

# TYPE MC - ALUMINUM CONDUCTOR - ALUMINUM ARMOR - PVC JACKET - 600V /1000V XHHW-2 CONDUCTORS (6 AWG - 4/0 AWG)

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories® Standards UL-44, UL-1569, UL-1581, UL-1685, UL-2556 for type MC; Federal Specification AA-56544; NFPA 70 (NEC®) Article 330; NEMA RV-1, NEMA WC70/ICEA S-95-658; UL 1685-Method 1 (70,000 Btu/hr) Flame Test; 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; VW-1 or IEEE 1202 (FT4) optional. UL Listing #E-301130



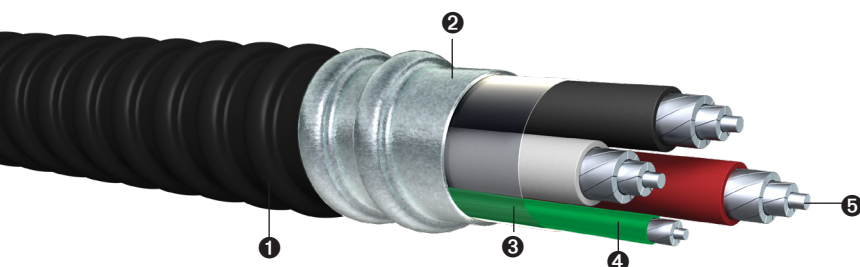
## APPLICATIONS

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 units;
- 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 XHHW-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 XHHW-2 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) | Green-Ground (AWG) | No. of Strands | Insulation Thickness (in) |                          |                           |                               |                                      | 75°C                                   | 90°C | Coils                   | Reels |
| 6/3                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 0.842                    | 0.050                     | 0.942                         | 308                                  | 50                                     | 55   | 250                     | 1000' |
| 6/4                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 0.959                    | 0.050                     | 1.059                         | 412                                  | 50                                     | 55   | 250                     | 1000' |
| 4/3                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 0.965                    | 0.050                     | 1.065                         | 427                                  | 65                                     | 75   | 250                     | 1000' |
| 4/4                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 1.055                    | 0.050                     | 1.155                         | 505                                  | 65                                     | 75   | 250                     | 1000' |
| 3/3                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 1.012                    | 0.050                     | 1.112                         | 474                                  | 75                                     | 85   | 250                     | 1000' |
| 3/4                             | 7              | 0.045                     | 6                  | 7              | 0.045                     | 1.110                    | 0.050                     | 1.210                         | 565                                  | 75                                     | 85   | 250                     | 1000' |
| 2/3                             | 7              | 0.045                     | 4                  | 7              | 0.045                     | 1.091                    | 0.050                     | 1.191                         | 555                                  | 90                                     | 100  | 250                     | 1000' |
| 2/4                             | 7              | 0.045                     | 4                  | 7              | 0.045                     | 1.199                    | 0.050                     | 1.299                         | 663                                  | 90                                     | 100  | 250                     | 1000' |
| 1/3                             | 8              | 0.055                     | 4                  | 7              | 0.045                     | 1.187                    | 0.050                     | 1.287                         | 649                                  | 100                                    | 115  | 250                     | 1000' |
| 1/4                             | 8              | 0.055                     | 4                  | 7              | 0.045                     | 1.311                    | 0.050                     | 1.411                         | 784                                  | 100                                    | 115  | 250                     | 1000' |
| 1/0-3                           | 10             | 0.055                     | 4                  | 7              | 0.045                     | 1.258                    | 0.050                     | 1.358                         | 736                                  | 120                                    | 135  | 250                     | 1000' |
| 1/0-4                           | 10             | 0.055                     | 4                  | 7              | 0.045                     | 1.393                    | 0.050                     | 1.493                         | 898                                  | 120                                    | 135  | 250                     | 1000' |
| 2/0-3                           | 12             | 0.055                     | 4                  | 7              | 0.045                     | 1.335                    | 0.050                     | 1.435                         | 842                                  | 135                                    | 150  | 250                     | 1000' |
| 2/0-4                           | 12             | 0.055                     | 4                  | 7              | 0.045                     | 1.481                    | 0.050                     | 1.581                         | 1036                                 | 135                                    | 150  | -                       | 1000' |
| 3/0-3                           | 15             | 0.055                     | 4                  | 7              | 0.045                     | 1.427                    | 0.050                     | 1.527                         | 973                                  | 155                                    | 175  | -                       | 1000' |
| 3/0-4                           | 15             | 0.055                     | 4                  | 7              | 0.045                     | 1.587                    | 0.060                     | 1.707                         | 1236                                 | 155                                    | 175  | -                       | 1000' |
| 4/0-3                           | 19             | 0.055                     | 2                  | 7              | 0.045                     | 1.552                    | 0.060                     | 1.672                         | 1193                                 | 180                                    | 205  | -                       | 1000' |
| 4/0-4                           | 19             | 0.055                     | 2                  | 7              | 0.045                     | 1.728                    | 0.060                     | 1.848                         | 1451                                 | 180                                    | 205  | -                       | 1000' |

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

**PRINT LEGEND:** ENCORE WIRE CORP (SIZE) G/G AA-8000 AL CDRS TYPE MC W/PVC JACKET 600V/1000 V (UL) TYPE XHHW-2 CDRS SUN-RES IEEE1202/FT4 DIR-BUR DATE/TIME/OPER/QC MACHINE

### 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                    |

### 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

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

# TYPE MC - ALUMINUM CONDUCTOR - ALUMINUM ARMOR - PVC JACKET - 600V/1000V XHHW-2 CONDUCTORS (250 KCMIL - 750 KCMIL)

## ENGINEERING SPECIFICATIONS

### Standards

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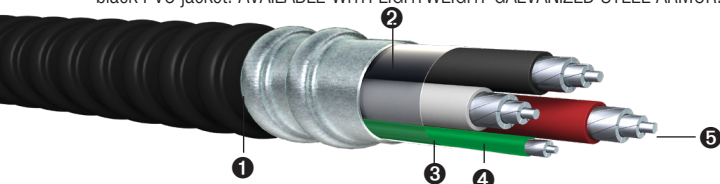
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- 5 XHHW-2 Compact Stranded Conductor, AA-8000 Series

| 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) | Green Ground (AWG) | No. of Strands | Insulation Thickness (in) |                          |                           |                               |                                      | 75°C                                   | 90°C |                         |
| 250/3                           | 22             | 0.065                     | 2                  | 7              | 0.045                     | 1.678                    | 0.060                     | 1.798                         | 1371                                 | 205                                    | 230  | 1000' Reels             |
| 250/3                           | 22             | 0.065                     | 1                  | 8              | 0.055                     | 1.701                    | 0.060                     | 1.821                         | 1400                                 | 205                                    | 230  | 1000' Reels             |
| 250/4                           | 22             | 0.065                     | 1                  | 8              | 0.055                     | 1.898                    | 0.060                     | 2.018                         | 1738                                 | 205                                    | 230  | 1000' Reels             |
| 300/3                           | 21             | 0.065                     | 1                  | 8              | 0.055                     | 1.798                    | 0.060                     | 1.918                         | 1581                                 | 230                                    | 260  | 1000' Reels             |
| 300/4                           | 21             | 0.065                     | 1                  | 8              | 0.055                     | 2.061                    | 0.060                     | 2.181                         | 2058                                 | 230                                    | 260  | 1000' Reels             |
| 350/3                           | 24             | 0.065                     | 1                  | 8              | 0.055                     | 1.888                    | 0.060                     | 2.008                         | 1757                                 | 250                                    | 280  | 1000' Reels             |
| 350/4                           | 24             | 0.065                     | 1/0                | 10             | 0.055                     | 2.180                    | 0.060                     | 2.300                         | 2321                                 | 250                                    | 280  | 1000' Reels             |
| 350/4                           | 24             | 0.065                     | 4/0                | 19             | 0.055                     | 2.248                    | 0.060                     | 2.368                         | 2451                                 | 250                                    | 280  | 1000' Reels             |
| 400/3                           | 27             | 0.065                     | 1                  | 8              | 0.055                     | 1.973                    | 0.060                     | 2.093                         | 1932                                 | 270                                    | 305  | 1000' Reels             |
| 400/4                           | 27             | 0.065                     | 1/0                | 10             | 0.055                     | 2.276                    | 0.075                     | 2.426                         | 2619                                 | 270                                    | 305  | 1000' Reels             |
| 400/4                           | 27             | 0.065                     | 3/0                | 15             | 0.055                     | 2.317                    | 0.075                     | 2.467                         | 2697                                 | 270                                    | 305  | 1000' Reels             |
| 500/3                           | 34             | 0.065                     | 1                  | 8              | 0.055                     | 2.172                    | 0.060                     | 2.292                         | 2359                                 | 310                                    | 350  | 1000' Reels             |
| 500/3                           | 34             | 0.065                     | 2/0                | 12             | 0.055                     | 2.206                    | 0.060                     | 2.326                         | 2421                                 | 310                                    | 350  | 1000' Reels             |
| 500/3                           | 34             | 0.065                     | 3/0                | 15             | 0.055                     | 2.226                    | 0.060                     | 2.346                         | 2463                                 | 310                                    | 350  | 1000' Reels             |
| 500/3                           | 34             | 0.065                     | 250                | 22             | 0.065                     | 2.284                    | 0.075                     | 2.434                         | 2639                                 | 310                                    | 350  | 1000' Reels             |
| 500/4                           | 34             | 0.065                     | 2/0                | 12             | 0.055                     | 2.465                    | 0.075                     | 2.615                         | 3109                                 | 310                                    | 350  | 1000' Reels             |
| 500/4                           | 34             | 0.065                     | 3/0                | 15             | 0.055                     | 2.487                    | 0.075                     | 2.637                         | 3152                                 | 310                                    | 350  | 1000' Reels             |
| 500/4                           | 34             | 0.065                     | 250                | 22             | 0.065                     | 2.544                    | 0.075                     | 2.694                         | 3263                                 | 310                                    | 350  | 1000' Reels             |
| 600/3                           | 41             | 0.080                     | 1/0                | 10             | 0.055                     | 2.402                    | 0.075                     | 2.552                         | 2885                                 | 340                                    | 385  | 1000' Reels             |
| 600/3                           | 41             | 0.080                     | 4/0                | 19             | 0.055                     | 2.456                    | 0.075                     | 2.606                         | 3012                                 | 340                                    | 385  | 1000' Reels             |
| 600/3                           | 41             | 0.080                     | 350                | 24             | 0.065                     | 2.534                    | 0.075                     | 2.684                         | 3188                                 | 340                                    | 385  | 1000' Reels             |
| 600/3                           | 41             | 0.080                     | 400                | 27             | 0.065                     | 2.557                    | 0.075                     | 2.707                         | 3246                                 | 340                                    | 385  | 1000' Reels             |
| 600/4                           | 41             | 0.080                     | 3/0                | 15             | 0.055                     | 2.723                    | 0.075                     | 2.873                         | 3715                                 | 340                                    | 385  | 1000' Reels             |
| 750/3                           | 47             | 0.080                     | 1/0                | 10             | 0.055                     | 2.607                    | 0.075                     | 2.757                         | 3402                                 | 385                                    | 435  | 1000' Reels             |
| 750/3                           | 47             | 0.080                     | 3/0                | 15             | 0.055                     | 2.619                    | 0.075                     | 2.769                         | 3471                                 | 385                                    | 435  | 1000' Reels             |
| 750/4                           | 47             | 0.080                     | 3/0                | 15             | 0.055                     | 2.935                    | 0.075                     | 3.085                         | 4386                                 | 385                                    | 435  | 1000' Reels             |
| 750/4                           | 47             | 0.080                     | 750                | 47             | 0.080                     | 3.200                    | 0.085                     | 3.370                         | 5151                                 | 385                                    | 435  | 1000' Reels             |

### 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                    |

### FEATURES

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### NOTE

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<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(B)(1) for ambient temperature correction factors for temperatures other than 30°C (86°F).  
NEC Table 310.15(C)(1) for ampacity adjustment factors, as applicable, for more than three current-carrying conductors.  
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