



ENVIROGRAF®



INTUMESCENT UPGRADING SYSTEM FOR USE ON EXISTING PANELLED DOORS

Product 38 Data Sheet



**FIRE PROTECTION UPGRADES FOR EXISTING PANELLED DOORS
MAINTAINS THE ORIGINAL CHARACTER OF THE DOOR
MAINTENANCE-FREE FOR YEARS OF TROUBLE-FREE PROTECTION**



**PROTECTING PROPERTY
PROTECTING LIVES**



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IDENTIFICATION AND DESCRIPTION

INTRODUCTION

The United Kingdom and Ireland are undoubtedly famous for their wealth of architectural heritage. The national value of these buildings has caused many to be graded, resulting in refurbishment work to be carried out within strict guidelines. One of the main challenges in the maintenance and refurbishment of these buildings is implementing current fire legislation whilst maintaining the natural features. Environmental Seals Limited have designed a whole range of fire protection products for heritage property including its intumescent sheet system for upgrading flat panelled doors.

The system offers four choices of product:

1. An intumescent material and fire rated card composite 0.7mm thick that can be painted over with proprietary paint (applied to the panels) and an intumescent coating system for the beads.
2. Intumescent material and veneer composite 0.8mm thick (applied to the panels) for doors that require a wood finish (any veneer type is available)
3. The intumescent material alone for composite construction when new panels or door units are required.
4. Intumescent material and ply composite (applied to the panels) for doors that require a wood or ply finish.

ADVANTAGES

- Maintains the original character of the door
- Cost-effective
- Straightforward to install
- HW coating range can be applied over existing paint or varnish (no stripping required)
- The veneer system can be adhered to the treated panel, maintaining the original natural feature of the door
- Maintenance free
- Economical
- Identification labels are supplied for the Building Control Officer to show that the door has been upgraded

REQUIREMENTS

STANDARDS AND APPROVALS

Envirograf® products are tested employing the general principles and criteria of BS476 Part 22 (1987) in UKAS-approved centres.

COMPATIBILITY

The intumescent paper is compatible with general building materials, and is non toxic. It is important to use the Envirograf® Product 46 (IA) intumescent adhesive – no other adhesive is compatible. Envirograf® Product 42 (HW Primer, HW01, HW02, HW03, and HW04) must only be used on wood and related products, according to finish required.

HEALTH AND SAFETY

Intumescent paper and the HW coating range pose no known hazard to health.

ENERGY RETENTION

Envirograf® products offer a degree of insulation to the door sets.

PRODUCT OPTIONS				
	ES/MP/V	ES/MP/FC	ES/MP/PLY	ES/MP***
Fire Performance	30/50 min	30/50 min	30/50 min	30/60 min
Thickness	0.8mm	0.7mm	1.8mm	1mm
Surface type	veneer	smooth	birch ply	intumescent
COMPATIBLE FINISHES				
Painted	yes	yes	yes	no
Stained	yes	yes	yes	no
Varnished	yes	yes	yes	no

***for door construction

Other test data exceeds 30 minutes. For further details, contact our sales / technical department using the contact details on the cover page.

TECHNICAL DESCRIPTION

COMPOSITION

The paper comprises man-made materials and exfoliated graphite, giving excellent intumescent and insulation qualities. The paper must be adhered to the panels using Envirograf® Product 46 (IA) intumescent adhesive. Do not strip off the existing paint or varnish. Rub the panels with coarse glasspaper to give a key for the adhesive. Do ensure that you get into all edges and corners. The white protective card (which, in itself, gives Class 1 & 0 classification) can be painted over, and protects the intumescent material from kicks, knocks, etc – it is extremely strong. Veneer and ply-faced sheets, once adhered with Envirograf® Product 46 (IA) intumescent adhesive to the panels of the door, can be stained and varnished with Envirograf® products or any proprietary products. The intumescent paper, card, veneer and ply are not affected by moisture, especially when adhered to the door panels.

HW COATINGS

The HW coating system comprises HW primer and intumescent coatings HW01 white or HW02 clear. HW03 Clear and HW04 White are top sealer coats.

MOISTURE

The intumescent paper is unaffected by normal atmospheric conditions and will adhere to most substrates. The HW range is hygroscopic and must be applied in dry conditions and must remain dry during the drying period. The **moisture content of the door should be below 15%**. Doors which have been exposed to high level of moisture, such as those in buildings unoccupied for a long time, must be allowed to dry out to reduce the risk of panels splitting. This is best achieved by heating the building whilst other restoration work is being carried out and placing the upgrading of doors to the latter part of the works schedule. Pre-stripped doors must be thoroughly rinsed before application.

ENVIRONMENTAL/BIOLOGICAL

Envirograf® products are resistant to fungi, insect attack, bacterial action and are not susceptible to rodents and other vermin. They contain no CFCs or HCFCs.

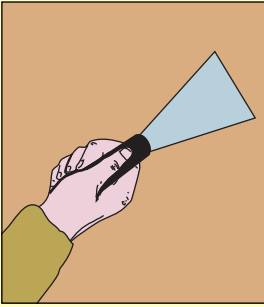
THERMAL

The intumescent paper mentioned in this data sheet is unaffected by normal variations of temperature, cold, heat or frost. The HW coating when completely dry is also unaffected by normal variations of temperature.

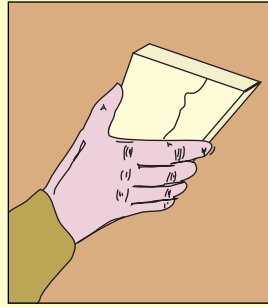


ES/MP/PLY
1.8mm thick
birch

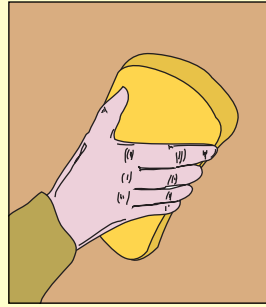
DOOR PREPARATION & SPECIAL NOTES



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



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



3. Thoroughly clean the panels, rails, and stiles of the door.

SPECIAL NOTES ON COATINGS:

Previously-coated doors do not need to be stripped, provided that the varnish or paint is in good order. Follow normal preparation as shown in adjacent illustrations. HW Adhesion Primer should then be applied before the other HW coatings. If the door is new or stripped wood, then HW Adhesion Primer is not required.

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

UPGRADING SYSTEM 1

It is only necessary to treat the risk side if a room door (such as a bedroom or lounge door) opens onto a corridor. If the door is positioned in a corridor or on a staircase, then both sides need to be treated.

For preparation, see **COMPOSITION** on the previous page.

METHOD A

This method is for doors with rails and stiles 31-34mm, with a minimum 6mm panel thickness. Paint the beads, rails, and stiles with Envirograf® Product 42 (HW Range), using two coats of either HW01 intumescent paint or HW02 intumescent varnish at a coverage rate of 8m² per litre plus one coat of either HW03 or HW04 protective top coat. HWAP primer must be applied first if the door has been previously varnished. Then, using Envirograf® Product 46 (intumescent adhesive), fix the Envirograf® Product 38 paper with card, plywood, or veneer to the face of the panels between the beads.

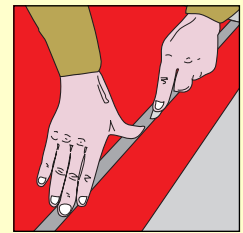
METHOD B

This method is for doors with stiles and rails 35mm and above. Upgrade only the beads using the HW system, then adhere the Envirograf® Product 38 paper as shown. Envirograf® HW coatings are then applied as follows:— For varnished doors, apply HWAP primer over existing varnish. Then apply two coats of HW02 matt varnish at 8m² per litre per coat, followed by one coat of HW03 (matt, semi-gloss, or gloss) at 10m² per litre. For painted doors, apply two coats of HW01 at 8m² per litre per coat. Then apply one coat of HW04 undercoat at 8m² per litre, followed by one coat of HW04 top coat at 8m² per litre.

PLEASE NOTE: If the coating system is to be applied to existing varnish, one coat of HWAP primer must be applied before HW02. The paper and board does not require HW coating. If veneer or ply is adhered to the panels to finish, coat the veneer with one coat of HW03. HWAP primer is not normally required with HW01 intumescent and it is not supplied in our DK1 door kit. In cases where the surface is greasy, oily, or exceptionally dirty, then it is advisable to use the HWAP primer. If you need the DK1 door kit, please mention this when ordering.

HW 04	HW 03
HW 01	HW 02
HW 01	HW 02
[Illustration of a door panel with a textured surface]	

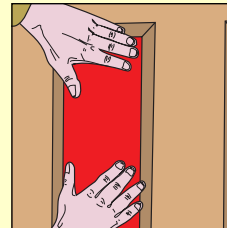
2. Apply two coats of HW01 or HW02. Finally one coat of HW03 or HW04.



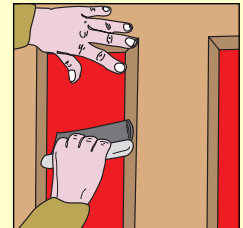
3. Measure and cut the intumescent paper and card to the size of the panels.



4. After preparing the panels, apply IA adhesive to the risk side panels.



5. Apply the paper and card to the panels, with the grey side facing the panel and the white side facing outwards.



6. Brush the paper system flat removing any air pockets using a standard wallpaper brush/roller. Allow to dry before any other treatment is applied.

PLEASE NOTE THAT PRIMER IS NOT NORMALLY REQUIRED WITH HW01 COATING

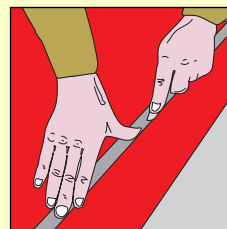
DOOR PREPARATION FOR DOOR MANUFACTURERS: PAPER SANDWICHED IN COMPOSITE PANELS

UPGRADING SYSTEM 2

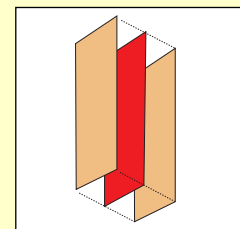
Doors with rails and stile minimum thickness 40mm - 50mm. Panels of minimum thickness 12mm, comprising two 6mm panels with 1mm thick Envirograf® paper sandwiched between the panels and fitted into a groove.

The panels comprise two 6mm thick plywood panels with the Envirograf® paper sandwiched between. These must be glued together with Envirograf® Product 46 (IA) intumescent adhesive.

Paper, plywood, or timber should be rebated into the stiles, rails, and muntins by 15mm depth, using Envirograf® Product 46 (IA) intumescent adhesive.



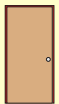
1. Measure and cut the intumescent paper to the size of the panels.



2. Sandwich the paper between the composite panel unit adhering together with IA adhesive. The door is then manufactured ensuring that the panels are fitted into grooves and all beads are fixed with pins.

FIRE DOOR INFORMATION

All fire doors must have intumescent fire and smoke seals.



SURFACE FITTING REQUIRED

Seals can be fitted either into the edge of the door or into the frame, shown by the red line in the adjacent illustration.

CLEARANCE GAPS

(between door & frame at head/closing stile)

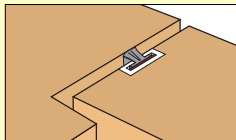
Rebated seals - 4mm - 4.5mm to allow for neoprene seals or brushes which are 5mm - 5.5mm in length.

Surface mounted seals: 3mm upwards as this seal can be provided with a smoke seal up to 15mm in length.

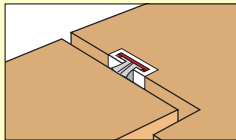
APPLICATIONS OF PRODUCTS 69, 71 & 100

PRODUCT 100

Seals can be fitted into the door edge

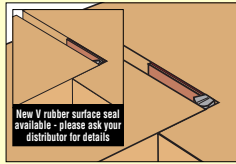
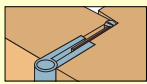


Seals can be fitted into the frame



PRODUCT 69

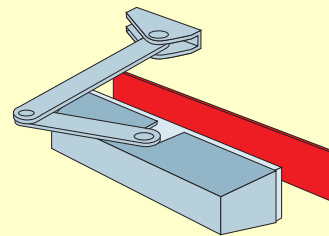
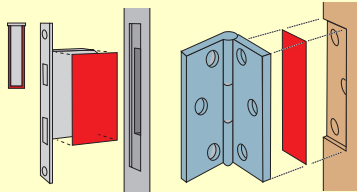
Envirograf® surface-mounted seals are fitted onto the frame and provide hinge protection



New V rubber surface seal available - please ask your distributor for details

PRODUCT 71

All rebated locks, hinges and door closures must be fully protected to comply with BS476 Part 22 (1987). The Intumescent paper is laid behind the hinges and around locks whilst being installed. (Important: do not use mastic or putty).

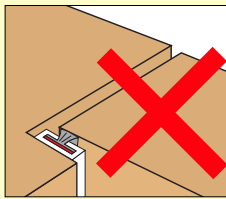


IMPORTANT NOTE

Intumescent seals must **never** be fitted to the door stop. In a fire they will push the door open.

DOOR STOPS

For Fire doors with up to 185 minutes rating, stops can be 12mm or less and only need to be pinned or screwed - not glued.



OPTICAL

The paper is impervious to UV light.

The HW coatings are not affected by UV light over a long period of time. However, the system is unaffected when used internally.

STRUCTURAL, MECHANICAL

Intumescent paper is a durable material adhered to Envirograf® Fire Card (or veneer) and is suitable for areas with continuous traffic.

PERFORMANCE

FIRE

Product 38 has undergone an extensive test programme including a wide variety of both new and old panelled doors. All tests have been held at UKAS-approved test centres to the requirements of BS476. Product 38 has helped maintain the integrity of many doors including those containing softwood panels as thin as 6mm for 30 minutes and 4mm for 20 minutes. Thicker panels will achieve up to 50 minutes of fire protection.

LABOUR

Before application, discuss with your Regional Office to ensure that skilled labour is used for the installation of the intumescent paper and HW system. It is important that the installers are fully aware, and have full understanding of the manufacturer's instructions, which must be followed.

LIMITATIONS TO FIRE PERFORMANCE

Product 38 is an intumescent paper, designed to improve the fire resistance of timber door leaves which include thinner panels.

In order to ensure that the fire resistance of the doorset as a whole is adequate, it is essential that steps are taken to check that the appropriate door-frames and fixings, door-stops, intumescent strips and door furniture are used.

MAINTENANCE/REPAIR/REPLACEMENT/DISPOSAL

The paper, once installed, should be maintenance free. If, for what ever purpose the paper is removed or damaged it is advisable to replace.

DEMOLITION

In the eventual demolition of a building, any Envirograf® products can be simply disposed of - no special conditions of disposal are necessary.

SUPPLY

Standard sizes are delivered from stock, and special sizes can be made to order.

SIZES AND ORDERING REFERENCES

PRODUCT 38 - MEMBRANE PAPER

ES/MP: Paper only - for use for door manufacturers with composite panels.

ES/MP/FC: Paper with protective fire card for on-site upgrading.

The 1mm intumescent paper is supplied adhered to two grades of fire card:

320g/m² for veneering over. 700g/m² for painting over.

ES/MP/V: Paper can be supplied with pre-applied veneer in 1200x1200mm sheets (other sizes are available).

ES/MP/PLY: Paper can be supplied with pre-applied birch ply in 1500mm x 1500mm sheets (other sizes are available).

ES/MP/GP Gaboon ply facing 1200 by 1200mm, 1200 by 2400mm

HW Adhesion Primer for use with HW02 ONLY.

HW01: White intumescent

HW02: Clear intumescent

HW03: Clear protective coating for use over HW02

HW04: White protective coat for use over HW01 as an undercoat.

Proprietary paint can be used over HW04 to finish

Please contact your regional office to discuss types of door application suited to your requirements.

QUALITY MANAGEMENT

Environmental Seals Ltd operates an ISO9001 Quality Management System according to the relevant British Standards. Environmental Seals Ltd supply quality management labels to be fixed into the door frame of each door upgraded. The labels are obtained from Envirograf® authorised regional offices, once they have been satisfied the work has been carried out effectively. The label is there for the benefit of Building Control and Fire Officers.

REGIONAL OFFICE