2	BK,YW,GN	0.08	Solid	20	1x12	0.474	59	105
553199	12	2	RD,BE,GN	0.08	Solid	20	1x12	0.475	59	105
592484	12	2	RD,WE	0.08	Solid	20	1x12	0.444	59	99
553212	12	2	RD,WE,GN	0.08	Solid	20	1x12	0.475	59	105
590613	12	2	RD,WE/RD,GN	0.08	Solid	20	1x12	0.474	59	105
555145	12	2	BE,BK,GN	0.08	Solid	20	1x12	0.475	59	105
580369	12	3	BK,PE,WE,GN	0.08	Solid	20	1x12	0.505	79	131
553770	12	3	BK,BE,WE,GN	0.08	Solid	20	1x12	0.506	79	131
553025	12	3	BE,RD,WE,GN	0.08	Solid	20	1x12	0.506	79	131
599038	12	3	BE,PK,WE,GN	0.08	Solid	20	1x12	0.505	79	131
677407	12	4	RD,PE,PE,WE,GN	0.08	Solid	20	1x12	0.54	99	159
580364	12	4	BK,RD,PE,WE,GN	0.08	Solid	20	1x12	0.54	99	159
689521◊	12	2	RD,WE	0.080	Solid	20	1x12	0.483	59	105
689489◊	12	2	BE,WE	0.080	Solid	20	1x12	0.483	59	105
685800◊	12	2	BK,WE	0.080	Solid	20	1x12	0.483	59	107
610971◊	12	3	RD,BE,WE	0.080	Solid	20	1x12	0.514	79	132
610973◊	12	3	BK,BE,WE	0.080	Solid	20	1x12	0.514	79	132
685834◊	12	3	BK,RD,WE	0.080	Solid	20	1x12	0.514	79	132
550172◊	12	4	BK,WE,RD,WE/ BK	0.080	Solid	20	1x12	0.549	99	159
687194◊	12	4	BK,RD,BE,WE	0.080	Solid	20	1x12	0.549	99	159
12 AWG | 19 Strands										
587581	12	2	BE,RD,GN	0.088	19	20	1x12	0.495	60	109
551256	12	2	BE,WE,GN	0.088	19	20	1x12	0.496	60	109
576315	12	2	BK,WE	0.088	19	20	1x12	0.58	60	115
576623	12	2	BK,WE	0.088	19	20	1x12	0.47	60	102
576110	12	2	BK,WE,GN	0.088	19	20	1x12	0.58	60	135

Stock Number	Cond. Size	Conductor Number	Color	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	No. x AWG	inch	lbs/1000ft	lbs/1000ft
552318	12	2	RD,WE,GN	0.088	19	20	1x12	0.496	60	109
551264	12	3	BK,WE,BE,GN	0.088	19	20	1x12	0.53	80	137
576542	12	3	BK,RD,WE	0.088	19	20	1x12	0.525	80	132
551262	12	3	BE,RD,WE,GN	0.088	19	20	1x12	0.53	80	137
576114	12	3	BK,RD,WE	0.088	19	20	1x12	0.58	80	138
576498	12	4	BK,RD,WE,BE	0.088	19	20	1x12	0.58	100	164
10 AWG | Solid										
610520◊	10	2	PE,GY	0.101	Solid	25	1x10	0.550	92	151
583662	10	2	BK,RD	0.101	Solid	25	1x10	0.504	92	140
610518◊	10	2	BE,WE	0.101	Solid	25	1x10	0.550	92	151
685818◊	10	2	BK,WE	0.101	Solid	25	1x10	0.550	92	151
610521◊	10	2	RD,WE	0.101	Solid	25	1x10	0.550	92	151
555943	10	2	BE,WE,GN	0.101	Solid	25	1x10	0.542	92	150
552973	10	2	BK,BE,GN	0.101	Solid	25	1x10	0.541	92	150
554407	10	2	BK,RD,GN	0.101	Solid	25	1x10	0.541	92	150
552981	10	2	RD,BE,GN	0.101	Solid	25	1x10	0.541	92	150
555941	10	2	RD,WE,GN	0.101	Solid	25	1x10	0.542	92	150
551171	10	3	BE,RD,WE,GN	0.101	Solid	25	1x10	0.58	123	191
553026	10	3	BE,RD,WE,GN	0.101	Solid	25	1x10	0.58	123	191
563382	10	3	BK,BE,WE,GN	0.101	Solid	25	1x10	0.58	123	191
611650	10	3	BK,RD,BE,GN	0.101	Solid	25	1x10	0.58	123	191
551170	10	3	BK,WE,BE,GN	0.101	Solid	25	1x10	0.58	123	191
685842◊	10	3	BK,RD,WE	0.101	Solid	25	1x10	0.589	123	192
553023	10	4	BK,WE,RD,BE,GN	0.101	Solid	25	1x10	0.625	154	232
687202◊	10	4	BK,RD,BE,WE	0.101	Solid	25	1x10	0.633	154	232
10 AWG | 19 Strands										
563492	10	2	BK,RD,GN	0.113	19	25	1x10	0.574	97	162
551270	10	2	BE,WE,GN	0.113	19	25	1x10	0.574	97	162
576316	10	2	BK,WE	0.113	19	25	1x10	0.66	95	161
551272	10	2	RD,WE,GN	0.113	19	25	1x10	0.574	97	162
556403	10	3	RD,BE,WE,GN	0.113	19	25	1x10	0.617	129	205
590715	10	3	BK,RD,BE,GN	0.113	19	25	1x10	0.617	129	206
576333	10	3	BK,RD,WE	0.113	19	25	1x10	0.66	127	202
14 AWG | 19 Strands										
550177◊	14	2	BK,WE	0.073	19	20	1x14	0.468	38	83
550180◊	14	3	BK,RD,WE	0.073	19	20	1x14	0.497	51	102
12 AWG | 19 Strands										
691147◊	12	2	BK,WE	0.090	19	20	1x12	0.504	60	110
691154◊	12	3	BK,RD,WE	0.090	19	20	1x12	0.538	80	138
691162◊	12	4	BK,RD,BE,WE	0.090	19	20	1x12	0.576	100	167
10 AWG | 19 Strands										
691170◊	10	2	BK,WE	0.117	19	25	1x10	0.583	97	163

Stock Number	Cond. Size	Conductor Number	Color	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil			inch		mils	No. x AWG	inch	lbs/1000ft	lbs/1000ft
691188◊	10	3	BK,RD,BE	0.117	19	25	1x10	0.626	129	206
691196◊	10	4	BK,RD,BE,WE	0.117	19	25	1x10	0.674	161	251

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 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
14 AWG | Solid							
14	2	3.1	2.631	3.17	0.058	20	25
14	2	3.1	2.631	3.17	0.058	20	25
14	2	3.2	2.631	3.170	0.058	20	25
14	3	3.3	2.631	3.170	0.058	20	25
14	4	3.6	2.631	3.170	0.058	16	20
12 AWG | Solid							
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.1	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.1	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	3	3.5	1.662	2.002	0.054	25	24
12	3	3.5	1.662	2.002	0.054	25	24
12	3	3.5	1.662	2.002	0.054	25	24
12	3	3.5	1.662	2.002	0.054	25	24
12	4	3.8	1.662	2.002	0.054	20	24
12	4	3.8	1.662	2.002	0.054	20	24
12	2	3.4	1.662	2.002	0.054	25	30
12	2	3.4	1.662	2.002	0.054	25	30
12	2	3.4	1.662	2.002	0.054	25	30
12	3	3.6	1.662	2.002	0.054	25	30
12	3	3.6	1.662	2.002	0.054	25	30
12	3	3.6	1.662	2.002	0.054	25	30
12	4	3.8	1.662	2.002	0.054	20	24
12	4	3.8	1.662	2.002	0.054	20	24
12 AWG | 19 Strands							
12	2	3.5	1.662	2.002	0.054	25	30
12	2	3.5	1.662	2.002	0.054	25	30
12	2	4.1	1.662	2.002	0.054	25	30
12	2	3.3	1.662	2.002	0.054	25	30
12	2	4.1	1.662	2.002	0.054	25	30
12	2	3.5	1.662	2.002	0.054	25	30

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
12	3	3.7	1.662	2.002	0.054	25	24
12	3	3.7	1.662	2.002	0.054	25	24
12	3	3.7	1.662	2.002	0.054	25	24
12	3	4.1	1.662	2.002	0.054	25	24
12	4	4.1	1.662	2.002	0.054	20	24
10 AWG | Solid							
10	2	3.9	1.040	1.253	0.050	35	40
10	2	3.5	1.04	1.253	0.05	35	40
10	2	3.9	1.040	1.253	0.050	35	40
10	2	3.9	1.040	1.253	0.050	35	40
10	2	3.9	1.040	1.253	0.050	35	40
10	2	3.8	1.04	1.253	0.05	35	40
10	2	3.8	1.04	1.253	0.05	35	40
10	2	3.8	1.04	1.253	0.05	35	40
10	2	3.8	1.04	1.253	0.05	35	40
10	2	3.8	1.04	1.253	0.05	35	40
10	3	4.1	1.04	1.253	0.05	35	32
10	3	4.1	1.04	1.253	0.05	35	32
10	3	4.1	1.04	1.253	0.05	35	32
10	3	4.1	1.04	1.253	0.05	35	40
10	3	4.1	1.04	1.253	0.05	35	32
10	3	4.1	1.040	1.253	0.050	35	40
10	4	4.4	1.04	1.253	0.05	28	32
10	4	4.4	1.040	1.253	0.050	28	32
10 AWG | 19 Strands							
10	2	4	1.04	1.253	0.05	35	40
10	2	4	1.04	1.253	0.05	35	40
10	2	4.6	1.04	1.253	0.05	35	40
10	2	4	1.04	1.253	0.05	35	40
10	3	4.3	1.04	1.253	0.05	35	32
10	3	4.3	1.04	1.253	0.05	35	40
10	3	4.6	1.04	1.253	0.05	35	32
14 AWG | 19 Strands							
14	2	3.3	2.631	3.170	0.058	20	25
14	3	3.5	2.631	3.170	0.058	20	25
12 AWG | 19 Strands							
12	2	3.5	1.662	2.002	0.054	25	30
12	3	3.8	1.662	2.002	0.054	25	30
12	4	4.0	1.662	2.002	0.054	20	24
10 AWG | 19 Strands							
10	2	4.1	1.040	1.253	0.050	35	40
10	3	4.4	1.040	1.253	0.050	35	40

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	4	4.7	1.040	1.253	0.050	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.