Up to 20 years’ maintenance cycle

Fire protection coatings for wood, steel, concrete, fabric, and fibre-glass
Envirograf® now offers the most comprehensive range of intumescent and fire retardant coatings available. The coatings cover a wide range of applications from wood surfaces, structural steel through to upgrading lath and plaster ceilings, concrete surfaces and fibre glass materials. These coatings have been extensively used in many buildings, including Alnwick Castle, Buckingham Palace, Cambridge University, Crewe Hall, Lilleshall National Sports Centre, Shenley Manor, Walmer Castle and the Oslo Opera House to name a few. This new range includes a wide range of new top coat options offering up to a 20 year maintenance cycle. All of these coating systems have been fully tested in UK and European Test Houses.

**ADVANTAGES**

- Allows existing wood to be upgraded to comply with both UK and European Fire Regulations
- Coatings can be applied over most paints and varnishes, eliminating the need for stripping
- Especially effective in refurbishment projects, often allowing existing architectural features to remain in place
- These systems are applied in the same way as regular paints and varnishes
- Straight forward application
- Environmentally friendly
- Class 0 and 1 Classifications and SBI: B/s1/d0 have been achieved on bamboo, hardwood, softwood, veneer, MDF and melamine boards
- 30-60 min ratings can be achieved on doors, timber panelling, load bearing floor boards and joists
- 30-90 min ratings can be achieved on steel structures with a top coat system that can offer up to a 20 year maintenance free life cycle.
The Product Range

WOOD COATINGS
30-60 minute protection

RAISED & FIELDED DOOR
30-60 minute fire upgrade coating

PANELLED DOORS
30-60 minute fire upgrade system

COLOUR CHARTS

STEEL STRUCTURE
30-90 minute fire upgrade coating

LATH AND PLASTER CEILING/CONCRETE
30-60 minute fire upgrade coating

FIRE RETARDANT SPRAY COATING

SPECIALIST COATINGS

WOOD COATINGS
H W System (Product 42)
The HW System is a coating that offers wide range of top coat options. Both 30 or 60 minute fire protection ratings are achievable.

HW System Tests
BS476: Part 6 & 7 — Class 0 & 1 Classification
BS476: Part 20/22:1987 — 60 minutes
EN 1364 — 1:1999 — 66 minutes
EN 13823:2002 ‘Single Burn Item’
EN 11925 — 2:2002 ‘Ignitability’
SBI:B/s1/d0

ES/VFR and Q/VFR System (Product 92)
These systems offer a clear or white coating suitable for upgrading wood (or wood related surfaces) to a Class 0 or Class 1 spread of flame rating or the European Class equivalent.
The ES/VFR and Q/VFR System Tests
BS476: Part 6 & 7 — Class 0 & 1 Classification
EN 13501 — 1:2002 — B/s1,d0
EN 13823:2002 ‘Single Burn Item’
EN 11925 — 2:2002 ‘Ignitability’
SBI:B/s1/d0

DOOR UPGRADE SYSTEMS
ES/RFC System (Product 103)
The ES/RFC System is a coating that offers wide range of top coat options. Both 30 or 60 minute fire protection ratings are achievable. This coating has been specifically designed to upgrade raised and fielded doors to either FD30 or FD60 fire door classifications.

ES/RFC System Tests:
BS476: Part 6 & 7 — Class 0 & 1 Classification
BS476: Part 20/22:1987 — 60 minutes
EN 1364 — 1:1999 — 66 minutes
EN 13823:2002 ‘Single Burn Item’
EN 11925 — 2:2002 ‘Ignitability’
SBI:B/s1/d0

Product 38: The upgrading existing panelled doors system shown in this data sheet includes the HW Range (Product 42)

UPGRADING CEILINGS | CONCRETE
EP/CP System (Product 105)
The Envirograf® EP/CP Smooth Coating System is designed to upgrade 9mm and 12.5mm plasterboard walls and ceilings to achieve a 30 - 60 minute fire rating. Also for use on lath and plaster surfaces offering over 60 minutes fire protection.

EP/CP is also designed for coating concrete that requires 1 hour fire protection. For example car park areas.

EP/CP System Tests:
BS476: Part 6 & 7 — Class 0 & 1 Classification
BS476: Part 20/22:1987 — 60 minutes
EN 1364 — 1:1999 — 66 minutes
EN 13823:2002 ‘Single Burn Item’
EN 11925 — 2:2002 ‘Ignitability’
SBI:B/s1/d0

UPGRADING STEEL
The ES/FS Steel System test information is available on request
Intumescent Coatings for Wood
Specifying and Application

Upgrading wood surfaces within building structures to a fire rate specification is now a common requirement. UK and International Building Regulations are specific in stating two main categories where certain structures and surfaces may need to be upgraded.

**FIRE PROTECTION RATING**
30-60 MINUTES SBI: B/s1/d0

The first category is to ensure that the structural elements of a building designed to support a load (i.e. floor joists that bear the overall floor structure), maintain their load-bearing capacity. The fire ratings required for load-bearing elements is generally measured in an amount of time that that building element is required to maintain its structural strength; commonly a 30 minutes or 60 minutes fire rating.

The Envirograf® product that satisfies these requirements is Product 42 - The HW Coating Range.

**SPREAD OF FLAME RATING**
CLASS 0&1. SBI: B/s1/d0

The second category is commonly known as ‘Spread of Flame’ protection.

This is a fire-rating that is specific to how a particular substrate can prevent a fire from spreading across its surface. An untreated wooden panelled wall would have no resistance to the spread of flame across it's surface and cause the fire to spread into the rest of the building. This rating is measured in two classifications: Class 1 or Class 0 Spread of Flame. These two categories are now being replaced with a new internationally recognised test, now known as an SBI Rating.

The Envirograf® product that satisfies these requirements is Product 92 - The ES/VFR Coating Range and the Q/VFR Coating Range.

An exciting new range of top coats are now available for all of the above coatings.
Fire Protection Rating

30-60 FIRE PROTECTION

HW RANGE:
CLEAR OR COLOUR
With a new exciting wide range of top coats to choose from

SPREAD OF FLAME RATING
Class 0&1

ES/VFR RANGE:
CLEAR OR COLOUR
With new top coat options to finish

NEW Q/VFR RANGE:
FAST COATING SYSTEM
CLEAR OR COLOUR
For internal use, no primer or final top coat is required

APPLICATION TIPS

When applying a coating to panelled wood areas that are fixed to a wall it is important to ensure the moisture content of the wood substrate is below 17%.

We recommend that you always apply the HWAP/APS Primer before HW01/F, HW02/E or the ES/VFR system is used. This primer is excellent for sealing the wood surface from moisture absorbed from the wall behind.

Special application recommendation from the BSI Code of practice for painting buildings 6.5 Profiles

'It is important to avoid sharp transitions between planes, because surface finishes, whether stains or paints, will tend to ‘stretch’ over sharp edges leaving a thinner coat of film at the most exposed part of the profile. To avoid this, edges should be rounded to a radius of at least 3mm to ensure that a consistent thickness of finish is maintained.

Square edges typically do not hold any load from the coatings.

A 3mm radius should be applied to all square edges allowing for a film cover, otherwise moisture will penetrate the coatings at this point.

Intumescent coatings are vulnerable to moisture and therefore must be coated with a top sealer coat. This coat encapsulates the intumescent coat and will offer protection equivalent to the top coat life cycle.

It is important to coat all surface areas of the substrate, including end grain areas etc.

TOOLS and STORAGE

- Water based products wash with warm water
- White spirit based products clean with white spirit or a brush cleaner
- Store these products in temperatures between 5°C and 30°C.
The HW System (Product 42) offers a range of clear, coloured or white coatings designed to upgrade new and existing timber substrates, offering up to 30 or 60 minutes fire protection meeting both UK National and European Fire Regulations.

**APPLICATION DETAILS**

HW01/F and HW02/E are the intumescent fire protection coating elements for the overall coating systems. It is crucial that care is taken when applying these coatings and that the application instructions are rigorously followed. HW02/E (not HW01/F) is a hygroscopic material, if applied in the wrong conditions it will absorb moisture from the atmosphere and can then become cloudy, resulting in the need to completely strip back the system. It is therefore very important to ensure the moisture in the atmosphere content is below 65% and that the wood substrate moisture content is also below 17%. As soon as the HW02/E coats are dry and completely clear, a top coat must be applied, sealing the HW02/E from moisture in the atmosphere. We recommend this system is not left overnight to dry without a top coat being applied. It is therefore important to only apply sufficient amounts that allow for coating completion with a day schedule. Please ensure all rooms are sufficiently kept warm during the drying time.

**SPECIAL INSTRUCTIONS – HW02/E**

HW02/E needs to be stirred for 5 minutes. In cold temperatures stand the container in hot water and stir well – then apply.

Typical of intumescent clear coatings the HW02/E appears cloudy when first applied, as the coating dries it will become completely clear in finish. Allow the first coat to completely dry and clear before applying the second coating.

Once HW02/E has been applied DO NOT ATTEMPT to rework by over brushing – this will tear the coating. If reworking is absolutely necessary then dip the brush in warm water and gently brush over the area.

If this is the first time HW02/E has been applied, then it is advisable to practice an application on a small area. It is crucial that HW02/E is sealed with a top coat. This must be completed as soon as the HW02/E coat is dry. Do not leave over night to finish in damp or open ventilated areas as the HW02/E coat will absorb atmospheric moisture causing a cloudy appearance. This cannot be corrected without stripping back to the original surface. Only leave overnight in dry and heated rooms.

For new or stripped wood surfaces that require staining, we recommend a good quality water based stain before applying the HW system.

If CEDAR is to be treated, please apply HWAP/WB Primer as a first coat.

For areas of high humidity such as swimming pools and saunas, we recommend the use of the Envirograf® intumescence chlorinated rubber coating or chlorinated rubber coating top coat. Please contact the technical department for more details 01304 842 555.
CLEAR 30-60 min Fire Protection

**HW02/E CLEAR SYSTEM**
Preparation: The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
HWAP/WB/PRIMER ● Water-based
HWAP/WB/PRIMER is a water-based clear primer used for all surfaces before HW02/E is applied.
Coating rate 1 coat
Planned wood 10-12m² per litre

**CLEAR INTUMESCENT COATING**
HW02/E ● Water-based
A water-based clear intumescent coating for all wood-related products.
Coating rate For 30 mins of Fire Protection: 2 coats at 8m²/litre/coat For 60 mins of Fire Protection: 3 coats at 8m²/litre/coat (according to the wood thickness and type)
As soon as this coat has dried one of the protective top coats shown below must be applied. Allow to dry thoroughly.

**TOP COATS**
HW/EXCEL/CLEAR ● Solvent-based
HW/EXCEL is an easy to apply hardwearing topcoat. Ideal for general-purpose use offering good durability.
Coating rate 1 coat
Planned wood 10-12m² per litre per coat
Finish Gloss, Matt, Satin

HW/PREMIER/CLEAR ● Water-based
HW/PREMIER/CLEAR is a clear water based flexible and robust hardwearing coating. This coating offers good durability for areas that require standard varnish protection.
Coating rate 1 coat
Planned wood 10-12m² per litre per coat in areas of high humidity apply 8m² per litre per coat
Finish Matt, Satin

HW/ULTIMATE/CLEAR ● Water-based
This coating is a low-odour, quick drying, water-based polyurethane varnish ideal for areas that require a tough and high resistant protection. Designed for areas of high levels of traffic including floors, panelling, and stairs.
Coating rate 2 coats
Planned wood 10-12m² per litre per coat
Finish Matt, Satin

HW/SUPERB/CLEAR ● Solvent-based
This coating is a tough long lasting extra hard wearing solvent based top coat that offers a superb robust and easy to clean surface. This coating offers excellent UV protection.
Coating rate 2 coats
Planned wood 10-12m² per litre
Finish Satin

HW/UVR ● Solvent-based
This coating is a glossy golden brown weather resistant exterior topcoat. It offers a flexible and highly water resistant protection. It contains fungicide and UV protection against discolouration. For exterior areas that require durability, flexibility and high levels of weather resistance.
Coating rate 2 coats
Surface 17m² per litre per coat
Finish Clear Gloss Varnish (Golden brown colour)

HW/TRANSLUCENT ● Water-based
This is a low-odour, quick drying, coating which enhances the woodgrain and is ideal for areas that require tough and high resistant external protection.
Coating rate 2 coats
Planned wood 10-12m² per litre per coat
Finish Satin

COLOUR 30-60 min Fire Protection

**HW01/F COLOUR SYSTEM**
Preparation: The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
HWAP/WB/PRIMER ● Water-based
HWAP/WB/PRIMER is a water-based clear primer used for all surfaces before HW01/F is applied.
Coating rate 1 coat
Planned wood 10-12m² per litre

**INTUMESCENT COATING**
HW01/F ● Water-based
A water-based white intumescent coating for all wood-related products.
Coating rate For 30 mins of Fire Protection: 2 coats at 8m²/litre/coat For 60 mins of Fire Protection: 3 coats at 8m²/litre/coat (according to the wood thickness and type)
As soon as this coat has dried one of the protective top coats shown below must be applied. Allow to dry thoroughly.

**TOP COATS**
HW/EXCEL/WHITE ● Solvent-based
This is an opaque solvent based coating designed for outdoor use (can be used internally if required), with a consistency that leaves an attractive softened impression of the timber grain. It is easy to apply and forms a flexible film, which provides excellent weather resistance.
Coating rate 2 coats (external) 1 coat (internal)
Planned wood 10-12m² per litre per coat
Finish Satin (also available in BS or RAL colours)

HW/PREMIER/WHITE ● Water-based
This is a white water based hardwearing coating. Designed as a high quality internal coating for general use.
Coating rate 2 coats
Planned wood 10-12m² per litre per coat
Finish Gloss, Matt, Satin (colour chart p19)

HW/ULTIMATE/WHITE ● Water-based
This coating is a fast drying water borne paint for outdoor use (can be used internally if required), that offers a unique UV colour resistance and protection against surface attack from fungi. A colour coating ideal for external areas that require excellent weather protection properties.
Coating rate 2 coats external. 1 coat internal
Planned wood 10-12m² per litre per coat
Finish Satin (colour chart p16-17)

HW/SUPERB/WHITE ● Water-based
This is a water borne coating for outdoor use (can be used internally if required) that offers a unique UV protection block. It also contains film-conserving agents combating fungal growth.
Coating rate 2 coats external. 1 coat internal
Planned wood 10-12m² per litre per coat
Finish Gloss (also available in BS or RAL colours)

HW/EASycLEAN ● Washable/Scrubable
This coating is a washable and durable acrylic top coat. This coat is excellent for areas requiring high durability. Fully dirt-repellent and does not stain after cleaning. After application, the painted surface can be washed or scrubbed (see coverage information).
Coating rate 2 coats. Apply one coat at 8-10m²/litre. If the surface attracts dirt after application, it can be easily washed clean. If two coats are applied at 8-10m² per litre, the surface can be scrubbed clean.
Finish Matt and Satin (colour chart p15)

HW/ACRYLIC/WHITE ● Water-based
This coating is a hardwearing and flexible acrylic topcoat. This coating is excellent for areas that require high levels of durability and flexibility where movement may occur.
Coating rate 2 coats. Apply 2 coats at 12m² per litre.
Finish Matt (also available in BS or RAL colours)
This wood and steel design allows visitors to easily and safely ascend and descend a spiral pathway with excellent views of the interior pavilion chamber and Kensington Gardens.

The robust steel framework of the Serpentine Pavilion is covered extensively with wooden boards, and Alexander Dietrich (Project Director of the London-based contractors Bovis Lend-Lease) insisted on effective preventative measures to protect against the inherent risks of accidental or malicious fire propagation. Fire prevention consultant Andy Wahts of Fire Prevention Products (London) was contacted for advice on suitable products to protect the wood. Based on Andy’s previous experience, he immediately recommended Envirograf® Product 92 (ES/VFR water-based Class 0 & Class 1 flame retardant).

Available in clear or white finishes and has been tested to BS476 Part 6 (1989) spread of flame and BS476 Part 7 (1989) spread of flame, as well as the classification B/S1/d0 of European Standard EN13501 Parts EN13823 (2002) single burn test (SBI) and EN11925-2 (2002) ignitability.

Envirograf® Product 92 (ES/VFR) is simple to apply by brush, roller, or spray, and it has a fast drying time for quick completion of the flame retardant treatment.

The product has been tested on a variety of substrates including new wood, bamboo, chipboard, hardboard, MDF, melamine-faced board, veneer-faced MDF without fire rating, etc. Similar fire prevention projects have included the treatment of wooden homes in Scandinavia and many of the ornate wooden features in stately homes and churches.

**Important Considerations**
- Do not apply this product in temperatures below 5°C
- Always shake the container vigorously to ensure the product is well mixed. The ES/VFR Clear will appear slightly white on application; this is normal but will clear during drying.
- If applying to OAK: Apply a coat of ES/VFR/P Primer at 12—16m² per litre.
- If applying to CEDAR: Apply a coat of ES/VFR/P Primer at 12—16m² per litre.

**PLEASE NOTE** Q/VFR will not take a Top Coat of Pre-Catalyst Lacquer. If you wish to use Pre-Catalyst Lacquer, then please order ES/VFR Clear/White.

**New Q/VFR rapid two coat fire retardant available!**
No primer or top coat required for internal use.
See opposite page for further details.
**Class 0 & 1**
**ES/VFR CLEAR**

**Preparation:** The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
**ES/VFR/PRIMER ● Water-based**
A clear water based primer to apply over existing paint, varnish or wax surfaces before applying coatings.

- **Coating rate:** 1 coat
- **Planed wood:** 10-12m² per litre

**CLEAR FIRE RETARDANT COAT**
**ES/VFR/CLEAR ● Water-based**
Fire retardant clear coating for wood, wood boards, MDF, melamine and veneered boards, and wood-related products. Tested to BS476 Parts 6 & 7, Class 0 & Class 1 (1987) spread of flame. SBI/B/s1/d0.

Two coats are required for BS476 Parts 6 & 7, Class 0 & Class 1 (1987) spread of flame. First coat coverage could vary according to wood type/density. Apply first coat and allow 1-2 hours to dry. Ensure each coat is dry before applying next coat. Apply second coat and allow 1-2 hours to dry.

- **Coating rate:** 2 coats 12-15m² per litre per coat.

**TOP COAT - CLEAR**
**ES/VFR/HARDWEARING ● Water-based**
A clear water based, flexible and robust hardwearing coating. This coating offers good durability for areas that require standard varnish protection.

- **Coating rate:** 2 coats (external) 1 coat (internal)
- **Planed wood:** 10-12m² per litre per coat
- **Finish:** Satin

Please refer to page 18 for a new translucent coating range applied at 2 coats at 10-12m² per litre per coat.

**Q/VFR FAST - RAPID APPLICATION FIRE RETARDANT SYSTEM**
**Q/VFR/C CLEAR**
Internal/External Coating Rate: 2 coats are required for BS476 Parts 6 & 7, Class 0 & Class 1 (1987) spread of flame. First coat coverage could vary according to wood type/density. Apply first coat and allow 1-2 hours to dry. Ensure each coat is dry before applying next coat. Apply second coat and allow 1-2 hours to dry.

Coverage 12-15m² per litre. One of the 3 topcoats shown below must be applied over Q/VFR/C to finish when using externally.

- **Coating rate:** 2 coats 12-15m² per litre per coat
- **Planed wood:** 10-12m² per litre per coat
- **Finish:** Satin, Gloss

**Q/VFR/PREMIER/CLEAR ● Water-based**
This coating is a low-odour, quick drying, water-based polyurethane varnish ideal for areas that require a tough and high resistant protection. Designed for areas of high levels of traffic, ideal for doors, paneling, and stairs.

- **Coating rate:** 2 coats
- **Planed wood:** 10-12m² per litre per coat
- **Finish:** Matt, Satin, Gloss

**Q/VFR/PREMIER/UV-CLEAR ● Water-based**
This coating is clear water based, flexible and robust hardwearing coating. This coating offers good durability for areas that require standard varnish protection.

- **Coating rate:** 2 coats (external) 1 coat (internal)
- **Planed wood:** 10-12m² per litre per coat (in areas of high humidity apply at 8m² per litre per coat)
- **Finish:** Matt, Satin

**Q/VFR/UVR ● Solvent-based**
This coating is a glossy golden brown weather resistant exterior topcoat. It offers a flexible and highly water resistant protection. It contains fungicide and UV protection against discolouration. For exterior areas that require durability, flexibility and high levels of weather resistance

- **Coating rate:** 2 coats
- **Surface:** 17m² per litre per coat
- **Finish:** Gloss Varnish (Golden brown finish)

**Class 0 & 1**
**ES/VFR COLOUR**

**Preparation:** The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
**ES/VFR/PRIMER ● Water-based**
A clear water based primer to apply over existing paint, varnish or wax surfaces before applying coatings.

- **Coating rate:** 1 coat
- **Planed wood:** 10-12m² per litre

**COLOUR FIRE RETARDANT COAT**
**ES/VFR/WHITE ● Water-based**
Fire retardant white coloured coating for wood, wood boards, MDF, melamine and veneered boards, and wood-related products. Tested to BS476 Parts 6 & 7, Class 0 & Class 1 (1987) spread of flame. SBI/B/s1/d0.

Two coats are required for BS476 Parts 6 & 7, Class 0 & Class 1 (1987) spread of flame. First coat coverage could vary according to wood type/density. Apply first coat and allow 1-2 hours to dry. Ensure each coat is dry before applying next coat. Apply second coat and allow 1-2 hours to dry.

- **Coating rate:** 2 coats 12-15m² per litre per coat.

**TOP COAT**
**HW/ACRYLIC ● Water-based**
This coating is a washable and durable acrylic topcoat, offering superb finish. Designed as a high quality internal coating for general use.

- **Coating rate:** 2 coats
- **Planed wood:** 10-12m² per litre per coat
- **Finish:** Matt

**Q/VFR/EASyCLEAN ● Scrubbable**
This coating is a washable, durable and highly resistant coating even for areas requiring high durability. Fully dirt-repellent and does not stain after cleaning. After application, the painted surface can be washed or scrubbed (see coverage information).

- **Coating rate:** 2 coats. Apply one coat at 8-10m² per litre. If the surface attracts dirt after application wash clean. If two coats are applied at 8-10m² per litre, it can be scrubbed clean.
- **Finish:** Matt or Satin (colour chart p15)
The ES/RFC System (Product 103) has been designed to upgrade raised and fielded panelled doors. The system is ideally suited for refurbishment projects requiring existing period doors to be upgraded. Doors can be upgraded to either a FD30 or FD60 fire door classification dependant on the requirement issued by Building Control.

Fire Performance
The ES/RFC system has been applied to a number of doors that have been tested in accordance with BS476 Part 22 (1987), assisting doors to achieve a fire integrity of between 30 and 60 minutes.

Important Considerations
If the door is to be stained, only use water-based stains before the application of the ES/RFC System. When the stain has dried, lightly rub down the substrate with glass paper, clean down and then begin to apply the ES/RFC 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 INSTRUCTIONS

ES/RFC/IN/C Clear intumescent
ES/RFC/IN/C Clear needs to be stirred for 5 minutes before application. In cold temperatures stand the container in hot water and stir well – then apply.

Typical of intumescents, the ES/RFC/IN/C clear coating appears cloudy when first applied. As the coating dries it will become completely clear in finish. Allow the first coat to completely dry and clear before applying the second coating.

Once ES/RFC/IN/C Clear has been applied DO NOT ATTEMPT to rework by over brushing – this will tear the coating. If reworking is necessary then dip the brush in warm water and gently brush over the area.

If this is the first time ES/RFC/IN/C Clear has been applied, it is advisable to test on a small area.

It is crucial that ES/RFC/IN/C Clear is sealed with a top coat. This must be completed as soon as the ES/RFC/IN/C Clear coat is dry. Do not leave over night to finish as the ES/RFC/IN/C Clear will absorb atmospheric moisture causing a cloudy appearance. This cannot be corrected without stripping back to the original surface. Only leave overnight in dry and heated rooms.

ES/RFC/IN/W White intumescent
ES/RFC/IN/W White needs to be stirred for 5 minutes before application. In cold temperatures stand the container in hot water and stir well – then apply.

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%
CLEAR Fire Protection 30-60 mins
Upgrading Raised and Fielded Doors

**ES/RFC CLEAR KIT**
Preparation: The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
**ES/RFC/Primer ● Water-based**
This coating is a water-based clear primer for use in areas in which other ES products could not normally be applied.
- Coating rate: 1 coat
- Coverage: 10-12m² per litre

**INTUMESCENT COATING**
**ES/RFC/IN ● Water-based**
This coating is an intumescent water-based hygroscopic coating. As soon as this coat has dried a protective topcoat must be applied. Allow to dry thoroughly.
- Coating rate: For 30/60 mins of Fire Protection: apply 2 coats at 8m²/litre. When thoroughly dry, apply second coat at 8m²/litre.
- Finish: Matt, Satin

As soon as these coats have dried apply one of the protective top coats shown below. Allow to dry thoroughly.

**TOP COATS**
**ES/RFC/CM ● Water-based Matt**
**ES/RFC/CS ● Water-based Satin**
These clear top coats are low-odour, quick drying, water-based polyurethane varnish ideal for areas that require a tough and high resistant protection. Designed for areas of high levels of traffic where doors require high levels of protection.
- Coating rate: 2 coats
- Coverage: 10-12m² per litre per coat
- Finish: Matt, Satin

Each kit will cover 6m² or 3 of the risk sides of the door surfaces. Please see the price list for more information.

COLOUR Fire Protection 30-60 mins
Upgrading Raised and Fielded Doors

**ES/RFC COLOUR KIT**
Preparation: The substrate surface must be clean of all dust and dry. There should be no trace of oil, grease or similar substance. The surface should be sanded smooth. If timber is pre-varnished, ensure the surface is clean and sanded appropriately.

**PRIMER**
**ES/RFC/Primer ● Water-based**
This coating is a water-based clear primer for use in areas in which other ES products could not normally be applied.
- Coating rate: 1 coat
- Coverage: 10-12m² per litre

**INTUMESCENT COATING**
**ES/RFC/IN/W ● Water-based**
This coating is an intumescent water-based hygroscopic coating. As soon as this coat has dried a protective topcoat must be applied. Allow to dry thoroughly.
- Coating rate: For 30/60 mins of Fire Protection: apply 2 coats at 8m²/litre. When thoroughly dry, apply second coat at 8m²/litre.
- Finish: Matt, Satin, Gloss

As soon as these coats have dried apply one of the protective top coats shown below. Allow to dry thoroughly.

**TOP COATS**
**ES/RFC/WM ● Water-based Matt**
**ES/RFC/WS ● Water-based Satin**
**ES/RFC/WG ● Water-based Gloss**
These top coats are white water-based hardwearing coating. Designed as a high quality internal coating for hardwearing and general use.
- Coating rate: 2 coats
- Coverage: 10-12m² per litre per coat
- Finish: Matt, Satin, Gloss

Each kit will cover 6m² or 3 of the risk sides of the door surfaces. Please see the price list for more information.
Many buildings may require doors to be fire rated, depending on design type and floors to be occupied. All fire rated doors must have intumescent/brush seals to prevent the spread of smoke and fire. Fire doors should also include fire rated hinges and the correct door return where specified. Below shows a variety of products meeting these specifications.

**APPLICATION FOR PRODUCTS 69, 71 AND 100**

**NEW PUSH FIT SEAL — PRODUCT 100**
Seals can be fitted to the rebated door edge.

**PRODUCT 69**
Seals can alternatively be fitted to the rebated frame.

**PRODUCT 71**
Self-closing adjustable CE Approved hinges (Fire Rated)
Doors upgraded to fire door status should be self closing and comprise of three hinges. The Envirograf® self—closing hinge set includes three self closing hinges faced with fire protection intumescent, that can be individually adjusted to the required return tension needed. The hinges are available in white, stainless steel, chrome, brown or polished brass. The hinge set has been fully tested to BS476 Part 22 (1987) achieving both 30 and 60 minutes fire ratings.

Envirograf® Surface Mounted Seals are fitted onto the frame and provide hinge protection.

All fire doors must have intumescent fire and smoke seals. Seals can be fitted either into the edge of the door or into the frame, shown by the red line in the illustration adjacent.
Fire doors act as a crucial element of the escape route protection in loft room extensions. If the doors meet the criteria shown on page 12 (Method A or B), then there is no need to discard them. Follow the instructions below and upgrade these doors to a full FD30 or FD60 where required!

**Introduction**

The Envirograf® Panelled Door Upgrading System is simple to apply and offers effective results. This system has been used in many prestigious heritage buildings as part of major refurbishment projects. Envirograf® Product 38 has also been used in many loft conversions that are typically made in Victorian, Georgian and Edwardian homes, all containing beautiful original doors. Often these doors are replaced with modern FD rated replicas, which never have the original appearance.

The system comprises, an intumescent coating applied to the door and an intumescent sandwiched card (for doors to be painted) or an intumescent sandwiched veneer for doors to be varnished, applied to the risk side of the panels of each door to be upgraded.

**Room conditions and correct humidity for application**

Intumescent coatings require dry conditions to be effectively applied. Room humidity is crucial during application and drying time. **Atmosphere moisture readings should not exceed 65% RH.**

### UPGRADED FLAT PANELLED DOORS TO FIRE DOORS

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. Apply product 93 Envirograf® Stabond, once dried apply Adhesive Product to the grey contact side of the card or veneer/plywood and the panel area.
6. Apply the veneer/card or fire card to the panel.
7. Using a flexible spatular firmly press the veneer/card to the panel ensuring absolute contact over the whole surface.
8. An example of existing panel doors fully upgraded to Fire Rated Doors

### 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 as shown in the above illustrations. 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.

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

**IMPORTANT FOR DK KITS**

After cleaning, if the door is still oily, greasy, or has wax on it, then a coating of Envirograf® Product 42 HW/AP Primer must be applied to the whole face of the door. Apply Envirograf® Product 93 Stabond to the panels and then apply Envirograf® Product 46 intumescent adhesive (IA) to both the door panels and the grey side of the intumescent card/veneer/ply/gaboon.

Apply to the door panels and brush down flat, removing any air pockets, and then use a wallpaper roller to ensure good adhesion. Ensure that the supplied labels are fitted either on the edge of the door or frame over the top hinge on whichever side the intumescent seals are fitted to. All doors classed as fire doors should have intumescent fire and smoke seals fitted and intumescent paper behind the hinges and around rebated latches and locks. Envirograf® Product 69 surface-mounted 30 and 60 minutes fire and smoke protection seals are available (ES/SDS and ES/DDS), plus Envirograf® Product 100 rebated fire and smoke seals requiring a 10x6mm rebate in the edge of the door (CIS14/BS for 30 minutes and CIS15/BS for 60 minutes), and Envirograf® Product 71 intumescent paper for hinges (LPH) and latches/locks/closers (HP). Envirograf® Product 15 intumescent plugs are also available for hinge screws.
UPGRADING EXISTING PANELLED DOORS CONTINUED

METHOD A: FOR DOORS 30-34MM

Intumescent card for painted panelled doors. This method is for doors with rails and stiles 30-34mm, with a minimum 6mm panel thickness. Cut the intumescent card to the panel size(s) and then coat the panels with Product 93 Stabond and allow to completely dry. Then apply, using a comb applicator, Product 46 intumescent adhesive (IA) to the grey contact side of the card and panels. Offer up the panels to adhere using a roller to ensure that there are no air bubbles and that the contact is uniform. Any surplus adhesive that runs out of the side can be removed with a finger or slightly damp cloth. Then apply two coats of Envirograf® Product 42 HW01/F white intumescent coating at 8m² per litre per coat to the stiles, rails, mullions, and beads, but DO NOT PAINT THE CARD. In a warm area, each coat should dry in one hour. When dry, apply one coat of Envirograf® Product 42 HW04/S spirit-based undercoat at 8m² per litre per coat to the stiles, rails, and mullions. Leave for one hour. When dry, apply one coat of HW Premier White/Colour top coat at 10-12m² per litre to the whole door (matt, satin, or gloss).

METHOD B: FOR DOORS OVER 35MM

Intumescent card for painted panelled doors. This method is for doors with stiles and rails 35mm or more. Owing to the thickness of the stiles, rails, and mullions, there is no need to coat them or the intumescent card or ply with intumescent coating. Preparation as for Method A except that when you have applied the intumescent card to the door panels, you only need to treat the beads with two coats of Envirograf® Product 42 HW01/F white intumescent coating at 8m² per litre per coat. Then apply one coat of Envirograf® Product 42 HW04/S spirit-based undercoat before application of a top coat to the whole door (including the panels) in the colour and finish you require.

DOORS WITH A CLEAR WOOD FINISH

For doors with stiles and rails 35mm or more. Application as for intumescent card above. Owing to the thickness of the stiles, rails, and mullions, there is no need to coat them or the intumescent card/veneer/ply/gaboon with intumescent coating. Preparation as for Method A except that when you have applied the intumescent card/veneer/ply/gaboon with intumescent coating, you only need to treat the beads with one coat of Envirograf® Product 42 HWAP/WB Primer (new or dipped doors do not require this), then two coats of Envirograf® Product 42 HW02/E clear intumescent coating at 8m² per litre per coat. In a warm area, each coat should dry in about 45 minutes. Then apply one top coat of Envirograf® Product 42 HW/Premier Clear (matt or satin) at between 10-12m² per litre.

NOW AVAILABLE IN KIT FORM

| ES/MP/DK2C | White 0900x1350mm | Mat/Firecard |
| ES/MP/DK2/P | Pine 1200x1200mm | Pine Veneer |
| ES/MP/DK2/O | Oak 1200x1200mm | Oak Veneer |
| ES/MP/DK3 | Gaboon 1200x1200mm | Gaboon |

More veneers are available. See price list.

DOOR MANUFACTURING SYSTEM: intumescent cloth sandwiched between timber panels

For manufacture of panelled doors, either flat panelled or raised-and-fielded panelled doors, giving 30 minute doors. The thickness of the stiles and rails can be from 36mm upwards, with panel areas made from two 6mm thick flat panels with Envirograf® Product 38 (ES/MP) cloth sandwiched between them and adhered together with Envirograf® Product 46 intumescent adhesive (IA). The procedure is the same for raised-and-fielded panels, where each side of the fielded area is 6mm thick. Stiles and rails can be 35mm down to 30mm thickness if coated with Envirograf® Product 42 (HW02/E clear or HW01/F white intumescent coating) followed by Envirograf® Product 42 clear or coloured top coats.

For 60 minutes fire protection, the thickness of the stiles and rails must be from 44mm to 52mm, with panel areas made from two 12mm thick flat panels with Envirograf® Product 38 (ES/MP) cloth sandwiched between them and adhered together with Envirograf® Product 46 intumescent adhesive (IA). For raised-and-fielded panels, the fielded area with the cloth should be not less than 9mm thick.

IMPORTANT: panels in all cases must be rebated into the stiles, rails, and mullions to a depth of 15mm.
Envirograf® have now introduced what is probably the most robust emulsion paint now available on the UK market. The Easy Clean coating has been extensively tested with outstanding results. This coating offers excellent cleanability on dust and general dirt and has chemical resistant qualities. The coating has been specifically designed for hospitals, surgery's, day centres, care homes, schools, colleges as well as places such as restaurants and shopping centres. The Easy Clean coating also has the advantage of offering longer paint cycles and easier maintenance than other heavy use area emulsions all at very little additional cost above a good quality proprietary emulsion.

* Easy Clean can also be supplied in most BS, RAL or NCS colours
**HW/ULTIMATE** is a fast acting, hard wearing and advanced water-based solution for the long term protection of exterior fencing, decking, cladding, fascias and other timber applications.

The **HW/ULTIMATE** range offers up to a 12 years maintenance free protection for timber. This exciting range includes new eye-catching colour options that are quick-to-apply and offer high performance. It is the first of its type - a Volatile Organic Compound (VOC) of only 40 grams makes HW/ULTIMATE low odour and ensures minimum impact on the environment.

<table>
<thead>
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<th>Colour</th>
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<td>Nash Stone</td>
<td>Brakspear</td>
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HW/ULTIMATE is available in a choice of new look tins and reflects Envirograf’s strong environmental commitment. HW/Ultimate has been rigorously tested in the harsh Norwegian climate, providing a high quality finish and outstanding weather resistance.

HW/ULTIMATE is also suitable as a cost effective and highly resilient weather protection and anti-corrosion coating for masonry and steel work applications. HW/ULTIMATE can also be mixed to match most BS, RAL or NCS colour requirements.

*B Easy Clean can also be supplied in most BS, RAL or NCS colours.
The Envirograf® Translucent Range has been designed to enhance the natural wood finish whilst offering excellent protection qualities. These Translucent coatings deliver the definitive durable finish without compromising looks or the environment, which is why it is proving a popular choice with architects and specifiers requiring a high performing product.

Formulated for durability, this technically superb exterior wood coating boasts a maintenance cycle of 8 years, while ensuring the same integrity translucence throughout its long life.

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<td><strong>Dark Brown</strong></td>
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<td><strong>Green Ochre</strong></td>
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<td><strong>New Cherry</strong></td>
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<td><strong>Pale Oak</strong></td>
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<td><strong>Rust</strong></td>
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<td><strong>Sand Grey</strong></td>
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<td><strong>Sandstone</strong></td>
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<td><strong>Silver Birch</strong></td>
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<td><strong>Tar Brown</strong></td>
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<tr>
<td><strong>Warm Ember</strong></td>
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</table>
The Premier wood coating range has been formulated to enhance the natural look of wood while maintaining the highest standards of protection against the UK’s climate.

Not only do they give you exceptional protection for all your exterior timber. The Premier coatings bring out the natural beauty of the grain. The opaque stain coating also enhances the woodgrain, with its low density characteristics.

Using natural oils, as well at the latest alkyd and acrylic resins, these Premier coatings will remain flexible, durable and hardwearing for years to come and offers long maintenance cycles of between 5 to 8 years.

Premier colour range for HW and Q/VFR

New White  White Flake  Ivory  Fawn  Pale Mint  Soft Cane  Cream  Sunbury Lemon
Shellac Green  Light Sand  Stone  Leman White  Shaded Satin  Linen
Verditer  Green Court  Apple Sage  Pale Sage  Green Slate  Duck Egg  Powder Pale
Smoky Green  Spring Green  Summer House  Grey Green  Blue Stone  River Stone  Ice Sky
Faster  Stow Blue  Cotton Light  Ludworth Blue  Blue Stone
Burgundy  Antique Red  Fuchsia Red  Deep Earth  Dianthus Pink  Fresh Plaster  Pink Mallow
Mahogany  Java Teak  Clover Brown  Bandsbury  Blue  Lead  Dark Olive
Ebony  Black Crate  Canadian Bark  Russet  Nut Brown  Dead Wood  Ground Clay
It can take just a few minutes for unprotected steelwork in a building to attain temperatures of around 550ºC in a fire. At this temperature, steelwork loses its load bearing capacity and the structure is likely to collapse, giving little time for people to evacuate and even less time for the fire service to bring the fire under control.

Building regulations and legislation demand fire protection to upgrade the fire resistance of buildings and the Envirograf® range of intumescent coatings can certainly stand the heat. As modern design often involves steel being expressed as an architectural feature, intumescent coatings are frequently the protection of choice.

EP/FS/INT offers up to and including 90 minutes of fire protection and can be applied both on and off site.

EP/FS/INT is a waterborne product with low odour, often chosen as the ideal solution for on-site application. A full range of top sealers, both waterborne and solvent based are also available to complement the intumescent coating.

The helpful Envirograf® technical team can offer advice on specifying intumescents, interpreting the different legislation to recommend the most suitable Envirograf® products for your project. Their expertise will take into account the Environmental Protection Act, plus Construction, Design and Management regulations as well as factors such as the design of the structure, desired service life, conditions during application and exposure conditions.

Increasing environmental awareness combined with legislative pressures and regulations place a demanding burden on the specifier. Factors to be considered are not only the design of the structure but also conditions during application, exposure conditions after application and type of fire risk - e.g. hydrocarbon or cellulosic.

ISO 12944 is widely used to define the environmental exposure and corresponding corrosivity category.

The Envirograf® technical team can give guidance and will recommend which products are most suitable for your project.
**Loadings**

To calculate the appropriate loading, it is necessary to first determine the period of fire resistance required. Several further factors need to be considered including:

- Shape of the steel and the number of sides exposed.
- Whether a steel beam, supporting concrete floor or supporting column.
- Its Hp/A value or section factor value refer to Figure 1.
- The choice of Envirograf® steel protection product.
- The appropriate loading can then be calculated from the loading tables see pages

![Fig 1 Heated perimeter (HP) to its cross section area (A)](image)

**DIFFERENT TYPES OF FIRE NEED DIFFERENT TYPES OF PROTECTION**

- Cellulosic fires; burning building products such as wood, paper, fabrics and small amounts of flammable liquids. Applies to commercial and public buildings. Thin film intumescent coatings like Envirograf® Steel Coating System to be used.
- Hydrocarbon fires; burning liquid and/or gaseous hydrocarbon products, temperature increasing to 1100°C in 10 minutes. Applies to offshore installations, FPSO’s and petrochemical plants. Thick film intumescent epoxy to be used.
- Jet fires; as above products under pressure, temperature increasing to 1300°C in 5 minutes. Thick film intumescent epoxy to be used.
- Intumescent coatings may well look like conventional paints. However in a fire they swell to become a meringue-like substance which provides vital insulation for the structural steelwork.
- The degree of fire protection needed is normally defined by building regulations and the thickness of the coating is specified to satisfy those requirements.
- Fire resistance is an expression of time in minutes - generally 30 and 90 minutes.
- The heating rate of the member is one of the contributory factors to the fire resistance. This governs the time taken to reach its specific failure temperature.

For areas of high humidity such as swimming pools and sauna areas a series of chlorinated rubber coatings are available. These offer either a one hour fire protection rating or a final top coat to the steel paint system shown above.
## Loading requirements in millimetres

### Three sided beams

### 30 MINUTES

<table>
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<tr>
<th>Section Factor Hp/A</th>
<th>DFT Loading mm</th>
<th>WFT Loading mm*</th>
<th>Theoretical Coverage M² per litre</th>
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### 60 MINUTES

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### 90 MINUTES

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*Volume solids 72 +/- 3%
## ENVIROGRAF® STEEL PROTECTION – waterborne

Loading requirements in millimetres
Four sided sections e.g. beams and columns

### 30 MINUTES

<table>
<thead>
<tr>
<th>Section Factor Hp/A</th>
<th>DFT Loading mm</th>
<th>WFT Loading mm*</th>
<th>Theoretical Coverage m² per litre</th>
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<tr>
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### 60 MINUTES

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### 90 MINUTES

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*Volume solids 72 +/- 3%

Date of issue: February 2008
Loft extensions are now one of the most common methods of increasing living space in the domestic housing sector. Building Regulations offer clear guidance on the fire protection requirements specific to loft extension projects, which often requires upgrading walls and ceilings to a 30 minute fire rating.

Conventional methods of upgrading ceilings and walls usually includes fitting a new layer of plasterboard resulting in the re-plastering and decorating of these areas, which all add to the overall cost to the development through the large amount of labour and material expense of a loft extension project. Envirograf® have now developed a unique fire protection coating designed for upgrading 9mm or 12mm plasterboard for loft extension developments.

“You can save time and reduce the cost of loft extensions by thousands!”

**ADVANTAGES**

- Upgrade ceilings and walls
- To 60 minutes fire rating with the Envirograf® coating system
- No extra layer of plasterboard, skimming or decorating required for upgrading walls and ceilings!

<table>
<thead>
<tr>
<th>Traditional method</th>
<th>New method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade walls and ceilings</td>
<td>Envirograf® system Products 105</td>
</tr>
<tr>
<td>Add new layer of plasterboard, re-skim and decorate</td>
<td>Coat existing ceiling with EP/CP to upgrade ceiling to 1 hour fire rating</td>
</tr>
</tbody>
</table>
APPLICATION

All walls and ceilings that require upgrading can now be fire rated to the correct integrity required by simply coating with the Envirograf® EP/CP Smooth Coating system.

Ceilings covered with skimmed 12.5mm plasterboard and partitioned walls clad with 9mm skimmed plasterboard can be upgraded to both a 30 - 60 minute fire protection.

Follow the instructions shown below and save hundreds of pounds on each project!

The EP/CP Smooth Coating System is designed for plasterboard ceilings and walls.

“New layers of plasterboard, skimming and redecoration are no longer required in loft extension projects.”

OTHER APPLICATIONS FOR EP/CP

The skimmed plasterboard surface must be clean and dry, free from dust, grease and water-repellent surfaces. All wallpaper must be removed. If the surface is particularly porous, then apply a coat of Envirograf® Product 93 (Stabond) first.

EP/CP/P Primer  ●  Water-Based
EP/CP/P adhesion primer is a water-based clear primer applied before the EP/CP coating.

Coating rate 1 coat at 10-12m² per litre

EP/CP
EP/CP is an intumescent water based coating. As soon as this coat has dried a protective topcoat must be applied. Allow to dry thoroughly.

Coating rate 2 coats at 8m² per litre per coat

HW/Acrylic Matt Emulsion
HW AEC is a hard-wearing and flexible top coat. This coating is excellent for areas in which movement may occur, which require high levels of durability and flexibility. This coating has been specially designed as a top coating for use over EP/CP.

Coating rate 2 coats at 12m² per litre per coat.

Finish Matt

UPGRADING LATH & PLASTER CEILINGS

The EP/CP fire protection coating has been extensively used on lath & plaster ceilings and wall offering a 60 minute fire rating. This coating system offers an excellent solution to refurbishment projects where ceilings and walls cannot be replaced with new plasterboard products, allowing the original features to remain in Graded historical buildings.

CONCRETE PROTECTION

The EP/CP fire protection coating has been used on concrete surfaces offering a 60 minute fire rating. Applied following the process shown above this coating system is ideal for concrete car park areas and other areas that require fire protection, particularly in high risk flammable storage spaces.
**3-2-1 LIQUID FIRE RETARDANT SOLUTIONS PRODUCT 66 & 67**

Intumecent Systems Ltd has developed a range of liquid fire retardant solutions to treat a wide range of inflammable materials that are often the initial items that ignite in major fires. The 3-2-1 range is suitable for many common types of materials, upholstery, bedding, mattresses, curtains, carpets, polyurethane foam, Christmas trees, paper, theatrical materials etc.

**THREE TYPES AVAILABLE**

- **3-2-1 For standard covering** must be dry cleaned
- **3-2-1 Special** for artificial plants etc
- **3-2-1 Washable** for standard coverings requires washing

**ADVANTAGES**

- can prevent the spread of flame on many types of materials
- can help landlords/hoteliers etc meet new regulations*
- Environmentally friendly

---

**Armchairs and setees**

Place the furniture upright, spray the back, front and sides ensuring that the material is wet and has soaked in the 321/W

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**Place the chair or settee on its back and spray all underside materials.**

---

**If the seat cushions are removable spray all the material under the seat, ensure that the 321/W is applied down the sides.**

---

**Spray 321 on all sides of the foam cushion. Ensure that the foam absorbs the liquid by pressing the sponge with your fingers.**

---

**Remove seat cushions from their coverings. If the cushion is not removable, spray pressing the liquid into the cushion to ensure absorption.**

---

**Spray backs, arms and all other areas where foam is underneath materials. Ensure that the foam absorbs the liquid by pressing the sponge with your fingers.**

---

**Leather and Rexine Furniture**

To treat the foam tip the chair or settee on its back, take off the under material. Spray and press the liquid into the foam ensuring full absorption.

---

**Curtains**

For single, non lined curtains spray on one side whilst hanging until the material is moist. Lined curtains spray both sides.

---

**Carpets**

Spray the carpet while laid. If the carpet is foam backed use cloth pad to press 3-2-1/W thoroughly into the carpet ensuring full absorption.

---

**Sheets, Blankets and Covers**

These can be sprayed with 3-2-1/W and washed 4 times then re-treat either by respraying or dipping in the 3-2-1/W. Wring out into a bowl and replace the residue into the bottle.

---

**Kitchen safety**

Soak a tea towel in 3-2-1 and leave near the cooking area and if necessary use as a fire blanket for pan fires.

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**Mattresses**

If possible remove cover. Spray on the 3-2-1/W pressing the liquid into the foam with a cloth pad, ensuring full absorption. Spray the cover completely until wet. If the cover is not removable then follow the above procedure with the cover on.

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*For accommodation subject to lettings, this must first be authorised by your local Trading Standards Office.
FIRE PROTECTION COATING FOR PVC ELECTRICAL CABLES – PRODUCT 80

This Envirograf® coating is used for protection of plastic-covered electrical cables, giving a longer period of operation in a fire. It inhibits PVC fumes in a fire, and does not insulate or have any harmful effect on working cables. Dries in approx. 1 hour. When dry, Envirograf® cable coating is flexible, and it will move without cracking, making it ideal for crane cables, elevator cables, mains cables, and buildings where elevators are required for evacuation.

Performance: This product was tested according to the principal of BS476 Part 22 (1987) achieving 97 minutes. Also tested to the European standard EN1363-1 (2000), achieving 2 hours of fire protection.

STABOND STABILISING BONDING/SEALING LIQUID – PRODUCT 93

Bonding/sealing liquid for porous surfaces such as plaster ceilings/walls (to seal the surface over old flaky plaster or new plaster) and to seal wood when using Product 38 door upgrade.

Use: For sealing distempered, emulsioned, or porous ceilings/walls. Good for sealing prior to using Envirograf® Product 46 (intumescent adhesive as used in Product 38 door upgrade kits), Product 92 (clear coating), Product 96 (textured coating), or Product 105 (EP/CP paint for plasterboard). See data sheet for use with Product 84 (intumescent paper).

FIRE PROTECTION COATING FOR GLASS FIBRE & U/PVC WINDOWS AND DOORS – PRODUCT 81

A virtually odourless clear or white coating with coverage of approximately 4m² per litre, available in 1 litre, 2½ litre, and 5 litre tubs (larger quantities available). Other colours available.

Use: Used on plastic and glass fibre, such as the internal section of glass fibre boats, cable housings, engine housings, and the internal side of glass fibre sheeting.

Performance: Tested to BS476 Part 22 (1987), achieving an integrity of 4 hours. Also tested to European Standard EN1363-1 (2000).

FIREPROOF COATINGS FOR SLABS – PRODUCT 86

A white intumescent coating for application to RW6 rock fibre slabs and non-fibrous slabs (as applied to Envirograf® Products 4 and 5). Supplied in 1 litre, 2½ litres, and 5 litres (other quantities available).

Use: Apply the Envirograf® coating by brush or trowel to either high density RW6 rock fibre slabs or Envirograf® Product 41 (high density fireproof sponge) to provide extra fire protection.

Performance: Tested to BS476 Part 22 (1987), achieving an integrity of 4 hours. Also tested to European Standard EN1363-1 (2000).

ENVIROGRAF® PRODUCT XYZ INSUGLASS® – PRODUCT 123

A clear coating for glass or plastics materials. It is a two-part aqueous mix with a coverage of 8m² per litre, and a choice of either Product 42 (HW05 top coating) or armoured protective roll film. The armoured film offers the advantage of protection against glass fragmentation in the event of impact damage to the glass or explosion etc plus extra insulation to the building. Almost 98% of harmful UV rays are absorbed by the armoured film.

Performance: Tested on wired clear glass 980mm x 1500mm, achieving 67 minutes integrity and 50 minutes insulation. Also tested on 6mm standard clear glass, achieving 60 minutes integrity and 30 minutes insulation.
PRODUCT 38
The product 38 range comprises, coatings, fire rated card and a wide variety of real wood veneers. Application requirements are dependant upon the door dimensions. Please refer to our price list or contact our technical department for further details when ordering this product.

PRODUCTS 42 COLOUR SYSTEM
HWAP/WB Primer 1 litre 2½ litres 5 litres
HW01/F White Intumescent Coating 1 litre 2½ litres 5 litres 20 litre buckets
HW/Undercoat White 1 litre
HW/Excel White 1 litre 2½ litres 5 litres
HW/Premier White 1 litre 2½ litres 5 litres
HW/Ultimate/White 1 litre 2½ litres 5 litres
HW/Superb White 1 litre 2½ litres 5 litres
HW/Easy Clean 1 litre 2½ litres 5 litres
HW/Acrylic White 1 litre 2½ litres 5 litres

PRODUCTS 42 CLEAR SYSTEM
HWAP/WB Primer 1 litre 2½ litres 5 litres
HW02/E Clear Intumescent Coating 1 litre 2½ litres 5 litres, 20 litre buckets
HW/Premier Clear 1 litre 2½ litres 5 litres
HW/Excel Clear 1 litre 2½ litres 5 litres
HW/Superb Clear 1 litre 2½ litres 5 litres
HW/Ultimate Clear 1 litre 2½ litres 5 litres
HW05/UVR 1 litre 2½ litres 5 litres
HW/Translucent 1 litre 2½ litres 5 litres

PRODUCT 92 ES/VFR CLEAR
ES/VFR Primer 1 litre 2½ litres 5 litres
ES/VFR Clear 1 litre 2½ litres 5 litres
ES/VFR/Hard Wearing 1 litre 2½ litres 5 litres
ES/VFR/Translucent 1 litre 2½ litres 5 litres

PRODUCT 92 Q/VFR CLEAR
Q/VFR/C 1 litre 2½ litres 5 litres
Q/VFR/Premier Clear 1 litre 2½ litres 5 litres
Q/VFR/Premier UV+Clear 1 litre 2½ litres 5 litres
Q/VFR/UVR 1 litre 2½ litres 5 litres

PRODUCT 92 Q/VFR COLOUR
Q/VFR/W 1 litre 2½ litres 5 litres
Q/VFR/Premier 1 litre 2½ litres 5 litres
Q/VFR/Premier+ White 1 litre 2½ litres 5 litres
Q/VFR/Easy Clean 1 litre 2½ litres 5 litres

PRODUCT 103 Intumescent coating kits to upgrade raised and fielded doors to fire-rated doors
White Kit ½ ltr Primer 1½ ltr Intumescent coating, ½ ltr Top Coat

PRODUCT 103/105
ES/VFR Primer 1 litre 2½ litres 5 litres
ES/VFR/W 1 litre 2½ litres 5 litres
HW/Acrylic 1 litre 2½ litres 5 litres

PRODUCT 90 CLEAR SYSTEM
ES/VFR Primer 1 litre 2½ litres 5 litres
ES/VFR/W 1 litre 2½ litres 5 litres
HW/Acrylic 1 litre 2½ litres 5 litres

PRODUCT 93
Clear Kit
½ ltr Primer
1½ ltr Intumescent coating
½ ltr Top Coat

PRODUCT 96/105
EP/CP/P Primer 1 litre 2½ litres 5 litres
EP/CP 1 litre 2½ litres 5 litres
HW/Acrylic Emulsion 1 litre 2½ litres 5 litres

PRODUCT 67
3-2-1 FIRE RETARDANT LIQUID REF
½ litre spray bottle 1 litre bottle 2 litre bottle 2½ litre starter pack 3½ litre pack 5 litre bottle 25 litre tub

PRODUCT 66
321/W WASHABLE FIRE RETARDANT
½ litre spray bottle 1 litre bottle 2 litre bottle 2½ litre starter pack 3½ litre starter pack 5 litre bottle 25 litre tub

PRODUCT 80
EP/C 1 litre

PRODUCT 81
EP/GC 1 litre

PRODUCT 83
INTUMESCENT COATING FOR STEEL PROTECTION
EP/FS/P Primer 1 litre
EP/FS/EXP Primer A 2-pack Primer for use on external steelwork. 1 litre
EP/TH/1 Thinner for EP/FSE/XP Primer 1 litre
EP/FS/INT Intumescent Coating EP/FS/TCW Top Coat A water based protective coating for INTERNAL use. 1 litre
EP/FS/TCE Top Coat An epoxy resin, 2-part protective coating. 1 litre
EP/TH Thinners for EP/FS/TCE Top Coat 1 litre

PRODUCT 123 INSULGLASS XYZ COATING
XYZ/P1 2 x ½ kg
XYZ/P2 2 x ½ kg
XYZ/P3 2 x 1 kg
Clear film for glass – 1200mm wide, per linear metre

APPLICATION FOR WOODEN PANELLING IN OLD BUILDINGS
When applying a coating to panelled wood areas that are fixed to a wall, it is important to ensure that the new coatings are protected from moisture penetration.

Please use the HWAP/APS Primer before applying Products 42 and 92.

Coating rate: one coat at 12-16m².