FACT CARD 3

Fact Card 3 – Passive Fire Protection

Giving you the facts about Passive Fire Protection

The primary purpose of fire protection planning is to safeguard human life. In the year to March 2020 over 7,100 people were killed or injured in a fire in England[1]. The plan also seeks to protect property by reducing the amount of physical damage caused, and so reducing the financial loss and disruption to business or family life. The most effective approach to maximising the fire safety of buildings, is to implement a planned combination of both passive and active measures.

The unique role of passive fire protection

The principle behind passive fire protection is to divide a building into individual fire compartments, constructed and lined with suitable fire resisting materials to reduce the spread of fire. If a fire should occur, the structure is protected as the fire is contained for a period within one compartment, thus reducing fire spread through the building by limiting the movement of flames and smoke. Containment of fire through effective passive fire protection serves to minimise the damage caused by a fire by protecting the escape routes to ensure that the building's occupants can leave the building safely.

Fire Safety Order Guides

Guide 1: Offices and shops

Guide 2: Factories and warehouses

Guide 3: Sleeping accommodation

Guide 4: Residential care premises

Guide 5: Educational premises

Guide 6: Small and medium places of assembly

Guide 7: Large places of assembly

Guide 8: Theatres and cinemas

Guide 9: Open air events and venues

Guide 10: Healthcare premises

The guides are available for download from:

https://www.gov.uk/government/collections/fire-safety-law-and-guidance-documents-for-business

bwf FIRE DOOR ALLIANCE

1. Home Office Figures: https://www.gov.uk/government/statistics/fire-and-rescue-incident-statistics-england-year-ending-march-2020

Active and passive fire protection working together

Passive fire protection is based on the principle of containment. Products are built into the fabric of the building, and so rarely obvious to the untrained eye. These products then resist fire or burn at a slow predictable rate to reduce the penetration of a fire for a minimum period of time.

People are more aware of active protection systems, such as alarms, water sprinklers and fire extinguishers. They are visible and it is easy to understand how they work to control a fire. This often leads to the assumption that active systems are the most effective means to increase fire safety in a building. In fact, in many cases active systems assume that passive systems are already part of the building and are designed to work in combination with them.

The best fire protection plan will have both active and passive fire protection methods working together. By using an early warning system, containing a fire to a small compartment and providing methods of controlling or extinguishing a fire, you have the most effective method of protecting lives and property.

The role of a fire door in passive fire protection

A fire door has a critical role to play in any passive fire protection plan. A doorway is considered a weak point in containing a fire as it represents a break in the fire protection products within the wall. A door also requires a gap between the frame and the leaf and often includes metal components that conduct heat.

A fire door is an engineered safety device that requires all of its components to fulfill their roles for the door to achieve its function. A fire door closer ensures the door leaf remains shut, while the hinges and latch will hold the door tightly in the frame. Intumescent seals also need to go off when a fire breaks out to close the frame to door leaf gap. Smoke seals can be added where required to restrict the flow of smoke. Apertures cut into fire doors, such as for vision panels, air transfer grilles or for letter boxes are also a potential weak point of a fire door, so it is essential that any glazing or other types of apertures are secured using intumescent sealing systems and that the work is only carried out by a licensed converter.

The role of a Licensed Converter

A Licensed Converter, often referred to as a Licensed Door Processor, is a company who has sought permission from a door manufacturer to make certain modifications to the door, or a blank manufacturer (from which a finished fire door can be produced), and have themselves acquired third party certification.

Third-party certification of fire doors

To ensure best practices in passive and active fire protection, the BWF Fire Door Alliance advocates the use of third-party certificated products. Through this the customer and enforcement authorities can be confident the goods supplied and installed are fit for purpose.

Third-party certification is a process of testing and verifying a fire door's design, performance, manufacturing process and quality assurance of procedures and supporting documentation. A company that seeks third-party certification is independently audited to ensure that the management and manufacturing processes, and supporting systems, are in place to ensure consistency with the fire door that was initially tested. The product is also subjected to regular scrutiny, with periodic testing taking place on standard products to ensure that the test wasn't just a once-only event.

bwf FIRE DOOR ALLIANCE

The Building Centre, 26 Store Street, London, WC1E 7BT

t: 020 3870 5020 | **e:** firedoors@bwf.org.uk | **w:** firedoors.bwf.org.uk