Intumescent Seals

Therm-A-Seal

Part of the Dixon International Group Ltd
www.dig.co.uk

Introduction

The installation of intumescent fire seals around fire door assemblies is essential to meet the requirements of BS5588 'Fire precautions in the design and construction of buildings'. To meet this requirement Intumescent Seals has developed a unique intumescent formulation representing a breakthrough in intumescent product technology.

The Product

THERM-A-SEAL has been developed primarily for sealing the air-gap between the edges of the leaves and the frames, or between the separate leaves, of both timber and steel fire-resisting door assemblies in the event of a fire.

In a fire situation, an intumescent foam is produced which is voluminous and also capable of exerting a pressure high enough to restrain the edges adjacent to the seal. THERM-A-SEAL is therefore ideally suited to applications where some applied restraint combined with the normal gap-filling properties of intumescent materials is needed. Unlatched door leaves, or double swing assemblies are most likely to benefit from such characteristics across the head, although the seal is equally well suited to conventional latched single-leaf doors.

Application

For most latched single-leaf single-swing 30 minute (FD30) timber fire-resisting door assemblies, a single 10 mm x 4 mm strip of THERM-A-SEAL down each jamb and across the head will normally suffice. Unlatched single-leaf assemblies may be satisfactory with a 10 mm x 4 mm THERM-A-SEAL but, depending on the nature of the door, it may be necessary to increase the size to 15 mm x 4 mm.

Some latched single-leaf single-swing 60 minute (FD60) timber fire-resisting door assemblies, will satisfy the requirement of the BS476: parts 20 and 22: 1987 test procedures when fitted with a single 20 mm x 4 mm strip across the head and down both jambs. If improved performance is required a pair of 15 mm x 4 mm will ensure better protection around the hinges and across the head.

The intumescent foam produced by THERM-A-SEAL has high temperature tolerances and so is well suited for use with steel framed timber door assemblies where conventional intumescent foams may break down.

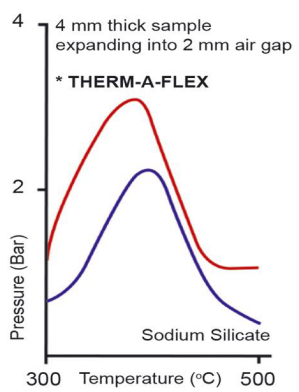
Description

THERM-A-SEAL is made from a unique chemical formulation based on expandable graphite. The seal is supplied in a PVC casing of various colours. The core material THERM-A-FLEX is capable of large expansion combined with significant pressure forming an excellent seal against the ingress of fire.

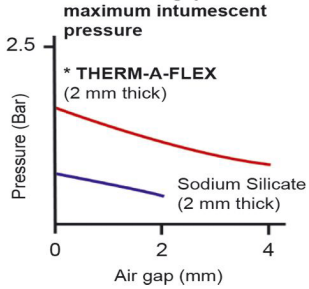
Unlike many other types of intumescent material, THERM-A-SEAL is not affected by moisture and therefore does not require any further protection; it is also unaffected by carbon dioxide.

* Core material of THERM-A-SEAL

Effect of temperature on intumescent pressure



Effect of air gap on maximum intumescent pressure



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Availability

THERM-A-SEAL is supplied as standard in brown, white, black, grey, cream, red and a light oak woodgrain finish but other colours are available to order.*

Nominal sizes are available in the following dimensions:

10 mm x 4 mm
15 mm x 4 mm
20 mm x 4 mm
25 mm x 4 mm
30 mm x 4 mm
38 mm x 4 mm

and in standard lengths of 1050 mm and 2100 mm.
Other sizes and lengths are available to special order.

THERM-A-SEAL can be supplied with or without double-sided adhesive tape.
Please state your requirements.

Test Evidence

THERM-A-SEAL meets the requirements for fire and smoke performance of BS476 : parts 20, 22 & 31.1 . It has also passed the more exacting standards required by Certifire. It is currently being evaluated to the requirements of BS EN 1634-1.

Copies of test certificates and other evidence are available on request.

Related Products

Unlatched doors may require additional intumescent material across the head. Latches, hinges, glazed elements, door closers, kick plates, ventilation grilles and other ironmongery may require additional protection in the event of a fire.

Please contact our Technical Department for further advice.

Contacting Us

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* Colours may vary slightly between examples illustrated in print, online and actual examples - which will depend upon lighting conditions in situ.