

SPECIFICATION GUIDELINE WIRING CABLES FOR FIRE AND PERFORMANCE WIRING APPLICATIONS (HEAVY DUTY CABLES).

The nVent Pyro mineral insulated (MI) cable, shall be specifically designed for ultimate performance and compliance with the current version of BS7671 ("Requirements for electrical installations") and shall be tested in accordance with BS EN 60702: Part 1.

All cables shall carry LPCB approval and the supplier shall be accredited and approved to ISO 9001.

Heavy duty grade cables are rated to 750V and are suitable for use where the voltage between the conductor and sheath and between conductors does not exceed 750V r.m.s, A.C, or 750Vd.c.

The Pyro MI cable shall also be available with an overall LSF covering. This may be employed to protect the copper sheath from corrosive environments, to provide identification by colour, or for other aesthetic reasons. When cables are to be buried in the ground, the type having this outer covering should be specified.

All terminations shall be supplied by nVent and shall comply with the requirements of BS EN 60702: Part 2. They shall be fitted in accordance with the manufacturers recommended termination procedures, available in document CDE-0937 upon request.

The Pyro MI cable system must be capable of the following installation types:

- Buried in the ground
- Underground ducts, conduit or pipes
- Buried in concrete
- Buried in plaster
- Surface mounted
- On cable tray
- Outdoor and wet conditions
- High ambient temperature environments (continuous temperature of 250°C.) Higher continuous ambient temperatures are also possible with Pyro MI. Please contact nVent for further information.
- Low temperature environments (where the cable needs to operate at temperatures down to approaching absolute zero.)

PRODUCT, TECHNICAL, AND PERFORMANCE REQUIREMENTS:

The Pyro MI cable system must, as a minimum requirement:

- Be manufactured, tested, and LPCB approved to BS EN 60702-1.
- Be complete with terminations tested and approved to BS EN 60702-2, and supplied by nVent.
- Be approved by the LPCB (and clearly documented in the "Red Book") to:
 - BS8434-2 (120 Minute),
 - BS6387, classification C, W, Z.
 - BS EN 50200 Class PH 120.
 - BS EN 50257-2-1 (<0.5%HCl)
- Be tested, by a third party agency, and approved to BS7346-6:2005 (FF120).
- Have a loss of mass under fire conditions of less than 0.5%. Cables losing mass under fire conditions greater than 0.5% suggest the addition of a fuel load.
- Have a life expectancy in excess of 100 Years.
- Be unaffected in fit, form, and function, to the effects of power system harmonics, including but not limited to, continuous operation at elevated temperatures without premature aging.

- Meet and exceed the requirements of IEC60331 – tests for electric cables under fire conditions.
- Carry CE marking on cable drums, reels, termination packaging as required by the directive.
- Demonstrate compliance, where applicable, in the following standards.
 - BS7671 – Requirements for Electrical Installations (IEE)
 - BS5588 – Fire precautions in the design, construction and use of buildings.
 - BS5266 – Emergency lighting.
 - BS5454 – Storage and exhibition of archival documents.
 - BS5839 – Fire detection and alarm systems in buildings.
 - C.I.O – Lighting and wiring for churches.

INSTALLATION, TESTING AND COMMISSIONING:

Installation, testing and commissioning shall be carried out in strict accordance with the manufacturer's instructions, and in compliance with all current electrical standards and regulations.

When required by the consultant or specifier, cables may be tested prior to installation using a suitable insulation resistance test.

Further recommendations for cable installation and testing are available upon request or in document CDE-0937 from nVent.

IN ELECTRICAL ENGINEERING NOTES COLUMN

The fire survival and performance wiring system known as Pyro MI shall be supplied by nVent.

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The Pyro MI system shall be installed in accordance with all current electrical standards and regulations, and as recommended by the manufacturer.

The system shall be compliant with BS7671 (Requirements for electrical installations.)

The Pyro MI wiring system shall be manufactured and tested to BS EN 60702-1 for cables and BS EN 60702-2 for associated terminations.

- Be approved by the LPCB (and clearly documented in the "Red Book") to:
 - BS8434-2 (120 Minute),
 - BS6387, classification C, W, Z.
 - BS EN 50200 Class PH 120.
 - BS EN 50257-2-1 (<0.5%HCl)

The system shall be capable of demonstrating compliance with BS7346-6:2005, and have been, as a minimum, witnessed tested by an accredited body, such as Lloyds.

The cable system shall be manufactured to ISO9001:2000 standards.

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