

# TYPE MC - ALUMINUM CONDUCTOR - STEEL ARMOR - 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) Vertical Cable Tray Flame Test; NFPA 70 (NEC®) Article 330; NEMA RV-1, NEMA WC70/ICEA S-95-658; 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



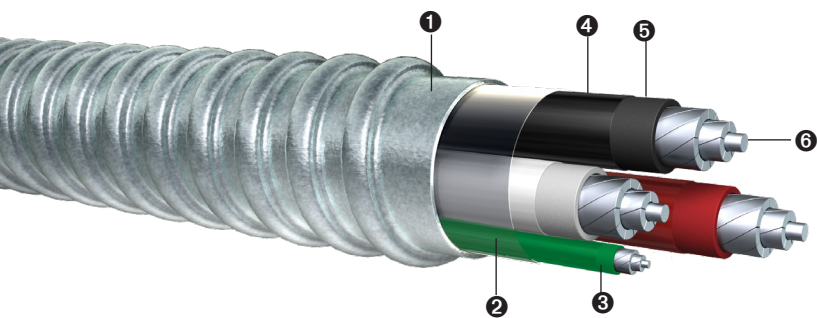
### APPLICATIONS

Type MC cable shall be permitted as follows:

- Permitted use for services, feeders, and branch circuits in residential, commercial, industrial, and non-patient care areas of health care facilities (NEC 517.12);
- Acceptable for power, lighting, control, and signal circuits;
- Allowable in concealed or exposed installations;
- Permitted use in dry locations or when embedded in plaster finish on brick or other masonry except in damp or wet locations;
- Utilized for environmental air-handling spaces (NEC 300.22(C));
- 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 ariel cable on a messenger (NEC 396.10(A));
- Allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installations under raised floors for IT equipment (NEC 645.5(E));
- 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 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 locations. Sizes 6 AWG through 750 KCMIL contain a green insulated aluminum grounding conductor. All conductors are cabled together with separator tape, which contains the identification print legend. Interlocked steel armor is applied over the assembly. AVAILABLE WITH LIGHTWEIGHT ALUMINUM ARMOR. AVAILABLE WITH A PVC JACKET FOR WET AND DAMP LOCATIONS.



- ❶ Interlocked Steel Armor
- ❷ Separator Tape
- ❸ Green Insulated Compact Stranded Ground Conductor, AA-8000 Series
- ❹ Nylon Jacket
- ❺ PVC Insulation
- ❻ Compact Stranded Conductor, AA-8000 Series

Phase Conductors				Ground Conductor				Outside Diameter over Armor (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)	Green Ground (AWG)	No. of Strands	Insulation Thickness (in)	Nylon Thickness (in)			75°C	90°C	
6/3	7	0.030	0.005	6	7	0.030	0.005	0.797	324	50	55	500' Reel
6/4	7	0.030	0.005	6	7	0.030	0.005	0.865	378	50	55	500' Reel
4/3	7	0.040	0.006	6	7	0.030	0.005	0.959	562	65	75	500' Reel
4/4	7	0.040	0.006	6	7	0.030	0.005	1.052	661	65	75	500' Reel
3/3	7	0.040	0.006	6	7	0.030	0.005	1.007	618	75	85	500' Reel
3/4	7	0.040	0.006	6	7	0.030	0.005	1.107	732	75	85	500' Reel
2/3	7	0.040	0.006	4	7	0.040	0.006	1.098	725	90	100	500' Reel
2/4	7	0.040	0.006	4	7	0.040	0.006	1.206	857	90	100	1000' Reel
1/3	8	0.050	0.007	4	7	0.040	0.006	1.200	846	100	115	1000' Reel
1/4	8	0.050	0.007	4	7	0.040	0.006	1.325	1011	100	115	1000' Reel
1/0-3	10	0.050	0.007	4	7	0.040	0.006	1.271	948	120	135	1000' Reel
1/0-4	10	0.050	0.007	4	7	0.040	0.006	1.407	1142	120	135	1000' Reel
2/0-3	12	0.050	0.007	4	7	0.040	0.006	1.347	1069	135	150	1000' Reel
2/0-4	12	0.050	0.007	4	7	0.040	0.006	1.495	1298	135	150	1000' Reel
3/0-3	15	0.050	0.007	4	7	0.040	0.006	1.437	1216	155	175	1000' Reel
3/0-4	15	0.050	0.007	4	7	0.040	0.006	1.599	1488	155	175	1000' Reel
4/0-3	19	0.050	0.007	2	7	0.040	0.006	1.563	1434	180	205	1000' Reel
4/0-4	19	0.050	0.007	2	7	0.040	0.006	1.741	1758	180	205	1000' Reel

#### Standard Conductor Color Coding

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

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

Additional colors available subject to ERQ

#### FEATURES

Installation costs reduced up to 50% over conduit and wire; for ease of installation and pulling, cable is reverse wound on reels

#### NOTE

Insulating anti-short bushings are not required by Section 330.40 of the NEC.

<sup>1</sup> Ampacity of conductors are based on the National Electrical Code (NFPA 70) Table 310.16. See 110.14(C), 240.4(D) and 310.15(B)&(C) for other limitations where applicable.

NEC Article 310.15(C)(1) for ambient temperature correction factors for temperatures other than 30°C (86°F).

NEC Table 310.15(B)(1) 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 - STEEL ARMOR - 600V

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

### ENGINEERING SPECIFICATIONS

#### Standards

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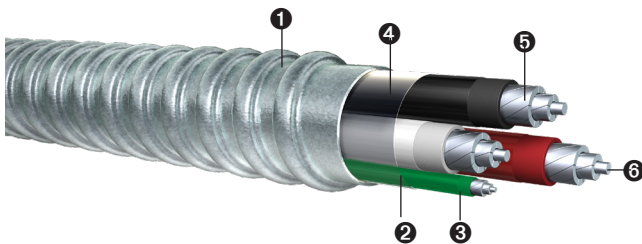
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- 1 Interlocked Steel Armor
- 2 Separator Tape
- 3 Green Insulated Compact Stranded Ground Conductor, AA-8000 Series
- 4 Nylon Jacket
- 5 PVC Insulation
- 6 Compact Stranded Conductor, AA-8000 Series

Phase Conductors				Ground Conductor				Outside Diameter over Armor (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)	Green Ground (AWG)	No. of Strands	Insulation Thickness (in)	Nylon Thickness (in)			75°C	90°C	
250/3	22	0.060	0.008	2	7	0.040	0.006	1.695	1646.30	205	230	1000' Reel
250/3	22	0.060	0.008	1	8	0.050	0.007	1.719	1682.56	205	230	1000' Reel
250/4	22	0.060	0.008	1	8	0.050	0.007	1.916	2067.70	205	230	1000' Reel
300/3	21	0.060	0.008	1	8	0.050	0.007	1.815	1881.19	230	260	1000' Reel
300/4	21	0.060	0.008	1	8	0.050	0.007	2.077	2554.34	230	260	1000' Reel
350/3	24	0.060	0.008	1	8	0.050	0.007	1.904	2074.88	250	280	1000' Reel
350/4	24	0.060	0.008	1/0	10	0.050	0.007	2.197	2850.86	250	280	1000' Reel
350/4	24	0.060	0.008	4/0	19	0.050	0.007	2.264	2998.69	250	280	1000' Reel
400/3	27	0.060	0.008	1	8	0.050	0.007	1.988	2265.49	270	305	1000' Reel
400/4	27	0.060	0.008	1/0	10	0.050	0.007	2.292	3108.82	270	305	1000' Reel
400/4	27	0.060	0.008	3/0	15	0.050	0.007	2.334	3197.45	270	305	1000' Reel
500/3	34	0.060	0.008	1	8	0.050	0.007	2.189	2875.62	310	350	1000' Reel
500/3	34	0.060	0.008	2/0	12	0.050	0.007	2.222	2947.08	310	350	1000' Reel
500/3	34	0.060	0.008	3/0	15	0.050	0.007	2.244	2995.22	310	350	1000' Reel
500/3	34	0.060	0.008	250	22	0.060	0.008	2.300	3123.57	310	350	1000' Reel
500/4	34	0.060	0.008	2/0	12	0.050	0.007	2.482	3646.44	310	350	1000' Reel
500/4	34	0.060	0.008	3/0	15	0.050	0.007	2.504	3694.59	310	350	1000' Reel
500/4	34	0.060	0.008	250	22	0.060	0.008	2.562	3823.99	310	350	1000' Reel
600/3	41	0.070	0.009	1/0	10	0.050	0.007	2.402	3379.15	340	385	1000' Reel
600/3	41	0.070	0.009	4/0	19	0.050	0.007	2.458	3521.30	340	385	1000' Reel
600/3	41	0.070	0.009	350	24	0.060	0.008	2.537	3720.90	340	385	1000' Reel
600/3	41	0.070	0.009	400	27	0.060	0.008	2.560	3785.00	340	385	1000' Reel
600/4	41	0.070	0.009	3/0	15	0.050	0.007	2.724	4300.55	340	385	1000' Reel
750/3	47	0.070	0.009	1/0	10	0.050	0.007	2.607	3945.31	385	435	1000' Reel
750/3	47	0.070	0.009	3/0	15	0.050	0.007	2.621	4019.44	385	435	1000' Reel
750/4	47	0.070	0.009	3/0	15	0.050	0.007	2.937	5024.19	385	435	1000' Reel
750/4	47	0.070	0.009	750	47	0.070	0.009	3.200	5796.21	385	435	1000' Reel

#### Standard Conductor Color Coding

No.	120V/208V/240V
2	Black/White
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Ground	Green

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