

## The use of Fire Resistant Expanding Foam

TDS202/110624

### Building Regulations

Building Regulations are the legislative requirements that are applied to most construction work carried out in the UK. The Ministry of Housing, Communities and Local Government publish practical guidance called 'Approved Documents' on ways to meet the Building Regulations. Approved Document B volumes 1 and 2, address compulsory fire safety precautions that ensure the safety of occupants, firefighters and those close to the building in the event of a fire.

Within the Approved Documents, reference is made to appropriate standards which can provide further useful guidance on how to meet current regulations. The guidance from Approved Document B refers to BS 8214:2016 for the installation of doorsets.

To maintain the fire resistance of a wall when fitted with a door assembly, the sealing between the timber frame and surrounding structure should be in accordance with tables 2 to 5 of BS 8214:2016. The methods demonstrate the use of fire resistant expanding foam for 30 minute applications but not for 60 minute. Our technical data sheet No.96 shows the approved methods.

### Fire Resistant Expanding Foam

Fire resistant expanding foam is becoming very popular with installers of fire resistant timber doorsets and there is a call for its use for the installation of both 30 minute and 60 minute doorsets. As with the 30 minute test requirement from BS 8214:2016, test evidence to BS 476-20 and/or BS EN 1366-4 is now available for 60 minutes. In addition full scale tests to BS 476-22 and BS EN 1634-1 have shown that certain brands of fire resistant expanding foam are suitable for 60 minute fire resistant doorsets.

Two products that have been tested and fully assessed by Kiwa Fire Safety Compliance (formally IFC) are **Blue 60** by Exitex Limited and **Fire Door Foam** by Fire and Acoustic Seals Limited. Based on the contents of assessment reports PAR/16927/01 Rev A and PAR/18385/01 Rev C, David Smith St Ives Limited deem these two products to be acceptable for use with our 30 minute and 60 minute doorsets, subject to the following;

- For use with standard type doorsets, excluding projecting frames, frames with feature rebates and shadow gaps
- The overall width and height of assemblies must not exceed 2650 x 2650mm
- Installation must be in accordance with our technical data sheets No.90 and/or No.95
- The gap between the timber frame of the doorset and the structure should not exceed \*20mm wide or be less than 5mm (\*Softwood frames less than 100mm wide are restricted to 11mm when using **Fire Door Foam**)
- The minimum frame width for both FD30 and FD60 should be 81mm, except when using **Blue 60** for FD60 as this must be a minimum of 100mm
- The cavity must be completely filled with the expanding foam and trimmed back once expansion has taken place
- **Blue 60** must be used in conjunction with Blue 60 Packers
- **Fire Door Foam** can also be used as a frame to structure gap joint seal for glazed screens (**Blue 60** not permitted)

By way of an actual test to BS EN 1634-3 we are aware that expanding foam does not completely seal and would allow smoke to penetrate at a pressure of 25Pa. BS 8214:2016 recognizes that such leakage can occur and in all cases includes the use of a 10mm mastic capping in all examples where smoke control doorsets are a requirement.

Until such time as the standard is revised, David Smith St Ives Limited would advise the user of fire resistant expanding foam to add a method of sealing against smoke leakage where smoke control is needed. This could be by way of a 10mm deep mastic capping in compliance with BS 8214:2016 or it could be by well fitted mechanically fixed architraves on both sides sealed with mastic to the supporting structure and the frame.

*This opinion is given based on the assessments produced by Kiwa Fire Safety Compliance (formally IFC) for both Blue 60 Foam with Blue 60 Packers by Exitex Limited and Fire Door Foam by Fire and Acoustic Seals Limited. Our opinion cannot be taken as acceptance to Building Regulations and we would advise that this deviation from the Approved Documents B Volumes 1 and 2 is discussed with the relevant Building Control.*

David Smith St Ives Limited – June 2024