



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.

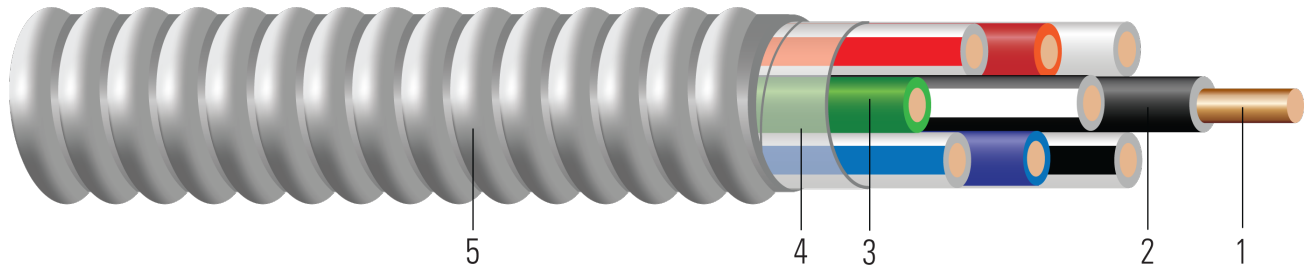


Image not to scale. See Table 1 for dimensions.

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

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)
- 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 FOR USE IN CABLE TRAYS 600 VOLTS





Table 1 – Weights and Measurements

Stock Number	Cond. Size	Conductor Number	Color	Conductor Stranding	Insulation Thickness	Ground Size	Num x Neutral Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil				mils	No. x AWG	No. x AWG	inch	lbs/1000ft	lbs/1000ft
14 AWG Solid										
6743490	14	2	BK,RD,WE/BK,WE/ RD,GN	Solid	20	1x14	2x14	0.500	62	116
12 AWG Solid										
5549910	12	2	BK,RD,GN,WE/ BK,WE/RD	Solid	20	1x12	2x12	0.541	99	159
6106660	12	2	See Table	Solid	20	2x12	2x12	0.577	119	187
5549940	12	2	RD,WE/RD,GN	Solid	20	1x12	1x12	0.474	59	105
5527950	12	2	BK,RD,WE/BK,WE/ RD,GN	Solid	20	1x12	2x12	0.550	99	159
5549900	12	3	See Table	Solid	20	1x12	3x12	0.577	139	211
6106690	12	3	See Table	Solid	20	2x12	3x12	0.616	159	238
5668110	12	4	See Table	Solid	20	1x12	4x12	0.652	179	266
6435700	12	4	See Table	Solid	20	1x12	4x12	0.661	179	266
5891220	12	6	See Table	Solid	20	1x12	4x12	0.700	219	318
6436540	12	6	See Table	Solid	20	1x12	6x12	0.810	259	402
5808500	12	6	See Table	Solid	20	1x12	6x12	0.810	259	401
6743130	12	7	See Table	Solid	20	1x12	7x12	0.846	299	453
6412110	12	9	See Table	Solid	20	1x12	9x12	0.812	369	494
6793700	12	10	See Table	Solid	20	1x12	6x12	0.886	339	507
10 AWG Solid										
5670630	10	2	BK,RD,WE/BK,WE/ RD,GN	Solid	25	1x10	2x10	0.625	154	232
6412200	10	2	See Table	Solid	25	2x10	2x10	0.671	185	274
5529960	10	2	See Table	Solid	25	2x10	2x10	0.671	185	274
5562590	10	3	See Table	Solid	25	1x10	3x10	0.671	216	311
6106730	10	3	See Table	Solid	25	2x10	3x10	0.777	247	382
5926780	10	3	See Table	Solid	25	1x10	3x10	0.680	216	382
5672690	10	4	See Table	Solid	25	1x10	4x10	0.824	278	425
5548520	10	4	See Table	Solid	25	2x10	4x10	0.884	309	469
5901150	10	5	See Table	Solid	25	1x10	5x10	0.884	340	506
6776550	10	5	See Table	Solid	25	1x10	5x10	0.884	340	506
5858480	10	5	See Table	Solid	25	1x10	5x10	0.884	342	508
5665460	10	6	See Table	Solid	25	1x10	6x10	0.884	340	505
6791580	10	7	See Table	Solid	25	1x10	7x10	0.924	468	652
6791610	10	10	See Table	Solid	25	1x10	6x10	1.042	528	753
12 AWG 19 Strands										
5668010	12	2	BK,RD,GN,WE/ BK,WE/RD	19	20	1x12	2x12	0.568	100	167
5513220	12	2	See Table	19	20	2x12	2x12	0.607	120	195
5626870	12	3	See Table	19	20	1x12	3x12	0.607	140	220
5513240	12	3	See Table	19	20	2x12	3x12	0.649	160	249





Stock Number	Cond. Size	Conductor Number	Color	Conductor Stranding	Insulation Thickness	Ground Size	Num x Neutral Size	Diameter Over Armor	Copper Weight	Overall Weight
	AWG/ Kcmil				mils	No. x AWG	No. x AWG	inch	lbs/1000ft	lbs/1000ft
551353◇	12	4	See Table	19	20	1x12	2x12	0.607	140	220
10 AWG 19 Strands										
563822◇	10	2	BK,RD,GN,WE/ BK,WE/RD	19	25	1x10	2x10	0.666	161	251
586636◇	10	2	See Table	19	25	2x10	2x10	0.776	194	325
553238◇	10	3	See Table	19	25	1x10	3x10	0.776	226	365
562456◇	10	3	See Table	19	25	1x10	3x10	0.776	226	365
551336◇	10	3	See Table	19	25	2x10	3x10	0.828	258	411
587625◇	10	3	See Table	19	25	1x10	3x10	0.780	226	368
674737◇	10	4	See Table	19	25	1x10	2x10	0.776	226	365
566698◇	10	4	See Table	19	25	1x10	4x10	0.879	291	457
640523◇	10	5	See Table	19	25	1x10	4x10	0.945	323	504
647335◇	10	8	See Table	19	25	1x10	8x10	1.023	549	768
551356◇	10	8	See Table	19	25	1x10	2x10	0.879	291	457

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. Does not include neutrals and green ground.





Table 2 – Electrical and Engineering Data

Cond. Size	Conductor Number	Neutral Stranding	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	2	3.6	2.631	3.170	0.058	16	20
12 AWG Solid								
12	2	2	3.8	1.662	2.002	0.054	20	24
12	2	2	4.1	1.662	2.002	0.054	20	24
12	2	1	3.4	1.662	2.002	0.054	25	30
12	2	2	3.8	1.662	2.002	0.054	20	24
12	3	3	4.1	1.662	2.002	0.054	20	24
12	3	3	4.4	1.662	2.002	0.054	20	24
12	4	4	4.6	1.662	2.002	0.054	17	21
12	4	4	4.6	1.662	2.002	0.054	17	21
12	6	4	5.0	1.662	2.002	0.054	12	15
12	6	6	5.7	1.662	2.002	0.054	12	15
12	6	6	5.7	1.662	2.002	0.054	12	15
12	7	7	5.9	1.662	2.002	0.054	12	15
12	9	9	5.7	1.662	2.002	0.054	12	15
12	10	6	6.2	1.662	2.002	0.054	12	15
10 AWG Solid								
10	2	2	4.4	1.040	1.253	0.050	28	32
10	2	2	4.8	1.040	1.253	0.050	28	32
10	2	2	4.8	1.040	1.253	0.050	28	32
10	3	3	4.8	1.040	1.253	0.050	28	32
10	3	3	5.4	1.040	1.253	0.050	28	32
10	3	3	4.8	1.040	1.253	0.050	28	32
10	4	4	5.8	1.040	1.253	0.050	24	28
10	4	4	6.2	1.040	1.253	0.050	24	28
10	5	5	6.2	1.040	1.253	0.050	17	20
10	5	5	6.2	1.040	1.253	0.050	17	20
10	5	5	6.2	1.040	1.253	0.050	17	20
10	6	6	6.2	1.040	1.253	0.050	17	20
10	7	7	6.5	1.040	1.253	0.050	17	20
10	10	6	7.3	1.040	1.253	0.050	17	20
12 AWG 19 Strands								
12	2	2	4.0	1.662	2.002	0.054	20	24
12	2	2	4.3	1.662	2.002	0.054	20	24
12	3	3	4.3	1.662	2.002	0.054	20	24
12	3	3	4.6	1.662	2.002	0.054	20	24
12	4	2	4.3	1.662	2.002	0.054	20	24
10 AWG 19 Strands								
10	2	2	4.7	1.040	1.253	0.050	28	32





Cond. Size	Conductor Number	Neutral Stranding	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	2	2	5.4	1.040	1.253	0.050	28	32
10	3	3	5.4	1.040	1.253	0.050	28	32
10	3	3	5.4	1.040	1.253	0.050	28	32
10	3	3	5.8	1.040	1.253	0.050	28	32
10	3	3	5.5	1.040	1.253	0.050	28	32
10	4	2	5.4	1.040	1.253	0.050	28	32
10	4	4	6.1	1.040	1.253	0.050	24	28
10	5	4	6.6	1.040	1.253	0.050	24	28
10	8	8	7.2	1.040	1.253	0.050	17	20
10	8	2	6.1	1.040	1.253	0.050	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 conductor number does not include neutrals and green ground. (/ means stripe RD/WE is Red with White Stripe)

Size (Strand)	Cond Number	Stock Code	Color
14 (Solid)	2	674349	BK, RD, WE/BK, WE/RD, GN
12 (Solid)	2	554991	BK, RD, GN, WE/BK, WE/RD
12 (Solid)	2	610666	BK, RD, GN, GN/YW, WE/BK, WE/RD
12 (Solid)	2	554994	RD, WE/RD, GN
12 (Solid)	2	552795	BK, RD, WE/BK, WE/RD, GN
12 (Solid)	3	554990	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
12 (Solid)	3	610669	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
12 (Solid)	4	566811	BK, RD, BE, BK/WE, WE, WE/RD, WE/BE, WE/BK, GN
12 (Solid)	4	643570	BK, RD, BE, PE, WE/BK, WE/RD, WE/BE, WE/PE, 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	643654	BK, RD, BE, PK, PE, YW, GN, WE/BK, WE/RD, WE/BE, WE/PK, WE/PE, WE/YW
12 (Solid)	6	580850	BK, RD, BE, BK/RD, RD/BE, BE/BK, GN, WE, WE/BK, WE/RD, WE/BE, WE/BK, WE/RD
12 (Solid)	7	674313	BK, RD, BE, BK/YW, RD/YW, BE/YW, BK/RD, WE, WE/BK, WE/RD, WE/BE, WE/BK, WE/RD, WE/BE, GN
12 (Solid)	9	641211	BK, BK, BK, RD, RD, RD, BE, BE, BE, WE, WE, WE, WE, WE, WE, WE, WE, GN
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
10 (Solid)	2	567063	BK, RD, WE/BK, WE/RD, GN
10 (Solid)	2	641220	BK, RD, GN, GN/YW, WE/BK, WE/RD
10 (Solid)	2	552996	BK, RD, WE, WE/BE, GN, GN/YW
10 (Solid)	3	556259	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (Solid)	3	610673	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
10 (Solid)	3	592678	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (Solid)	4	567269	BK, RD, BE, BK/WE, GN, WE/BK, WE/RD, WE/BE, WE
10 (Solid)	4	554852	BK, RD, BE, BK/RD, WE, WE/BK, WE/RD, GN, GN/YW, WE/BE
10 (Solid)	5	590115	BK, BK, RD, RD, BE, WE/BK, WE/BK, WE/RD, WE/RD, WE/BE, GN
10 (Solid)	5	677655	BK, RD, BE, BK/RD, RD/BK, WE, WE/BK, WE/RD, WE/BE, WE/PK, GN
10 (Solid)	5	585848	BK, RD, BE, WE/BK, WE/RD, WE/BE, BK/BN, RD/OE, WE/BN, WE/OE, GN
10 (Solid)	6	598031	BK, BK/WE, RD, RD/WE, BE, BE/WE, WE/RD, WE/RD2, WE/BE, WE/BE2, WE/BK, WE/BK2, GN
10 (Solid)	7	679158	BK, WE, RD, WE/RD, BE, WE/BE, BK/WE, WE/BK, RD/YW, WE/YW, BE/OE, WE/OE, PE, WE/PE, GN
10 (Solid)	5	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
12 (19)	2	566801	BK, RD, GN, WE/BK, WE/RD
12 (19)	2	551322	BK, RD, GN, GN/YW, WE/BK, WE/RD
12 (19)	3	562687	BK, RD, BE, WE/BK, WE/RD, WE/BE, GN
12 (19)	3	551324	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
12 (19)	4	551353	BK, BK/WE, WE, WE/BK, RD, GN, RD/WE
10 (19)	2	563822	BK, RD, GN, WE/BK, WE/RD
10 (19)	2	586636	BK, RD, GN, GN/YW, WE/BK, WE/RD
10 (19)	3	553238	BK, RD, BE, WE, WE/BK, GN, WE/RD
10 (19)	3	562456	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (19)	3	551336	BK, RD, BE, GN, GN/YW, WE/BK, WE/RD, WE/BE
10 (19)	3	587625	BK, RD, BE, GN, WE/BK, WE/RD, WE/BE
10 (19)	4	674737	BK, BK/WE, RD, RD/WE, WE, WE/BK, GN
10 (19)	4	566698	BK, BK/WE, RD, BE, GN, WE, WE/BK, WE/RD, WE/BE
10 (19)	5	640523	BK, RD, BE, OE, YW, WE/BK, WE/RD, WE/OE, WE/YW, GN
10 (19)	8	647335	BK, BK, BK, BK, BK, BK, BK, BK, WE, WE, WE, WE, WE, WE, WE, WE, GN





Size (Strand)	Cond Number	Stock Code	Color
10 (19)	8	551356	BK, BK/WE, WE, WE/BK, RD, RD/WE, BE, GN, BE/WE

