# MC-AP™ HCF Type MC All Purpose Hospital Care Facility THHN/ THWN Circuit Size Green Aluminum Armor With Phase ID. Neutral per Phase

Copper THHN/THWN Insulated Singles. Dedicated Neutral Conductor for Each Phase Conductor. Green Insulated Copper Grounding Conductor. UL Listed 600 Volts. Rated VW-1. Lightweight Green Aluminum Interlocked Armor. Neutral per Phase

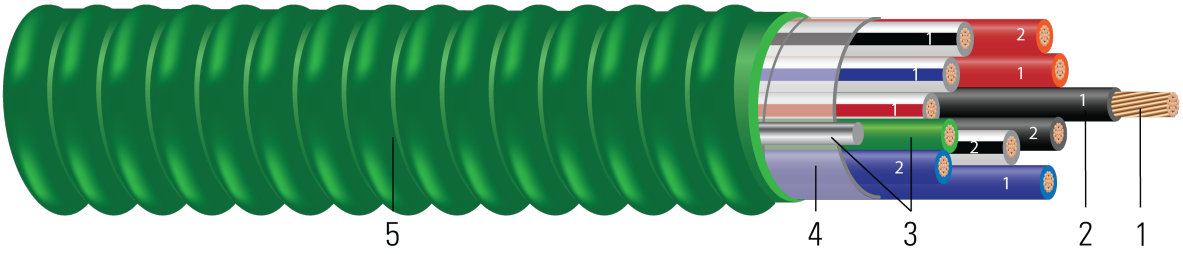



Image not to scale. See Table 1 for dimensions.

## CONSTRUCTION:

1. **Conductor:** Solid or 19 strands class C compressed copper per ASTM B3 ASTM B8
2. **Insulation:** All phases are insulated with Polyvinyl Chloride with Nylon Sheath Type THHN/THWN
3. **Ground:** A Green insulated Polyvinyl Chloride with Nylon Sheath Type THHN/THWN ground. Redundant grounding provided by a #8 AWG bare 8000 series aluminum grounding/bonding conductor and armor.
4. **Binder:** Mylar tape
5. **Armor:** Green Aluminum Interlocked Armor

## APPLICATIONS AND FEATURES:

MC-AP™ HCF Type MC All Purpose Hospital Care Facility products comply with NEC 200.4 requirements (added in the 2011 NEC) for the installation and marking of neutral conductors. Neutrals are not to be used for more than one circuit (branch, multiwire branch, or ungrounded feeder). See NEC 200.4 for complete requirements.

### MC-AP™ HCF Type MC All Purpose Hospital Care Facility is suitable for use as follow:

- Branch-circuit wiring for patient care areas of hospitals, medical centers, and other health care facilities (when installed in accordance with NEC® Articles 517 and 330, and mechanically protected per Article 300.4). Such areas include nursing homes, dental offices, clinics, and outpatient facilities. Use in hazardous anesthetizing areas is prohibited.
- Fished or embedded in plaster.
- Concealed or exposed installations.
- Environmental air-handling spaces per NEC 300.22 (C).
- Places of Assembly per NEC 518.4 and theaters per NEC 520.5.
- Installation in cable tray and approved raceways.
- Under raised floors for information technology equipment conductors and cables per NEC 645.5(D) & 645.5(D)(2)
- Class I Div. 2, Class II Div 2, & Class III Div. 1 Hazardous Locations.
- Use with UL Listed MCI-A fittings.
- Binder tape with print legend wrapped around assembly.
- Type THHN/THWN rated 90ºC Dry.
- Neutral per phase
- Armor is in contact with aluminum grounding/bonding conductor and serves as a redundant equipment grounding path component



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**MC-AP™ HCF Type MC All Purpose Hospital Care Facility meets or exceeds the following requirements:**

- UL Online Product Guide Info - Metal-Clad Cable (PJAZ) ( www.ul.com )
- Federal Specification A-A59544 (formerly J-C-30B)
- NFPA 70 (National Electrical Code), Article 330
- Listed for use in UL 1, 2 and 3 Hour Through Penetration Firestop Systems

## SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 1569 Metal-Clad Cables
- UL 1479 Standard for Safety Fire Tests of Penetration Firestops
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test
- Buy American: Compliant with Buy American Requirements, found in 49 U.S.C. § 5323(j); specify "Made in the USA Only!" when ordering to ensure your project receives American made products.

## SAMPLE PRINT LEGEND:

E96627 {UL} TYPE MC XX AWG THHN OR THWN CDRS FOR USE IN CABLE TRAYS 600 VOLTS

### Table 1 – Weights and Measurements

| Stock Number | Cond. Size | Conductor Number | Color | Diameter Over Conductor | Conductor Stranding | Insulation Thickness | Ground Size | Num x Neutral Size | Diameter Over Armor | Copper Weight | Overall Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | AWG/ Kcmil | | | inch | | mils | No. x AWG | No. x AWG | inch | lbs/1000ft | lbs/1000ft |
| 10 AWG \| 19 Strands | | | | | | | | | | | |
| 457090◊ | 10 | 3 | See Table | 0.117 | 19 | 25 | 1x10 | 3x10 | 0.786 | 226 | 381 |

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item

**Note:** Conductor number = number of phase conductors. Does not include neutrals and green ground.

### Table 2 – Electrical and Engineering Data

| Cond. Size | Conductor Number | Neutral Stranding | Min. Bend Radius | DC Resistance at 25°C | AC Resistance at 75°C | Inductive Reactance @ 60Hz | Allowable Ampacity Raceway 75°C | Allowable Ampacity Raceway 90°C |
|---|---|---|---|---|---|---|---|---|
| AWG/ Kcmil | | | Inches | Ω/1000ft | Ω/1000ft | Ω/1000ft | Amp | Amp |
| 10 AWG \| 19 Strands | | | | | | | | |
| 10 | 3 | 3 | 5.5 | 1.040 | 1.253 | 0.050 | 28 | 32 |

† Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.

† Ampacities have been adjusted for more than Three Current-Carrying Conductors.

* Inductive impedance is based on non-ferrous conduit with one diameter spacing.



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## Color Table

| Cond. Num. | Black 1 | Black 2 | Black 3 | Red 1 | Red 2 | Red 3 | Blue 1 | Blue 2 | Blue 3 | White/ Black 1 | White/ Black 2 | White/ Black 3 | White/ Red 1 | White/ Red 2 | White/ Red 3 | White/ Blue 1 | White/ Blue 2 | White/ Blue 3 | Green |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | X | | | | | | | | | X | | | | | | | | | X |
| 4 | X | | | X | | | | | | X | | | X | | | | | | X |
| 6 | X | | | X | | | X | | | X | | | X | | | X | | | X |
| 12 | X | X | | X | X | | X | X | | X | X | | X | X | | X | X | | X |
| 18 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |


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