

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, NEMA WC70/CEA 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



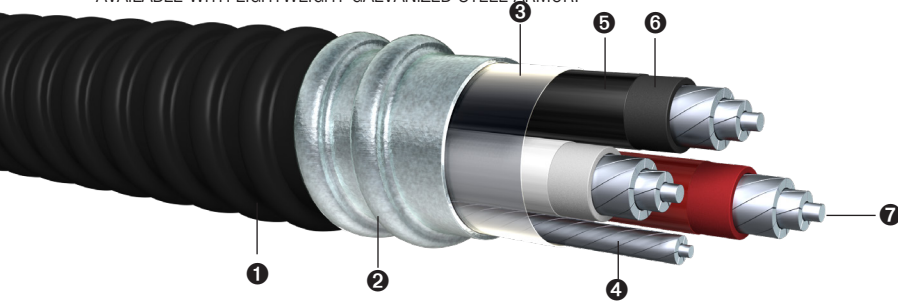
APPLICATIONS

Type MC Cable shall be permitted as follows:

- Permitted use for services, feeders, and branch circuits in residential, commercial, industrial, and non-patient care 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) ¹		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	.030	.005	6	7	.030	.005	0.797	0.050	0.897	296	50	55	500' Reel
6/4	7	.030	.005	6	7	.030	.005	0.865	0.050	0.965	347	50	55	500' Reel
4/3	7	.040	.006	6	7	.030	.005	0.959	0.050	1.059	440	65	75	500' Reel
4/4	7	.040	.006	6	7	.030	.005	1.052	0.050	1.152	523	65	75	500' Reel
3/3	7	.040	.006	6	7	.030	.005	1.007	0.050	1.107	488	75	85	500' Reel
3/4	7	.040	.006	6	7	.030	.005	1.107	0.050	1.207	585	75	85	500' Reel
2/3	7	.040	.006	4	7	.040	.006	1.098	0.050	1.198	580	90	100	500' Reel
2/4	7	.040	.006	4	7	.040	.006	1.206	0.050	1.306	694	90	100	1000' Reel
1/3	8	.050	.007	4	7	.040	.006	1.200	0.050	1.300	684	100	115	1000' Reel
1/4	8	.050	.007	4	7	.040	.006	1.325	0.050	1.425	829	100	115	1000' Reel
1/0-3	10	.050	.007	4	7	.040	.006	1.271	0.050	1.371	774	120	135	1000' Reel
1/0-4	10	.050	.007	4	7	.040	.006	1.407	0.050	1.507	946	120	135	1000' Reel
2/0-3	12	.050	.007	4	7	.040	.006	1.347	0.050	1.447	883	135	150	1000' Reel
2/0-4	12	.050	.007	4	7	.040	.006	1.495	0.050	1.595	1088	135	150	1000' Reel
3/0-3	15	.050	.007	4	7	.040	.006	1.437	0.050	1.537	1015	155	175	1000' Reel
3/0-4	15	.050	.007	4	7	.040	.006	1.599	0.060	1.719	1291	155	175	1000' Reel
4/0-3	19	.050	.007	2	7	.040	.006	1.563	0.060	1.683	1243	180	205	1000' Reel
4/0-4	19	.050	.007	2	7	.040	.006	1.741	0.060	1.861	1540	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 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.

¹ 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.

PRINT LEGEND: ENCORE WIRE CORP (SIZE) G/G AA-8000 AL CD RS TYPE MC W/PVC JACKET 600 VOLTS (UL) TYPE THHN OR THWN CD RS SUN-RES IEEE1202/FT4 DIR-BUR DATE TIME OPERATOR OC



800.962.9473

www.encorewire.com

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

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

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, 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



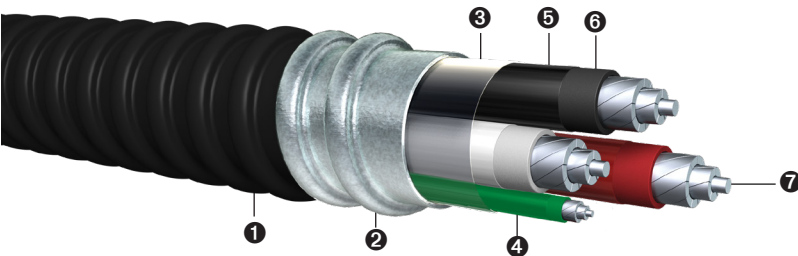
APPLICATIONS

Type MC Cable shall be permitted as follows:

- Permitted use for services, feeders, and branch circuits in residential, commercial, industrial, and non-patient care area/space of health care facilities (NEC 517.12);
- 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);
- 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));
- 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 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 or wet 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 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 Green Insulated 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) ¹		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	0.060	1.815	1436	205	230	1000' Reel
250/3	22	0.060	0.008	1	8	0.050	0.007	1.719	0.060	1.839	1469	205	230	1000' Reel
250/4	22	0.060	0.008	1	8	0.050	0.007	1.916	0.060	2.036	1825	205	230	1000' Reel
300/3	21	0.060	0.008	1	8	0.050	0.007	1.815	0.060	1.935	1654	230	260	1000' Reel
300/4	21	0.060	0.008	1	8	0.050	0.007	2.077	0.060	2.197	2151	230	260	1000' Reel
350/3	24	0.060	0.008	1	8	0.050	0.007	1.904	0.060	2.024	1834	250	280	1000' Reel
350/4	24	0.060	0.008	1/0	10	0.050	0.007	2.197	0.060	2.317	2421	250	280	1000' Reel
350/4	24	0.060	0.008	4/0	19	0.050	0.007	2.264	0.075	2.414	2620	250	280	1000' Reel
400/3	27	0.060	0.008	1	8	0.050	0.007	1.988	0.060	2.108	2012	270	305	1000' Reel
400/4	27	0.060	0.008	1/0	10	0.050	0.007	2.292	0.075	2.442	2724	270	305	1000' Reel
400/4	27	0.060	0.008	3/0	15	0.050	0.007	2.334	0.075	2.484	2805	270	305	1000' Reel
500/3	34	0.060	0.008	1	8	0.050	0.007	2.189	0.060	2.309	2447	310	350	1000' Reel
500/3	34	0.060	0.008	2/0	12	0.050	0.007	2.222	0.060	2.342	2512	310	350	1000' Reel
500/3	34	0.060	0.008	3/0	15	0.050	0.007	2.244	0.060	2.364	2555	310	350	1000' Reel
500/3	34	0.060	0.008	250	22	0.060	0.008	2.300	0.075	2.450	2738	310	350	1000' Reel
500/4	34	0.060	0.008	2/0	12	0.050	0.007	2.482	0.075	2.632	3225	310	350	1000' Reel
500/4	34	0.060	0.008	3/0	15	0.050	0.007	2.504	0.075	2.654	3269	310	350	1000' Reel
500/4	34	0.060	0.008	250	22	0.060	0.008	2.562	0.075	2.712	3387	310	350	1000' Reel
600/3	41	0.070	0.009	1/0	10	0.050	0.007	2.402	0.075	2.552	2973	340	385	1000' Reel
600/3	41	0.070	0.009	4/0	19	0.050	0.007	2.458	0.075	2.608	3105	340	385	1000' Reel
600/3	41	0.070	0.009	350	24	0.060	0.008	2.537	0.075	2.687	3289	340	385	1000' Reel
600/3	41	0.070	0.009	400	27	0.060	0.008	2.560	0.075	2.710	3349	340	385	1000' Reel
600/4	41	0.070	0.009	3/0	15	0.050	0.007	2.724	0.075	2.874	3832	340	385	1000' Reel
750/3	47	0.070	0.009	1/0	10	0.050	0.007	2.607	0.075	2.757	3500	385	435	1000' Reel
750/3	47	0.070	0.009	3/0	15	0.050	0.007	2.621	0.075	2.771	3571	385	435	1000' Reel
750/4	47	0.070	0.009	3/0	15	0.050	0.007	2.937	0.075	3.087	4514	385	435	1000' Reel
750/4	47	0.070	0.009	750	47	0.070	0.009	3.200	0.085	3.370	5297	385	435	1000' Reel

¹ 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.

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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; aluminum armor weight is up to 45% less than steel; 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.