



## 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) 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).
- UL 1309 listed as Marine Shipboard Cable, X110.
- UL Certified to IEEE 1580 Type P, Marine Shipboard
- 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](http://www.okonite.com), for the most up to date dimensions.

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.B.2.

(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 392.11.B.