



Bespoke Fire Safety Training

NOS-5

Underpinning Knowledge
and

Risk Assessment
of High Risk Premises

Fire Door Repairs & Upgrading Period Buildings

(powerpoint)

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FPA Trainer

Door Repair & Upgrading

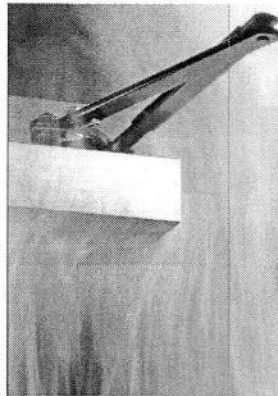


Frame/doorleaf combinations: wood/wood; steel/steel; steel/wood!; wood/steel

DISADVANTAGE
LOW INSULATION.
STEEL GOOD
HEAT
CONDUCTOR.

Door Repair & Upgrading

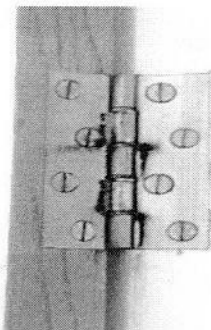
Overhead closers
should meet BS EN
1154
Door should close in
<30 secs and latch



BS 8214 1990

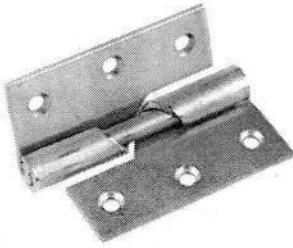
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Hinges should
meet BS 7352,
show minimal play
and be kept lightly
oiled quarterly.



Screws (engineering brass or steel) $\geq 38\text{mm}$

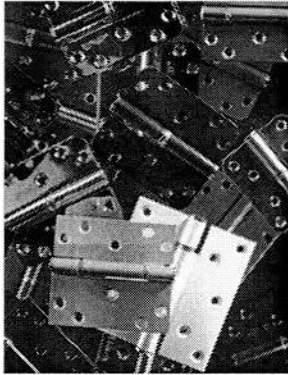
Door Repair & Upgrading



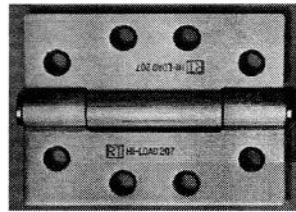
No type of rising hinge should be fitted to fire doors in commercial use

Seal at door top is too difficult to achieve

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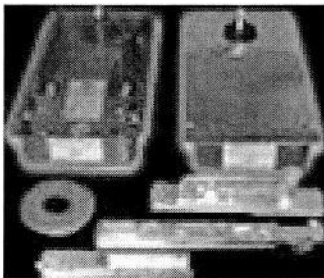


Replace defective hinges with a quality item



25 Year maintenance free units available

Door Repair & Upgrading



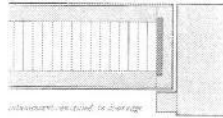
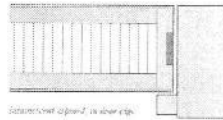
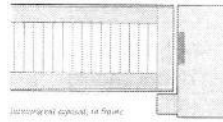
Floor springs can be the most durable system in high usage areas. Fire performance is also very reliable

Door Repair & Upgrading

No door has achieved FD30 without intumescent seals !

Single leaf, latched doors generally need 10mm strip to BS 476:23 centrally located in door or frame on three sides (hinge section can be omitted) FD60 usually 2 x 10mm strips to include hinges

Any other configuration FD30 or 60 and all FD60+ need manufacturer's data



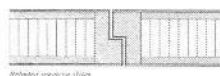
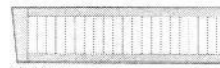
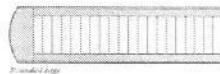
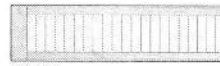
Door Repair & Upgrading

BS 8214 1990

To re-attach hardwood lippings or loose frames up to 30mins use BS 1204 rated glues

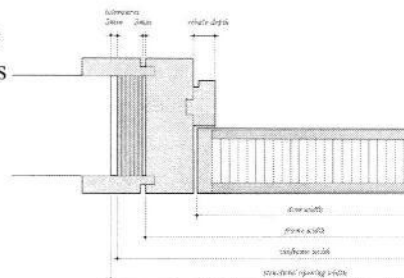
For 60 mins or more use WBP (weather proof & boilproof)

Intumescent pastes to fill **small** holes & cracks



Door Repair & Upgrading

Frames need to be close fitted into their openings with correctly installed architraves



Wood based doors and frames - Table 2- 30 minutes

Table 3- 60 minutes

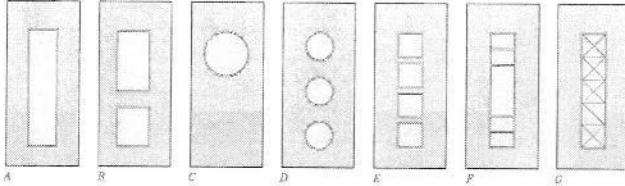
Door Repair & Upgrading

Glazing

Cutting apertures on site strongly deprecated - specific settings on each type eg 5mm all round for Georgian

60 minute doors should not be site glazed

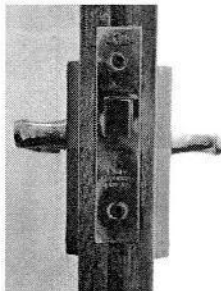
Examples of glazing apertures



Door Repair & Upgrading

Latches

Minimum amount of wood cut away – no more than 18mm of a 54mm door



Check action is smooth and positive - lubricate if necessary

1/3 Lock of door THICKNESS

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DD 171: 1987

Sets about ten criteria for a door's suitability in service

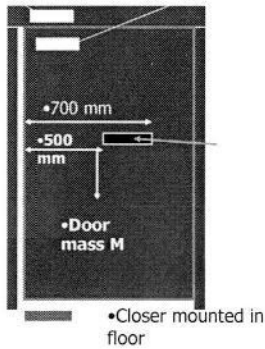
- Y Duty categories
- Y Strength
- Y Stability
- Y Robustness
- Y Opening & closing forces

Similar requirements will be in CE marked fire doors!

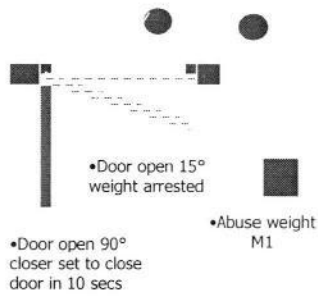
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Test door

- Closer mounted on or in transom
- Closer mounted on or in door

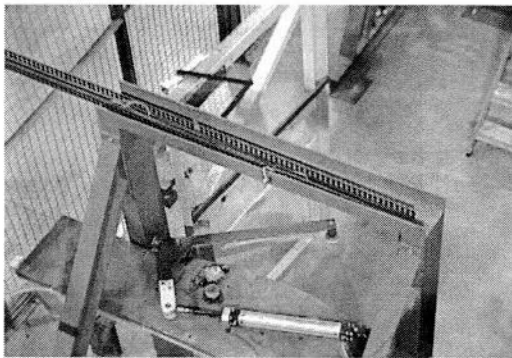


Closing overload test



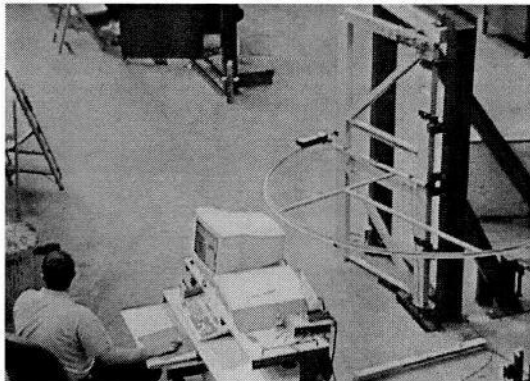
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Controlled door closing devices to BSEN 1154: 1997
Backcheck test

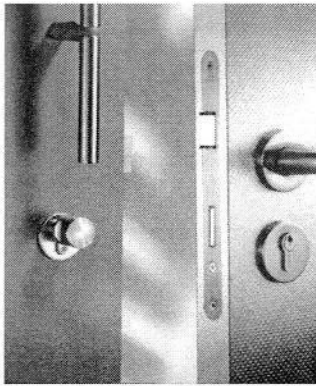


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Controlled door closing devices BSEN 1154: 1997
Endurance cycle tests - 25 before fire test



Door Repair & Upgrading



Steel Doors & Frames

Custom matched only !

Not insulating by default

High security / hygiene

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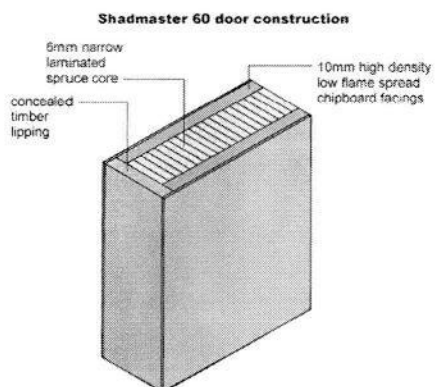


Steel Doors & Frames

Some systems do not require
intumescent seals

Smoke seals will be necessary
in most cases

Door Repair & Upgrading

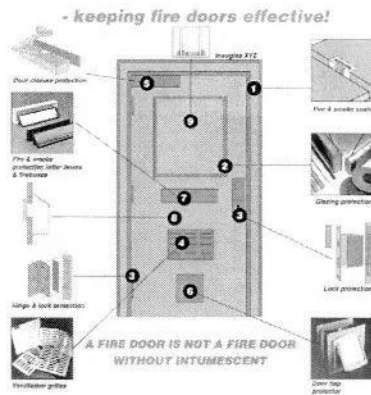


Door Blanks

Can be faced in 2mm
veneer to customers choice

Can be cut to size and
specified hardware or
glazing added

Door Repair & Upgrading



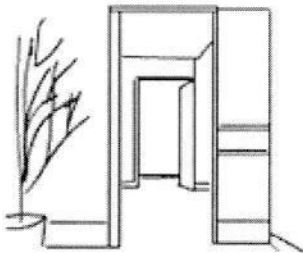
Additions

- Many approved items are available
- Kick strips & trolley guard plates either only glued on or very short screws used

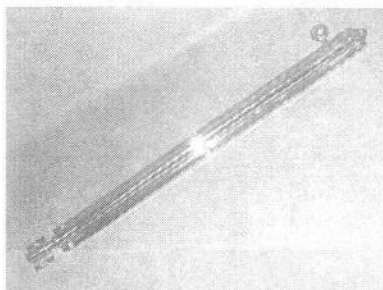
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Self-contained release devices SCRD's

See notes in CFOA Policy March 2003



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Additions

All bolts should be fitted on faces, never on edges as seal action would be impaired

Door Repair & Upgrading

Panic Bars BS EN 1125

Carry 9 digit classification:

- 1 Category of use
- 2 Durability of use
- 3 Test Door mass
- 4 Fire Resistance
- 5 Safety
- 6 Corrosion
- 8 Projection of Bar
- 9 Type of operation



Door Repair & Upgrading

Heritage Buildings Problems & Solutions



Door Repair & Upgrading



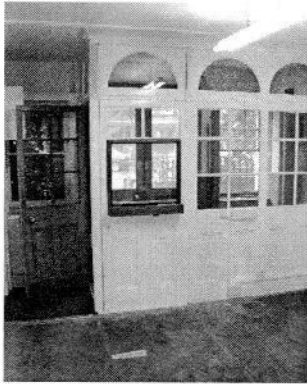
Period & Listed buildings
present particular problems:

English Heritage may prevent
unsightly alterations

Public access forces owners to
make fire safety improvements

(eg Hotels & Guesthouses)

Door Repair & Upgrading



'Reversible' Upgrading

Class 0/1 & Fire Resistance

Intumescent varnishes

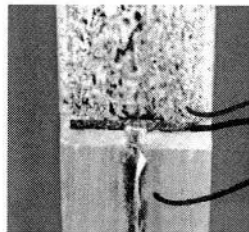
Intumescent papers for
deeply fielded doors and
panels

Clear fire glasses

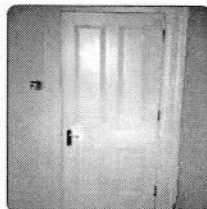
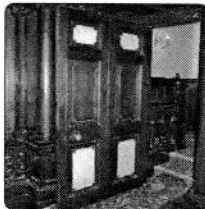
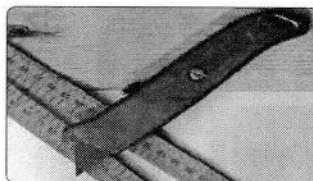
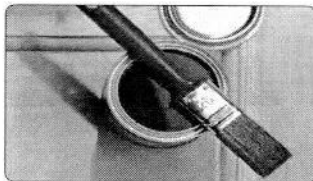
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Clear intumescent
coating on fielded
panel door



CUT AWAY
SECTION
INTUMESCENT.
BRUSH
ENCLOSED LIP



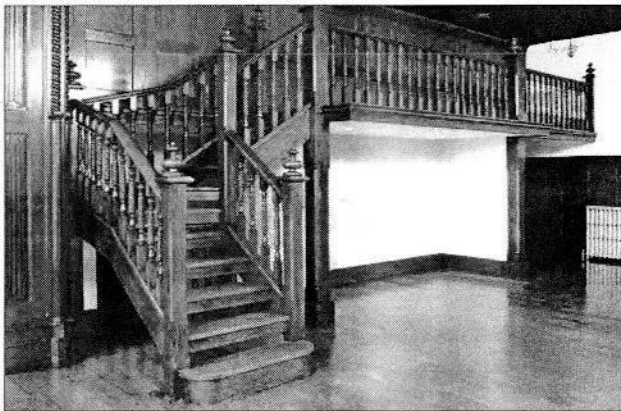
**FIRE PROTECTION UPGRADES FOR EXISTING PANELLED DOORS
MAINTAINS THE ORIGINAL CHARACTER OF THE DOOR
MAINTENANCE-FREE FOR YEARS OF TROUBLE-FREE PROTECTION**

Door Repair & Upgrading

Adjoining Structures



Systems available
For lath & plaster
ceilings, cornices
& architraves to
achieve one hour



**UPGRADE PANNELLING, LEDGED/BRACED DOORS, PANNELLED DOORS
RAISED/FIELDED DOORS, AND MANY OTHER WOOD SURFACES
TO CLASS 0 / CLASS 1 OR 30-60 MINUTES OF FIRE PROTECTION**

Restoring the past and protecting the future is a top priority for the owner of this old and previously dilapidated matched cottage in Cottenham, Cambridgeshire. Attention to detail during refurbishment, repainting and re-thatching was a crucial factor in this project, but the need for fire protection to protect the family was just as important.

Fire protection is often ignored or overlooked by homeowners, who spend most of their funds on the aesthetics of their properties – at the expense of safety. As insurance companies are now looking ever closer at vulnerable properties like matched cottages, the need for basic fire protection becomes more of a necessity for homeowners.

The building contractor, Northover Construction, used a yellow Enveropass 1870 fire barrier curtain over the roof trusses of the cottage. If the thatch is ignited accidentally or maliciously, this curtain ensures that the rest of the property is protected. Also, if a fire started in the rooms below the roof, then the thatch is also protected. The curtain has been independently tested for 30 minutes protection to BS-476 Part 22 (1987).

This inexpensive, but very effective, fire protection curtain is just part of a vast range of Enveropass passive fire prevention products. Other items to protect from fire in the home include carpets, electric wiring, fabrics and wood.

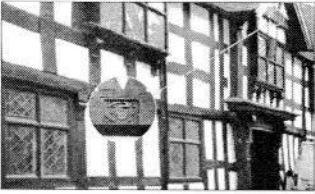

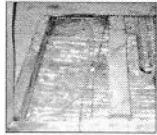


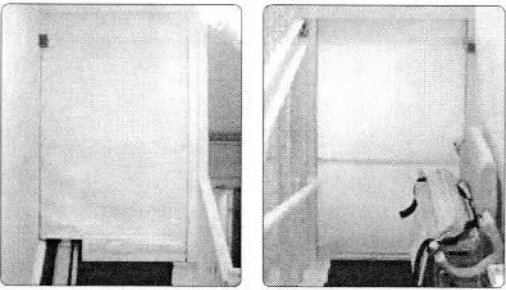
The Grade 1 star listed Porch House in Swan Hill, Shropshire, dating from 1628, has been delightfully converted into two luxury apartments, one five-bedroom and one three-bedroom. The front of the building retains the original Tudor-beamed look, but the rest of the property has more Edwardian characteristics.

The restoration work was undertaken by Everlasting Estates, a subsidiary of MM Hotels. Steve Perry, their spokesman, explained how every minor detail of this historic building was considered. Complying with current building regulations and strict English Heritage demands was certainly a challenge but, to ensure the building could meet stringent fire regulations with the minimum of disruption and a number of Envirograf® products have been supplied to assist in this compliance.

The photographs opposite show how the Envirograf® under-floor fire barrier and acoustic sponge insulation being used between the two apartments. The barrier was chosen for its outstanding fire protection performance figure of 104 minutes integrity with insulation and sound absorption qualities.

The previous owners had modernised the fireplaces in the 20s and the reduction units were not in keeping with the age and look of the property, so the fireplaces had to be lovingly restored to their previous glory.

The wood panelling, which is reputed to be around 300 years old and originally brought from Europe via the River Severn, has also been treated with

ABBAY HOUSE NURSING HOME FITTED ENVIROGRAF® SOLUTIONS

Abbey House Nursing Home in Grimsby is a combination of two Victorian houses converted into a single home. The task of installing suitable protection was given to Clive Blacklock of JS Supplies.

The safety brief from Fire Officer Steve Topham made fire and smoke protection paramount in the stair areas and around all the doors.

The products used in the project were Envirograf® Product 60 Fire and Smoke Seals for the doors and three Product 90 Fire and Smoke Drop Curtains (two for the stair areas and one for the kitchen area).

The curtains supplied were motorised versions connected to the fire alarm system, so that they will automatically descend to close the stair well, preventing penetration of fire and smoke.

One of the curtains was customised to fit around the track of a stair lift. The nursing home has link corridors on each floor for escape purposes, but an emergency over-ride switch has been provided for the stair curtains.

The project was passed to the satisfaction of Fire Officer Steve Topham and Building Control Officer for North-East Lincolnshire Council, Andy Cole.

Bats are protected in one of the most romantic houses in England. Combe House is set within its own estate 1 mile from Gittisham, once described by Prince Charles as 'the ideal English village'. The house is a Grade One listed Elizabethan manor house which has recently had a restoration to its original kitchen.

To ensure that the current building regulations were adhered to, fire protection within the loft space had to be designed to accommodate the resident bat population. Small-eared horse-shoe bats have been resident for a great number of years and they presented a rather difficult problem in balancing the human needs with the needs of the bats.

The need for fire protection and openings for free movement of the bats was paramount in the choice of materials and their use. The combination of two products was needed to help ensure fire protection of the building and preservation of the resident bats.

Envirograf® Product 57 60-minute fire barrier curtain and a thin-wall curtain damper were needed in the roof space to act as a bulwark against the spread of fire. The size of compartment needed was 3900mm x 3900mm so that bats could fly from one compartment to another in the loft space, but the openings would seal only on an extreme rise in temperature.

