



## SPECIFICATION GUIDELINE CDE-1356 R0

# Pyrotenax “Pyro MI” Wiring Cables for Fire and performance wiring applications (Light Duty Cables)

### **Purpose:**

To provide the client with the highest standard in performance cables for fire alarm, life safety, fire fighting, and critical systems applications. The cable system should be mineral insulated, robust, 100% screened, and space saving in order to meet the demands of modern building design. The cable should also be capable of surviving fire conditions without loss of integrity (without burning) and without providing an additional fuel load.

This specification should be strictly adhered to in order to provide maximum conformity with the Regulatory Reform (Fire Safety) Order 2005.

### **Specification:**

The product shall be the Pyrotenax “Pyro MI” wiring system, or equal and equivalent performance, as supplied by:

**Tyco Thermal Controls (UK) Ltd.**  
**3 Rutherford Road**  
**Stephenson Industrial Estate**  
**Washington, Tyne & Wear.**  
**NE37 3HX.**

Tel (UK): 0800 969 013

Tel (Ireland) 1800 654 241

E-mail (UK): [Salesuk@tycothermal.com](mailto:Salesuk@tycothermal.com)

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The 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 supplied and tested, by Tyco Thermal Controls, in accordance with BS EN 60702: Part 1.

All cables shall carry LPCB approval to specific and relevant standards, BS60702-1, BS6387, BS8434-2, BS5839-1 Clause 26.2, BS EN 50257-2-1, and must be registered by the LPCB to this effect. The supplier shall be accredited and approved to ISO 9001.

Light duty grade cables are rated to 500V and are suitable for use where the voltage between the conductor and sheath and between conductors does not exceed 500V r.m.s, A.C, or 500Vd.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 the cable manufacturer Tyco Thermal Controls 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 Tyco Thermal Controls 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 manufactured by Tyco Thermal Controls.
- Be approved by the LPCB (and clearly documented in the “Red Book”) to:
  - o BS8434-2 (120 Minute)
  - o BS5839-1 Clause 26. (Standard and Enhanced.)
  - o BS EN 50200 Class PH 120.
  - o BS EN 50257-2-1
- 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.
- Be approved for use with London Underground Ltd. (LUL), and compliant with Fire survival cable (MICC) EME-SP-14-028-A1.
- Carry CE marking on cable drums, reels, termination packaging as required by the directive.
- Demonstrate compliance, where applicable, in the following standards.
  - o BS7671 – Requirements for Electrical Installations (IEE)
  - o BS5588 – Fire precautions in the design, construction and use of buildings.
  - o BS5266 – Emergency lighting.
  - o BS5454 – Storage and exhibition of archival documents.
  - o BS5839 – Fire detection and alarm systems in buildings.
  - o 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 from the manufacturer and in document CDE-0937 from Tyco Thermal Controls.

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*Tyco Thermal Controls (Pyrotenax) Pyro MI wiring cables and accessories*  
**SCHMATIC DRAWING NOTES**

In **Electrical Engineering Notes** column:

The performance wiring system known as Pyro MI shall be supplied by Tyco Thermal Controls.

Contact: 0191 419 8200.

E-mail: [Salesuk@tycothermal.com](mailto:Salesuk@tycothermal.com)

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.

The Pyro MI wiring system shall be approved by the LPCB to BS8434-2, BS5839-1 Clause 26.2 (Enhanced) and BS EN 50200 Class PH 120, BS EN 50257-2-1, and be documented in the LPCB Red Book.

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