

# TYPE MC - ALUMINUM CONDUCTOR - ALUMINUM ARMOR - PVC JACKET - 600V

## THHN/THWN-2 CONDUCTORS (6 AWG - 4/0 AWG)

### ENGINEERING SPECIFICATIONS

#### Standards

Underwriters Laboratories® Standards UL-83, UL-1569, UL-1581, UL-2556 for type MC; Federal Specification AA-59544; IEEE 1202 (70,000 Btu/hr) Flame Test; NFPA 70 (NEC®) Article 330; NEMA RV-1; Compact Stranded Aluminum Alloy 8000 Series per ASTM B800, ASTM B801, ASTM B836; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-301130



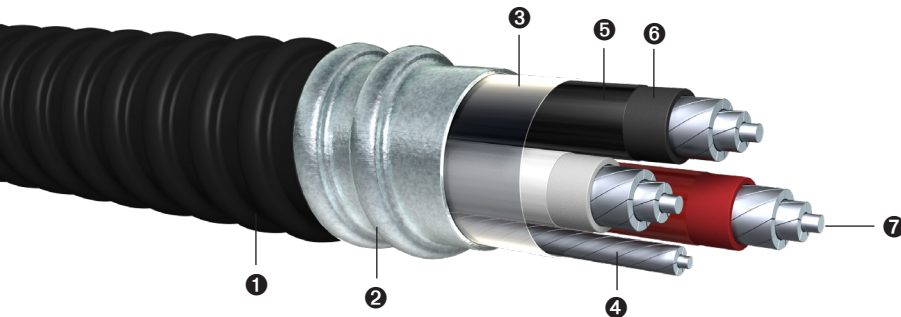
### APPLICATIONS

Type MC Cable shall be permitted as follows:

- Permitted use for services, feeders, and branch circuits in residential, commercial, industrial, and non-patient care area/space of health care facilities;
- Permitted for direct burial in the earth or when embedded in concrete per NEC 330.12(2)(a);
- Acceptable for power, lighting, control, and signal circuits;
- Allowable in concealed or exposed installations;
- Permitted in wet locations per NEC 330.10(A)(11);
- Allowable in assembly occupancies (NEC 518.4);
- Permissible in theaters, audience areas of motion pictures, television studios, and similar locations (NEC 520.5);
- Allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installations 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 and listed for use in UL 1, 2, and 3-Hour Through-Penetration Firestop Systems.

### CONSTRUCTION

Available in sizes 6 AWG through 750 KCMIL, Encore Wire's Metal-Clad Cable is constructed with Compact Stranded Conductors, Aluminum Alloy 8000 Series per ASTM B800, ASTM B801 and ASTM B836. Type THHN/THWN-2 conductors rated 90°C dry. Sizes 6 AWG through 750 KCMIL contain a bare aluminum ground wire. All conductors are cabled together with separator tape, which contains the identification print legend. Interlocked aluminum armor is applied. Overall sunlight-resistant, flame-retardant black PVC jacket. AVAILABLE WITH LIGHTWEIGHT GALVANIZED STEEL ARMOR.



- 1 Black PVC Jacket
- 2 Interlocked Aluminum Armor
- 3 Separator Tape
- 4 Bare Compact Stranded Ground Conductor, AA-8000 Series
- 5 Nylon Jacket
- 6 PVC Insulation
- 7 Compact Stranded Conductor, AA-8000 Series

Phase Conductors				Ground Conductor		Diameter over Armor (in)	PVC Jacket Thickness (in)	Diameter over PVC Jacket (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)	
AWG or KCMIL/ No. of Conductors	No. of Strands	Insulation Thickness (in)	Nylon Thickness (in)	Bare Ground (AWG)	No. of Strands					75°C	90°C	Coils	Reels
6/3	7	.030	.005	6	7	0.741	0.050	0.841	289	50	55	125'	500' 1000'
6/4	7	.030	.005	6	7	0.805	0.050	0.905	338	50	55	125'	500' 1000'
4/3	7	.040	.006	6	7	0.874	0.050	0.974	384	65	75	100'	500'
4/4	7	.040	.006	6	7	0.956	0.050	1.056	460	65	75	100'	500'
3/3	7	.040	.006	6	7	0.935	0.050	1.035	431	75	85	100'	500'
3/4	7	.040	.006	6	7	1.1019	0.050	1.119	521	75	85	100'	500'
2/3	7	.040	.006	4	7	0.998	0.050	1.098	507	90	100	100'	500'
2/4	7	.040	.006	4	7	1.092	0.050	1.192	615	90	100	-	1000'
1/3	8	.050	.007	4	7	1.120	0.050	1.220	617	100	115	-	1000'
1/4	8	.050	.007	4	7	1.243	0.050	1.343	774	100	115	-	1000'
1/0-3	10	.050	.007	4	7	1.214	0.050	1.314	727	120	135	-	1000'
1/0-4	10	.050	.007	4	7	1.310	0.050	1.410	891	120	135	-	1000'
2/0-3	12	.050	.007	4	7	1.299	0.050	1.399	835	135	150	-	1000'
2/0-4	12	.050	.007	4	7	1.430	0.050	1.530	1033	135	150	-	1000'
3/0-3	15	.050	.007	4	7	1.399	0.050	1.499	968	155	175	-	1000'
3/0-4	15	.050	.007	4	7	1.542	0.060	1.662	1236	155	175	-	1000'
4/0-3	19	.050	.007	2	7	1.511	0.060	1.631	1189	180	205	-	1000'
4/0-4	19	.050	.007	2	7	1.669	0.060	1.789	1479	180	205	-	1000'

#### Standard Conductor Color Coding

No.	120V/208V/240V
2	Black/White
3	Black/Red/White
4	Black/Red/Blue/White
Ground	Bare

No.	277V/480V
2	Brown/Gray
3	Brown/Orange/Gray
4	Brown/Orange/Yellow/Gray
Ground	Bare

Additional colors available subject to ERO

#### FEATURES

Installation costs reduced up to 50% over conduit and wire; aluminum armor is up to 45% less than steel; while not required by Section 330.40, insulating anti-short bushings are supplied with each reel; for ease of installation and pulling, cable is reverse wound on reels.

<sup>1</sup> Ampacity of conductors are based on the National Electrical Code (NFPA 70) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

NEC Article 310.15(B)(2)(a) for ambient temperature correction factors for temperatures other than 30°C (86°F).  
 NEC Table 310.15(B)(3)(a) for ampacity adjustment factors, as applicable, for more than three current-carrying conductors.  
 NEC Article 110.14(C) for conductor temperature limitations for equipment rated 100 amps or less, or for equipment rated for more than 100 amps.  
 The above data is approximate and subject to manufacturing tolerances.

# TYPE MC - ALUMINUM CONDUCTOR - ALUMINUM ARMOR - PVC JACKET - 600V

## THHN/THWN-2 CONDUCTORS (250 KCMIL - 750 KCMIL)

### ENGINEERING SPECIFICATIONS

#### Standards

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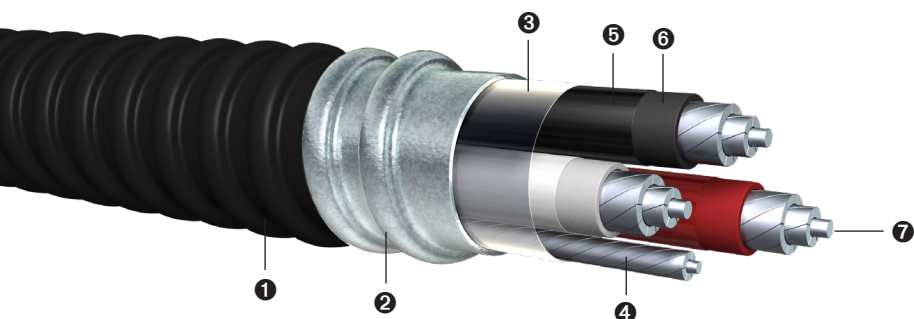
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- Allowable in concealed or exposed installations;
- Permitted in wet locations per NEC 330.10(A)(11);
- Allowable in assembly occupancies (NEC 518.4);
- Permissible in theaters, audience areas of motion pictures, television studios, and similar locations (NEC 520.5);
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Phase Conductors				Ground Conductor		Diameter over Armor (in)	PVC Jacket Thickness (in)	Diameter over PVC Jacket (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
AWG or KCMIL/ No. of Conductors	No. of Strands	Insulation Thickness (in)	Nylon Thickness (in)	Bare Ground (AWG)	No. of Strands					75°C	90°C	
250/3	22	.060	.008	2	7	1.651	0.060	1.771	1381	205	230	1000' Reels
250/3	22	.060	.008	3/0	15	1.668	0.060	1.788	1483	205	230	1000' Reels
250/4	22	.060	.008	1	8	1.824	0.060	1.944	1843	205	230	1000' Reels
300/3	21	.060	.008	1	8	1.758	0.060	1.878	1674	230	260	1000' Reels
300/4	21	.060	.008	1	8	1.945	0.060	2.065	2087	230	260	1000' Reels
350/3	24	.060	.008	1	8	1.858	0.060	1.978	1854	250	280	1000' Reels
350/4	24	.060	.008	1/0	10	2.076	0.060	2.196	2350	250	280	1000' Reels
400/3	27	.060	.008	1	8	1.950	0.060	2.070	2038	270	305	1000' Reels
400/4	27	.060	.008	1/0	10	2.168	0.060	2.288	2583	270	305	1000' Reels
500/3	34	.060	.008	1	8	2.116	0.060	2.236	2393	310	350	1000' Reels
500/3	34	.060	.008	2/0	12	2.151	0.060	2.271	2448	310	350	1000' Reels
500/3	34	.060	.008	3/0	15	2.169	0.060	2.289	2485	310	350	1000' Reels
500/4	34	.060	.008	3/0	15	2.383	0.075	2.533	3185	310	350	1000' Reels
600/3	41	.070	.009	1	8	2.333	0.075	2.483	2880	340	385	1000' Reels
600/3	41	.070	.009	1/0	10	2.333	0.075	2.483	2901	340	385	1000' Reels
600/4	41	.070	.009	3/0	15	2.622	0.075	2.772	3740	340	385	1000' Reels
750/3	47	.070	.009	1/0	10	2.537	0.075	2.687	3433	385	435	1000' Reels
750/3	47	.070	.009	3/0	15	2.553	0.075	2.703	3498	385	435	1000' Reels
750/4	47	.070	.009	3/0	15	2.853	0.075	3.003	4434	385	435	1000' Reels
750/4	47	.070	.009	750	47	3.233	0.085	3.403	5175	385	435	1000' Reels

<sup>1</sup> Ampacity of conductors are based on the National Electrical Code (NFPA 70) 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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