

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



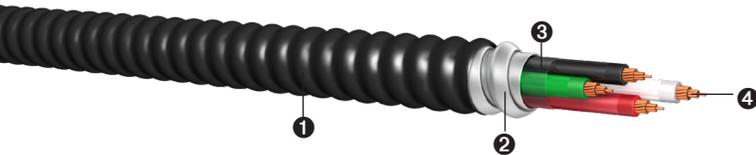
APPLICATIONS

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);
- For use with branch circuits to swimming pool, hot tubs, and spa applications per 680.14 and 330.12(2)(a) and (b);
- 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 310.16. 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 600 VOLTS (UL) TYPE THHN OR THWN-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

TYPE MC - COPPER CONDUCTOR - ALUMINUM ARMOR PVC JACKET - 600V 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, NEMA WC70/ICEA S-95-658; 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-3011130



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);
- For use with branch circuits to swimming pool, hot tubs, and spa applications per 680.14 and 330.12(2)(a) and (b);
- 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	
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	6749	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 310.16. 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 600 VOLTS (UL) TYPE THHN OR THWN-2 CDRS SUN-RES IEEE1202/FT4 DIR-BUR DATE TIME OPERATOR QC P#M#

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

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.



800.962.9473

www.encorewire.com