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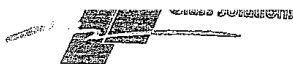


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# FIELD OF APPLICATION REPORT IFCA/03199

*The Field of Application of Vetroflam 6mm EW30,  
Vetroflam Stadip EW30 (66.2) and Climaplust Vetroflam  
EW 30 (6/-6) when installed in timber screens and  
timber doorsets to provide 30 minutes  
fire resistance if tested in accordance  
With NEN 6069: 1997*

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### FIELD OF APPLICATION REPORT IFCA/03199

The Field of Application of Vetrotech 6mm EW30,  
Vetrotech Stadip EW30 (66.2) and Climaplast Vetrotech  
EW30 (6/-/6) when installed in timber screens and  
timber doorsets to provide 30 minutes  
fire resistance if tested in accordance  
with NEN 6069: 1997

Prepared on behalf of:

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July 2003

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## 1. INTRODUCTION

This report has been prepared by International Fire Consultants Ltd, on the instruction of Vetrotech Saint-Gobain Benelux b.v. to determine the Field of Application, using existing fire resistance test evidence for the heat reflecting Vetrolam 6mm EW30 glass as single panes and when incorporated into 22mm thick double glazed units Climaplus Vetrolam EW30 (6/-/6) and Vetrolam Stadip EW30 (66.2) laminated glass when installed in timber screens and timber doorsets to achieve 30 minutes fire resistance according to the integrity and radiation criteria of NEN 6069: 1997.

Fire resisting assemblies are rarely supplied in an identical form to that which was tested. The specification will invariably require the construction to be supplied at a size, in a mode, with glazing apertures, glass, frames, ironmongery, etc. which are different from that tested. The result of a fire resistance test can apply to variations in configurations/construction as long as they do not reduce the performance to one which is below that specified. The influence of those variations is covered by a judgement, sometimes made by the approving authority.

Where the approving authority does not feel able to make such judgements, an expert opinion is often sought. Such an opinion is often expressed in the form of an assessment of the performance, which may be supported by numerical/quantifiable methods or may be purely an expert judgement.

When establishing the variations in the construction that can achieve the required fire resistance performance, International Fire Consultants Ltd. follow the guidance given in BS.ISO/TR12470: 1998, "Fire resistance tests - Guidance on the application and extension of results".

The assessment is based upon the constructional information supplied to us (detailed in Section 2) and upon the fire resistance test evidence for parts of the constructions (detailed in Section 3). A full analysis of the fire resistance performance of these assemblies is presented in Section 4.

## 2. PROPOSAL

It is proposed that Vetrolam 6mm EW30 glass with heat reflective coating, as described in section 2.1, installed as individual panes, or as one pane forming part of a 22mm thick double glazed unit or in the form of laminated glass, may be used at the maximum sizes given in the conclusions (Section 5), to achieve 30 minutes fire resistance. This will be adjudged according to the integrity and radiation criteria of NEN 6069: 1997, when glazed into a multi-pane screen or doorset constructed from timber sections of adequate cross-section and design, providing that the screen and method of glazing complies with the recommendations of this assessment.

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In certain applications the performance is dependent upon the direction of fire attack and the position of the glass in respect of other panes forming, for example, a double glazed unit. See Figures 03199/01 and 02 in Appendix C.

The assessment defines the maximum pane size and other relevant constructional restrictions as defined in Section 4.

## 2.1 Product Description

### 2.1.1 *Vetroflam 6mm EW30*

Maximum individual pane area	=	2.34m <sup>2</sup>	
Maximum individual pane height	=	1830mm	Associated width = 936mm
Maximum individual pane width	=	2325mm	Associated height = 1007mm

*Vetroflam 6mm EW30* is a 6mm thick glass of soda/lime composition, manufactured by the float glass process in accordance with EN 572.

The glass is cut to size, edge ground, polished and toughened in accordance with EN12150. One face of the glass is coated with a metal oxide coating which can be detected using an electrical resistance meter. The glass carries a marking on the face that has the heat reflecting coating.

### 2.1.2 *Vetroflam Stadip EW30 (66.2)*

Maximum individual pane area	=	1.20m <sup>2</sup>	
Maximum individual pane height	=	800mm	Associated width = 1499mm
Maximum individual pane width	=	2042mm	Associated height = 587mm

Laminated *Vetroflam Stadip EW30 (66.2)* is a fire protection safety glass consisting of two *Vetroflam 6mm EW30* panes, bonded together using 0.38mm PVB-foil. The panes are provided with a heat reflecting coating, coated surface next to the PVB-foil. The thickness of the glass is 13mm. *Vetroflam Stadip EW30 (66.2)* is safety glass and has been toughened according to EN12150/DIN1249.

### 2.1.3 *Climaplus Vetroflam EW30 (6/-/6) double glazed units*

Maximum individual pane area	=	3.45m <sup>2</sup>	
Maximum individual pane height	=	2402mm	Associated width = 1437mm
Maximum individual pane width	=	1958mm	Associated height = 1763mm

*Climaplus Vetroflam EW30 (6/-/6) double glazed units* are manufactured using a sheet of 6mm thick *Vetroflam EW30* glass, with an integral heat reflective coating on the face which faces into the air gap/cavity, in combination with an 10mm thick aluminium spacer and a secondary 6mm thick non-fire rated glass.

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Alternatively a sheet of 6mm thick Vetroflam EW30 glass may be positioned on both sides, with the heat reflective coating on the face which faces the void.

The outer perimeter is sealed with a special ribbon on the spacer and a secondary edge sealing with silicone.

## 2.2 Timber frame

The timber framing members consist of hardwood with a dry density at least  $500\text{kg/m}^3$ . The timber framing perimeter members, mullions and transoms are made in a section size of at least 40 x 95mm.

The timber perimeter members are jointed at the corners using mortice and tenon connections. The mullions and transoms are jointed to each other and to the frame perimeter, also using mortice and tenon connections.

## 2.3 Glazing system

The glass panes are fixed in the frame using hardwood glazing beads of minimum dimensions 20mm high by 35mm deep.

The glazing beads consist of hardwood with a dry density of at least  $500\text{kg/m}^3$ .

The glazing beads may be rectangular or chamfered but if the pane sizes are larger than 0.75m wide and 1.50m high the glazing beads must be chamfered in order to prevent spontaneous ignition by radiation and convective heat transfer onto the timber beads.

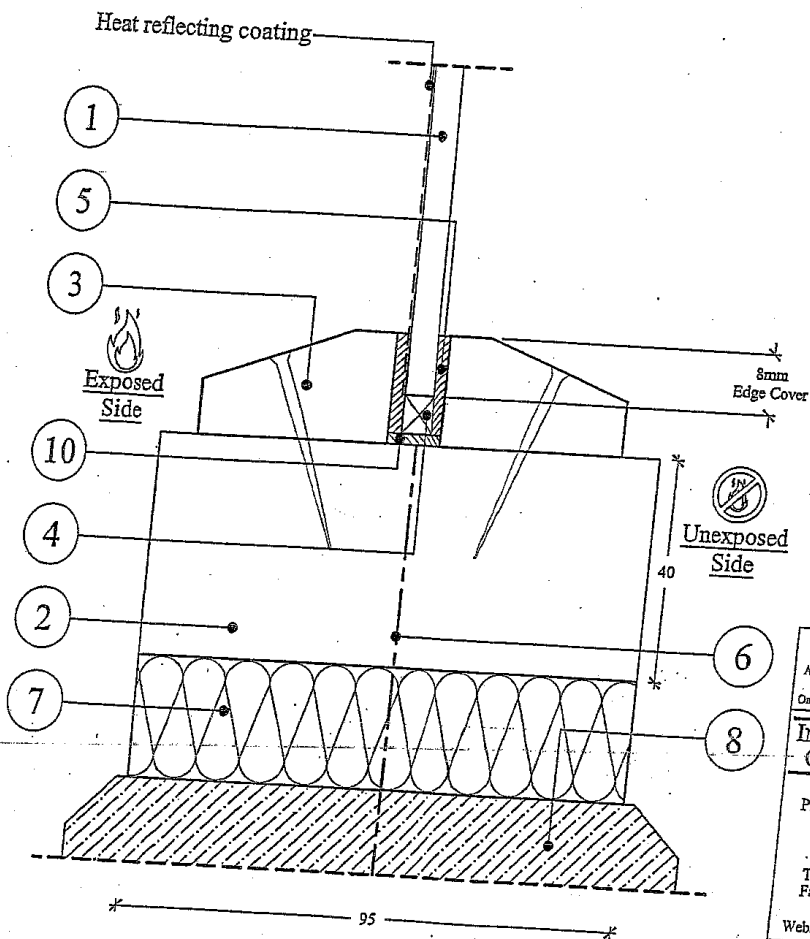
Glazing beads are applied on both sides of the glass panes.

A strip of ceramic fibre, size 15 x 3mm, is applied to the glazing beads. These ceramic fibre strips retain the Vetroflam 6mm EW30, Stadip 66.2 or Climaplus (6/-/6) pane in position and are applied on both sides of the pane along the perimeter of the glazing. The ceramic strip may be of the type 'Kerafix' ceramic paper or Fiberfrax, McGowan Pyrotape or Interseal FT-papier.

The glass panes are supported by setting blocks of non-combustible material with dimensions  $80 \times 9 \pm 1\text{mm}$  (length by thickness) and the width is equal to or slightly less than the glass thickness.

An intumescent strip, self-adhesive on one side, is glued into the glazing pocket along the perimeter of the aperture. The intumescent strip is of type Intumex or of type Interdens. The dimensions of the intumescent strip are 10 x 2.5mm for 6mm single glazed panes. The dimensions of the intumescent strip are 20 x 2mm for double glazed units.

It is important that the edge cover does not exceed 8mm in any case for single glazed Vetroflam 6mm EW30 and 12mm for Vetroflam Stadip (66.2) or for Vetroflam Climplus (6/-/6).



Detailed cross section of screen perimeter framing and glazing pocket for a fire resistance with respect to integrity of 30 minutes, direction of exposure as indicated.  
 Vetroflam 6mm EW30 single glazing.

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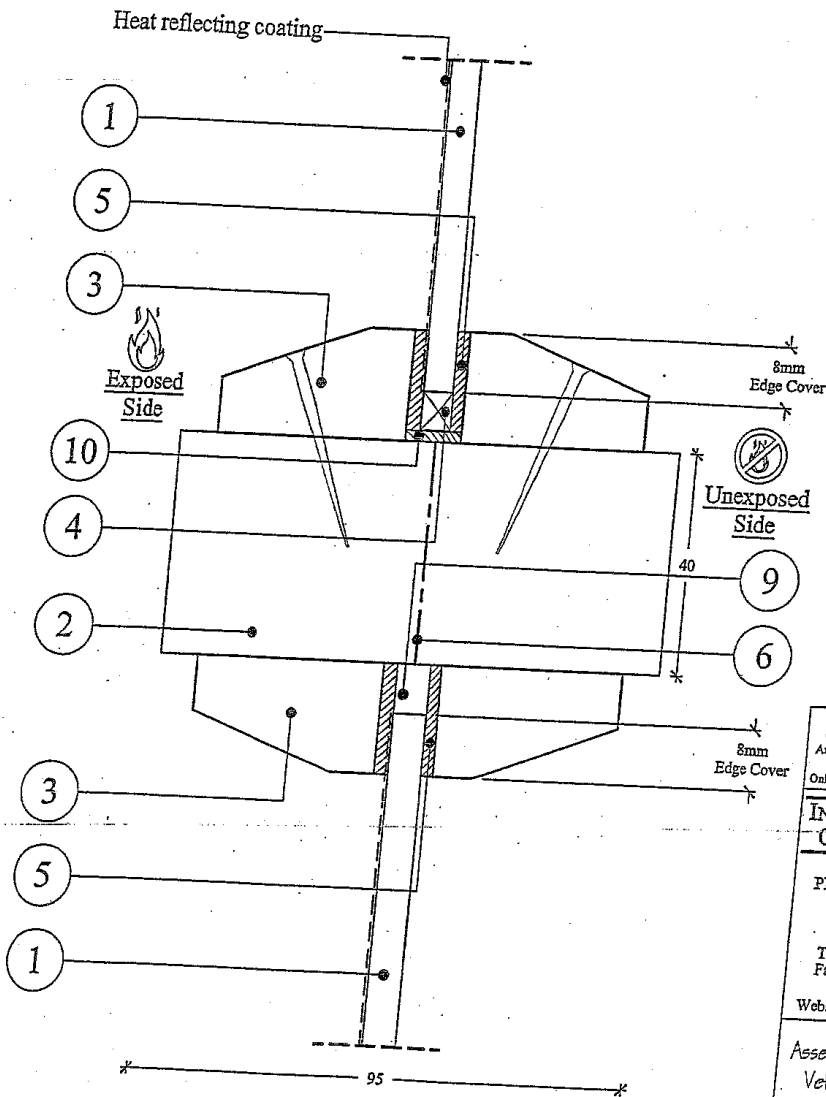
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Assessment FCA 05199  
 Vetrotech Saint Gobain

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*J. G. G.*



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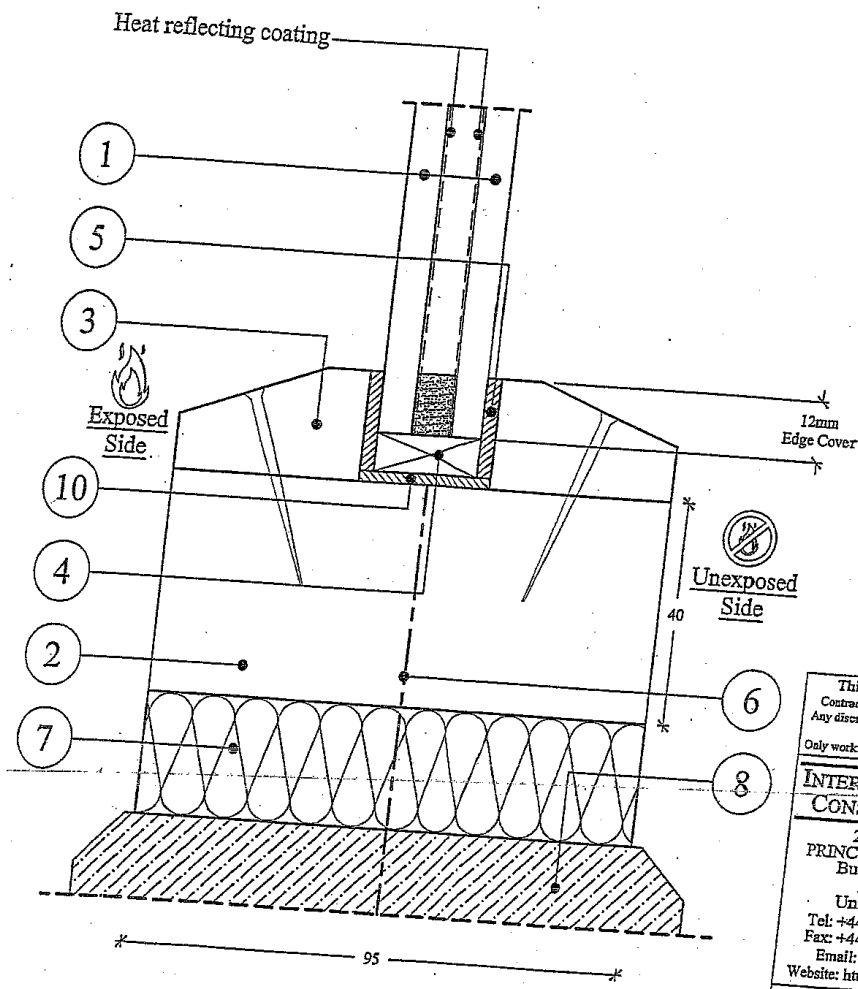
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Detail Two

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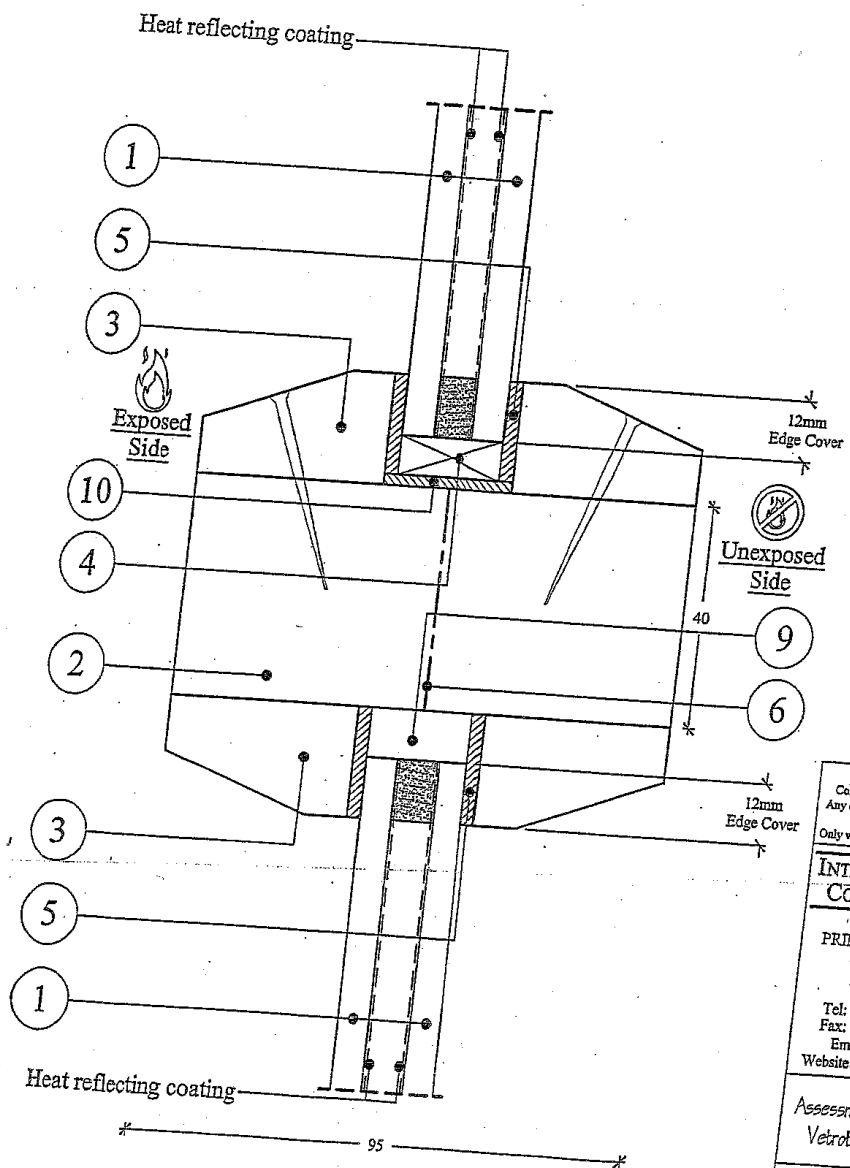
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Detail Four

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 03199/04

*JG*

Legend to Figures IFCA/03199/01-04

1. Vetroflam 6mm EW30.
2. Hardwood timber frame, density  $>500\text{kg/m}^3$ , minimum dimensions 40 x 95mm.
3. Hardwood timber glazing beads, density  $>500\text{kg/m}^3$ , minimum dimensions 20mm wide x 35mm deep.
4. Non-combustible setting blocks, minimum dimensions 20 x  $(9 \pm 1)$  x 80mm.
5. Ceramic fibre glazing tape, dimensions 15 x 3mm.
6. Steel anchor bolts or steel screws in plastic plug, dimensions M8 x 100mm.
7. Non-combustible mineral rock fibre.
8. Brickwork or concrete supporting construction.
9. Room for expansion of the glass, 10mm void.
10. Intumescent strip 10 x 2.5mm (single glass) or 20 x 2.5mm (double glass unit), type Intumex or Interdens.