

Safety Note 69

2nd Edition, 16/9/22

PAINTING OF FIRE DOORS, INTUMESCENT STRIPS & COLD SMOKE SEALS

Summary			
This Safety Note summarises the best practice for the painting of fire doors and intumescent strips and cold smoke seals.			
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Introduction

The role of the fire door is one of the most important elements of fire protection in a building. The doors 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 main types of door seal available for fire and smoke containment:

- Intumescent strips designed to maintain the integrity of the door and frame.
- Smoke seals to restrict the flow of smoke before intumescent strips expand and become effective.
- Combined intumescent strips and smoke seals where both intumescent strip and smoke seal are incorporated into 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 painted or lacquered as desired, in accordance with the manufacturer's recommendations.

Preparation

When preparing the door or frame for redecorating, the use of heat or chemical strippers should be avoided where seals are incorporated. If seals are found to be damaged, they should be replaced.

Painting over intumescent strips

Smoke only seals should never be overpainted. For combined intumescent strip and smoke seals, the smoke element should never be overpainted. For intumescent strip only seals, there is no evidence to suggest that overpainting of intumescent strips has any detrimental effect on the ability of the seals to perform efficiently. However, overpainting should be avoided wherever possible, or if unavoidable should be limited to a maximum of five coats of conventional paint or lacquer or a maximum of 0.5 mm, whichever is the greater.



Intumescent strips fitted to the **edges of the door** – because there are no cold smoke seals it is permissible to paint over the intumescent strips with a maximum of five coats of conventional paint or lacquer or a maximum of 0.5 mm, whichever is the greater.



Intumescent strips fitted to the **door frame** – because there are no cold smoke seals it is permissible to paint over the intumescent strips with a maximum of five coats of conventional paint or lacquer or a maximum of 0.5 mm, whichever is the greater.

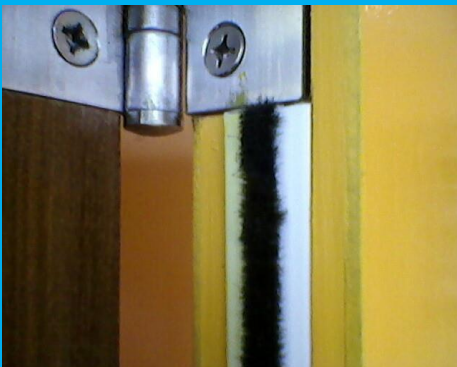
Cold smoke seals

Smoke seals prevent the leakage of cold 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 the cold smoke seal

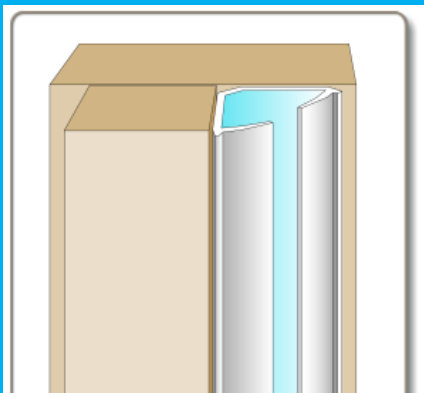
To prevent leakage, cold smoke seals must be flexible. Do not paint over cold smoke seals, application of paint or lacquer on a cold smoke seal will severely reduce its flexibility compromising smoke containment. If the cold smoke seal has already been painted it must be replaced.



Combined intumescent strip and brush cold smoke seals – under no circumstances should the brush seal be painted



Neoprene flexible fin type cold smoke seal – under no circumstances should the fin seal be painted



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

Useful Information

- BS 8214: 2016 – Timber based fire door assemblies
- [Safety Code of Practice 34B – Fire Safety Design Guide](#)
- Doors and Hardware Federation Code of Practice - Hardware for Fire & Escape Doors Issue 4