Envirograf®
Protecting the irreplaceable

Door Upgrading
Technical Data

UPGRADING DOORS TO FIRE DOORS

with Envirograf® Intumescent Coating & Card/Veneer

FIRE TEST PERFORMANCE

Both our Intumescent Coating and Intumescent Card/Veneer have been tested a number of times on different door types to ensure they will provide necessary fire protection.	**30/60 min protection**

Application of Intumescent Coating
page 10

We're proud members of:

FPA Fire Protection Association MEMBER 2014 · The British Fire Consortium · Affiliated to IFPO Entit ad Defendere · BCF British Coatings Federation · Structural Timber Association Member

ITeC The Catalonia Institute of Construction Technology

We are currently in the process of obtaining ETA certification for our products.

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ISO9001

Fire doors installed in all buildings can help to prevent deaths in the event of a fire, as well as assist firefighters to access the fire and to put it out. They also limit the spread of smoke and flames to other parts of the building. The precise legislation governing where fire doors for domestic properties are legally required is complicated and detailed, but as a general rule, multiple occupancy properties, such as blocks of flats, are obliged to include more fire doors than detached houses are. This is because of the greater risk of the fire spreading to other people's homes in multiple occupancy buildings.

The way that fire doors work is to compartmentalise the danger to just that room. When a fire door is correctly installed, with the right frame in place, it is able to block the passage of smoke, fumes and flames for a pre-determined amount of time, usually between 30 minutes and one hour.

Envirograf® Door Upgrade Products

- **FULLY CERTIFIED TO SATISFY BUILDING CONTROL OFFICERS**
- **COMPLY WITH CURRENT BUILDING REGULATIONS**
- **KEEP THEIR PERIOD LOOK AND FEEL**
- **WHITE OR CLEAR FINISH AVAILABLE**
- **UPGRADE ALL TYPES OF DOORS**
- **MAINTENANCE FREE**
- **MEETING BS476 Part 22 (1987)**

Door Types

As you can see we divided doors into three types, because they all have different requirements and application. When you have worked out which type of door you have, you can check this specific type application methods. If you are unsure of which type of door you have, please contact our Technical Team, which would be happy to help you.

Please read carefully the information provided, as incorrect application may effect in your door not being fully protected.

We have been supplying our Door Upgrade Products for over 30 years. During this time we've been co-operating with Building Control Officers, and are widely recognised and approved.

However we always recommend asking your local Building Control Officer first, before upgrading your doors to avoid any unnecessary problems with their approval.

We will supply you with a Certificate of Supply, which will have to be signed by you or your contractor to confirm that you've applied the coating following manufacturer recommendations.

Both our Intumescent Coating and Intumescent Card/Veneer have been tested a number of times on different door types to ensure they will provide necessary fire protection.

or Flat panels (stiles & rails)
Flat panels with beads

Page 4

Raised and fielded

Page 6

Ledged and Braced

Page 8

FLAT PANELS (STILES & RAILS) & FLAT PANELS WITH BEADS

Flat panels (stiles & rails)

Flat panels with beads

Application type depending on door measurements:

DOOR THICKNESS

30 minutes		60 minutes	
Doors over 30mm		Doors over 42mm	
panel thickness over 9 mm	panel thickness 6-9 mm	panel thickness over 18 mm	panel thickness 12-18 mm
Requires HW Coating	Requires HW Coating and Card/Veneer	Requires HW Coating	Requires HW Coating and Card/Veneer
see below	see opposite	see below	see opposite

How to apply Intumescent Coatings - see Page 10

How to measure the thickness of the panels:

First measure the thickness of the door (example 35mm)

Then using a straight edge measure the depth from the panel to the face of the door (example 12mm)

Multiply the result by 2 and then subtract it from the door thickness

Example:
35mm - (2x12mm) = 11mm thick panels

Upgrading process for doors with panel thickness at least 9mm thick for 30 minutes and at least 18mm thick for 60 minutes

Only paint the face of the door

CLEAR SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre
Wet Film 85 µm - Dry Film 50 µm — Water-based

2 coats of HW02/E - at 8m² per litre / per coat
Wet Film 125 µm - Dry Film 75 µm — Water-based

Apply Top Coat
HW/EXCEL Clear - at 1 coat @ 10m² per litre
Wet Film 100 µm - Dry Film 60 µm — Solvent-based

How to apply Intumescent Coatings - see Page 10

WHITE or COLOURED SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre
Wet Film 85 µm - Dry Film 50 µm — Water-based

2 coats of HW01 - at 8m² per litre / per coat
Wet Film 125 µm - Dry Film 75 µm — Water-based

1 coat of HW/04S Undercoat - at 17m² per litre
Wet Film 85 µm - Dry Film 50 µm — Solvent-based

You can apply your own decorative top coat after this system

Important Notes

Thickness in microns is per coat.

- Ensure the doors are free from oil and grease
- Make sure that Intumescent coating is applied to the risk side part of the doors (room side, including beads).
- Every coat should be allowed to dry thoroughly before applying another (especially important in clear system).
- Top Coat has to be applied on the same day (do not leave without a Top Coat overnight).

SPECIAL NOTES ON COATINGS

Previously painted or varnished doors DO NOT need to be stripped, provided that the paint or varnish is in good order. Follow normal preparation procedures.
Any cracks or gaps must be filled with Envirograf® Intumescent wood filler.

Contact Technical Office regarding veneers

SPECIAL NOTES ON STRIPPING

If the door needs to be stripped, ensure that all the stripping material has been cleaned off the door and off the grain of the wood. Do not apply Intumescent coating for about 6 weeks after stripping. During those 6 weeks daily wipe down with damp cloth.

NB: All knots must be appropriately treated before the application of Envirograf® products.

Upgrading process for doors with panel thickness between 6-9 mm thick for 30 minutes and between 12-18 mm thick for 60 minutes

Only paint the face of the door

CLEAR SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre. Coat all woodwork except panels — *Water-based*
Wet Film 85 µm - Dry Film 50 µm

2 coats of HW02/E - at 8m² per litre / per coat . Coat all woodwork including beads, except panels
Wet Film 125 µm - Dry Film 75 µm — *Water-based*

1 thin coat of Stabond on panels only — *Solvent-based*

Apply IA Adhesive to the back of the veneer and the panels — *Water-based*

Apply Veneer to the panels - *see below for details*

Apply Top Coat After 3 hours
HW/EXCEL Clear - at 1 coat @ 10m² per litre
Wet Film 100 µm - Dry Film 60 µm — *Solvent-based*

WHITE SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre. Coat all woodwork except panels — *Water-based*
Wet Film 85 µm - Dry Film 50 µm

2 coats of HW01 - at 8m² per litre / per coat . Coat all woodwork including beads, except panels
Wet Film 125 µm - Dry Film 75 µm — *Water-based*

1 thin coat of Stabond on panels only — *Solvent-based*

Apply IA Adhesive to the grey side of the card and the panels — *Water-based*

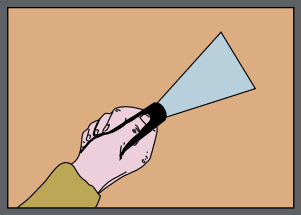
Apply Card to the panels - *see below for details*

After 4 hours apply HW04/S Undercoat to the whole face of door & panels
Wet Film 100 µm - Dry Film 60 µm — *Solvent-based*

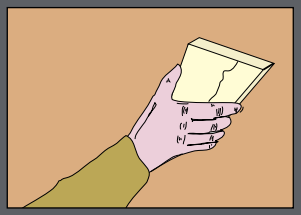
You can apply your own decorative top coat after this system

Thickness in microns is per coat.

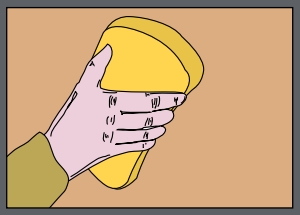
Intumescent Card Application



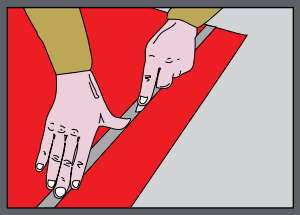
1. Scrape off all loose paint (not applicable for stained or polished doors).



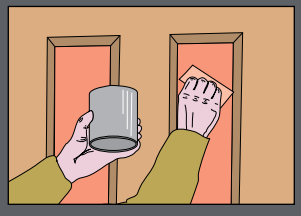
2. Thoroughly rub down the door panels (inc. corners and edges) with coarse glass paper, providing a good key for the adhesive.



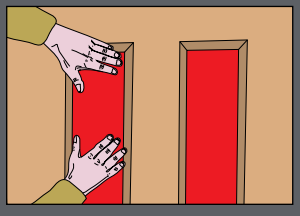
3. Thoroughly clean the panels, stiles, and rails of the door. Then coat the panels with the supplied Envirograf® Product 93 (Stabond).



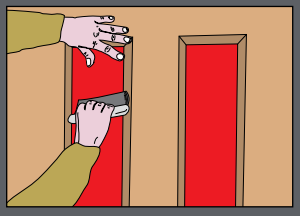
4. Measure the panel size and cut out the veneer/ card required.



5. Once the Stabond is dry, apply IA adhesive to the panel and grey side of the veneer/card.



6. Apply the veneer/card or fire card to the panel.



7. Using a flexible spatular firmly press the veener/card to the panel ensuring absolute contact over the whole surface.

8. An example of existing panel doors fully upgraded to Fire Rated Doors

RAISED AND FIELDED

How to measure the thickness of the fielded area:

First measure the thickness of the door (example 35mm)

Then using a straight edge measure the depth from the fielded area to the face of the door (example 13mm)

Multiply the result by 2 and then subtract it from the door thickness

Example:
35mm - (2x13mm) = 9mm thick fielded area

Upgrading process for doors with fielded area at least 8mm :

CLEAR SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre
Wet Film 85 µm - Dry Film 50 µm ● *Water-based*

2 coats of HW02/E - at 8m² per litre / per coat
Wet Film 125 µm - Dry Film 75 µm ● *Water-based*

Apply Top Coat
HW/EXCEL Clear - at 1 coat @ 10m² per litre
Wet Film 100 µm - Dry Film 60 µm ● *Solvent-based*

How to apply Intumescent Coatings - see Page 10

WHITE or COLOURED SYSTEM

1 coat of HW/AP Primer - at 10-12m² per litre
Wet Film 85 µm - Dry Film 50 µm ● *Water-based*

2 coats of HW01 - at 8m² per litre / per coat
Wet Film 125 µm - Dry Film 75 µm ● *Water-based*

1 coat of HW/04S Undercoat - at 17m² per litre
Wet Film 85 µm - Dry Film 50 µm ● *Solvent-based*

You can apply your own decorative top coat after this system

Important Notes

Thickness in microns is per coat.

- Ensure the doors are free from oil and grease
- Make sure that Intumescent coating is applied to the risk side part of the doors (room side, including beads).
- Every coat should be allowed to dry thoroughly before applying another (especially important in clear system).
- Top Coat has to be applied on the same day (do not leave without a Top Coat overnight).

Advantages:

- 8mm minimum fielded area thickness
- Only coat risk side (inside of the room)
- Can be applied over existing paint
- 30/60 minutes fire protection
- Quick Drying Time
- Low Odour

SPECIAL NOTE ON CLEAR COATING

Do ensure the coating of HW02/E is completely DRY & CLEAR before applying next coat. Should any white or cloudy parts show play a fan heater or hairdryer over the area for a couple of minutes and it will go clear. (But do not leave more than 30 minutes before using heat)

Important Considerations

If the door is to be stained, only use water-based stains before the application of the Coating System. When the stain has dried, clean down and then begin to apply the coating system. Trials in small areas should always be carried out prior to the full application, as colour performance can vary according to substrate type.

SPECIAL NOTES ON STRIPPING

Previously painted or varnished doors DO NOT need to be stripped, provided that the paint or varnish is in good order. Follow normal preparation procedures. If the door needs to be stripped, ensure that all the stripping material has been cleaned off the door and off the grain of the wood. Do not apply Intumescent coating for about 6 weeks after stripping. During those 6 weeks wipe down with a damp cloth daily.

NB: All knots must be appropriately treated before the application of Envirograf® products.
Any cracks or gaps must be filled with Envirograf® Intumescent wood filler.

If you wish to manufacture a Flat Panelled doors or Raised & Fielded doors we can provide you with a specification based on test evidence.

LEDGED AND BRACED

18mm minimum thickness for 20/30 door

Both sides of the door needs to be coated

Important Considerations

If the door is to be stained, only use water-based stains before the application of the Coating System. When the stain has dried, clean down and then begin to apply the coating system. Trials in small areas should always be carried out prior to the full application, as colour performance can vary according to substrate type.

SPECIAL NOTES ON COATINGS

Previously painted or varnished doors DO NOT need to be stripped, provided that the paint or varnish is in good order. Follow normal preparation procedures. If the door needs to be stripped, ensure that all the stripping material has been cleaned off the door and off the grain of the wood. Do not apply Intumescent coating for about 6 weeks after stripping. During those 6 weeks wipe down with a damp cloth daily.

NB: All knots must be appropriately treated before the application of Envirograf® products.
Any cracks or gaps must be filled with Envirograf® Intumescent wood filler.

Any open joints must be filled with Envirograf® Wood Filler (Product 64)

Upgrading process for ledged & braced doors with T&G timbers at least 20mm thick :

CLEAR SYSTEM

- 1 coat of HW/AP Primer - at 10-12m² per litre
  Wet Film 85 µm - Dry Film 50 µm ● *Water-based*
- 2 coats of HW02/E - at 8m² per litre / per coat
  Wet Film 125 µm - Dry Film 75 µm ● *Water-based*
- Apply Top Coat
  HW/EXCEL Clear - at 1 coat @ 10m² per litre
  Wet Film 100 µm - Dry Film 60 µm ● *Solvent-based*

How to apply Intumescent Coatings - see Page 10

WHITE or COLOURED SYSTEM

- 1 coat of HW/AP Primer - at 10-12m² per litre
  Wet Film 85 µm - Dry Film 50 µm ● *Water-based*
- 2 coats of HW01 - at 8m² per litre / per coat
  Wet Film 125 µm - Dry Film 75 µm ● *Water-based*
- 1 coat of HW/04S Undercoat - at 17m² per litre
  Wet Film 85 µm - Dry Film 50 µm ● *Solvent-based*

You can apply your own decorative top coat after this system

Important Notes

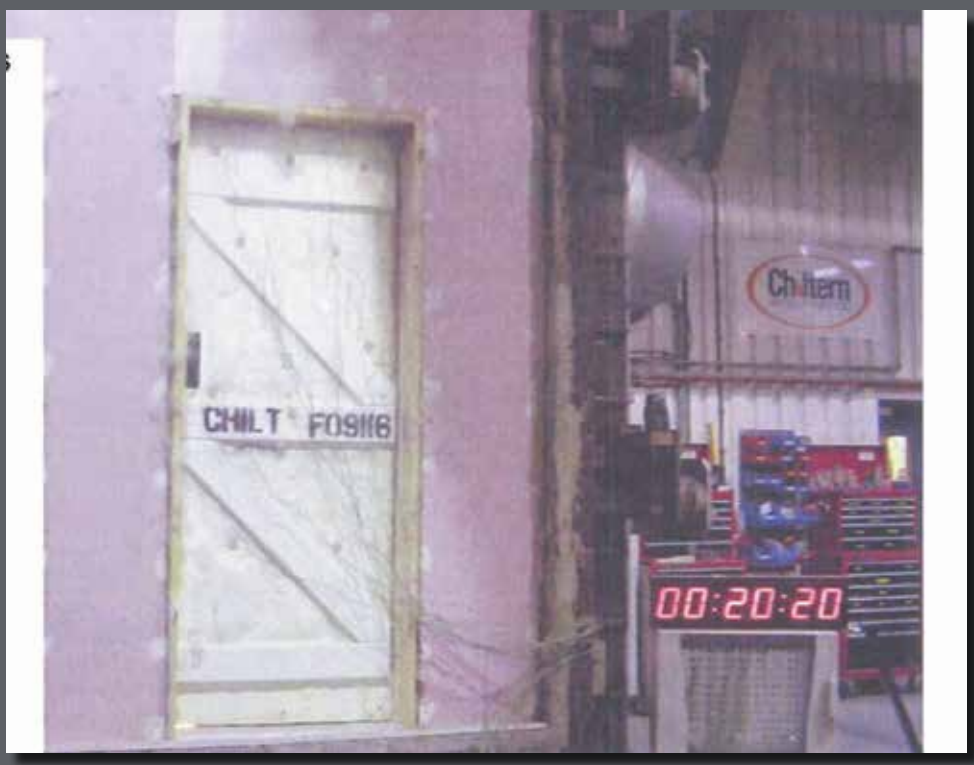
Thickness in microns is per coat.

- Ensure the doors are free from oil and grease
- Make sure that Intumescent coating is applied to both sides of the door.
- Every coat should be allowed to dry thoroughly before applying another (especially important in clear system).
- Top Coat has to be applied on the same day (do not leave without a Top Coat overnight).

Advantages:

- 20mm minimum door thickness
- Coat both sides of the door
- Can be applied over existing paint
- 30 minutes fire protection
- Quick Drying Time
- Low Odour

Use surface mounted seals on the door frames Product 69



Test carried out at Chiltern International, achieving 32 minutes fire protection.

Specification on the test:

Door leaf thickness - 20mm
Ledge thickness - 27mm
Brace thickness - 27mm

If you wish to manufacture a ledged & braced door we can provide you with a specification based on test evidence.

Application of Intumescent Coating

Preparation:

IT IS ESSENTIAL THAT ALL HW COATING SYSTEMS PREPARATIONS AND APPLICATIONS ARE FOLLOWED AND WE RECOMMEND A TEST AREA IS CARRIED OUT PRIOR TO FULL APPLICATION.

CLEAR INTUMESCENT COATING

- HW02 intumescent Coating requires to be stirred well for 5 minutes before application
- In cold conditions (Stand container/Tin of HW02 coating in hot water and stir well)
- HW02 coating when applied appears cloudy and white, allow coating to dry and be completely clear before applying second coat of HW02 coating.
- In conditions where the coating is not drying completely clear after about 15 minutes, a fan heater or hair dryer can be used to help the drying process
- HW02 coating can NOT be reworked
- It is crucial that the top coat is applied the same day as the HW02 coatings

WHITE INTUMESCENT COATING

- HW01 intumescent Coating requires to be stirred well for 5 minutes before application
- In cold conditions (Stand container/Tin of HW01 coating in hot water and stir well)
- HW01 coating can NOT be reworked

Weather conditions during application:

Do not apply these products in temperatures below 5˚C

Only apply these products in areas where the atmospheric moisture is below 65%

Only apply these products on surfaces that have a moisture content below 17%

Application methods:

Best results are achieved when applied by small soft roller and brush in the corners.

Wash the door down in the normal way and ensure it is dry before applying Envirograf® coatings

Apply HW/AP adhesion primer and ensure it's completely dry.

Apply Intumescent Coating

Ensure every coat is dry and clear. You can use a hair dryer to speed up the process in corners and beads

Apply top coat on the same day (do not leave it overnight)

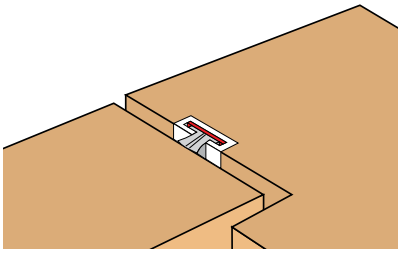
Congratulations! You've saved yourself a lot of money and kept original featured doors

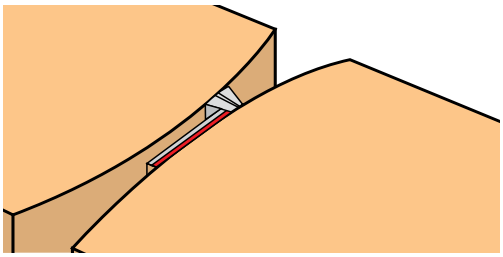
Related Products to complement your Fire Doors

Fire and smoke seals:

Revolutionary Push-fit seal

The seal can be easily removed, from the top or bottom of the door using a screw driver to release it, so that decoration can occur without damaging the seal. Tested to BS476 & EN.

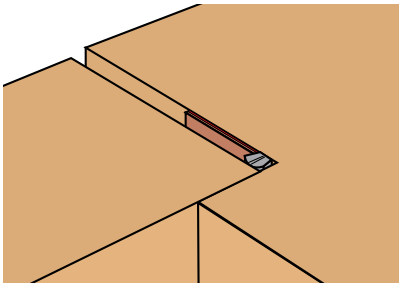




Installed for over 30 years in many heritage buildings

Surface-mounted seal

A surface-mounted intumescent fire seal or fire and smoke seal
Available in black, brown, red, white and real wood veneer finishes
No routing is necessary. Tested to BS476 & EN.
Thickness only 1mm over hinges & small gaps, 2.4mm down closing stile & head. If needed, longer brushes for smoke sealing can be applied.

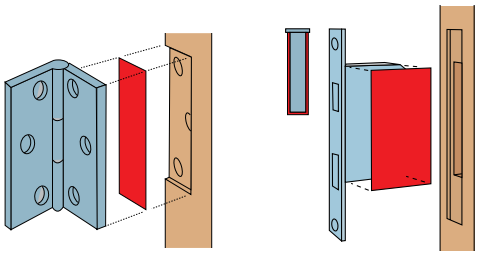


If gaps down the closing stile or head are tight, 1mm strip can be supplied (ES/30 PS)

Self-closing hinges, lock and hinge paper:

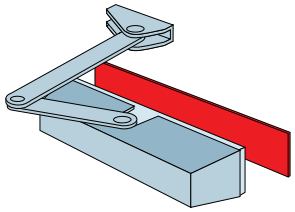
Self-closing hinges

No need to install door closure devices
Especially useful in student quarters HMO's and other areas susceptible to vandalism
Hinges can be adjusted, e.g. to latch, the centre hinge can have more tension
Antique brass, brown, chrome, stainless steel, white
This set of 3 hinges acts as a complete door closer
Tightened top hinge to allow for buckled door stops
Ideal for use in conservation areas
Tested to BS 476 Part22 and EN1634-1:2000 for 68 minutes.



Hinge, lock and door closer protection

Required to comply with BS476 Part 22 (1987) and Document B of UK Building Regulations
Flexible intumescent protection sheet
1mm thick
Unaffected by moisture
Supplied in standard sizes
Quick and easy fitting
Some with self-adhesive backing

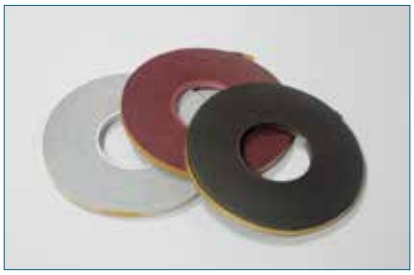


The paper cool hinges and locks in a fire.

Glazing protection:

Glazing channels
with flexible blades for impact

Glazing bead system



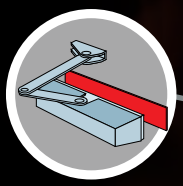
Glazing strips

Leaders in Passive Fire Prevention

Envirograf®

It is essential to protect your home, office, property & naturally your life

A FIRE DOOR IS NOT A FIRE DOOR WITHOUT INTUMESCENT MATERIALS

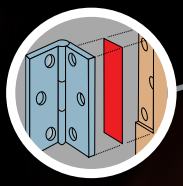


Door Closer Protection

Fire and smoke protection letter flap systems

Rigid letter boxes for fire and smoke protection

Flexible bags for fire protection in tight openings

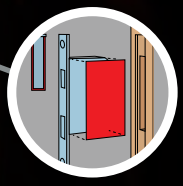


Hinge Paper

The Push-Fit Door Seal

Surface-mounted fire and smoke seals

Glazing protection

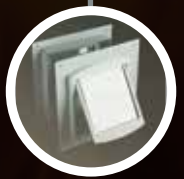


Lock Protection

Ventilation grilles for fire and smoke protection

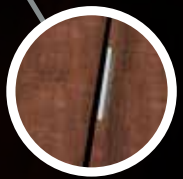
Self-closing hinges

Bathroom door ventilation



Animal Door Flap Protector

Threshold Seal



Fire sealing between door frame and wall

Other Products from our range:

Solution for suspended ceilings

- Fire and acoustic protection for ceilings with downlighter covers

Complete range of fire protection coatings

60 min. protection

- Intumescent paints for timber substrates, plasterboard, lath & plaster and steel

- Consultation
- Site Meetings
- Solutions
- Lasting Protection

We're at your service, feel free to call and discuss your needs with our technical support team for unrivalled solutions to your project.

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