Fireproof partition for blocking bridge openings



Overview

British Gypsum BPG001 Openings in fire rated systemsOpenings for service penetration seals should be formed in accordance with current British Gypsum fire.

Key Takeaways

Fireproof partitions for bridge openings can be constructed using modular fire-blocking sections, intumescent boards, or composite fire barrier sheets, providing up to 4 hours of fire resistance while allowing easy installation and maintenance. Materials and Systems1.

Modular Fire-

Blocking Sections Lightweight modular fire-blocking sections are designed for cable trenches, tunnels, and bridge openings. They typically consist of intumescent blocks, fireproof cloth, and a metal frame coated with fireproof material, forming a double-layer barrier that expands under high temperatures to seal cavities and prevent fire spread. These systems are lightweight (≤5 kg per unit), easy to install, and allow non-destructive addition or removal of cables without compromising fire protection.

They are certified for 2-hour fire resistance (GB23864) and have a service life exceeding 30 years. 2. Fire Barrier Composite Sheets Products like 3M™ Fire Barrier Composite Sheet CS-195+ combine intumescent material, steel, wire mesh, and aluminum foil to create a flexible firestop for larger openings, including cable trays and conduits.

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These sheets are fire-tested up to 4 hours (ASTM E814/UL 1479) and provide a tight seal against flames, smoke, and toxic gases, while also conducting heat away to protect adjacent equipment. 3.

Fire-

Rated Partitions and Doors For structural partitions, fire-rated walls with protected openings can be constructed using systems like GypWall, GypLyner, or GypWall Shaft, following BS EN 1364-1: 2015 standards. Openings for doors, access panels, or penetrations must maintain minimum spacing (300–600 mm) between openings to preserve structural integrity and fire performance. Fire-rated doorsets and riser doors can be integrated without affecting adjacent openings.

Installation Considerations

Ensure full-height framing support around openings to maintain lateral stability and limit deflection under fire conditions. Use intumescent or fireproof sealants to cover exposed metal frameworks and maintain acoustic and fire performance. Modular systems allow quick installation (≈20 minutes per unit) and easy maintenance, which is critical for bridge or tunnel applications where access may be limited.

For larger penetrations, prefabricated firestop bricks or composite sheets can be used to fill voids and provide continuous fire resistance.

Compliance and Standards

Follow AST

M E119, UL 263, or BS EN 1364-1 for fire-resistance ratings of walls and partitions. Firestop systems should be tested and listed, ensuring proper containment of fire, smoke, and toxic gases. Modular fire-blocking components should hold certifications such as CCCF and comply with national fireproof material standards.

Summary

For blocking bridge openings, the most effective fireproof partitions combine modular, lightweight, and intumescent materials with structurally supported fire-rated walls. These solutions provide high fire resistance, ease of installation, and maintainability, while complying with international fire safety standards. Depending on the size and type of opening, options include modular fire-blocking sections, composite fire barrier sheets, or integrated fire-rated partitions with doors and access panels.

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Article Content

British Gypsum BPG001 Openings in fire rated systems

Openings for service penetration seals should be formed in accordance with current British Gypsum fire-stopping details. Openings must be framed out with the transom sections fixed to full height

fire protected section,Fireproof cable accessories, fireproof cable ...

In the early stage of a fire, when the temperature rise does not reach 160°C, the fireproof cloth arranged on both sides of the fire-blocking section can prevent the flame from transferring to the other side (the

3M™ Fire Barrier Composite Sheet CS-195+ | 3M

For larger openings and penetrations where putties and strips alone aren''t enough, use 3M™ Fire Barrier Composite Sheet CS-195+, a one-part firestop system that

Large Openings

This easy-to-install and inspect, virtually dust-free solution allows for a 100% cable fill on regular and irregular openings. It also allows you to seal old, damaged or incorrectly sealed penetrations – even

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UL Solutions

This guide provides information related to firestop systems, which are specific constructions consisting of a wall or floor assembly, a penetrating item passing through an opening in the wall or floor assembly,

Through Penetration Products for Firestopping | 3M

Keep fire, smoke and noxious gas from spreading between spaces with 3M''s extensive line of through penetration firestop solutions. Effectively fill spaces

Light fire-blocking section (fire-blocking partition): an

The installation of fire-blocking partitions or fire-blocking devices (also known as “fire-blocking sections” below) can effectively isolate the fire

CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

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This chapter specifies how these elements are constructed, how openings in walls and partitions are protected and how penetrations of such elements are protected.

Best Practice Guidance

Openings must be framed out with the transom sections fixed to full height Gypframe studs. It is best practice to line the reveals to match the specification of the wall, however guidance should be sought

Navigating Fire and Smoke Separations in the Building

Owners, managers, and designers need to consider fire and smoke separations in their building projects to meet code requirements and provide

Light fire-blocking section (fire-blocking partition): an

In the light fire-blocking section, the cable will not be completely wrapped by fire-proof mud, fire-proof bag, etc. like the traditional fire-blocking

Firestop Design Center

Hilti helps architects, engineers, specifiers, and building owners by providing safer firestop solutions with simpler and more intuitive installation options designed to

Fire Wall, Fire Barrier, Fire Partition: Key Differences

Unfortunately, the terms fire wall, fire barrier, fire partition, smoke barrier, and smoke partition often cause confusion due to their similar-sounding names.

fire protected section,Fireproof cable accessories,

In the fire blocking process, the common fire blocking section is usually built with traditional materials, mainly composed of fireproof board, fireproof bag and

Fire Resistant Design and Detailing: Firewalls, Fire Barriers and Fire ...

Discuss detailing aspects of fire resistance for fire walls, fire barriers and fire partitions including material and assembly options, continuity, structural stability, and penetrations.

Understanding the Differences Between Fire Partitions and Fire Barriers

Both fire partitions and fire barriers are part of a type of fire control known as compartmentalization, which helps separate one area from another so that flames cannot spread

Fire Barriers and Fire Doors

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Fire doors serve a purpose to provide opening protection in a fire barrier. That fire barrier is being utilized to minimize the spread of fire from one area of the building to another. Introducing

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