

01

Replacing fire door seals

Document
Fact Sheet 01

The Intumescent Fire Seals Association (IFSA) is the trade association dedicated to the science and application of intumescent based sealing materials for the passive fire protection industry.

The Association provides technical advice and guidance on all matters relating to fire door seals, smoke seals, glazing seals and all penetration/gap sealing problems.

IFSA Fact Sheet 1: Replacing fire door seals

Intumescent

Intumescent fire seals play a vital role in fire resisting doors, by expanding and closing the gap around the edge of the door in the event of a fire, not only preventing the passage of fire and hot smoke throughout the building but also applying pressure to the perimeter of the door to hold the door leaf in place as it begins to deflect as the exposed face chars and dehydrates.

During the operational life time of a fire resisting door, it is possible that the intumescent seals around the perimeter of the door will become damaged or removed by wear and tear, impact or intentional vandalism.

This fact sheet explains how to correctly replace missing or damaged intumescent fire seals and some of the key items to consider in the replacement process.

For more detailed technical information on intumescent fire seals please refer to IFSA Information Sheet 01; The Role of Intumescent Materials in the Design and Manufacture of Timber Doors.

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Replacing Fire Door Seals

Limitations: The guidance given herein is for replacing intumescent fire seals on doors that have been established as fire resisting door assemblies from records, identifying third party certification marks, manufacturer's decals or on-site assessment by an individual competent in the field of fire resistance testing and assessment. The sheet is not to be used for fitting intumescent seals to doors that were not originally installed as fire doors or to doors that have never been fitted with perimeter intumescent fire seals.

The process: The first part of the process is to identify the type and manufacturer of the seal in the perimeter of the door leaf. This can be achieved by lifting the seal from the groove in the perimeter of the leaf and looking for any identifying marks, manufacturer's information or third party certification references printed on the case. If the seal can be identified it is recommended that exactly the same type and size of seal is used to replace the damaged section. The replacement section needs to be tightly fitted within the groove following the seal manufacturer's fitting instructions.

If the manufacturer of the existing seal cannot be identified it is recommended that the entire perimeter strip is replaced with new but with the same dimensions as existing. Ideally the seal should be the same generic type as existing (e.g. sodium silicate – white core or graphite – black core).

Seals should be sourced from reputable manufacturers with suitable supporting test evidence such as members of IFSA or manufacturers with third party certification.

Where grooves for seals pass by items of building hardware (e.g. hinges) it must be ensured that they are cut accurately to ensure that the maximum amount of intumescent material, within the pvc case, is maintained alongside the item of hardware.

Care must also be taken to replace any integral smoke seals with the same type of smoke seal (e.g. brushes or blades) to maintain smoke leakage performance. For higher performance door assemblies such as FD60 and above, it is essential to accurately identify the manufacturer and type of seal and replace like for like.

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Myth Busters

1. There is no such thing as a 30 minute or 60 minute intumescent fire seal. They are tested as part of the complete door assembly and help to provide the required level of fire resistance depending on the type, size, location and configuration.
2. Not all intumescent fire seals are suitable as perimeter seals around door leaves. Some strips are designed and engineered for specific applications such as glazing.
3. A 30 minute fire rated door without perimeter intumescent fire seals should not be assumed as being capable of 20 minutes fire resistance performance.
4. An intumescent fire seal does not control the spread of smoke at ambient temperature, this is provided by smoke seals, which could be an integral blade or strip or a separate seal around the perimeter of the door leaf including the threshold (see Fact Sheet 02).

Get in touch

Visit ifsa.org.uk for more information and expert technical guidance on fire door seals, smoke seals, glazing seals, and solutions for penetration and gap sealing.

Together, we're raising standards in fire safety - working to maximum safety and compliance across the fire protection industry.



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