

‘ASFP’ Position on Installing Partitioning to the Underside of Structural Steel Sections Coated with a Reactive Fire Protection System

Reactive coatings (also known as Intumescent coatings) are applied to structural steel sections to provide insulation from heat, so the steel maintains its structural stability in a fire situation.

In the event of a fire, the coatings swell by up to 50 times the thickness of the paint to form a carbon layer (Char) and this provides thermal insulation so the beam/column can maintain its structural strength.

Fixing anything directly to either the column/beam treated with intumescent paint will impede the intumescent paint from expanding and may allow heat to transfer to the steel. This may result in localised loss of strength and potential failure in the event of a fire.

Partitioning is often installed along the line of a structural steel frame to provide fire compartmentation which includes insulation as well as integrity and/or sound insulation performance.

The steel frame (beam or column) alone is unlikely to be able to provide the required level of acoustic or thermal insulation to maintain compartmentation, even with intumescent paint.

ASFP have worked with FIS (Finishes and Interior Sector – the Dry Lining Industry Trade association) to develop this advisory note.

Because of the uncertainty about the most robust method of installing partitioning to the underside of structural steel beams coated with intumescent material and the possible impact this may have on any warranty together with the added requirement to ensure that fire compartmentation (integrity and insulation) and acoustic separation is maintained, ASFP and FIS recommends that the beam or column is treated for fire protection and acoustic separation as if there were no other treatment to the steel to replace the level of protection designed to be provided by the reactive coating system and also meet the performance requirements of the partitioning.

Boxing out the beam or column with an independently tested framed or an unframed system that will provide the required level of fire protection to the beam/ column, ensures that the beams/columns are protected and that the performance requirements of the compartmentation are maintained.

Contractors should be aware of their contractual responsibility and not to accept design liability, unless it is within their package and they are working within the parameters of their Professional Indemnity Insurance.

ASFP and FIS recommends that those involved should consult and seek written approval from:

- Fire Consultant or Architect – whoever is responsible for fire strategy on the project
- Acoustic Consultant or Architect – whoever is responsible for the acoustic strategy on the project
- Partitioning system owner
- Intumescent coating manufacturer

Written approval should be granted by the relevant approving authority prior to commencing any work.

In summary:

- When installing partitioning to a structural column/beam, box in with an appropriate tested system to maintain the fire protection.
- Be aware of design liability
- Consult and seek approval and get approval in writing.