nVent

PYROTENAX

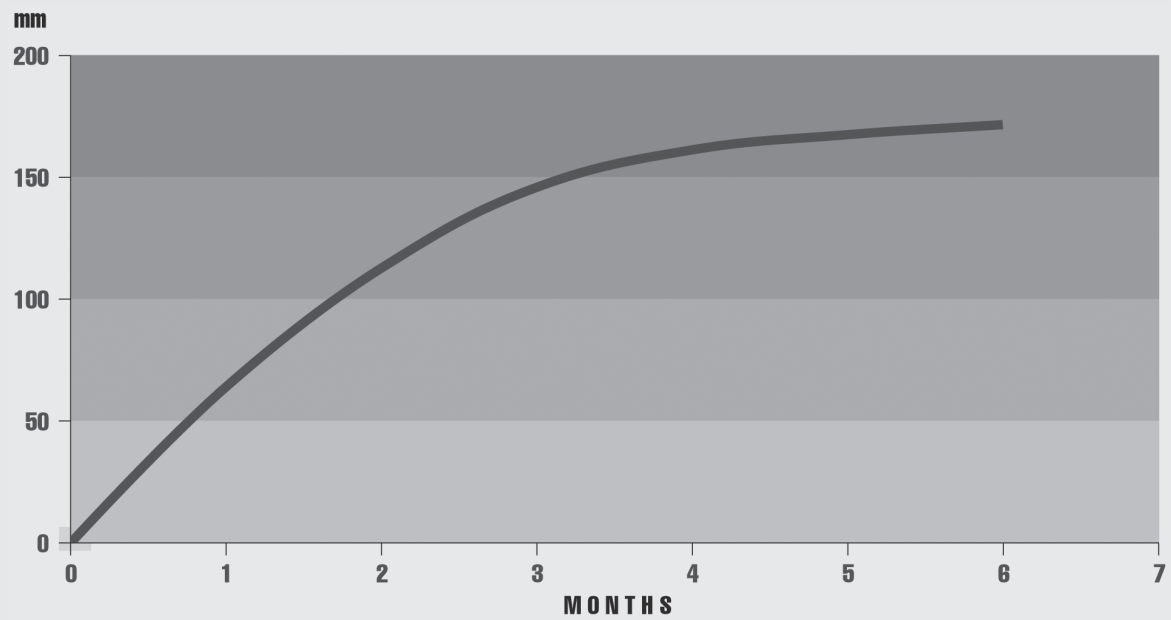
The Ultimate Fire Survival Cable System

# PYRO MI Fire Survival Cable

## Information Sheet Pyro Mi Wiring Cables and Moisture - The Facts!

**The totally inorganic insulant used in the manufacture of nVent PYROTENAX Pyro Mi Wiring Cables has a self blocking characteristic, and therefore they can be left unsealed during installation and storage without being adversely affected by moisture. During a period of several weeks exposure, atmospheric moisture will only penetrate to a depth of approximately 100mm, see Diagram 1, therefore the affected insulant will be removed during cable termination.**

**DIAGRAM 1** **DEPTH OF MOISTURE PENETRATION**




As a consequence of the above it is unnecessary to take special precautions during storage or installation of Pyro Mi Wiring Cables and the following points should be noted.

1. Pyro Mi Wiring Cables are manufactured to BS EN 60702-1 and have LPCB approval. Testing of un-sealed cables will result in erroneous and misleading readings therefore only cables sealed at both ends should be tested.

2. Temporary seals are not required during storage.

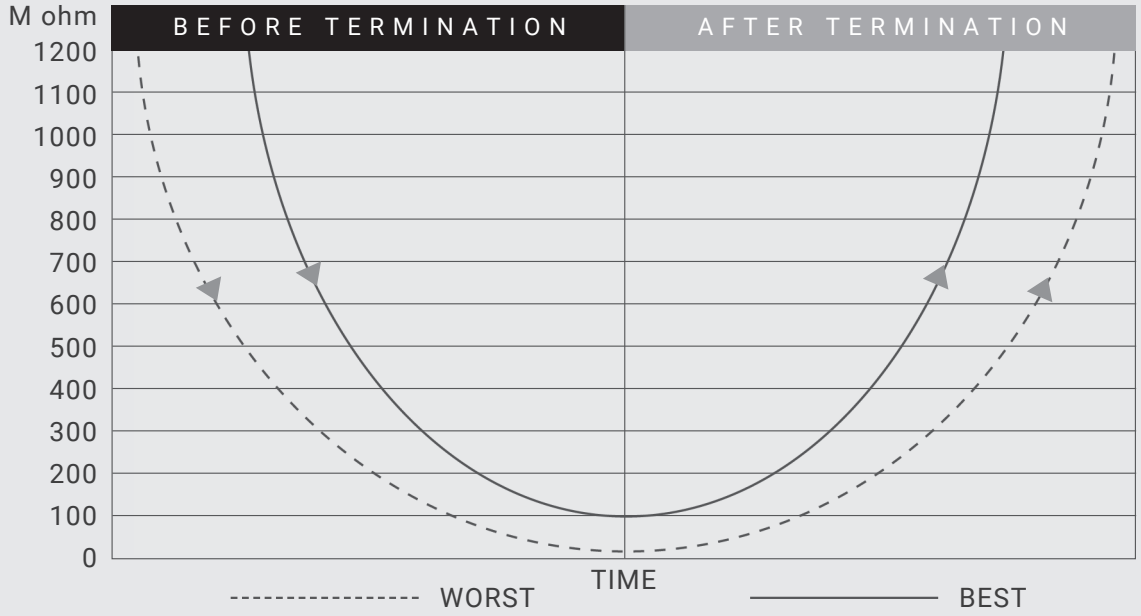
3. Installed cable lengths do not require temporary seals prior to fitting the terminations.

4. Extra length should not be left on installed cables to allow for cutting back, as this is an unnecessary and wasteful practice.

## CHANGES IN INSULATION RESISTANCE BEFORE AND AFTER TERMINATING

Because of its affinity for moisture, the insulant will begin to absorb moisture as soon as it is exposed to the atmosphere, and therefore its insulation resistance will start to fall. However, the rate of this fall can vary due to the level of atmospheric humidity and slight variations in the chemical properties of the cable insulant. Therefore, it is feasible to observe differences in behaviour from day to day or cable to cable.
Diagram 2 shows some typical cable behaviours.

**DIAGRAM 2** **BEST AND WORST CONDITIONS**




It is therefore a property of the cable, that when open to the atmosphere, the insulation resistance will begin to drop, and in the case of the smaller sizes of cable, this fall may be quite rapid. Whilst this may seem disconcerting, in practice it does not pose a problem. This is because, after the cable has been effectively sealed, the minute quantity of trapped moisture causing the low insulation resistance will disperse throughout the insulant at the cable end, therefore the reading will quickly rise as shown in diagram 2.

## SYSTEM INTEGRITY

Moisture ingress at a position of sheath damage would extend in both directions from the point of entry. The depth of penetration will be in accordance with Diagram 1 and when the cable is cut and repaired by jointing, the moisture affected insulant will again be removed when stripping back the sheath to terminate the two cable ends.

## SHEATH DAMAGE

We would finally stress that the effect of moisture on any Pyro Mi Cable is not a problem. Providing the cable has been sealed correctly at both ends, then the insulation resistance will rise to a satisfactory level and will be maintained. Indeed, the effect of moisture can be considered to be an advantage, since it will monitor the integrity of the cable. Thus if the cable was damaged during installation or was ineffectively sealed, this would be indicated as a fault which could be rectified prior to commissioning. Reference should be made to our Installation Recommendation CDE-0923 Rev. 0-1/06 for recommended installation and testing procedures.

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