

# TYPE MC - COPPER CONDUCTOR - STEEL ARMOR PVC JACKET XHHW-2 INNERS

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories® Standards UL-44, UL-1569, UL-1581, UL-1685, UL-2556 for type MC; Federal Specification AA-59544; NFPA 70 (NEC®) Article 330; NEMA RV-1; UL 1685-Method 1 (70,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; VW-1 or IEEE 1202 (FT4) optional. UL Listing #E-301130



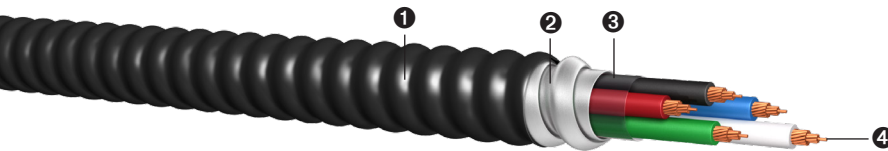
## APPLICATIONS

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;
- Allowable in 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 (NEC 396.10(A));
- Allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E));
- For use with branch circuits to swimming pool, hot tubs, and spa applications per 680.14 and 330.12(2)(a) and (b);
- 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 XHHW-2 conductors rated for wet or dry locations at temperatures not to exceed 90°C. Sizes 14 AWG through 1 AWG contain a green insulated grounding conductor. All conductors are cabled together with separator tape containing the identification print legend to form the cable core. Interlocked galvanized lightweight steel armor is applied over the entire assembly. A flame retardant, sunlight-resistant black PVC jacket applied over the armor.



- 1 Black PVC Jacket
- 2 Interlocked Galvanized lightweight Steel Armor
- 3 Separator Tape
- 4 XHHW-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) <sup>1</sup>		Standard Packaging (ft)	
AWG/No.	Type	Ground					75°C	90°C	Coils	Reels
14/2	Stranded	14 AWG Green Insulated	0.464	0.564	0.050	191	20	25	250'	1000'
14/3	Stranded	14 AWG Green Insulated	0.498	0.700	0.050	219	20	25	250'	1000'
14/4	Stranded	14 AWG Green Insulated	0.536	0.737	0.050	249	20	25	250'	1000'
12/2	Stranded	12 AWG Green Insulated	0.503	0.705	0.050	227	25	30	250'	1000'
12/3	Stranded	12 AWG Green Insulated	0.542	0.747	0.050	265	25	30	250'	1000'
12/4	Stranded	12 AWG Green Insulated	0.584	0.786	0.050	304	25	30	250'	1000'
10/2	Stranded	10 AWG Green Insulated	0.553	0.754	0.050	282	35	40	250'	1000'
10/3	Stranded	10 AWG Green Insulated	0.597	0.799	0.050	335	35	40	250'	1000'
10/4	Stranded	10 AWG Green Insulated	0.646	0.848	0.050	389	35	40	250'	1000'
8/2	Stranded	10 AWG Green Insulated	0.677	0.892	0.050	427	50	55	250'	1000'
8/3	Stranded	10 AWG Green Insulated	0.757	0.957	0.050	524	50	55	250'	1000'
8/4	Stranded	10 AWG Green Insulated	0.834	1.021	0.050	618	50	55	250'	1000'
6/2	Stranded	8 AWG Green Insulated	0.791	0.974	0.050	566	65	75	250'	1000'
6/3	Stranded	8 AWG Green Insulated	0.884	1.045	0.050	700	65	75	250'	1000'
6/4	Stranded	8 AWG Green Insulated	0.974	1.123	0.050	832	65	75	250'	1000'
4/3	Stranded	8 AWG Green Insulated	0.964	1.161	0.050	900	85	95	250'	1000'
4/4	Stranded	8 AWG Green Insulated	1.070	1.250	0.050	1093	85	95	250'	1000'
3/3	Stranded	6 AWG Green Insulated	1.049	1.220	0.050	1075	100	115	250'	1000'
3/4	Stranded	6 AWG Green Insulated	1.164	1.329	0.050	1306	100	115	250'	1000'
2/3	Stranded	6 AWG Green Insulated	1.103	1.306	0.050	1234	115	130	250'	1000'
2/4	Stranded	6 AWG Green Insulated	1.228	1.415	0.050	1515	115	130	250'	1000'

<sup>1</sup> 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 XHHW-2 CDRS SUN-RES 600 VOLTS 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

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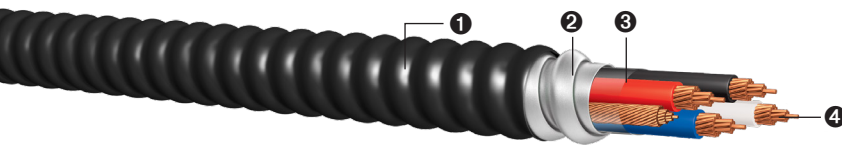
## APPLICATIONS

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 in 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);
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- Permitted as aerial cable on a messenger (NEC 396.10(A));
- Allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E));
- For use with branch circuits to swimming pool, hot tubs, and spa applications per 680.14 and 330.12(2)(a) and (b);
- Permitted in Class I Div. 2, Class II Div.2, and Class III Div. 1 Hazardous Locations;
- Listed for use in UL 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 XHHW-2 conductors rated for wet or dry locations at temperatures not to exceed 90°C. 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 galvanized lightweight steel armor is applied over the entire assembly. A flame retardant, sunlight-resistant black PVC jacket applied over the armor.



- ❶ Black PVC Jacket
- ❷ Interlocked Galvanized lightweight Steel Armor
- ❸ Separator Tape
- ❹ XHHW-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) <sup>1</sup>		Standard Packaging
AWG/No.	Type	Ground					75°C	90°C	
1/3	Stranded	6 AWG Green Insulated	1.195	1.295	0.050	1634	130	145	1000' Reels
1/4	Stranded	6 AWG Green Insulated	1.336	1.436	0.050	2009	130	145	1000' Reels
1/0-3	Stranded	6 AWG Bare	1.213	1.313	0.050	1862	150	170	1000' Reels
1/0-4	Stranded	6 AWG Bare	1.335	1.435	0.050	2313	150	170	1000' Reels
2/0-3	Stranded	6 AWG Bare	1.308	1.408	0.050	2144	175	195	1000' Reels
2/0-4	Stranded	6 AWG Bare	1.441	1.541	0.050	2663	175	195	1000' Reels
3/0-3	Stranded	4 AWG Bare	1.415	1.515	0.050	2613	200	225	1000' Reels
3/0-4	Stranded	4 AWG Bare	1.562	1.682	0.060	3294	200	225	1000' Reels
4/0-3	Stranded	4 AWG Bare	1.536	1.656	0.060	3144	230	260	1000' Reels
4/0-4	Stranded	4 AWG Bare	1.697	1.817	0.060	3949	230	260	1000' Reels
250-3	Stranded	4 AWG Bare	1.648	1.760	0.060	3599	255	290	1000' Reels
250-4	Stranded	4 AWG Bare	1.822	1.942	0.060	4541	255	290	1000' Reels
300-3	Stranded	3 AWG Bare	1.760	1.880	0.060	3909	285	320	1000' Reels
300-4	Stranded	3 AWG Bare	1.947	2.067	0.060	4992	285	320	1000' Reels
350-3	Stranded	3 AWG Bare	1.862	1.982	0.060	4720	310	350	1000' Reels
350-4	Stranded	3 AWG Bare	2.061	2.181	0.060	5997	310	350	1000' Reels
400-3	Stranded	3 AWG Bare	1.956	2.076	0.060	4990	335	380	1000' Reels
400-4	Stranded	3 AWG Bare	2.167	2.287	0.060	6404	335	380	1000' Reels
500-3	Stranded	2 AWG Bare	2.131	2.251	0.060	6358	380	430	1000' Reels
500-4	Stranded	2 AWG Bare	2.363	2.513	0.075	8201	380	430	1000' Reels
600-3	Stranded	2 AWG Bare	2.411	2.561	0.075	7554	420	475	1000' Reels
600-4	Stranded	2 AWG Bare	2.677	2.827	0.075	9674	420	475	1000' Reels
750-3	Stranded	1 AWG Bare	2.631	2.781	0.075	9218	475	535	1000' Reels
750-4	Stranded	1 AWG Bare	2.923	3.073	0.075	11844	475	535	1000' Reels

<sup>1</sup> 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.

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