

Okonite® FMR-N® (Nuclear Grade EPR)

600 Volt Power and Control Cable

Single Copper Conductor/90°C Rating
For Central Station Applications



A Tin Coated Copper
Conductor
B Okonite FMR-N Insulation

Insulation

Okonite FMR-N is Okonite's trade name for its heat, moisture, flame and chemically resistant, mechanically rugged nuclear plant qualified ethylene-propylene insulation compound.

Nuclear qualified Okonite FMR-N cables meet IEEE 383 LOCA and flame test standards, as well as IEEE 323 environmental qualification requirements, ensuring reliable performance under normal operation, aging, and accident conditions, including post-LOCA scenarios.

Applications

Okonite FMR-N Power and Control Cables are specifically designed for use in nuclear power generating stations and substations as Class 1E safety-related cables requiring flame, moisture and radiation resistance. They are ideal for critical circuits where maintaining service continuity is essential.

These high-performance cables are suitable for AC or DC applications in both wet and dry locations, with conductor operating temperatures up to 90°C. Installation options include conduits, ducts, cable troughs, trays, messenger-supported configurations, or direct burial in earth.

Specifications

Conductors: Copper per ASTM B-3, Class B stranded per ASTM B-8 and tin coated copper per ASTM B-33.

Insulation: Okonite FMR-N meets or exceeds the electrical and physical requirements of ICEA S-73-532 & S-95-658.

Product Features

- Qualified as Class 1E cable.
- Sizes 6 AWG and larger pass the IEEE 383 and 1202 flame test requirements.
- All sizes pass the ICEA S-95-658 vertical wire flame test.
- Quality Assurance traceability.
- 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 or terminate than XLPE insulation.
- 2000 Volt rated cables are available upon request.

Okonite FMR-N® (Nuclear Grade EPR)

600V Power and Control

Copper Conductor/90°C Wet or Dry For Central Station Applications

Product Data Section 3: Sheet 9

Catalog Number	Conductor Size AWG/kcmil	Number of Strands	Insulation Thickness - mils	Insulation Thickness - mm	Approx. O.D. - Inches	Approx. O.D. - mm	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	ICEA Ampacity (1)
ICEA S-95-658, Table 3-4 Column A Insulation Thicknesses									
112-17-1071	14	7	45	1.14	0.17	4.83	26	31	22
112-17-1101	12	7	45	1.14	0.19	4.83	33	38	28
112-17-1131	10	7	45	1.14	0.21	5.33	47	52	37
112-17-1191	8	7	60	1.52	0.27	6.86	75	80	49
112-17-1221	6	7	60	1.52	0.31	7.87	109	120	65
112-17-1251	4	7	60	1.52	0.35	8.89	163	174	85
112-17-1311	2	7	60	1.52	0.41	10.41	247	270	112
112-17-1331	1	19	80	2.03	0.49	12.45	321	344	131
112-17-1351	1/0	19	80	2.03	0.53	13.46	395	427	151
112-17-1371	2/0	19	80	2.03	0.58	14.73	487	519	173
112-17-1391	3/0	19	80	2.03	0.63	16.00	601	633	207
112-17-1411	4/0	19	80	2.03	0.68	17.27	745	784	238
112-17-1431	250	37	95	2.41	0.76	19.56	891	930	266
112-17-1471	350	37	95	2.41	0.86	22.10	1217	1272	324
112-17-1531	500	37	95	2.41	0.99	25.40	1702	1766	398
112-17-1591	750	61	110	2.79	1.20	31.00	2536	2636	517
112-17-1651	1000	61	110	2.79	1.35	34.80	3335	3451	595
ICEA S-95-658, Table 3-4 Column B Insulation Thicknesses									
112-16-1071	14	7	30	0.76	0.14	3.56	18	23	22
112-16-1101	12	7	30	0.76	0.15	3.81	26	31	28
112-16-1131	10	7	30	0.76	0.18	4.57	39	44	37
112-16-1191	8	7	45	1.14	0.24	6.10	63	68	49
112-16-1221	6	7	45	1.14	0.27	6.89	96	101	65
112-16-1251	4	7	45	1.14	0.32	8.13	147	158	85
112-16-1311	2	7	45	1.14	0.37	9.40	223	246	112
112-16-1331	1	19	55	1.40	0.42	10.70	282	305	131
112-16-1351	1/0	19	55	1.40	0.46	11.70	352	384	151
112-16-1371	2/0	19	55	1.40	0.50	12.70	439	471	173
112-16-1391	3/0	19	55	1.40	0.54	13.70	548	580	207
112-16-1411	4/0	19	55	1.40	0.60	15.20	685	717	238
112-16-1431	250	37	65	1.65	0.67	17.00	820	859	266
112-16-1471	350	37	65	1.65	0.77	19.60	1134	1189	324
112-16-1531	500	37	65	1.65	0.89	22.6	1604	1668	398
112-16-1591	750	61	80	2.03	1.14	29.0	2404	2493	517
112-16-1651	1000	61	80	2.03	1.29	32.8	3191	3307	595

Visit Okonite's web site, 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 - Red, the catalog number would be 112-16-1073.			

(1) Ampacities:

Based on three (3) single conductors in conduit in air, 90°C rated conductor & 40°C ambient per IEEE Std. 835-1994, pg 29 (no wind, no sun).

For cables installed in cable tray, see ANSI/ICEA P-54-440 (NEMA WC 51-2003)