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

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- 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

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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 Strands										
551394	14	2	RD,WE,GN	0.064	SOLID	15	1x14	0.442	38	79
553208	14	2	BE,WE,GN	0.064	SOLID	15	1x14	0.442	38	79
685792	14	2	BK,WE	0.064	SOLID	15	1x14	0.442	38	79
685826	14	3	BK,RD,WE	0.064	SOLID	15	1x14	0.469	50	97
687186	14	4	BK,RD,BE,WE	0.064	SOLID	15	1x14	0.495	63	114
12 AWG | SOLID Strands										
580367	12	2	BE,WE/BE,GN	0.081	SOLID	15	1x12	0.474	60	105
590615	12	2	BE,WE/BE,GN	0.081	SOLID	15	1x12	0.474	60	105
593377	12	2	BK,RD	0.081	SOLID	15	1x12	0.444	60	99
553200	12	2	BK,RD,GN	0.081	SOLID	15	1x12	0.475	60	107
590611	12	2	BK,WE/BK,GN	0.081	SOLID	15	1x12	0.474	60	105
553213	12	2	BE,WE,GN	0.081	SOLID	15	1x12	0.475	60	105
590118	12	2	BK,YW,GN	0.081	SOLID	15	1x12	0.474	60	105
553199	12	2	RD,BE,GN	0.081	SOLID	15	1x12	0.475	60	105
592484	12	2	RD,WE	0.081	SOLID	15	1x12	0.444	60	99
553212	12	2	RD,WE,GN	0.081	SOLID	15	1x12	0.475	60	105
590613	12	2	RD,WE/RD,GN	0.081	SOLID	15	1x12	0.474	60	105
689521	12	2	RD,WE	0.081	SOLID	15	1x12	0.475	60	105
555145	12	2	BE,BK,GN	0.081	SOLID	15	1x12	0.475	60	105
689489	12	2	BE,WE	0.081	SOLID	15	1x12	0.475	60	105
685800	12	2	BK,WE	0.081	SOLID	15	1x12	0.475	60	105
553770	12	3	BK,BE,WE,GN	0.081	SOLID	15	1x12	0.506	80	132
553025	12	3	BE,RD,WE,GN	0.081	SOLID	15	1x12	0.506	80	132
610971	12	3	RD,BE,WE	0.081	SOLID	15	1x12	0.506	80	132
599038	12	3	BE,PK,WE,GN	0.081	SOLID	15	1x12	0.505	80	132
610973	12	3	BK,BE,WE	0.081	SOLID	15	1x12	0.506	80	132
685834	12	3	BK,RD,WE	0.081	SOLID	15	1x12	0.506	80	132
580369	12	3	BK,PE,WE,GN	0.081	SOLID	15	1x12	0.505	80	132
550172	12	4	BK,WE,RD,WE/ BK	0.081	SOLID	15	1x12	0.541	100	159
687194	12	4	BK,RD,BE,WE	0.081	SOLID	15	1x12	0.541	100	159
677407	12	4	RD,PE,PE,WE,GN	0.081	SOLID	15	1x12	0.541	100	159
580364	12	4	BK,RD,PE,WE,GN	0.081	SOLID	15	1x12	0.541	100	159
12 AWG | 19 Strands										
587581	12	2	BE,RD,GN	0.089	19	15	1x12	0.496	60	110
551256	12	2	BE,WE,GN	0.089	19	15	1x12	0.496	60	110
576315	12	2	BK,WE	0.089	19	15	1x12	0.58	60	115
576623	12	2	BK,WE	0.089	19	15	1x12	0.47	60	103
576110	12	2	BK,WE,GN	0.089	19	15	1x12	0.58	60	135

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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	0.089	19	15	1x12	0.496	60	110
551264	12	3	BK,WE,BE,GN	0.089	19	15	1x12	0.53	80	138
576542	12	3	BK,RD,WE	0.089	19	15	1x12	0.525	80	133
576114	12	3	BK,RD,WE	0.089	19	15	1x12	0.58	80	138
551262	12	3	BE,RD,WE,GN	0.089	19	15	1x12	0.53	80	138
576498	12	4	BK,RD,WE,BE	0.089	19	15	1x12	0.58	100	164
10 AWG | SOLID Strands										
610520	10	2	PE,GY	0.102	SOLID	20	1x10	0.542	93	151
583662	10	2	BK,RD	0.102	SOLID	20	1x10	0.504	93	141
610518	10	2	BE,WE	0.102	SOLID	20	1x10	0.542	93	151
685818	10	2	BK,WE	0.102	SOLID	20	1x10	0.542	93	151
610521	10	2	RD,WE	0.102	SOLID	20	1x10	0.542	93	151
555943	10	2	BE,WE,GN	0.102	SOLID	20	1x10	0.542	93	151
552973	10	2	BK,BE,GN	0.102	SOLID	20	1x10	0.541	93	150
554407	10	2	BK,RD,GN	0.102	SOLID	20	1x10	0.541	93	151
552981	10	2	RD,BE,GN	0.102	SOLID	20	1x10	0.541	93	150
555941	10	2	RD,WE,GN	0.102	SOLID	20	1x10	0.542	93	151
551171	10	3	BE,RD,WE,GN	0.102	SOLID	20	1x10	0.58	124	192
553026	10	3	BE,RD,WE,GN	0.102	SOLID	20	1x10	0.58	124	192
563382	10	3	BK,BE,WE,GN	0.102	SOLID	20	1x10	0.58	124	192
611650	10	3	BK,RD,BE,GN	0.102	SOLID	20	1x10	0.58	124	191
551170	10	3	BK,WE,BE,GN	0.102	SOLID	20	1x10	0.58	124	192
685842	10	3	BK,RD,WE	0.102	SOLID	20	1x10	0.581	124	192
553023	10	4	BK,WE,RD,BE,GN	0.102	SOLID	20	1x10	0.625	155	232
687202	10	4	BK,RD,BE,WE	0.102	SOLID	20	1x10	0.625	155	232
10 AWG | 19 Strands										
563492	10	2	BK,RD,GN	0.113	19	20	1x10	0.574	97	163
551270	10	2	BE,WE,GN	0.113	19	20	1x10	0.574	97	163
576316	10	2	BK,WE	0.113	19	20	1x10	0.66	96	162
551272	10	2	RD,WE,GN	0.113	19	20	1x10	0.574	97	163
556403	10	3	RD,BE,WE,GN	0.113	19	20	1x10	0.618	129	206
590715	10	3	BK,RD,BE,GN	0.113	19	20	1x10	0.617	129	206
576333	10	3	BK,RD,WE	0.113	19	20	1x10	0.66	128	203
14 AWG | 19 Strands										
550177	14	2	BK,WE	0.073	19	15	1x14	0.459	38	83
550180	14	3	BK,RD,WE	0.073	19	15	1x14	0.488	51	102
12 AWG | 19 Strands										
691147	12	2	BK,WE	0.09	19	15	1x12	0.496	60	110
691154	12	3	BK,RD,WE	0.09	19	15	1x12	0.53	80	138
691162	12	4	BK,RD,BE,WE	0.09	19	15	1x12	0.568	100	166
10 AWG | 19 Strands										
691170	10	2	BK,WE	0.117	19	20	1x10	0.574	97	163

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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	20	1x10	0.617	129	206
691196	10	4	BK,RD,BE,WE	0.117	19	20	1x10	0.666	162	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.

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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 Strands							
14	2	3.1	2.631	3.265	0.058	20	25
14	2	3.1	2.631	3.265	0.058	20	25
14	2	3.1	2.631	3.265	0.058	20	25
14	3	3.3	2.631	3.265	0.058	20	25
14	4	3.5	2.631	3.265	0.058	16	20
12 AWG | SOLID Strands							
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.1	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.1	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	3	3.5	1.662	2.063	0.054	25	30
12	4	3.8	1.662	2.063	0.054	20	24
12	4	3.8	1.662	2.063	0.054	20	24
12	4	3.8	1.662	2.063	0.054	20	24
12	4	3.8	1.662	2.063	0.054	20	24
12 AWG | 19 Strands							
12	2	3.5	1.662	2.063	0.054	25	30
12	2	3.5	1.662	2.063	0.054	25	30
12	2	4.1	1.662	2.063	0.054	25	30
12	2	3.3	1.662	2.063	0.054	25	30
12	2	4.1	1.662	2.063	0.054	25	30
12	2	3.5	1.662	2.063	0.054	25	30

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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	2.063	0.054	25	30
12	3	3.7	1.662	2.063	0.054	25	30
12	3	4.1	1.662	2.063	0.054	25	30
12	3	3.7	1.662	2.063	0.054	25	30
12	4	4.1	1.662	2.063	0.054	20	24
10 AWG | SOLID Strands							
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.5	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	2	3.8	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	3	4.1	1.04	1.291	0.05	35	40
10	4	4.4	1.04	1.291	0.05	28	32
10	4	4.4	1.04	1.291	0.05	28	32
10 AWG | 19 Strands							
10	2	4	1.04	1.291	0.05	35	40
10	2	4	1.04	1.291	0.05	35	40
10	2	4.6	1.04	1.291	0.05	35	40
10	2	4	1.04	1.291	0.05	35	40
10	3	4.3	1.04	1.291	0.05	35	40
10	3	4.3	1.04	1.291	0.05	35	40
10	3	4.6	1.04	1.291	0.05	35	40
14 AWG | 19 Strands							
14	2	3.2	2.631	3.265	0.058	20	25
14	3	3.4	2.631	3.265	0.058	20	25
12 AWG | 19 Strands							
12	2	3.5	1.662	2.063	0.054	25	30
12	3	3.7	1.662	2.063	0.054	25	30
12	4	4	1.662	2.063	0.054	20	24
10 AWG | 19 Strands							
10	2	4	1.04	1.291	0.05	35	40
10	3	4.3	1.04	1.291	0.05	35	40

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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	1.04	1.291	0.05	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.

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