Cable Penetration Seals for Cable Management

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# Cable Penetration Seals for Cable Management

## Passive Fire Protection

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<th>Fire protection</th>
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<td>Containment / Detection / Suppression</td>
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## Penetration Seals for Data and Low Voltage Cables

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![BICSI Logo](image)
CABLE PENETRATION SEALS FOR CABLE MANAGEMENT

PASSIVE FIRE PROTECTION

Fire protection
Containment / Detection / Suppression

Fire containment
Passive Fire Protection

Code and testing methods

Penetration seal systems

PENETRATION SEALS FOR DATA and LOW VOLTAGE CABLES

Needs and requirements

Hidden costs and risks

THE FIRE RATED PATHWAY DESIGNED FOR CABELING

E-Z Path®
FIRE PROTECTION

DETECTION

Systems designed to discover fire early in their development for safe evacuation of occupants

SUPPRESSION

Also known as active fire protection, systems designed to extinguish and prevent the spread of fire in a building

CONTAINMENT

Also known as passive fire protection, fire rated walls and floors are built to restrict the spread of fire to another area.

Methods of providing fire detection, fire containment and extinguishment
CABLE PENETRATION SEALS FOR CABLE MANAGEMENT

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PENETRATION SEALS FOR DATA and LOW VOLTAGE CABLES

Needs and requirements

Hidden costs and risks

THE FIRE RATED PATHWAY DESIGNED FOR CABLING
Fire containment is also known as **Passive Fire Protection**

Passive fire protection can be described as the process of restoring the fire rating of the barriers (walls and floors) which have lost their fire resistance from construction openings.

**Penetration seals** are the systems installed where openings had been made to restore the original fire resistance of the barrier.
Openings are made in fire rated walls and floors for services as cables / plastic pipes / metallic pipes / ducts / busbars ….

Wall and floors are not fire rated anymore.

Openings are not sealed
When openings are made for services, fire rated barriers lost their fire resistance. Fire can progress to other areas.

Openings were not sealed
How to restore the resistance of fire rated barriers?

**Passive Fire Protection** shall be implemented.

**Penetration seals** are installed in each opening to restore the fire resistance of the area.

- Plastic pipe
- Metallic pipe
- Cables
- HVAC duct
Penetration Seals prevent the fire from progressing to other areas.

The fire rating of the barriers had been restored.

Fire is contained. The rest of the building is safe.
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Every **penetration seal system** for services and joints in walls and floors shall provide a fire resistance at minimum equal to the fire resistance of the fire rated barrier (wall or floor).

**Regulation**
- Construction Product Regulation (CPR)
  - Directive 89/106/EEC

**Testing methods**
- **Fire resistance testing standard**
  - Fire Rated Barrier: EN1366-1
  - **Penetration seals**: EN1366-3
  - Construction joints: EN1366-4

**Certification**
- **Fire resistance classification**
  - EN13501-2
  - Performance up to 4 hours
    - EI30 / EI60 / EI120 / EI180 / EI240
The fire test is run according to the **EN1366-3**
“Fire resistance tests for service installations. Penetration seals”
CE Marking for Penetration Seals

- The CPR includes requirements for construction products to have the CE Marking and a declaration of performance (DoP).
- Construction product covered by a harmonised European standard (hEN) or for which ETA has to be CE marked.

Why to apply for the CE Marking?
To make sure that the product complies with CPR rules, and is under a quality control survey by a third party Notified Body.

CPR = Construction Product Regulation
CABLE PENETRATION SEALS FOR CABLE MANAGEMENT

PASSIVE FIRE PROTECTION

- Fire protection
  - Containment / Detection / Suppression
- Fire containment
  - Passive Fire Protection
- Code and testing methods
- Penetration seal systems

PENETRATION SEALS FOR DATA and LOW VOLTAGE CABLES

- Needs and requirements
- Hidden costs and risks

THE FIRE RATED PATHWAY DESIGNED FOR CABLING

EZxPath®
TYPES of PENETRATION SEALS

MEP
Mechanical, Electrical and Piping

Data and low voltage cables

Curtain wall joints

Construction joints
# CABLE PENETRATION SEALS FOR CABLE MANAGEMENT

## PASSIVE FIRE PROTECTION

- **Fire protection**
  - Containment / Detection / Suppression

- **Fire containment**
  - Passive Fire Protection

- **Code and testing methods**

- **Penetration seal systems**

## PENETRATION SEALS FOR DATA and LOW VOLTAGE CABLES

- **Needs and requirements for data and low voltage cables**

- **Hidden costs and risks**

## EZ-Path

- **The fire rated pathway designed for cabling**
Cable penetration seals for cable management

NEEDS and REQUIREMENTS FOR DATA and LOW VOLTAGE CABLING

Cable Moves, Adds and Changes

Working environments are changing constantly, bringing new priorities and challenges for an Organization.

- Why?
- The challenges
- The penetration seal solution
Cable Moves, Adds and Changes

Working environments are changing constantly, bringing new priorities and challenges for an Organization.

Why?

- Increase Capacity
- Support New Equipment
- Support New Applications
- Replacing Obsolete Cabling Infrastructure
Cable penetration seals for cable management

NEEDS and REQUIREMENTS FOR DATA and LOW VOLTAGE CABLING

Cable Moves, Adds and Changes

Working environments are changing constantly, bringing new priorities and challenges for an Organization.

Challenges

• Disruption to Operation
• Downtime in Productivity
• Inconvenience to Tenants
• Risk of compromising existing Infrastructure
Cable penetration seals for cable management

**NEEDS and REQUIREMENTS FOR DATA and LOW VOLTAGE CABLING**

Working environments are changing constantly, bringing new priorities and challenges for an organization.

**The Cable Penetration Seal Solution**

**NEEDS and REQUIREMENTS**

for the network

- No downtime acceptable.
- The system should be continuously operational

**How to choose the right cable penetration seal system?**

The penetration seal system shall be:

- Always fire rated
- Cable friendly
- A modular solution for flexibility
- Certified for all types of constructions and cables
WHAT ARE THE REAL COSTS OF CABLE PENETRATION SEALS?

**VISIBLE COSTS**
- Product price
- Installation cost

**HIDDEN COSTS and RISKS**
- Downtime
- Cable damages
- Non-compliance risk
- Handling cost
- Improper installation risk
### Passive Fire Protection

- **Fire protection**
  - Containment / Detection / Suppression

- **Fire containment**
  - Passive Fire Protection

- **Code and testing methods**

- **Penetration seal systems**

### Penetration Seals for Data and Low Voltage Cables

- **Needs and requirements**

- **Hidden costs and risks**

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**The Fire Rated Pathway Designed for Cabling**

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**Symbols and Logos**

- BICSI logo
- EZPath logo
EZ-Path is a self-sealing cable penetration system engineered as a fire rated pathway.

EZ-Path does not require any handling for fire protection and is always ready for inspection.

EZ-Path can accommodate by design any cable changes.

EZ-Path is built with two intumescent flexible pads which adapt automatically to accommodate the cables. When exposed to heat, the pads expand to completely seal the device from smoke and flames up to 4 hours.

THE FIRE RATED PATHWAY DESIGNED FOR CABLELING
No firestop handling during cable maintenance
EZ-Path is always compliant

The fire is contained
The rest of the building is safe.
THE FIRE RATED PATHWAY DESIGNED FOR CBLING

Wall application
Limited access area
Floor application
Where access is limited

Lower ladder  Above the ceiling  Below raised floor
Up to 100% cable loading

For all types of cable

- Data
- Fiber optic
- Control
- Power

No action is needed to activate the internal sealing mechanism. Top and bottom intumescent pads adjust themselves automatically to ensure contact onto surface of cables.
No sharp edge
Cable friendly pathway

Retrofit possibly for existing cables
Device can be opened

Earth ground feature
THE FIRE RATED PATHWAY DESIGNED FOR CABLING

Possibility to pull cables through the device

High cable capacity per surface unit

Extension feature for thick walls
The Fire Rated Pathway Designed for Cabling

**Tested and Certified**

- Reaction to Fire: EN13501-1
  - Class E
- Fire Resistance Test: EN1366-3
  - Up to 4 hours
- Classification: EN1301-2
  - Up to EI120

ETA 13 / 0887
THE FIRE RATED PATHWAY DESIGNED FOR CABLING

Up to 4 hours fire resistance

**Before** fire exposure
EZ-Path Series 44+ grouted

**After 240** minutes fire exposure
non-exposed and exposed sides
Up to 4 hours fire exposure
Non exposed side not damage

Classified E240 per the EN13501-2
WHAT IS THE REAL COST OF EZ-PATH?

VISIBLE COSTS
- Product price
- Installation cost

HIDDEN COSTS, RISKS and NEEDS
- Improper installation risk
- Non-compliance risk
- Handling cost
- Cable damages

WITH EZ-PATH, NO ADDITIONAL HIDDEN COSTS and RISKS
THE FIRE RATED PATHWAY DESIGNED FOR CABLING

No firestop handling
Compliant for inspection
No additional cost and risk
Ready for cable management

CABLE PENETRATION SEAL

Firestop handling is required after every cable change
Inspection may reject the penetration seal compliance
Additional costs involved by cable changes
EZ-Path is always ready for fire safety inspection

CABLE PENETRATION SEAL
The system may not be fire safety compliant
Advantages of EZ-Path

**CABLE FRIENDLY**
Cable pathway designed for cable changes, adds and moves.

**NO FIRESTOP HANDLING**
Ready for cable maintenance and inspection

**NO MORE COST AND LIABILITY RISK**
No hidden costs, risks for this cable penetration seal. No worry anymore about fire protection

**PROJECT EARLY INTEGRATION**
EZ-Path provides fire protection and cable management solution at an early stage

**MECHANICAL FINISHED PRODUCT**
No more sealant and coating to apply

You can focus on cable management