


# VITALink<sup>®</sup> MC

**Circuit Integrity Cable**



**2 Hour**  
 **Fire Rated**  
**Power Cables**

**Factory  
Mutual  
System**

 **ROCKBESTOS**  
**SURPRENANT**  
CABLE CORPORATION  
ENGINEERED WIRE AND CABLE

## NEC Fire Rated Applications:

The NEC recognizes specific critical electrical circuits which, in the event of a fire, must continue to perform their intended functions. NEC Article 695 and Article 700 address “**Fire Pump**” and “**Emergency System**” applications respectively. Both require a minimum of a 1-hour fire resistance rating which can be achieved through various methods. This requirement is applicable to the following:

- *Fire Pump Feeders*
- *Emergency Generator Feeders*
- *Emergency Exhaust Fans*
- *Emergency Lighting*
- *Exit Signs*
- *Fireman’s Elevators*

## Fire Resistive Cable Issues:

One of the options available to designers was to specify a cable system which was qualified to meet the fire endurance requirements of the code. Mineral Insulated (Type MI) cables emerged as the only available technology to meet this stringent requirement.

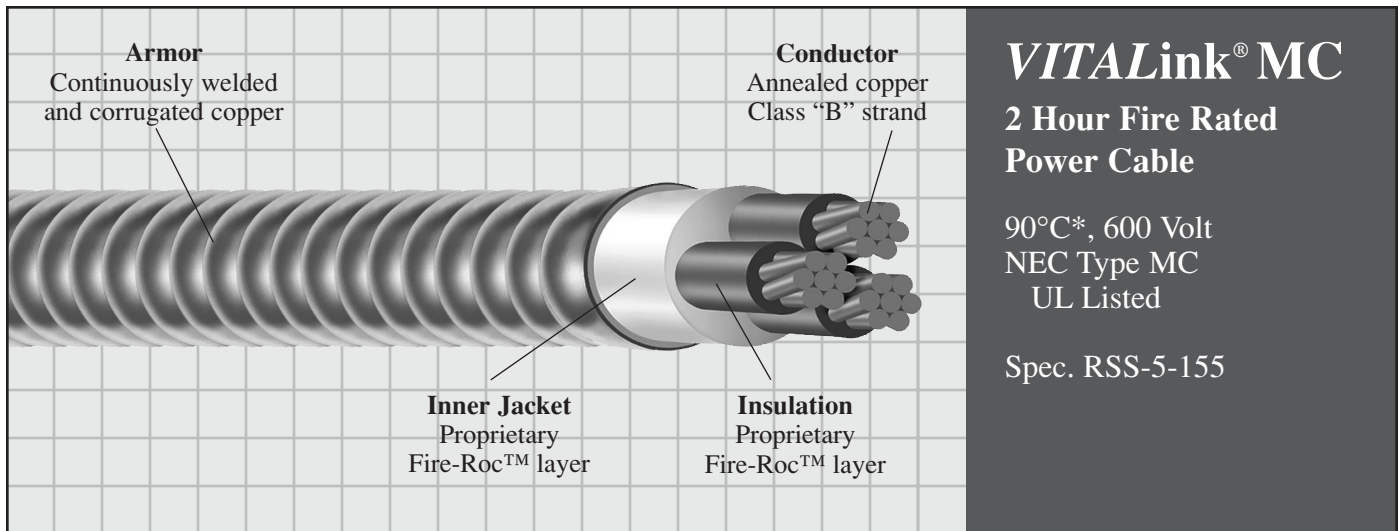
Although these cables did fulfill the code requirements, they suffered from many inherent problems which manifested in end user difficulties. *Installation problems such as cable stiffness, special mounting procedures, susceptibility to moisture, custom connectors, and termination difficulties forced installers to expend time, labor and resources to overcome these hurdles. Designers had to deal with product limitations that included severe length restrictions and very narrow product offering with respect to size and cable configuration.*

These issues have led to a reluctance by both installers and designers to utilize fire resistive cables. They have pursued costly alternatives such as rerouting, fire proof coating & wrapping systems, and embedding cable in concrete.

## The VITALink® MC Solution:

VITALink® MC is a “user friendly” fire resistive cable which incorporates the ease and familiarity of Type MC with a 2 hour fire endurance rating. This is accomplished through the use of our revolutionary Fire-Roc™ insulation material. This proprietary thermoset inorganic insulation is applied through the use of a conventional extrusion process, allowing for long lengths and a wide product array typical of standard Type MC cables.

*VITALink® MC allows designers to specify without the burden of product limitations; while enabling installers to reap the benefits of Type MC convenience.*



## Scope

VITALink® MC is a unique cable which offers superior fire endurance capabilities along with the well established benefits & features associated with NEC Type MC cable designs. It is specifically designed to

meet the circuit integrity requirements for “Fire Pump” & “Emergency Systems” cable applications with respect to NEC Articles 695 & 700.

## Features

- 2 hour fire rating
- Replaces expensive fireproofing methods
- Low smoke, Halogen free design
- Installation ease of Type MC cables (must follow System No. 17)
- Utilizes commercially available MC Connectors
- Termination simplicity
- Printed number coding allows for easy circuit identification
- Requires conventional stripping tools
- Extruded “*moisture resistant*” insulation
- Wide variety of sizes & configurations
- Available in long lengths
- Welded armor forms an impervious barrier
- Armor is impact & crush resistant
- Armor sheath capacity exceeds the UL requirement for equipment ground

## Performance Standards

- Exceeds NEC Article 695 & 700 fire endurance requirements
- 2 hour fire rated per UL standard 2196 (1,850°F with water hose stream)
- Electrical Circuit Protective Systems (FHIT) — System No. 17 of the UL Fire Resistance Directory (Formally the Building Material Directory)
- Factory Mutual Research Listed as an Electrical Circuit Protective Cable System (2 Hour Fire Resistive Rated)
- UL listed, NEC Type MC in accordance with UL Standard 1569
- Passes the 70,000 BTU/hr. vertical tray flame test as per UL Standard 1581
- UL listed for CT (cable tray) use \*\*
- Passes the IEC 331 flame test (3 hours @ 750°C)
- Passes the IEC 331 flame test modified to 3 hours @ 1,000°C

## Construction

### Conductor:

Annealed copper, Class “B” strand per ASTM B-3 & B-8

### Insulation:

Proprietary thermoset Fire-Roc™ layer

### Circuit Identification:

Printed numbers per ICEA Method 4

### Inner Jacket:

Proprietary thermoset Fire-Roc™ layer

### Armor:

Continuously welded and corrugated copper

### Outer Jacket (optional):

Flame retardant polyvinyl chloride (PVC) or Low Smoke, zero halogen polyolefin

\* Rated 90°C for normal operation, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

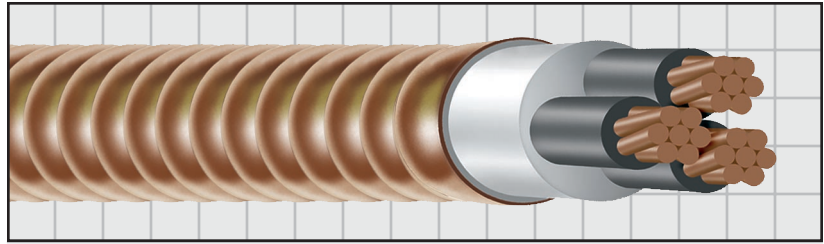
\*\* For fire rated applications; steel tray supported at a max. 5 ft. spacing.

# VITALink® MC

## 2 Hour Fire Rated Power Cable

90°C, 600 Volt  
NEC Type MC  
UL Listed

Spec. RSS-5-155



Consult factory for availability and minimum quantity requirements

Product Code	Size (AWG kcmil)	Number* of Conductors	Nominal Insulation Thickness (In)	Nominal Inner Jacket Thickness (In)	Nominal Core Diameter (In)	Nominal Armor Thickness (Mils)	Nominal Armor Diameter (In)	Approximate Net Weight (Lbs/M')
F20-0142	14	2	.060	.040	0.47	25	0.78	350
F20-0143	14	3	.060	.040	0.50	25	0.82	410
F20-0144	14	4	.060	.050	0.57	25	0.89	470
F20-0122	12	2	.060	.040	0.51	25	0.82	400
F20-0123	12	3	.060	.050	0.56	25	0.89	480
F20-0124	12	4	.060	.050	0.62	25	0.94	540
F20-0112	10	2	.060	.050	0.58	25	0.89	460
F20-0113	10	3	.060	.050	0.61	25	0.94	550
F20-0114	10	4	.060	.050	0.67	25	1.00	630
F20-0083	8	3	.070	.050	0.72	25	1.04	690
F20-0084	8	4	.070	.050	0.80	25	1.16	820
F20-0063	6	3	.070	.050	0.80	25	1.16	860
F20-0064	6	4	.070	.050	0.89	25	1.22	1,010
F20-0043	4	3	.070	.050	0.91	25	1.24	1,090
F20-0044	4	4	.070	.050	1.01	25	1.35	1,320
F20-0033	3	3	.070	.050	0.97	25	1.30	1,250
F20-0034	3	4	.070	.050	1.07	25	1.40	1,530
F20-0023	2	3	.070	.050	1.04	25	1.38	1,430
F20-0024	2	4	.070	.050	1.15	25	1.50	1,760
F20-0013	1	3	.090	.050	1.20	25	1.59	1,800
F20-0014	1	4	.090	.050	1.34	25	1.73	2,270
F20-0103	1/0	3	.090	.050	1.29	25	1.67	2,080
F20-0104	1/0	4	.090	.050	1.43	25	1.82	2,580
F20-0203	2/0	3	.090	.050	1.39	25	1.80	2,450
F20-0204	2/0	4	.090	.050	1.54	25	1.95	3,040
F20-0303	3/0	3	.090	.050	1.49	25	1.92	2,850
F20-0304	3/0	4	.090	.060	1.68	25	2.13	3,660
F20-0403	4/0	3	.090	.050	1.62	25	2.04	3,430
F20-0404	4/0	4	.090	.060	1.82	25	2.26	4,360
F20-0251	250	1	.105**	.050**	0.89	25	1.22	1,470
F20-0253	250	3	.105	.060	1.81	25	2.26	4,060
F20-0254	250	4	.105	.060	2.01	25	2.46	5,120
F20-0351	350	1	.105**	.050**	1.00	25	1.35	1,840
F20-0353	350	3	.105	.060	2.03	25	2.48	5,270
F20-0354	350	4	.105	.060	2.26	25	2.71	6,680
F20-0501	500	1	.105**	.050**	1.12	25	1.48	2,400
F20-0503	500	3	.105	.060	2.31	25	2.82	7,040
F20-0504	500	4	.105	.075	2.60	25	3.13	9,090
F20-0751	750	1	.120**	.050**	1.33	25	1.73	3,350
F20-0753	750	3	.120	.075	2.79	25	3.31	10,200

\* Also available in other multiconductor configurations \*\* Combined Unipass Wall

**ISO 9001 REGISTERED**



East Granby, CT  
20 Bradley Park Road  
East Granby, CT 06026  
Tel: 860-653-8300  
Fax: 860-653-8301



A member of The Marmon Group of companies