



Safety Note 69

Painting of Fire Doors and Seals

This Safety Note summarises the best practice for the painting of fire doors and heat and smoke seals.

Introduction

The role of the fire door is one of the most important elements of fire protection in a building. It's effectiveness in resisting flames and smoke helps to stop a fire from spreading, saving property and allowing time for occupants to escape thereby saving lives.

Careless and excessive painting of some fire door seals can severely reduce their effectiveness and will cause fire and smoke to spread around the door edges.

Types of Seals

There are three types of door seal available for fire and smoke containment:

- Intumescent seals designed to maintain the integrity of the door and frame;
- Smoke seals to restrict the flow of smoke before intumescent heat seals become effective
- Combined intumescent and smoke seals where both intumescent and smoke seals are incorporated in one assembly.

Painting Fire Door Leaves

Fire door leaves are generally not required to provide a specific surface spread-of-flame barrier, and may therefore be decorated as desired with all types of paint and varnish.

Painting over an Intumescent Heat Seal

There is no evidence to suggest that over painting intumescent seals has any detrimental effect on the ability of the seals to perform efficiently. There are some benefits in over painting the seals as they are less likely to absorb atmospheric moisture. However, there are limits on how much paint can be applied without there being a risk of the seal being rendered inoperative. It is recommended that over painting of intumescent seals be limited to a maximum of five coats of conventional oil-bound paint or varnish.



Intumescent heat seal fitted on to the edges of the door – because there are no cold smoke seals it is permissible to paint over the heat seals with up to 5 coats of oil based paint or varnish



Intumescent heat seal fitted on to the door frame – because there are no cold smoke seals it is permissible to paint over the heat seal with up to 5 coats of oil based paint or varnish

Preparation

When preparing a door or frame for redecorating, the use of heat or chemical strippers should be avoided if intumescent seals are incorporated. If seals are damaged by either of the processes, they should be replaced. For complete effectiveness, intumescent seals should be replaced by identical products as those fitted in the door or frame.

Smoke Seals

Smoke seals control the leakage of air and smoke through vulnerable parts of the door, around the perimeter and when required at the threshold. There are two main types of edge seals capable of providing the specified smoke leakage rates;

- Deflection or Compression seals, normally fitted to the doorstep to produce contact with the face of the door.
- Wiping seals fitted in the door leaf edge or in the frame opposite the edge.

Painting over a Smoke Seal

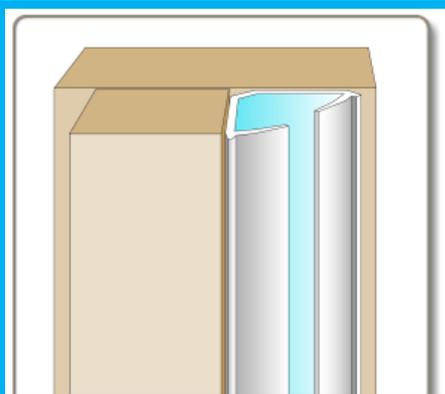
To be effective as a barrier to smoke the seals must be flexible. Do not paint over smoke seals as this will certainly compromise smoke containment performance. Application of paint or varnish on a smoke seal will severely reduce the flexibility and effectiveness of them. If the smoke seal part of the seal has already been painted over, you will need to arrange for the replacement of the smoke seal.



Combined intumescent heat and brush smoke seals - under no circumstances should the brush seal be painted



Neoprene flexible fin type smoke seal - under no circumstances should this seal be painted



PVC, acoustic and smoke perimeter seal - located in the protected corners of rebated frames of fire doors. Under no circumstances should this seal be painted

Further Advice

If you are in any doubt about whether or not to paint over fire door seals then seek the advice of the University of Reading Fire Safety Advisor who can be contacted by e-mailing firesafety@reading.ac.uk or by dialling 07714 850977.