SFB 2074/3074 EI

Fire resistant doors and partitions

(B 04/2014)

System for fire resistant doors
SAPA SYSTEM SFB 2074
and fire resistant partitions
SAPA SYSTEM SFB 3074

Technical description

System for fire resistant doors SFB 2074 and fire resistant partitions SFB 3074 has been designed on base of standard thermally insulated system Thermo 74. All main profiles, most of tools, accessories, hardware and gaskets are used both in typical partitions and fire resistant partitions. It makes a lot of advantages in design, planning, logistic and manufacturing of end products.

Fire resistant system differs from standard Thermo 74 in following:

- using of cooling / insulating inserts (called fire insulations) in main profiles
  - partition in class EI 15/E 30 and EI 30:
    - 1 insert (type „C1"),
  - partition in class EI 45 and EI 60:
    - 1 insert (type „C2")
- using of glazing beads at both sides of glass (symmetrical position for single glazing, asymmetrical position for double glazing);
- depth of glass mounting and width of glazing beads (26 mm instead of 22 mm),
- additional point wise fixing of glass and infill panels with stainless steel clips system
- using of expanding sealing tapes around a perimeter of glass and infill panel and on rebate of door leaf and frame,
- special fixing of locks to door leaf section,
- using of steel accessories securing a back edge of door leaf against unsealing;
- using of steel accessories securing a top corner of door leaf against unsealing (it makes possible to replace expensive 2- or 3-point locks by simple 1-point locks).

Range of constructions:

- inside and outside doors, single- and double-leaf, with glass or with non-transparent infill panel. Doors are destined for usage in housing, office and industrial building;
- non-carrying inside partitions with glass or with non-transparent infill panel. Partitions are destined for usage in housing, office and industrial building. Walls can be connected with single- or double-leaf doors;
- non-carrying outside partitions with glass or with non-transparent infill panel. Partitions are destined for usage in housing, office and industrial building. Walls can be connected with single- or double-leaf doors.

Fire resistant classes:

Partition:
- EI 15/E 30
- EI 30
- EI 45
- EI 60

Door:
- EI_1 30
- EI_1 60 (single door)
- EI_2 60 (double door)

Smoke – tightness class (Sm, Sa):

Doors and partitions can be fire-resistant (in listed above classes) and smoke tight. For smoke doors automatic draught seals and optional sealing (rebate) gasket are used. Each fire resistant partition made in accordance with this manual is smoke tight.

Maximum dimensions:

Maximum dimension of doors:
- leaf height (section 74420) - 2300 mm,
- leaf height (section 74421) - 3000 mm,
- leaf width in single door and main leaf width in double door - 1400 mm,
- width of double-leaf door - 2500 mm.

Maximum dimension of partitions:
- height - 4000 mm,
- width of partition without dilatation - 6000 mm,
- width is unlimited if partition has dilatation in distance less than - 6000 mm.

Dimension of partitions and profile choice should be set upon statistic calculation taking loads and allowable deflections into account.

Maximum dimensional deviation of doors and partition elements.

Maximum tolerances of door leafs:

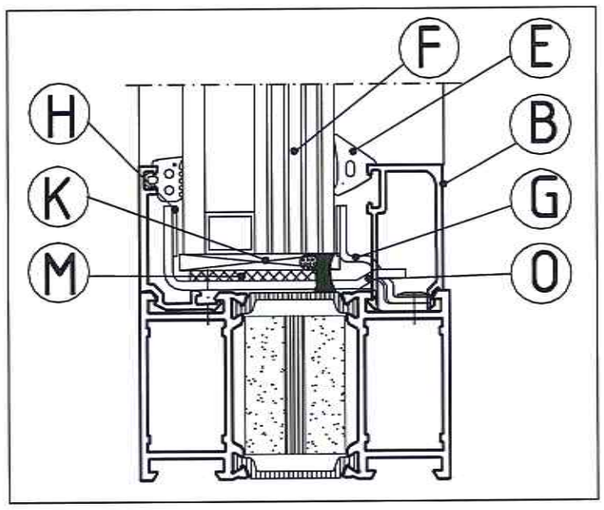
- ± 1,5 mm – for width,
- ± 1,5 mm – for height,
- ± 1,0 mm – for thickness.

Maximum tolerances of door frames and partition elements:

- ± 0,8 mm – for dimension range 30 ÷ 120 mm,
- ± 1,2 mm – for dimension range 121 ÷ 400 mm,
- ± 2,0 mm – for dimension range 401 ÷ 1000 mm,
- ± 3,0 mm – for dimension range 1001 ÷ 2000 mm,
- ± 4,0 mm – for dimension range 2001 ÷ 4000 mm.

Installation in building construction

Door frames and perimeter sections of partitions should be fixed to walls with steel anchors, bolts or screws min. ∅ 5 mm in centre distance max. 600 mm. Distance between corners or mullion centre to fixing point is max. 300 mm. Gap between installed partition and building wall should be filled with incombustible mineral wool density min. 70 kg/m^3 or other incombustible material and closed by gypsum plasterboard, cement-lime plaster, flashing, aluminium section, steel section or other incombustible material.



Explanation
F. Fire glass unit
O. Base clip
G. Glazing clip
B. Glazing bead
E. Gasket
H. Glazing strip,
K. Setting block
M. Intumescent strip

If thickness is < 32 mm, glazing beads on both sides should be used. See section on drawing P2000-8151

DOUBLE GLASS UNIT

FIRE CLASS		Type	Thickness	Max dim. (WxH) mm
Sweden BBR	Norway NS 3919			
EI30	A30	Contraflam 30	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-17	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-18	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-25	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-26	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-27	35-39 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-37	35-39 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-35	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrostop 30-36	32-36 mm	1140 x 2092 (2092x800)
EI30	A30	Pyrobel 16 DGU	30-39 mm	1132 x 2081 (2092x617)
EI30	A30	Pyrobel 16 EG DGU	33-39 mm	1132 x 2081 (2092x617)
EI30	A30	Swissflam 30	32 mm	1140 x 2030 (2092*800)
EI30	A30	Pyranova 30-S2.0 15 mm. Inv	32-36 mm	1140 x 2160 (2092x800)
EI30	A30	Pyranova 30-S2.1 19 mm	35-39 mm	1140 x 2160 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-251	22-30 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-351	24-28 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-261	24-28 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-361	24-28 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-271	27-31 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-371	27-31 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-281	26-34 mm	1200 x 2000 (2092x800)
EI15, E30	A15, F30	Pyrodur 30-381	26-31 mm	1200 x 2000 (2092x800)
E30	F30	Pyrobelite 7 EG DGU	23-37 mm	1200 x 2000 (2092x800)
E30	F30	Contraflam Lite	29-34 mm	1200 x 2000 (2092x800)

Dimensions ( ) refer to top light and fixed single window

REFERENCE:
Positioning of glazing clips and setting blocks, see drawing P2004-8901
NS 3919 valid in Norway

sapa

Glass options
Double glass unit
30-minute fire resisting constructions

FIRE SCREEN 2074

-	11-02	P2000-8152

SP SITAC

September 16, 2009

Sapa Building System AB – approved classes for P-marking

Air permeability	Classes acc. to EN 12207	Classes acc. to EN 12152
Windows	Class 4	-
Concourse door 2074	Class 2	
Doors, other	No classification	-
Sliding door 2125	Class 3	
Facade 4060, 4150 SSG	-	Class A4
Facade 4150	Class 4	Class A4
Facade 5050 SG	Class 4	-
Roof	-	Class A4

Watertightness	Classes acc. to EN 12208	Classes acc. to EN 12154
Windows	Class 9A	-
Concourse door 2074	Class 7B	-
Sliding door 2125	Class 5A	-
Doors, other	No classification	-
Facades	Class 9A	Class R7
Facade 4150 SSG	-	Class RE 1200
Facade 5050 SG	Class E750	-
Roof	-	Class R7

Burglar resistance *	Classes acc. to SS 817345	Classes acc. to ENV 1627
Fixed windows 1074	Class 1 and 2	-
Window 1074 SX	-	Class 2
Door 2060	Class 1 to 4	-
Door 2074	Class 1 and 2	-
Concourse door 2074	-	Class 2 and 3

Bullet resistance *	Classes acc. to SS 224429	
Window 1074	Class C1 to C3	
Door 2060	Class C1 to C4	
Door 2074	Class C1 to C3	

Fire resistance *	Classes acc. to BBR 5:221	Classes acc. to NS 3919
Window 3050	EI 30	F30
Window 3074	E 30, EI 15, EI 30 and EI 60	F30, A15, A30 and A60
Door 2050	EI 30	F30
Door 2060	E 30, EI 15 and EI 30	F30 and A30
Door 2074	E 30, EI 15, EI 30 and EI 60	F30, A15, A30 and A60
Facade 4150	E 30, EI 15 and EI 30	F30, A15 and A30

Airborne sound insulation*	Classes R'_W acc. to SS 25267	
Window 1074	25 – 35 dB	
Window 1074 SX	39 – 41 dB	
Door 2074	25 – 35 dB	

Other properties and classifications are subject to the general requirements in SPCR 005.

* Classes for supplementary requirements apply to products with designs which comply with approved specifications for each class.

SITAC P

SP Sveriges Tekniska Forskningsinstitut, SP SITAC

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March 1, 2011

SWEDISH TECHNICAL APPROVAL

144501

and decision on production control in accordance with 18-20 § Law (1994:847) on technical specification requirements for construction works etc., BVL

WALL AND DOOR PARTITION SFB 2074 – EI 30

Holder	Sapa Building System AB, SE-574 81 Vetlanda Tel: +46 (0)383-942 00, Fax: +46 (0)383-76 19 80, Internet: www.sapabuildingsystem.se, VAT number: 556114-5698
Product	SFB 2074, glazed wall and door partitions made of insulated aluminium sections. Maximum height of wall is 3.6 m. Maximum size of door leaf for single leaf/double leaf door is B×H 1306/2100 mm×2240 mm, class E 30, EI 15, EI 30.
Intended use	Fire resistant wall and door partitions in buildings.
Approval	The product satisfies the requirements set forth in 2 § 2 BVL, in respect to and under conditions stated in this certificate, and are therefore approved in accordance with the provisions of the following sections of the Building Regulations issued by the National Board of Housing, Building and Planning (*BBR*): Fire resistance class E 30, EI 15, EI 30 — 5:221 Smoke leakage class S_a in accordance with EN 13501-2 — 5:221
Associated documents	-
Control	Production control is to be performed in accordance with "Inspection requirements for type approval no. 144501", dated 2011-03-01. An independent inspection body audits the control. When the building proprietor performs inspection at the building site, he shall check the markings to ensure that the correct products have been supplied and that they are used in accordance with the requirements stated in the approval. He must also check that the product is accompanied by a manufacturing assurance, which certifies that the product has been manufactured in accordance with the documents on which this certificate is based.

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In case of doubt the Swedish language original should be consulted as the authoritative text.

SP SITAC

March 1, 2011

Manufacturer	The product is to be produced by manufacturers for which a decision on production control has been issued in accordance with §§ 18-20 of the Act (1994:847) on Technical Property Requirements for Construction Works, etc., BVL or equivalent.
Marking	The product is to be marked at the factory. The marking consists of a label on every product supplied and includes:

Name of manufacturer, place of production and, if necessary, the number of the manufacturer's decision on production control	**Name, Place, number**
Boverket's registered trademark	**T**
Certification body and accreditation number	**SITAC 1002**
Product type designation	**SFB 2074**
Approval number	**144501**
Class	e.g. **EI 30, S_a**
Consecutive manufacture No./date of production	**manufacturing no.**
Inspection body	**SP**

Basis for approval	Assessments nos. 97R13043A, 99R13197, 99E60499, P104265A, P203986 and P304296 from SP. Reports nos. 99R13247B, P104732, P401537, P403832, P501736 and PX06314 from SP. Reports nos. LP-818/02, LP-960.1/00 and LP-627.2/03 from ITB. Report no. FR 101/02 CP (E) from FIRES. Reports nos. 2008-Efectis-R0788, 2008-Efectis-R0406 and 2006-Efectis-R0770. Drawings in accordance with drawing lists "Fire screens SFB 2074 30 min." and "Fire screens SFB 2074, with fire door SFB 2060", dated 11-02.
Comments	Associated documents are to be completed with special drawings for the appropriate building. This approval supersedes the previous certificate with the same number dated September 30, 2009 and with project number P905583.
Period of validity	This approval is valid until February 28, 2016 The formal validity of an approval expires after the transitional period for the harmonised specification that makes it possible to CE-mark the product. However, the technical assessment showing that the product fulfils the requirements in the building regulations, issued by the Swedish National Board of Housing, Building and Planning, is not affected.

Johan Åkesson

Per Adolfsson

SITAC SWEDAC ACKREDITERING 1002 BVL T

SP Sveriges Tekniska Forskningsinstitut, SP SITAC

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2011-03-01
(replaces 2008-06-26)

Inspection requirements for Type Approval no. 14 45 01

1 Manufacturing inspection

1.1 General assumed/required conditions

- That the supplier (the certificate-holder) of components used in the product is certified in accordance with SS-EN ISO 9001 by DNV.

- That manufacturing inspection is based on reception inspection and manufacturing inspection under the control of a responsible person.

1.2 Reception inspection

Deliveries of materials and components shall be inspected to ensure that they comply with specifications.

1.3 Manufacturing inspection

Manufacturing inspection shall be performed in accordance with the attached inspection instructions.

1.4 Non-compliance with product requirements

The manufacturer shall have routines for actions to be taken in the event of non-compliance with product requirements. Non-compliant products must not be marked with the approval marking.

1.5 Approval marking

Products shall be marked in accordance with the details given in the Type Approval certificate.

1.6 Traceability

It shall be possible to trace products that have been supplied, all the way from the manufacturer's documentation to the completed building. The approval marking on supplied products shall make it possible to trace products back to the manufacturer's documentation.

1.7 Documentation

Documentation of the results of the manufacturer's own inspection (inspection instructions etc.) shall be kept available for inspection by the inspection body, and shall be archived at the manufacturer's premises for a period of at least five years.

2011-03-01
(replaces 2008-06-26)

2 Surveillance inspection

2.1 General

Surveillance inspection shall be performed by an accredited inspection body in accordance with the National Board of Housing, Building and Planning's General Guidelines for Manufacturing Inspection, 1996;2, Section 1.4. Inspection shall be performed by means of visits to the manufacturer's premises. Such visits may be made without prior notice. If the inspection body finds major non-compliances, further inspection may be carried out elsewhere, e.g. at building sites or on the open market.

2.2 Frequency of inspection visits

At least once a year.

2.3 Scope

The following will be inspected / reviewed:

a) the company's inspection organisation;
b) quality management routines;
c) manufacturing processes;
d) manufacturer's own inspection and results;
e) test and measurement equipment (calibration);
f) actions to deal with scrapping of parts or materials;
g) materials and components, by sample inspection in accordance with methods and requirements as given in the manufacturer's own inspection instructions;
h) dimensions of at least one completed unit (if possible);
i) approval marking;
j) documentation of manufacturer's own inspection results.

2.4 Reporting

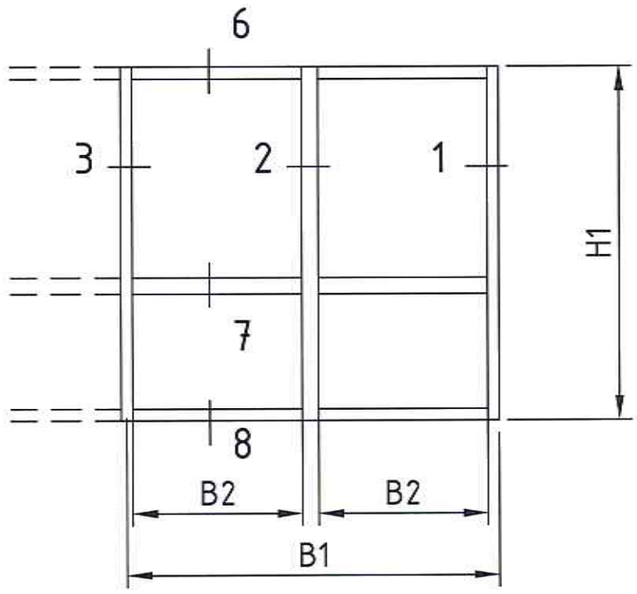
A report will be issued by the inspection body after each inspection visit. The report will include details of any non-compliances from specified requirements, and other information. The inspection body will send or hand over the report to the manufacturer, and will also send a copy to the holder of the Type Approval certificate. In the event of major non-compliances, the inspection body will send a copy of the report to SP Sitac.

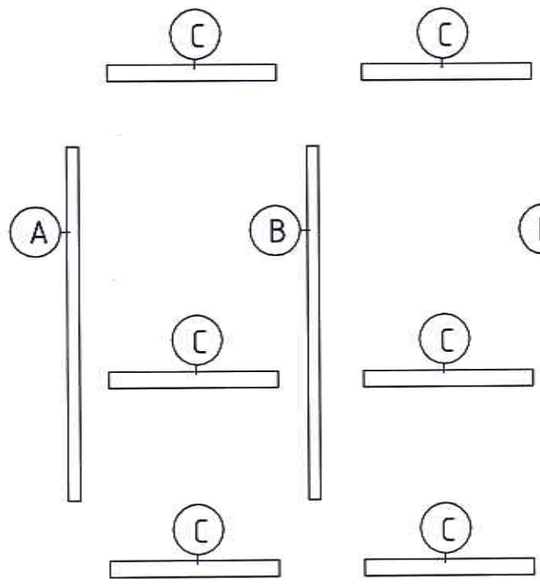
Appendices

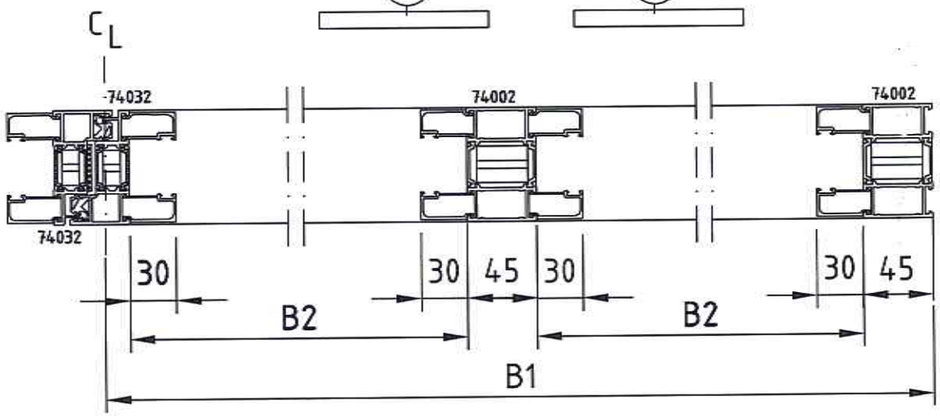
Inspection plans: P2000-6011, P2000-8011, P2000-8012, P2000-8013, P2000-8014 and P2000-8015, dated 11-02.

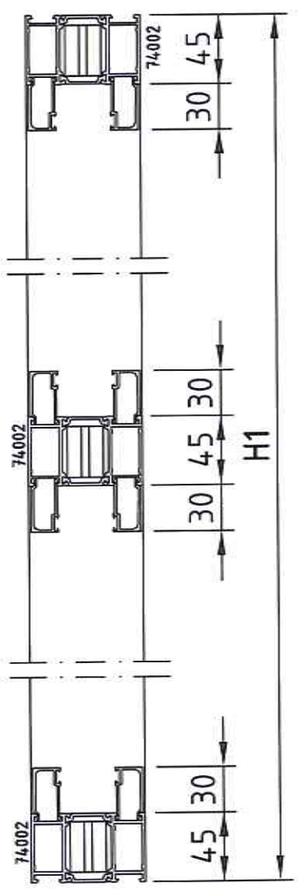
Pos.No.	Section No.	Cutting length
A	74032	H1
B	74002	H1
C	74002	B2

Preperation of glazing beads:
Transom beads:
Cutting length = length as cross-bar
Mullion beads:
Cutting length = day light









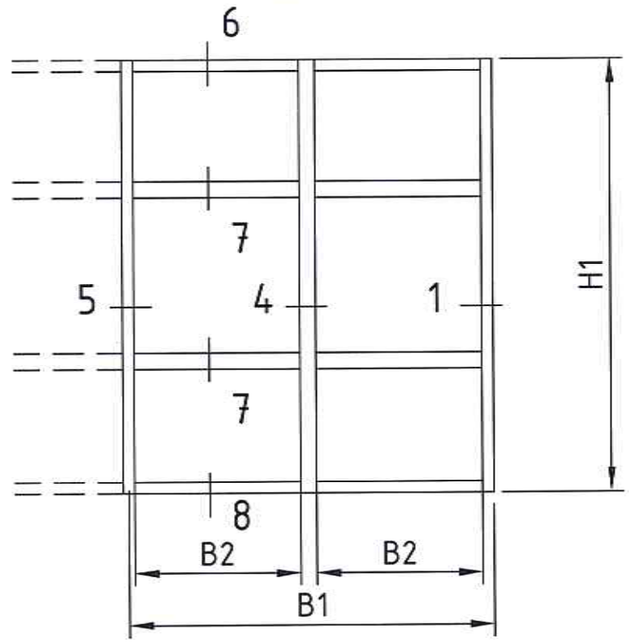
REFERENCE:
Principle sections, see drawing No P2000-8207 - -8210.
Elevations of fixed screens, see drawing No P2000-8103

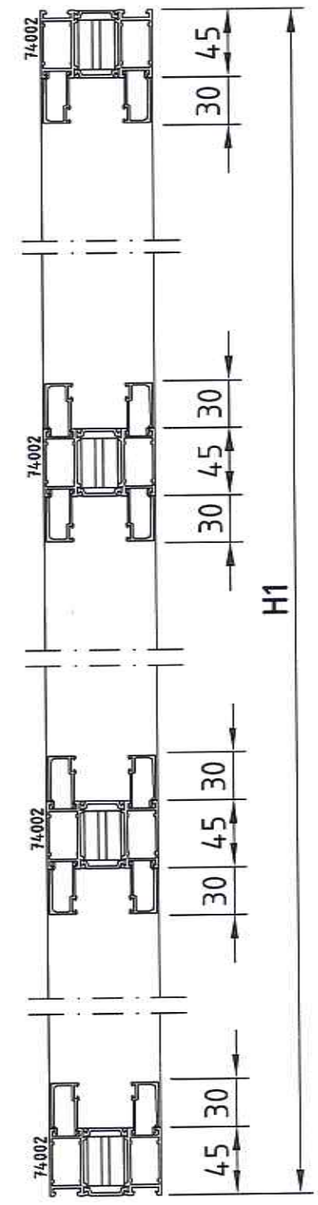
SS-ISO 2768-m shall apply for non-tolerance-set measurements

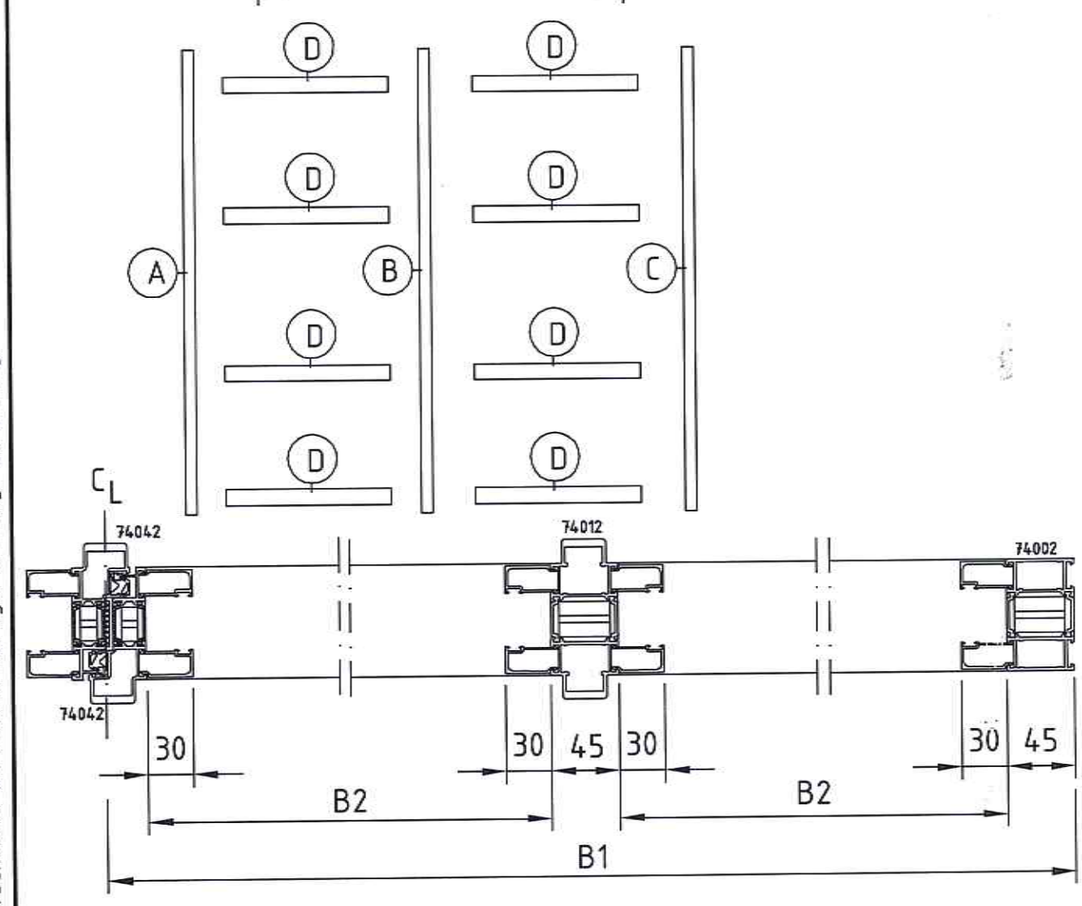
sapa	Fixed screens Screen height ≤ 2300mm Preperation	FIRE SCREEN 2074	
		- 08-06	P2074-571

Pos.No.	Section No.	Cutting length
A	74042	H1
B	74012	H1
C	74002	H1
D	74002	B2

Preperation of glazing beads:
Transom beads:
Cutting length = length as cross-bar
Mullion beads:
Cutting length = day light



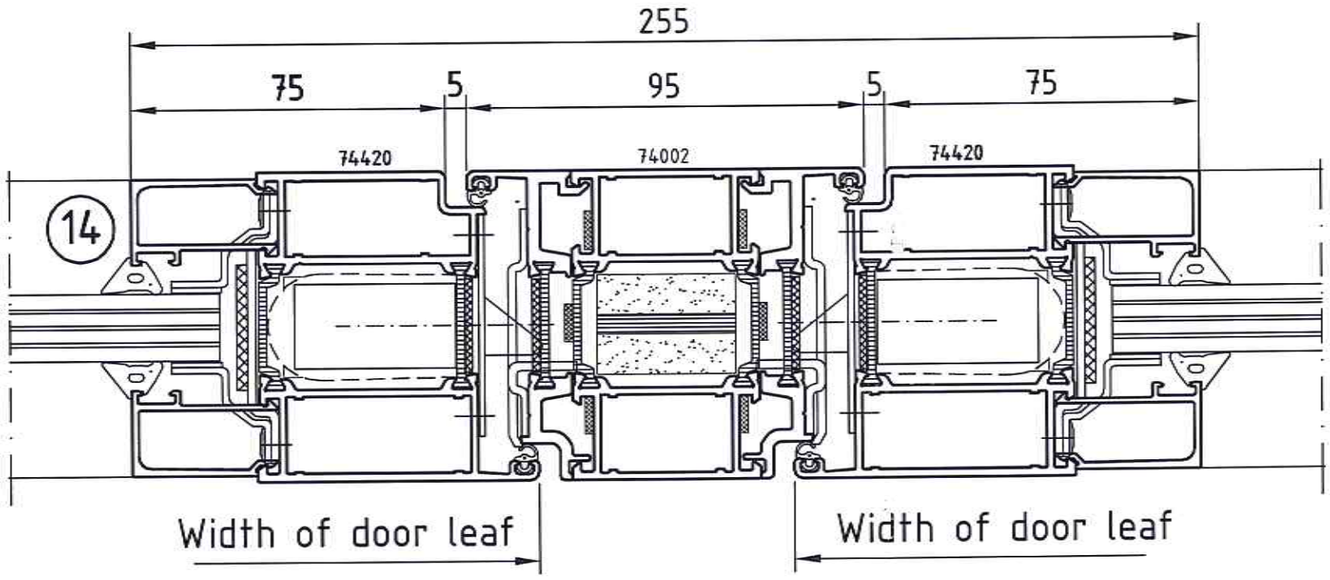


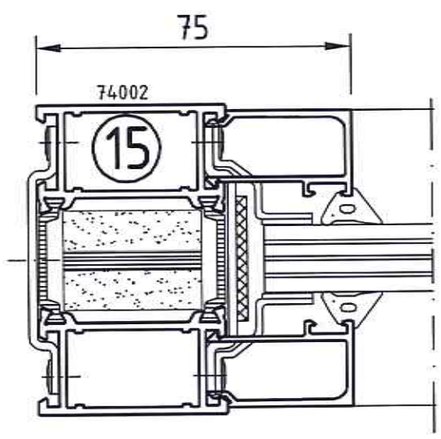


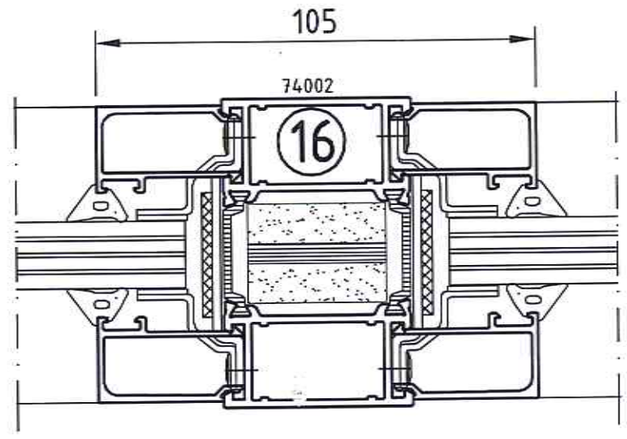
REFERENCE:
Principle sections, see drawing No P2000-8207 - -8210.
Elevations of fixed screens, see drawing No P2000-8103.

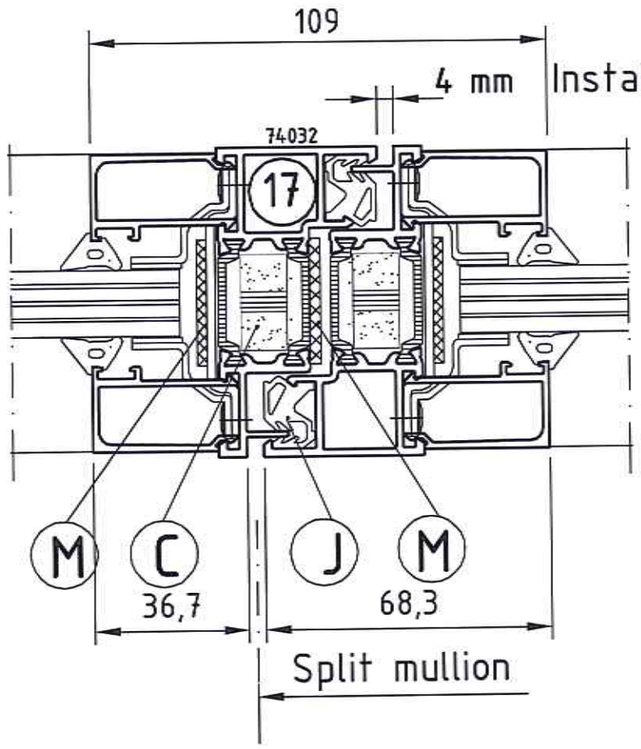
SS-ISO 2768-m shall apply for non-tolerance-set measurements

sapa	Fixed screens Screen height > 2300mm Preperation	FIRE SCREEN 2074
	– 08-06	P2074-572







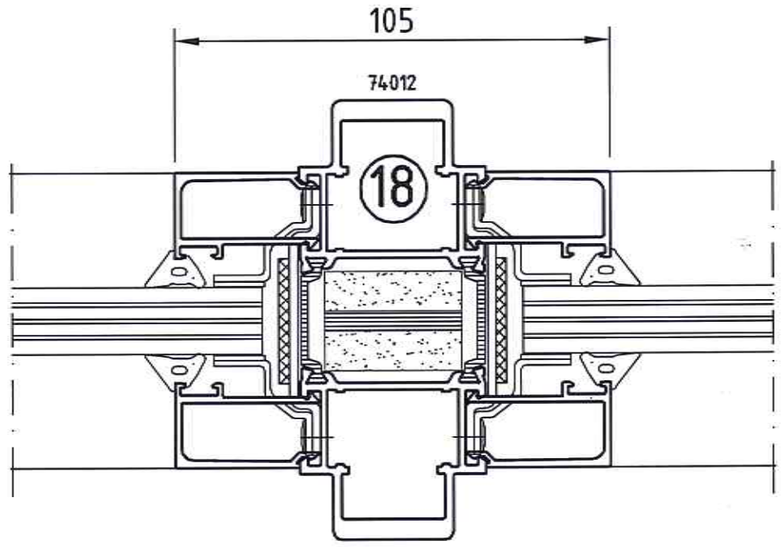


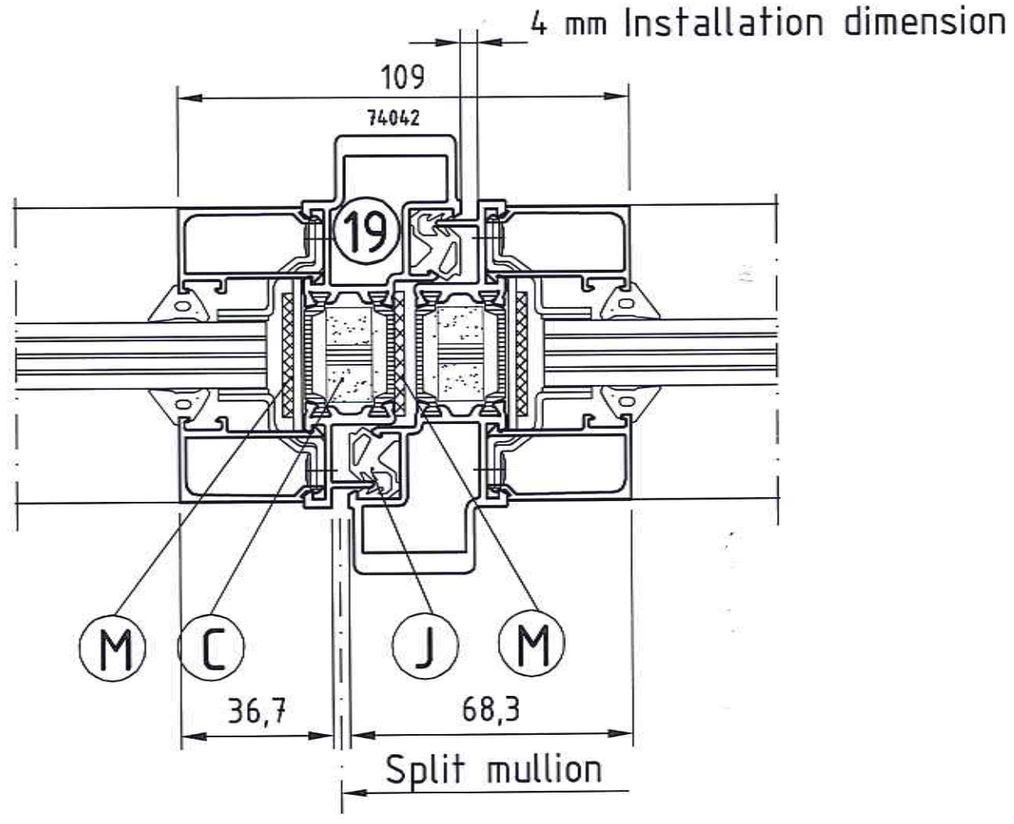
REFERENCE:

Bill of materials, see drawing No P2000-8351, and -8352

Section tables, see drawing No P2000-8301 -8303

sapa	Section 14 - 17 30-minute fire resisting constructions	FIRE SCREEN 2074		
		1:2	11-02	P2000-8207



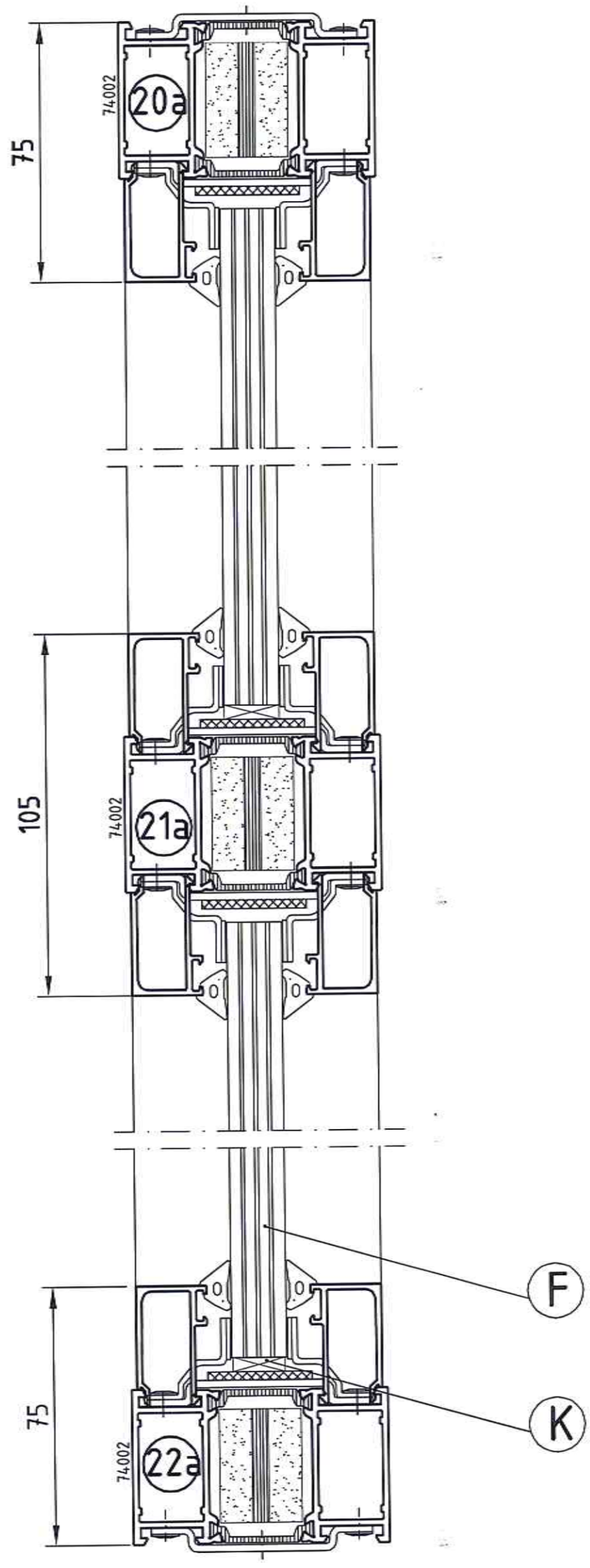


REFERENCE:

Bill of materials, see drawing No P2000-8351, -8352 and -8353

Section tables, see drawing No P2000-8301 -8303

sapa	Section 18 - 19 30-minute fire resisting constructions	FIRE SCREEN 2074		
		1:2	11-02	P2000-8208

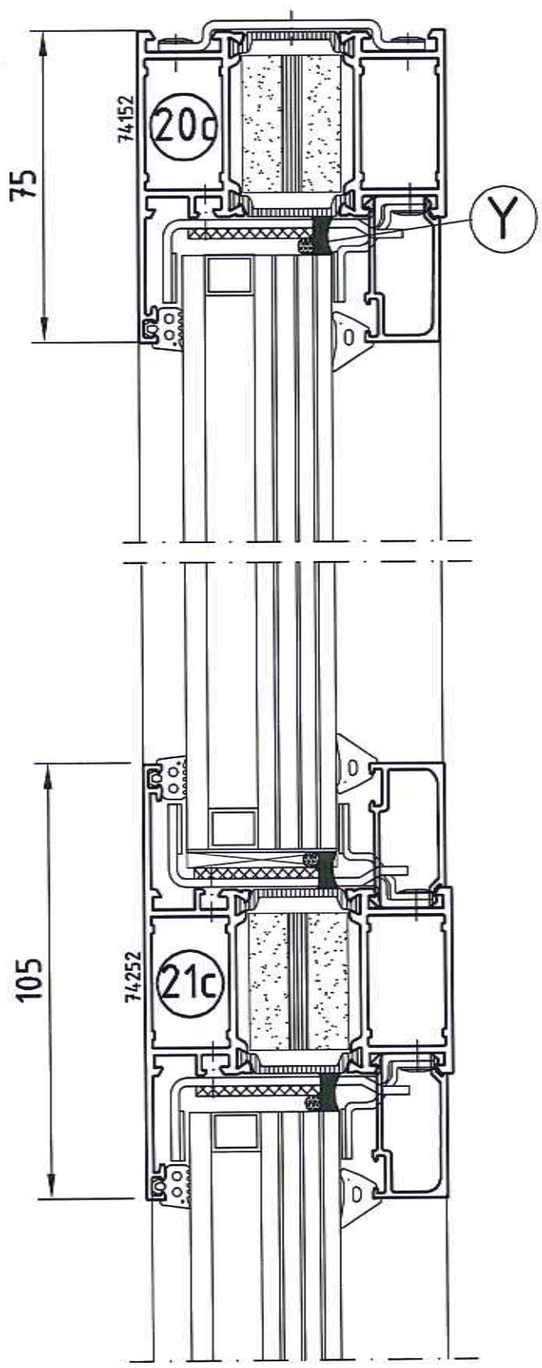


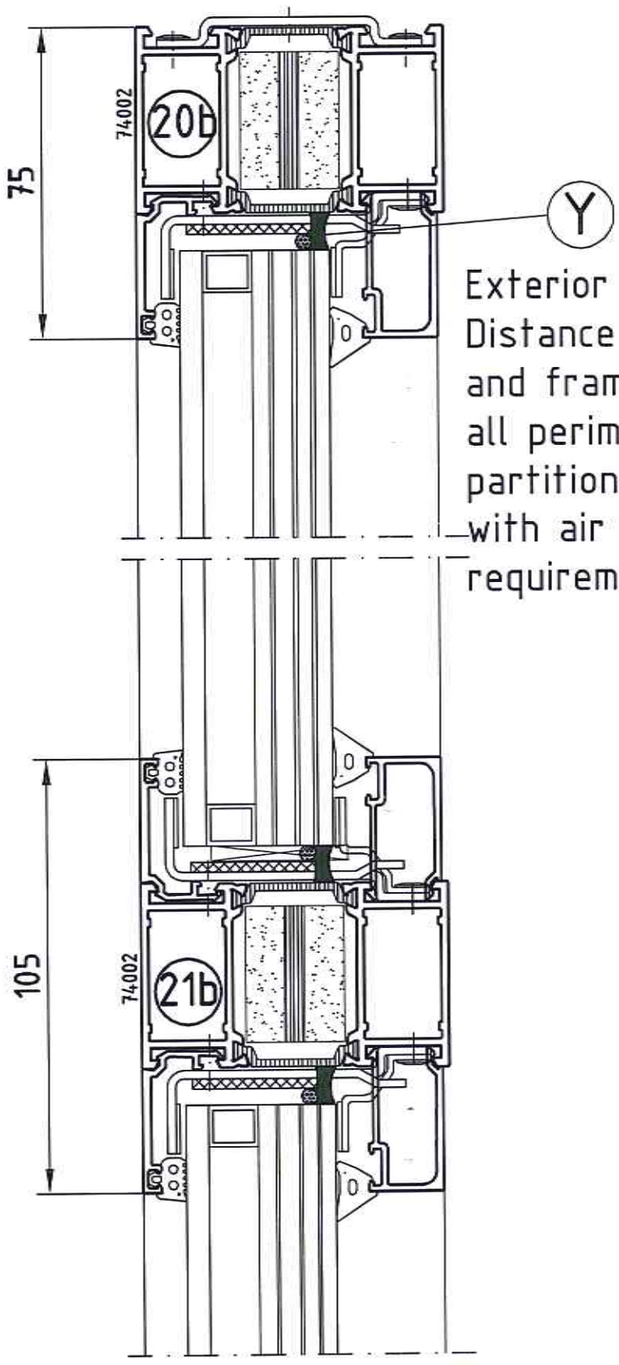
REFERENCE:

Bill of materials, see drawing No P2000-8351, -8352 and -8353

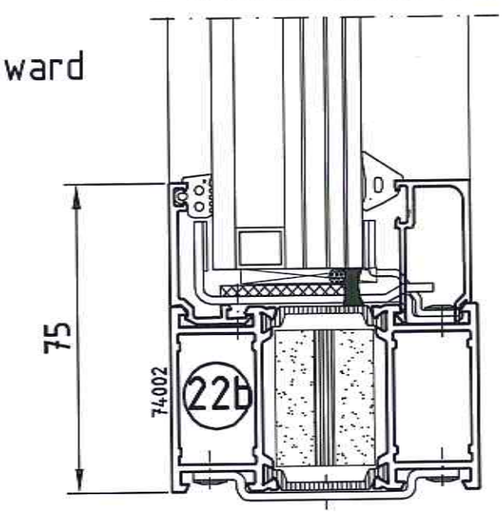
Sections tables, see drawing No P2000-8301 -8303

sapa	Section 20a - 22a Single glass unit 30-minute fire resisting constructions	FIRE SCREEN 2074		
		1:2	11-02	P2000-8209





Exterior screen:
Distance between glass and frame to be sealed all perimeter on external partitions and screens with air tightness requirement



Alternative design with outward fixed flange for sealed insulating fire glass unit

REFERENCE:

Bill of materials, see drawing No P2000-8351, -8352 and -8533
Sections tables, see drawing No P2000-8301 -8303

sapa	Section 20b,c 21b,c and 22b Double glass unit 30-minute fire resisting constructions	FIRE SCREEN 2074		
		1:2	11-02	P2000-8210