Fire Door Silicone Sealant

Installation Guide

Fire & Acoustic Seals

Contents

Introduction

Unprotected cavities around fire door frames can be easily exploited by fire, and if not sealed or protected correctly, can undermine their fire performance.

FAS Fire Door Silicone Sealant seals gaps around 60-minute external and internal fire-rated doors, flat entrance doors, and timber screens.

This sealant has been tested to meet BS 476: Part 22 1987 & BS EN 1634-1: 2014 for fire rating and BS EN 1634-3: 2004 for preventing smoke and air leakage - see table for application details.

It is recommended that installers are members of industry recognised quality assurance installation schemes that meet best practice standards in accordance with 'BS 8214: 2016 Timber-based fire door assemblies - Code of practice'.

Test evidence and support is available upon request.

Product Application

- Cavity gap filling and perimeter pointing between walls and timber frames of fire-rated doors and screens. It will seal joints of up to 25mm without slumping.
- Fire-stopping sealant providing 60 minutes fire resistance for gaps up to 30mm with FAS Fire Door Foam™ or stone mineral fibre wool.

Please follow the detailed guidance to achieve the appropriate fire specification. Architrave is optional.

FD60 Doorsets

Fire Rating	Door Frame Substrate	Wall / Partition Substrate	Minimum Seal Depth	Maximum Joint Width	Backing Material
FD60	Hardwood (not Beech – Fagus sylvatica)	**Timber Stud**	**10mm sealant both faces**	30mm	FAS Fire Door Foam™, Stone Mineral Wool Insulation or Backing Rods
		Steel Stud			

Testing Standards

Building Regulations

There are several regulations that relate to fire doors in England which include:

- **Approved Document B** – Fire Safety Volume 1 and 2
- **Regulation 7** – Materials and workmanship
- **Approved Document E** – Resistance to sound
- **Approved Document M** – Access and use of buildings
- **Regulation 38** – the handover of fire safety information which will assist the responsible person to operate and maintain the building or extension with reasonable safety.

There are other equivalent documents in Wales and Scotland.

British Standards

Timber based fire door assemblies **BS 8214:2016** is the code of practice that is referenced in most fire door certification. This code of practice provides further installation relating to different wall types, linear gap seals, and installation scenarios. This standard is only applicable to door assemblies that are designed to provide fire resistance ratings of up to and including 2 hours when tested in accordance with **BS 476: Pt 20&22:1987** or **BS EN 1634-1.**

BS 476:Part 20:1987 – Fire tests on building materials and structures – Part 20: Method for determination of the fire resistance of loadbearing elements of construction.

BS 476:Part 22:1987 – Fire tests on building materials and structures – Part 22: Method for determination of the fire resistance of non-loadbearing elements of construction.

BS EN 1634-1 – Fire resistance and smoke control tests for door and shutter assemblies, operable windows, and elements of building hardware – Part 3: Smoke control test for door and shutter assemblies.

Door and Glazed Screen Testing

Timber-based fire-resisting door assemblies and glazed screens must have suitable fire resistance evidence or have been assessed for fire resistance integrity in accordance with BS 476:Part 22:1987 and BS EN 1634-1:2014 + A1:2018 for 30, 60, 90 or 120 minutes as applicable.

Test Data Information

All test data is available upon request.

Fire Rating	Test Standard	Report Reference	Certification Body
1 hour	BS EN 1634-1: 2014 + A1:2018	WF526263	WarringtonFire
Air/Smoke Leakage	BS EN 1634-3:2004	WYC524858	
1 hour	BS 476 22: 1987	CFR2209012	Cambridge Fire Research
1 hour	BS 476 22: 1987	CFR2204071	

Acoustic tested in accordance with BS EN ISO 10140-2 : 2010 - Reference WYC528972, WarringtonFire

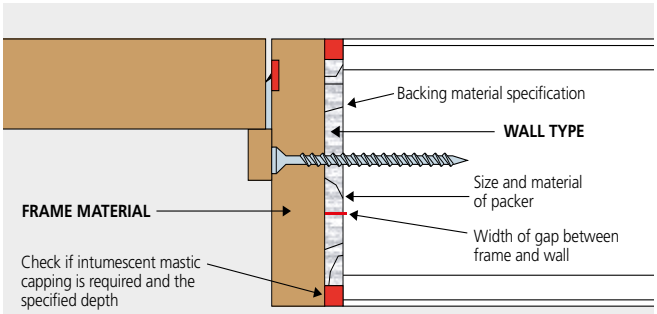
Installation

To maintain the fire resistance of fire-resisting walls or partitions when fitted with a door/screen assembly the junction between them needs to be adequately sealed.

Fitting new fire doors into existing frames could be an issue if the existing frame is not fit for purpose or compatible with the certification of the new fire door. There are various checks you should do in this situation. Refer to the BWF Fire Door Alliance Installation Guide for more information – **www.bwf.org.uk**

Frame Installation

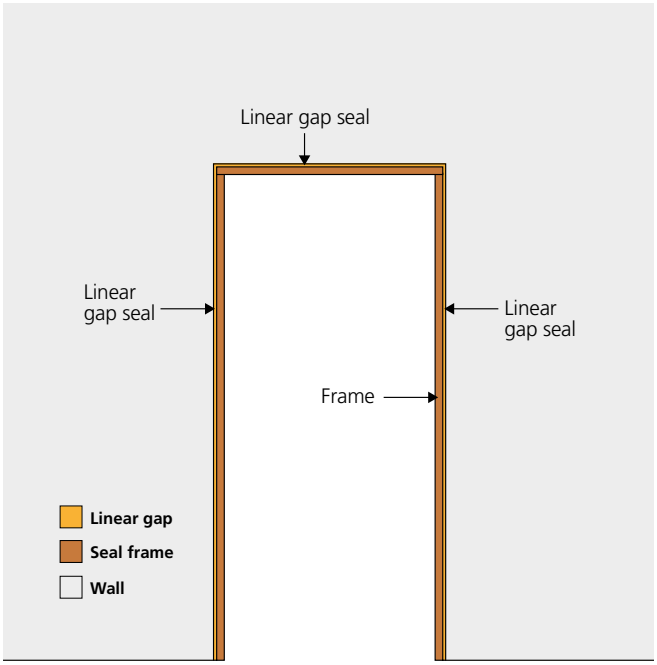
- Set the frame centrally within the opening making sure it's square and level.
- Use packers to keep the frame square.
- Use suitable fixings which should penetrate at least 50mm into the wall from the frame (excluding any fitting gap) in accordance with BS8214:2016.
- Fixings should be located 100mm from the top and bottom of each frame leg with five fixings on each side.
- FAS Fire Door Silicone Sealant has been specifically tested with plastic packers and standard screw fixings. Timber packers may also be used where required.



Points to consider when selecting the appropriate linear gap sealing system

Linear Gap Seal

The linear gap seal refers to the method and materials used to fill any gap between the back face of the frame and the wall. This can be one of the weakest points for fire performance if not filled correctly. FAS Fire Door Silicone Sealant is an approved sealing product that will protect the frame and surrounding structure when installed correctly.



Checklist

The fire performance varies depending on the following factors:

- ✔ The fire resistance of the installation – FD60 for this use.
- ✔ The wall construction material and the frame material.
- ✔ The gap between the back face of the frame and the wall. If the gap exceeds the recommended width you risk inferior performance and invalidation of certification.

Refer to the detailed guidance in the table on page 2 to achieve the required fire performance.

Personal Protective Equipment (PPE) must be worn whilst handling FAS Fire Door Silicone Sealant. Please refer to the Material Safety Data Sheet (MSDS) for more information.

Installation of Fire Door Silicone Sealant

1. For good adhesion, the surfaces of the building element should be firm, clean, and clear of dust or loose particles. Degrease non-porous surfaces and seal porous surfaces with a suitable primer.
2. This product doesn't need a primer on most substrates including glass, aluminium, steel, rigid PVC and concrete, although an adhesion test is recommended prior to full application.
3. Where movement is likely the minimum dimension should be 6mm x 6mm and the maximum 25mm wide x 12mm deep. Use a suitable backing rod or fire-rated material for deeper joints.
4. Optimum application temperature 5 °C → 40 °C. Do not use in joints where movement exceeds +/- 25% of joint width.
5. Ensure the surrounding area is protected, particularly if using the sealant in retrofit applications to protect any damage to decoration or furnishings.
6. Attach the adapter or gun to the cartridge and apply sealant ensuring good surface contact is achieved.
7. Apply to joint widths of up to 30mm over backings of FAS Fire Door Foam™ or a stone mineral fibre wool.
8. Apply a minimum of 10mm Silicone Sealant to both faces.
9. Fill the gap slowly building up layers to completely fill the void.
10. Smooth off with a wet spatula and remove any masking tape within 10 minutes of application.
11. Clean tools with water immediately after use.
12. Allow the sealant to dry which will take 15 minutes to 1 hour depending on the room temperature.
13. Architrave to be installed if required once the installation has been signed off on site.

FAS Fire Door Silicone Sealant with FAS Fire Door Foam™ for joint widths up to 30mm to achieve fire ratings of up to 60 minutes when applied correctly.

Pre-Installation Checklist

- ✔ Assess the fire rating performance required.
- ✔ Ensure the wall and frame are suitable materials and sizes to meet the fire rating.
- ✔ Check the frame depth and maximum gap width to achieve the fire rating.
- ✔ Ensure the frame is centrally fitted in the wall opening to ensure the equal gap is maintained on both sides of the frame and the wall.
- ✔ Make the same checks on the gaps between the head of the frame and the wall construction above.
- ✔ Place packers to brace the fixing.

Post Installation Checklist

- ✔ There are no gaps in the linear seal once filled and there is full sealing around the entire perimeter.
- ✔ The cavity has been capped by a minimum of FAS Fire Door Silicone Sealant and smoothed off with a wet spatula.
- ✔ Take photos of the fire-stopping installation before adding the architrave.
- ✔ The job has been signed off by the contractor.

Shelf Life

9 months if stored in accordance with storage guidance.

Storage & Disposal

Silicone cartridges can be stored for up to 9 months from the production date when stored in unopened cartridges under cool, dry conditions between 5°C and 25°C. Do not allow to freeze.

Empty cartridges should be disposed of appropriately in line with local regulations. Refer to the Material Safety Data Sheet for more information.

Maintenance

Recorded inspection should be conducted in line with the maintenance and inspection schedule that is defined for the building or project. These should be conducted and recorded by competent individuals.

Where product is damaged or tampered, new product should be installed with the installation guidance.

Frequently Asked Questions

Q: What fire rating does FAS Fire Door Silicone Sealant offer?
A: This sealant has been fire tested to achieve 60 minutes (BS476 Pt 22: 1987 & BS EN1634-1) in timber doorsets and timber glazed screens.

Q: What is the minimum and maximum gaps FAS Fire Door Silicone Sealant can be used in?
A: For FD60 ratings this can be used to fill widths up to 30mm if used with FAS Fire Door Foam™ or a stone mineral fibre wool. Contact our team for information on other applications.

Q: Do you have to install FAS Fire Door Silicone Sealant with specialist packers or fixings?
A: No, FAS Fire Door Silicone Sealant has been tested with Fire Door Foam™ with plastic packers and standard screw fixings. Timber packers may also be used where required.

Q: Can I add architraves over FAS Fire Door Silicone Sealant?
A: Architraves are optional, FAS Fire Door Silicone Sealant has been tested without.

Q: Does FAS Fire Door Silicone Sealant have a shelf life?
A: Silicone has a shelf life of up to 9 months when stored in unopened cartridges under cool, dry conditions between 5°C and 25°C.

Q: Where can I find technical and health & safety information?
A: All relevant information can be downloaded on our website: www.fireandacousticseals.co.uk

Q: How much will a 310ml cartridge seal?
A: A 310ml cartridge will seal approximately 8.5m with a 6mm x 6mm bead or 2.5m with a joint dimension of 15mm x 8mm.

Q: Can I use FAS Fire Door Silicone Sealant when doorsets are required to have smoke control?
A: Yes, FAS Fire Door Silicone Sealant has smoke leakage evidence to BS EN 1634-3: 2004.

Q: Why use FAS Fire Door Foam™ instead of stone mineral fibre wool as backing for FAS Fire Door Silicone Sealant?
A: FAS Fire Door Foam™ installation saves time and money against traditional mineral fibre wool methods.

References & Support

FAS Fire Door Silicone Sealant has been independently tested, and third-party certified to meet BS 476 22: 1987, BS EN1634-1: 2014 + A1:2018, BS EN 1634-3: 2004.

Testing Bodies

CAMBRIDGE FIRERESEARCH
Tested to Certifire standards

Industry Partners

NBS Source PARTNER

ASDMA MEMBER

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