

# TYPE MC - COPPER CONDUCTOR - ALUMINUM ARMOR PVC JACKET - 600V/1000V 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, NEMA WC70/ICEA S-95-658 ; 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



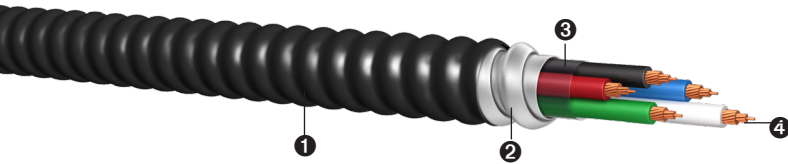
## APPLICATIONS

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 aluminum 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 Aluminum 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	
AWG/No.	Type	Ground					75°C	90°C	Coils	Reels
14/2	Stranded	14 AWG	0.464	0.564	0.050	150	20	25	250'	1000'
14/3	Stranded	14 AWG	0.498	0.598	0.050	175	20	25	250'	1000'
14/4	Stranded	14 AWG	0.536	0.636	0.050	201	20	25	250'	1000'
12/2	Stranded	12 AWG	0.503	0.603	0.050	184	25	30	250'	1000'
12/3	Stranded	12 AWG	0.542	0.642	0.050	217	25	30	250'	1000'
12/4	Stranded	12 AWG	0.584	0.684	0.050	252	25	30	250'	1000'
10/2	Stranded	10 AWG	0.553	0.653	0.050	234	35	40	250'	1000'
10/3	Stranded	10 AWG	0.597	0.697	0.060	282	35	40	250'	1000'
10/4	Stranded	10 AWG	0.646	0.746	0.060	331	35	40	250'	1000'
8/2	Stranded	10 AWG	0.677	0.777	0.060	315	50	55	250'	1000'
8/3	Stranded	10 AWG	0.757	0.857	0.060	395	50	55	250'	1000'
8/4	Stranded	10 AWG	0.834	0.934	0.060	474	50	55	250'	1000'
6/2	Stranded	8 AWG	0.791	0.881	0.060	430	65	75	250'	1000'
6/3	Stranded	8 AWG	0.884	0.951	0.060	542	65	75	250'	1000'
6/4	Stranded	8 AWG	0.974	1.074	0.060	657	65	75	250'	1000'
4/3	Stranded	8 AWG	0.964	1.064	0.060	719	85	95	250'	1000'
4/4	Stranded	8 AWG	1.070	1.170	0.060	888	85	95	250'	1000'
3/3	Stranded	6 AWG	1.049	1.149	0.060	874	100	115	250'	1000'
3/4	Stranded	6 AWG	1.164	1.264	0.060	1079	100	115	250'	1000'
2/3	Stranded	6 AWG	1.103	1.203	0.075	1025	115	130	250'	1000'
2/4	Stranded	6 AWG	1.228	1.328	0.075	1277	115	130	250'	1000'

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Table 310.16. See 110.14(C), 240.4(D) and 310.15(B)&(C) 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(C)(1).

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

**PRINT LEGEND:** ENCORE WIRE CORP (SIZE) TYPE MC W/PVC JACKET 600V/1000V (UL) TYPE XHHW-2 CDRS SUN-RES IEEE1202/FT4 DIR-BUR DATE TIME OPERATOR QC P#M#

## FEATURES

Installation costs reduced up to 50% over raceway and wire. Weight of aluminum armor is as much as 45% less than steel.

## NOTE

MC Cable Connectors are required to be listed for use with MC Cable per 330.6. Anti-Short Bushings are not required.

## 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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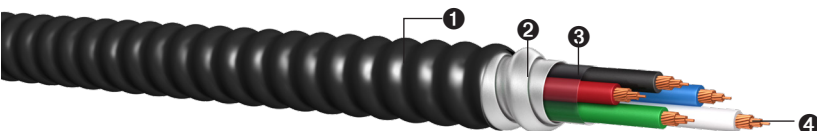
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### CONSTRUCTION

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- ❶ Black PVC Jacket
- ❷ Interlocked Aluminum 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 (ft)
AWG/No.	Type	Ground					75°C	90°C	
1/3	Stranded	6 AWG Green Insulated	1.195	1.295	0.050	1162	130	145	1000' Reels
1/4	Stranded	6 AWG Green Insulated	1.336	1.436	0.050	1477	130	145	1000' Reels
1/0-3	Stranded	6 AWG Bare	1.213	1.313	0.050	1359	150	170	1000' Reels
1/0-4	Stranded	6 AWG Bare	1.335	1.435	0.050	1742	150	170	1000' Reels
2/0-3	Stranded	6 AWG Bare	1.308	1.408	0.050	1624	175	195	1000' Reels
2/0-4	Stranded	6 AWG Bare	1.441	1.541	0.050	2092	175	195	1000' Reels
3/0-3	Stranded	4 AWG Bare	1.415	1.515	0.050	2048	200	225	1000' Reels
3/0-4	Stranded	4 AWG Bare	1.562	1.682	0.060	2637	200	225	1000' Reels
4/0-3	Stranded	4 AWG Bare	1.536	1.656	0.060	2498	230	260	1000' Reels
4/0-4	Stranded	4 AWG Bare	1.697	1.817	0.060	3233	230	260	1000' Reels
250-3	Stranded	4 AWG Bare	1.648	1.768	0.060	2904	255	290	1000' Reels
250-4	Stranded	4 AWG Bare	1.822	1.942	0.060	3770	255	290	1000' Reels
300-3	Stranded	3 AWG Bare	1.760	1.880	0.060	3192	285	320	1000' Reels
300-4	Stranded	3 AWG Bare	1.948	2.068	0.060	4211	285	320	1000' Reels
350-3	Stranded	3 AWG Bare	1.862	1.982	0.060	3931	310	350	1000' Reels
350-4	Stranded	3 AWG Bare	2.061	2.181	0.060	5120	310	350	1000' Reels
400-3	Stranded	3 AWG Bare	1.956	2.076	0.060	4173	335	380	1000' Reels
400-4	Stranded	3 AWG Bare	2.167	2.287	0.060	5514	335	380	1000' Reels
500-3	Stranded	2 AWG Bare	2.131	2.251	0.060	5451	380	430	1000' Reels
500-4	Stranded	2 AWG Bare	2.363	2.513	0.075	7124	380	430	1000' Reels
600-3	Stranded	2 AWG Bare	2.411	2.561	0.075	6454	420	475	1000' Reels
600-4	Stranded	2 AWG Bare	2.677	2.827	0.075	8450	420	475	1000' Reels
750-3	Stranded	1 AWG Bare	2.631	2.781	0.075	8015	475	535	1000' Reels
750-4	Stranded	1 AWG Bare	2.923	3.073	0.075	10506	475	535	1000' Reels

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Ground	Green/Bare	Ground	Green/Bare



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