

TYPE MC - COPPER CONDUCTOR - ALUMINUM ARMOR PVC JACKET THHN/THWN-2 INNERS

ENGINEERING SPECIFICATIONS

Standards

Underwriters Laboratories Standards UL-83, UL-1569, UL-1581, UL-2556 for Type MC; Federal Specification A-A59544; NEMA RV 1-2014; IEEE 1202 (70,000 Btu/hr) Vertical Cable Tray Flame Test, ICEA T-29-520 (210,000 Btu/hr) Flame Test; NFPA 70 (NEC®) Article 330; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-301130



Applications

Type MC cable shall be permitted as follows:

- Permitted use for service, feeders and branch circuits in residential, commercial, industrial, and non-patient care areas/spaces of health care facilities;
- Acceptable for power, lighting, control, and signal circuits;
- Utilized for indoor or outdoor applications, and allowable for concealed or exposed systems;
- Permitted in wet locations per NEC 330.10(A)(11)(a);
- Permitted for direct burial in the earth or embedded in concrete per NEC 330.12(2)(a);
- Acceptable for direct burial where identified for such use;
- Allowable in assembly occupancies (NEC 518.4);
- Permissible in theaters, audience areas of motion pictures, television studios, and similar locations (NEC 520.5);
- Permitted as aerial cable on a messenger and allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E)) and permitted in Class I Div. 2, Class II Div. 2, and Class III Div. 1 Hazardous Locations;
- Listed for use with UL 1479 - 1, 2, and 3 Hour Through-Penetration Firestop Systems.

CONSTRUCTION

Available in sizes 14 AWG through 750 KCMIL, Encore's Metal-Clad Cable is constructed with soft-drawn copper, Type THHN/THWN-2 conductors rated 90°C dry or wet locations. Sizes 14 AWG through 1 AWG contain a green insulated grounding conductor. Larger sizes are supplied with a bare ground conductor. All conductors are cabled together with separator tape containing the identification print legend to form the cable core. Interlocked aluminum armor is applied over the entire assembly. A flame retardant, sunlight-resistant black PVC jacket is applied over the armor.



- 1 Black PVC Jacket
- 2 Interlocked Aluminum Armor
- 3 Separator Tape
- 4 THHN/THWN-2 Solid or Stranded Copper Conductor

Conductors			Outside Diameter Over Armor (in)	Outside Diameter Over Jacket (in)	PVC Thickness (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) ¹		Standard Packaging	
AWG/No.	Type	Ground					75°C	90°C	Coils	Reels
14/2	Solid	14 AWG Green Insulated	0.409	0.489	0.040	112	20	25	250'	1000'
14/3	Solid	14 AWG Green Insulated	0.435	0.535	0.050	141	20	25	250'	1000'
14/4	Solid	14 AWG Green Insulated	0.464	0.564	0.050	161	20	25	250'	1000'
12/2	Solid	12 AWG Green Insulated	0.487	0.587	0.050	150	25	30	250'	1000'
12/3	Solid	12 AWG Green Insulated	0.495	0.595	0.050	179	25	30	250'	1000'
12/4	Solid	12 AWG Green Insulated	0.509	0.609	0.050	208	25	30	250'	1000'
10/2	Solid	10 AWG Green Insulated	0.510	0.610	0.050	203	35	40	250'	1000'
10/3	Solid	10 AWG Green Insulated	0.549	0.649	0.050	247	35	40	250'	1000'
10/4	Solid	10 AWG Green Insulated	0.592	0.692	0.050	291	35	40	250'	1000'
14/2	Stranded	14 AWG Green Insulated	0.434	0.534	0.050	126.03	20	25	250'	1000'
14/3	Stranded	14 AWG Green Insulated	0.462	0.562	0.050	146.37	20	25	250'	1000'
14/4	Stranded	14 AWG Green Insulated	0.493	0.593	0.050	167.60	20	25	250'	1000'
12/2	Stranded	12 AWG Green Insulated	0.487	0.587	0.050	156	25	30	250'	1000'
12/3	Stranded	12 AWG Green Insulated	0.495	0.595	0.050	185	25	30	250'	1000'
12/4	Stranded	12 AWG Green Insulated	0.530	0.630	0.050	214	25	30	250'	1000'
10/2	Stranded	10 AWG Green Insulated	0.533	0.633	0.050	210	35	40	250'	1000'
10/3	Stranded	10 AWG Green Insulated	0.574	0.674	0.050	255	35	40	250'	1000'
10/4	Stranded	10 AWG Green Insulated	0.619	0.719	0.050	301	35	40	250'	1000'
8/2	Stranded	10 AWG Green Insulated	0.649	0.749	0.050	278	50	55	200'	500'/1000'
8/3	Stranded	10 AWG Green Insulated	0.705	0.805	0.050	348	50	55	200'	500'/1000'
8/4	Stranded	10 AWG Green Insulated	0.783	0.883	0.050	422	50	55	200'	500'/1000'
6/2	Stranded	8 AWG Green Insulated	0.727	0.827	0.050	377	65	75	125'	500'/1000'
6/3	Stranded	8 AWG Green Insulated	0.820	0.920	0.050	486	65	75	125'	500'/1000'
6/4	Stranded	8 AWG Green Insulated	0.901	1.001	0.050	632	65	75	100'	500'/1000'
4/2	Stranded	8 AWG Green Insulated	0.915	1.015	0.050	590	85	95	100'	500'
4/3	Stranded	8 AWG Green Insulated	0.935	1.035	0.050	673	85	95	100'	500'
4/4	Stranded	8 AWG Green Insulated	1.029	1.129	0.050	836	85	95	100'	500'

¹ Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

For equipment marked for use at higher temperatures, the conductor ampacity shall be limited to the following per NEC 110.14(C):

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes.

When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND: ENCORE WIRE CORPORATION (SIZE) WITH GROUND TYPE MC CABLE PVC JACKET THHN/THWN-2 CDRS SUN-RES 600 VOLTS IEEE1202/FT4 DIR BUR (UL) DATE/TIME/OPER/QC

FEATURES

Installation costs reduced up to 50% over raceway and wire. Weight of aluminum armor is as much as 45% less than steel. Insulating anti-short bushings are supplied with each reel or coil, but not required per Section 330.40 of the NEC.

Standard Conductor Color Coding

No.	120V/208V/240V	No.	277V/480V
2	Black/White	2	Brown/Gray
3	Black/Red/White	3	Brown/Orange/Gray
4	Red/Black/White/Blue	4	Brown/Orange/Yellow/Gray
Ground	Green	Ground	Green

TYPE MC - COPPER CONDUCTOR - ALUMINUM ARMOR PVC JACKET THHN/THWN-2 INNERS

ENGINEERING SPECIFICATIONS

Standards

Underwriters Laboratories Standards UL-83, UL-1569, UL-1581, UL-2556 for Type MC; Federal Specification A-A59544, NEMA RV 1-2014; IEEE 1202 (70,000 Btu/hr) Vertical Cable Tray Flame Test, ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 NFPA 70 (NEC®) Article 330; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-301130



Applications

Type MC cable shall be permitted as follows:

- Permitted use for service, feeders and branch circuits in residential, commercial, industrial, and non-patient care areas/spaces of health care facilities;
- Acceptable for power, lighting, control, and signal circuits;
- Utilized for indoor or outdoor applications, and allowable for concealed or exposed systems;
- Permitted in wet locations per NEC 330.10(A)(11)(a);
- Permitted for direct burial in the earth or embedded in concrete per NEC 330.12(2)(a);
- Allowable in assembly occupancies (NEC 518.4);
- Permissible in theaters, audience areas of motion pictures, television studios, and similar locations (NEC 520.5);
- Permitted as aerial cable on a messenger and allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E)) and permitted in Class I Div. 2, Class II Div. 2, and III Div. 1 Hazardous Locations;
- Listed for use with UL 1479 - 1, 2, and 3 Hour Through-Penetration Firestop Systems.

CONSTRUCTION

Available in sizes 14 AWG through 750 KCMIL, Encore's Metal-Clad Cable is constructed with soft-drawn copper, Type THHN/THWN-2 conductors rated 90°C dry or wet locations. Sizes 14 AWG through 1 AWG contain a green insulated grounding conductor. Larger sizes are supplied with a bare ground conductor. All conductors are cabled together with a separator tape containing the identification print legend to form the cable core. Interlocked aluminum armor is applied over the entire assembly. A flame retardant, sunlight-resistant black PVC jacket is applied over the armor.



- ① Black PVC Jacket
- ② Interlocked Aluminum Armor
- ③ Separator Tape
- ④ THHN/THWN-2 Stranded Copper Conductor

Conductors			Outside Diameter Over Armor (in)	Outside Diameter Over Jacket (in)	PVC Thickness (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) ¹		Standard Packaging (ft)	
AWG/No.	Type	Ground					75°C	90°C	Coils	Reels
3/3	Stranded	6 AWG Green Insulated	1.018	1.118	0.050	823	100	115	100'	500'
3/4	Stranded	6 AWG Green Insulated	1.131	1.231	0.050	1025	100	115	100'	500'
2/3	Stranded	6 AWG Green Insulated	1.071	1.171	0.050	963	115	130	100'	500'
2/4	Stranded	6 AWG Green Insulated	1.195	1.295	0.050	1212	115	130	100'	500'
1/3	Stranded	6 AWG Green Insulated	1.166	1.266	0.050	1222	130	145	1000'	Reels
1/4	Stranded	6 AWG Green Insulated	1.309	1.409	0.050	1550	130	145	1000'	Reels
1/0-3	Stranded	6 AWG Bare	1.212	1.312	0.050	1435	150	170	1000'	Reels
1/0-4	Stranded	6 AWG Bare	1.334	1.434	0.050	1832	150	170	1000'	Reels
2/0-3	Stranded	6 AWG Bare	1.306	1.406	0.050	1724	175	195	1000'	Reels
2/0-4	Stranded	6 AWG Bare	1.441	1.541	0.050	2214	175	195	1000'	Reels
3/0-3	Stranded	4 AWG Bare	1.414	1.514	0.050	2123	200	225	1000'	Reels
3/0-4	Stranded	4 AWG Bare	1.561	1.681	0.060	2755	200	225	1000'	Reels
4/0-3	Stranded	4 AWG Bare	1.535	1.655	0.060	2598	230	260	1000'	Reels
4/0-4	Stranded	4 AWG Bare	1.696	1.816	0.060	3345	230	260	1000'	Reels
250-3	Stranded	4 AWG Bare	1.702	1.822	0.060	3046	255	290	1000'	Reels
250-4	Stranded	4 AWG Bare	1.862	1.982	0.060	3934	255	290	1000'	Reels
300-3	Stranded	3 AWG Bare	1.773	1.893	0.060	3567	285	320	1000'	Reels
300-4	Stranded	3 AWG Bare	1.962	2.082	0.060	4624	285	320	1000'	Reels
350-3	Stranded	3 AWG Bare	1.930	2.050	0.060	4087	310	350	1000'	Reels
350-4	Stranded	3 AWG Bare	2.120	2.240	0.060	5301	310	350	1000'	Reels
400-3	Stranded	3 AWG Bare	1.969	2.089	0.060	4611	335	380	1000'	Reels
400-4	Stranded	3 AWG Bare	2.182	2.302	0.060	5993	335	380	1000'	Reels
500-3	Stranded	2 AWG Bare	2.208	2.328	0.060	5588	380	430	1000'	Reels
500-4	Stranded	2 AWG Bare	2.423	2.573	0.075	7358	380	430	1000'	Reels
600-3	Stranded	2 AWG Bare	2.433	2.583	0.075	8700	420	475	1000'	Reels
600-4	Stranded	2 AWG Bare	2.465	2.615	0.075	8739	420	475	1000'	Reels
750-3	Stranded	1 AWG Bare	2.644	2.794	0.075	8284	475	535	1000'	Reels
750-4	Stranded	1 AWG Bare	2.910	3.060	0.075	10809	475	535	1000'	Reels

¹ Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

For equipment marked for use at higher temperatures, the conductor ampacity shall be limited to the following per NEC 110.14(C):

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes.

When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

FEATURES

Installation costs reduced up to 50% over raceway and wire. Weight of aluminum armor is as much as 45% less than steel. Insulating anti-short bushings are supplied with each reel or coil, but not required per Section 330.40 of the NEC.

Standard Conductor Color Coding

No.	120V/208V/240V	No.	277V/480V
2	Black/White	2	Brown/Gray
3	Black/Red/White	3	Brown/Orange/Gray
4	Red/Black/White/Blue	4	Brown/Orange/Yellow/Gray
Ground	Green/Bare	Ground	Green/Bare