



Okonite FMR-P® Type XHH or XHHW-2, VW-1, FT-4

600V Power and Control

Copper Conductor/90°C Wet or Dry
For Cable Tray Use, Oil Res I



A Copper Conductor
B Okonite-FMR-P Insulation

Insulation

Okonite FMR-P is Okonite's trade name for its heat, moisture, flame and chemically resistant, mechanically rugged ethylene-propylene insulation compound. Its physical properties and flame retardancy permit its use without a jacket on the single conductors.

The properties of Okonite FMR-P insulation substantially enhance the well known features of ethylene propylene rubber insulations.

Applications

Okonite FMR-P Type XHH or XHHW-2 600 Volt Power and Control Cables are recommended for general low voltage power and control applications. Okonite-FMR-P flame retardant insulated power cables may be used in generating plants, substations and industrial plants. Type XHH or XHHW-2 may be used up to 90°C in dry or wet locations. These cables may be installed in wet or dry locations, indoors or outdoors, in raceways, underground ducts, cable tray (size 1/0 AWG and larger per NEC 392.10(B)(1)) or lashed to a messenger for aerial installation.

Specifications

Conductor: Uncoated soft copper per ASTM B-3. Solid per ASTM B-3. Sizes smaller than #8 are compact stranded per ASTM B-8. Sizes #8 and larger are compact stranded per ASTM B-496.

Insulation: Meets or exceeds all requirements of ICEA S-95-658, NEMA WC-70, IEEE Standard 383, and UL 44.

Listed by Underwriters Laboratories, Inc. as Type XHH or XHHW-2, VW-1, X110.

Product Features

- Sizes 1/0 AWG and larger pass the Vertical Tray Flame Test requirements of UL 1581 for use in cable tray.
- Passes the ICEA T-29-520 210,000 Btu/hr. vertical tray flame test (sizes 6 AWG and larger).
- Passes the IEEE 383 Vertical Tray Flame Test.
- Passes the IEEE 1202 Vertical Tray Flame Test. (sizes 1/0 AWG and larger).
- Extreme heat resistance 90°C continuous rating; 130°C emergency overload rating; 250°C short circuit rating.
- Rated 90°C wet or dry.
- Exceptional resistance to deformation at high temperatures.
- Stable electrical properties.
- Low SIC and power factor.
- Low moisture absorption.
- Mechanically rugged.
- Resistant to weather.
- Smaller diameter.
- More flexible, easier to install, terminate, or splice than XLPE insulation.
- Flame retardant.
- UL Listed, UL Rated VW-1, For CT Use 1/0 AWG & larger, Oil Res I.
- CSA Listed FT-4

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Product Data Section 3: Sheet 2

| Catalog Number | Conductor Size AWG/kcmil | | Number of Strands | | Insulation Thickness - mils | | Approx. O.D. - Inches | | Approx. O.D. - mm | | Approx. Net Weight lbs./1000' | | Approx. Ship Weight lbs./1000' | | 90°C Wet (1)* NEC Ampacity | | 75°C Wet (1)* NEC Ampacity | | ICEA Ampacity (2) | |
|----------------|-----------------------------|----|-------------------|------|-----------------------------|------|-----------------------|------|-------------------|-----|----------------------------------|--|-----------------------------------|--|-------------------------------|--|-------------------------------|--|-------------------|--|
| 112-08-1061 | 14 | 1 | 30 | 0.76 | 0.13 | 3.3 | 19 | 42 | 15 | 15 | 24 | | | | | | | | | |
| 112-08-1071 | 14 | 7 | 30 | 0.76 | 0.14 | 3.6 | 20 | 43 | 15 | 15 | 24 | | | | | | | | | |
| 112-08-1091 | 12 | 1 | 30 | 0.76 | 0.15 | 3.8 | 27 | 50 | 20 | 20 | 30 | | | | | | | | | |
| 112-08-1101 | 12 | 7 | 30 | 0.76 | 0.16 | 4.1 | 29 | 52 | 20 | 20 | 30 | | | | | | | | | |
| 112-08-1121 | 10 | 1 | 30 | 0.76 | 0.17 | 4.3 | 40 | 63 | 30 | 30 | 42 | | | | | | | | | |
| 112-08-1131 | 10 | 7 | 30 | 0.76 | 0.18 | 4.6 | 43 | 66 | 30 | 30 | 42 | | | | | | | | | |
| 112-08-1191 | 8 | 7 | 45 | 1.14 | 0.23 | 5.8 | 68 | 91 | 55 | 30 | 55 | | | | | | | | | |
| 112-08-1221 | 6 | 7 | 45 | 1.14 | 0.27 | 6.9 | 101 | 124 | 75 | 65 | 75 | | | | | | | | | |
| 112-08-1251 | 4 | 7 | 45 | 1.14 | 0.31 | 7.9 | 153 | 176 | 95 | 85 | 97 | | | | | | | | | |
| 112-08-1311 | 2 | 7 | 45 | 1.14 | 0.37 | 9.4 | 233 | 256 | 130 | 115 | 130 | | | | | | | | | |
| 112-08-1331 | 1 | 19 | 55 | 1.40 | 0.42 | 10.7 | 296 | 319 | 150 | 130 | 156 | | | | | | | | | |
| 112-08-1351 | 1/0 | 19 | 55 | 1.40 | 0.46 | 11.7 | 367 | 399 | 170 | 150 | 179 | | | | | | | | | |
| 112-08-1371 | 2/0 | 19 | 55 | 1.40 | 0.50 | 12.7 | 456 | 488 | 195 | 175 | 204 | | | | | | | | | |
| 112-08-1391 | 3/0 | 19 | 55 | 1.40 | 0.55 | 14.0 | 567 | 599 | 225 | 200 | 342 | | | | | | | | | |
| 112-08-1411 | 4/0 | 19 | 55 | 1.40 | 0.60 | 15.2 | 706 | 745 | 260 | 230 | 278 | | | | | | | | | |
| 112-08-1431 | 250 | 37 | 65 | 1.65 | 0.66 | 16.8 | 840 | 879 | 290 | 255 | 317 | | | | | | | | | |
| 112-08-1471 | 350 | 37 | 65 | 1.65 | 0.76 | 19.3 | 1157 | 1212 | 350 | 310 | 384 | | | | | | | | | |
| 112-08-1531 | 500 | 37 | 65 | 1.65 | 0.87 | 22.1 | 1626 | 1690 | 430 | 380 | 477 | | | | | | | | | |
| 112-08-1591 | 750 | 61 | 80 | 2.03 | 1.07 | 27.2 | 2440 | 2540 | 535 | 475 | 598 | | | | | | | | | |
| 112-08-1651 | 1000 | 61 | 80 | 2.03 | 1.22 | 31.0 | 3222 | 3338 | 615 | 545 | 689 | | | | | | | | | |

Visit Okonite's web site, www.okonite.com, for the most up to date dimensions.

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| To order a color other than black, change the last digit of the catalog number as follows: | | | |
| White | 2 | Orange | 5 |
| Red | 3 | Blue | 6 |
| Green | 4 | Yellow | 7 |
| Example: To order #14/SOL - Red, the catalog number would be 112-08-1063 | | | |

Ampacities

(1) Ampacities are based on Table 310.16 of the National Electrical Code for these 90°C rated conductors at an ambient temperature of 30°C. The 75°C wet column is provided for additional information.

The ampacities shown apply to open runs of cable, installation in any approved raceway, direct burial in the earth, or as aerial cable on a messenger. Derating for more than three current carrying conductors within a raceway is in accordance with NEC Section 310.15(C)(1).

(2) Based on three (3) conductors in a single enclosed or exposed conduit. Capacities based on 40°C air ambient using ICEA methods. For 30°C ambient multiply values by 1.10; for 50°C multiply by .90. For other ambients or installation conditions refer to Engineering Data Book EHB.

For ampacities in cable tray, see NEC Section 392.80.

*Current limited to 15, 20 and 30 amps per Section 240.4(D)(3) of the NEC for #14, #12 and #10 AWG, respectively.