

FUNCTIONS AND POSSIBILITIES

- Fire resistance up to EI 120 acc SITAC
- Fire resistance up to EI 120 acc EN
- Fire resistance up to 3 hours acc ASTM E-119 / UL 263 / NFPA 251
- Fire resistance up to 120/120 acc BS 476:22
- Fire-resistant sliding door up to EI 30
- Burglary and bullet resistance
- Arches and round windows
- Narrow 20 mm and wide profiles 85, 130, 180 och 260 mm
- Finger trap gasket

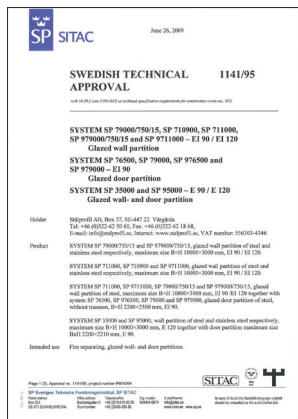
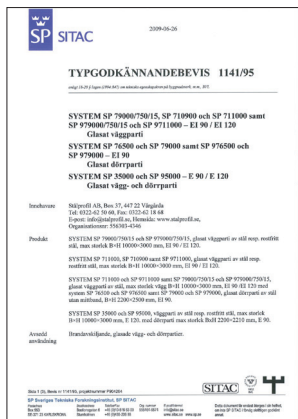
GLAZED SECTIONS WITH FIRE RESISTANCE

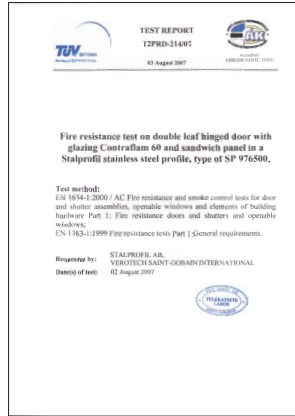
Tested and approved fire-resistant profile systems in steel, e.g. SP 76500 and SP 79000, and stainless steel acid-resistant quality EN 1.4404, e.g. SP 976500 and SP 979000. The systems are tested and approved up to EI 120 (tested up to 3 hours). The profile systems are intended for use in glazed door and sliding door sections and wall and window sections in offices, shopping centres, airports, hotels, sports centres, banks, embassies, prisons, schools, and hospitals, etc.

Stålprofil's systems have Technical Approvals up to EI 120 issued by SITAC (Svenskt Byggodkännande AB), a subsidiary of SP (Technical Research Institute of Sweden), which is also responsible for continuous third-party inspections of section fabricators.

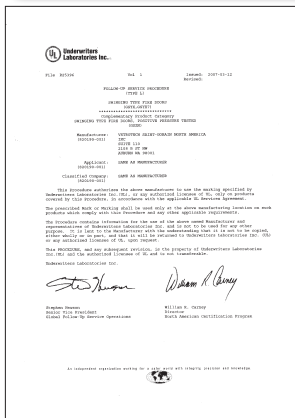
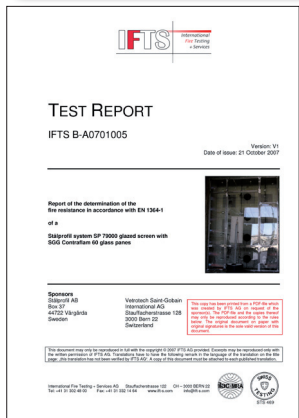
Door and wall sections make up the fire cell partitions in, for example, corridors, main passageways and stairwells used as evacuation routes in the event of a fire. The solid fire-resistant insulating core between the steel profiles effectively reduces heat transfer from the side of the door or wall exposed to the fire.

The systems can be adapted to suit requirements and are type-approved, with features including finger trap gaskets, round windows and arches. The systems have profiles adapted for modular locks (85 mm) as well as narrow (20 mm) and wide (130, 180 and 260 mm) profiles. These tested and approved systems also come in a wide variety of heights and widths. Wall sections up to 3 m height and with a free edge have been tested as per EN 1364-1 to ensure compliance up to EI 120, and 4 metres height sections up to EI 60.





Fire test of a double door with top and side lights for fire resistance class E 60



Furnace side of a section after approx 90 minutes during an EI 120 fire test



Object testing for fire resistance class 3 hours (EI 180 equiv) acc UL on the way to the "hose stream" part of the test

NATIONAL AND INTERNATIONAL STANDARDS

We perform regular fire tests in accordance with various standards to ensure compliance with the requirements of local authorities, customers and building regulations. Stålsprofil systems are continuously being tested at various laboratories. The extensive testing leads to approvals, certifications and classifications of the fire resistant sections according various national and international standards and requirements.

Besides the extensive range of *Technical Approvals* as issued by SITAC we have a wide range of other national and international standards. Tests are continuously being made for various door- and wall sections in accordance as per, e.g., *EN 1634-1*, *EN 1364-1* and *EN 1364-3*, classification reports as per *EN 13501-2*.



Stålsprofil systems are listed at *UL* and *WHI*. The ratings are 60 min, 2 and 3 hours as 'transparent wall' (*ASTME-119/UL 263/NFPA 251*). Full-vision doors are available in 60-min and 90-min as per *UL 10B* and *UL 10C*, and *NFPA 252*. Bullet resistance tests have also been performed in accordance with *UL 752 (2006) level III*. The complete sections are in the US marketed under the brand *VDS*.

Stålsprofil fire resistant sections in steel and stainless steel in accordance with *BS476: Part 22: 1987* for wall sections up to 120 minutes integrity and insulation, doorsets up to 90 minutes integrity and 60 minutes insulation as well as double leaf sliding doors with top- and side lights for 30 minutes integrity.

Stålsprofil system has been tested in Russia and approved to full-fill as per *Russian standards* up to EI 60 (equivalent). Other national and international approvals for various regions, e.g Denmark, Finland and Spain, etc, and applications, e.g. *offshore* are available upon request.



Fire test of a standard door with, e.g. screw-on hinges, wide mid bar, etc.



"Hose stream" test of door section for 90 min (EI 90 equiv) fire test in the US.



Fire test of 4 m-high wall section with "free edge" for fire resistance EI 60 as per EN

FIRE TEST IN REALITY

REPORT FROM THE DOMUS FIRE IN KARLSTAD

TYPE APPROVAL - A GUARANTEE OF QUALITY

During a fire the local temperature increases considerably and leads to a drastic increase in pressure in the immediate vicinity of the fire. There is also smoke production which can be more or less, depending on the kind of material that is burning. It is of vital importance that the fire-resistant building materials and construction meet the requirements stipulated and prevent the spread of the fire and fumes to neighbouring areas and floors for the specified period.

To be assured that the fire-resistant materials and construction are adequate and meet the requirements, you should, in my opinion, only use type-approved products.

In Sweden type approving products and materials is a voluntary undertaking that manufacturers can use to test specific characteristics of a product and achieve quality assurance of the manufacturing process.

Utilising type-approved products during construction is, in my opinion, an integral part of the manufacturer's own process that lays the foundation for quality assessment.

It is important to remember that type approved products must be assembled according to the assembly instructions accompanying the product. The type approval certificate validates the product and the assembly instructions together. Once the product has been assembled according to the instructions complete quality assurance is achieved.

Many manufacturers and sales staff try to validate their products with phrases like "this product is manufactured in the same way as type-approved products" in an effort to convince the customer that their item is better or just as good as any other, and that it could replace a type-approved product. This kind of generalisation is both unethical and often false. There is, of course, the possibility that the product will do the same job as a type approved one, but how can you, the constructor, be really sure without a certificate guaranteeing the fact? Without a type approval certificate I believe that it is impossible for the constructor to have complete control and quality assurance.

A good example of how a type approved product met the requirements for fire resistance is the fire at Domus in Karlstad. The product, a glazed section and frame of fire resistant class EI 60 withstood the fire for a far longer time (420 minutes) than the time specified in the requirements, (60 minutes), and effectively prevented the fire spreading to neighbouring floors.

Lars-Gunnar Strandberg
Fire safety engineer
Karlstad

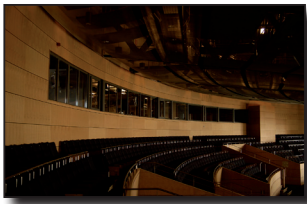
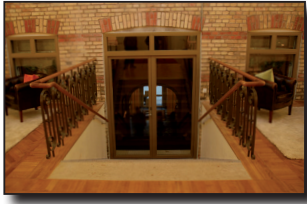


OPT FOR SAFETY!

SECTIONS MADE WITH OUR
FIRE RESISTANT PROFILE SYSTEMS HAVE BEEN

TESTED AND APPROVED UP TO EI 120

DO NOT ACCEPT DEVIATIONS FROM
APPLICABLE FIRE REGULATIONS!

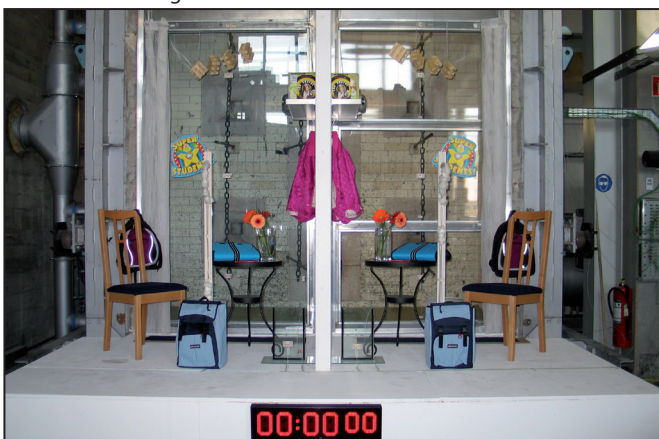


INSULATION (EI) vs INTEGRITY (E) SECTIONS

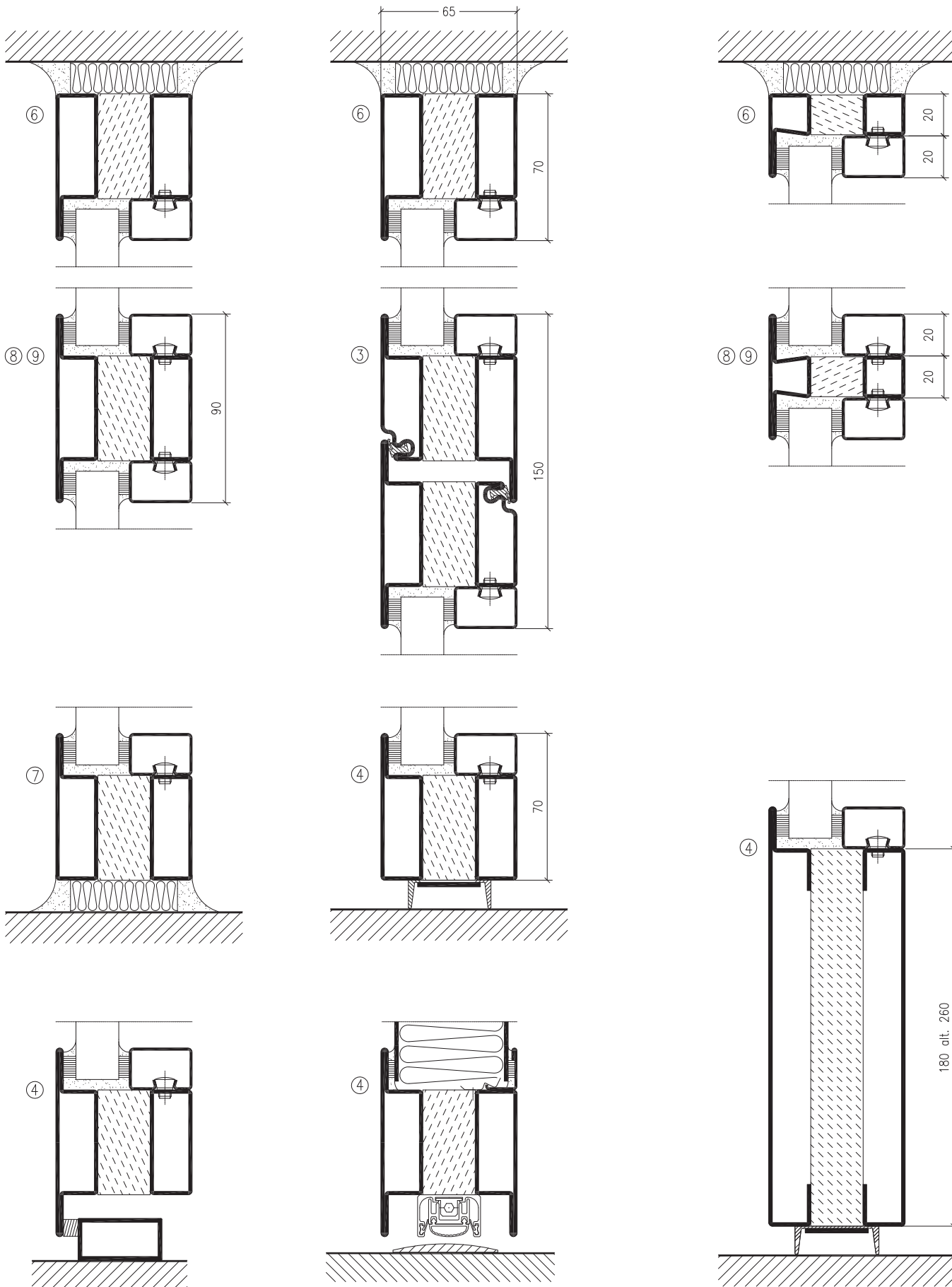
These images show a test carried out in order to compare a fire resistant EI class section (insulation and integrity) compared with a fire resistant E class section (integrity only). We created two identical environments with chairs, clothes, shelves with a radio and books, sticker on the glass, bags and toys, etc.

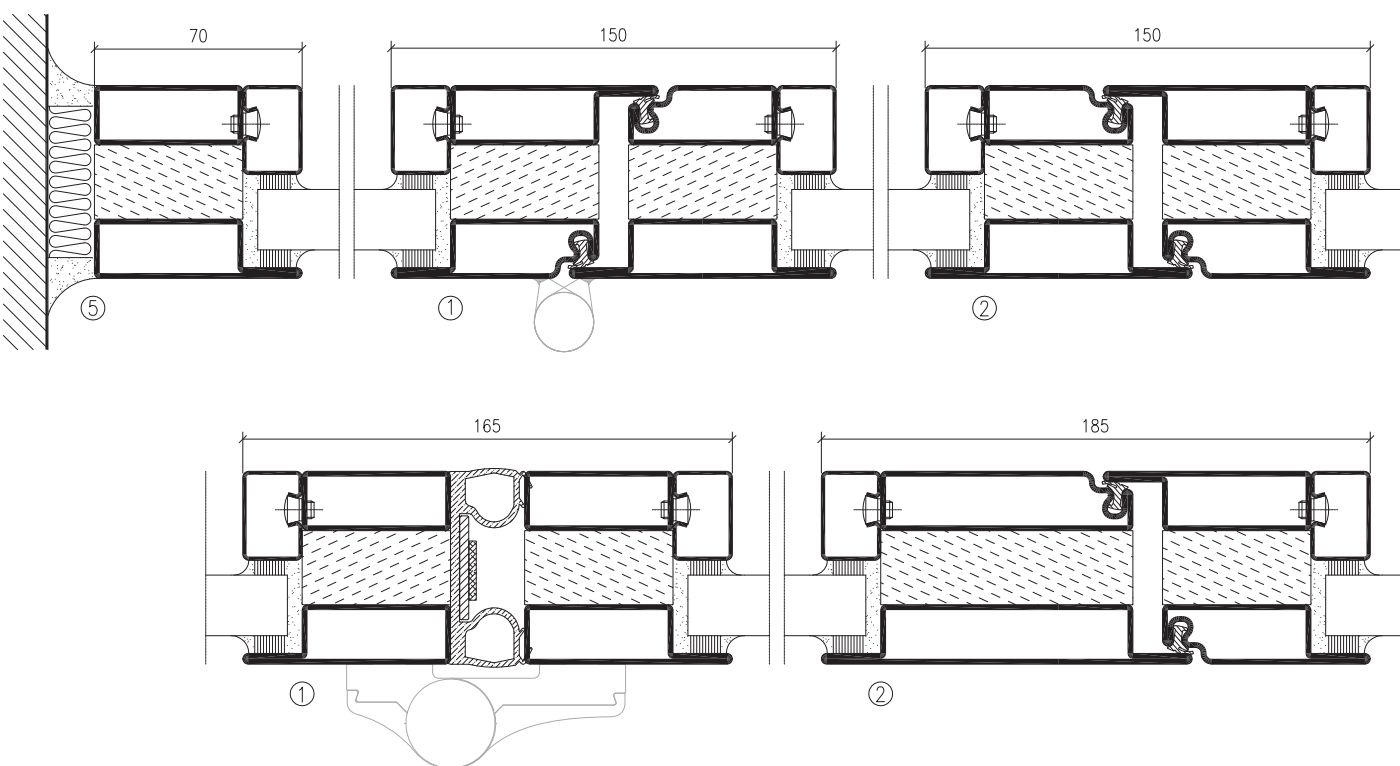
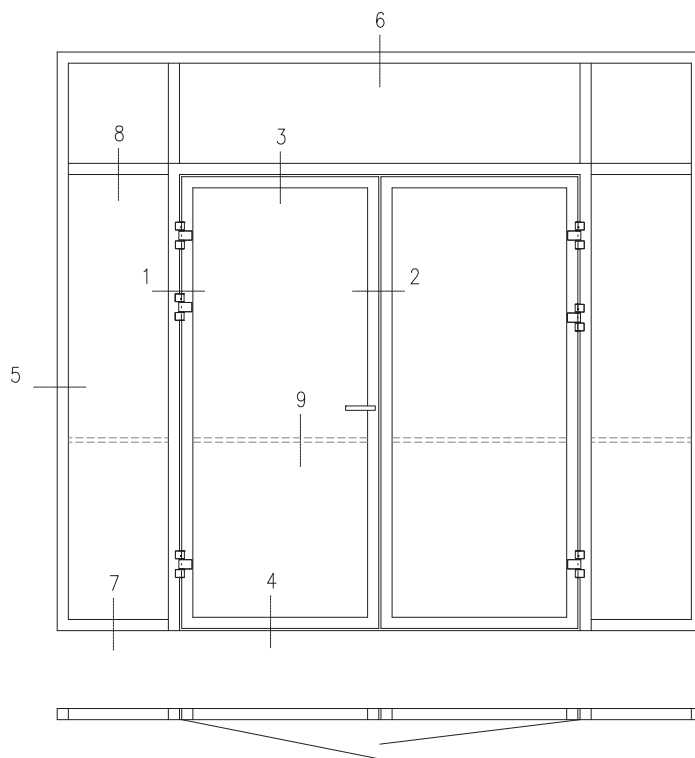
Fire class EI means that the temperature of the section must not exceed 180°C and that the section must be flameproof. Fire class E means the section must be flameproof; there is no temperature requirement however and the radiation will be intense. The main radiation is through the glass.

The section to the left is made with Stålprofil system SP 79000 and is fire-insulated and approved with the glass up to fire class EI 60. The section to the right is made with Stålprofil system SP 35000 and is type-approved with the glass up to fire class E 60. Note that both sections still fulfil the requirements for EI respectively E class after 50 minutes. However, heat radiating through the E class section causes objects on the other side to ignite.



Watch the film from the fire test on our website, www.stalprofil.com





	Vers. 1	Skala 1:2,5	Rit.Nr. 3-765-DD-LR0
	Titel SP 76500 / SP 976500		

STÅLPROFIL FIRE RESISTANCE - VARIOUS STANDARDS



**Bedömningsunderlag
1946/89**
SITAC

W/F	BEMÄRKNING	Material	ANMÄRKNING
A	Stålprofil, SP 76500	Kalkformat stål Godstjocklek 1,8 mm	Blank stålva tätning för täckning
B	All. Rastfritt utförande SP 976500	Rastfritt stål Godstjocklek 1,75 mm	
C	All. Glaslister System SP 40000	Plåt, ST 02, SENZI Mittåra Z275 Godstjocklek 1,25 mm	Glaslister för vid behov skruvas in i profil av vid bägar och runda fönster. Alt. för rätvinkliga rät användas. Max C/C 300 mm
D	Glaslister System SP 90000	Godstjocklek 1,25 mm	C/C 300 mm
E	Fästskruv SP 40000/90000	Stål	
F	Glaslister	Gummitätning EPDM	Se ritförteckning
G	Glasmontering	Se glasmontering	
H	Isolering	Se glasmontering	
I	Isolering	Stenull	Alt. Keramiskt fogband
K	Fogmassa	Typgodkänd fogmassa	
L	Isolering	Stenull	
M	Anslag	Vinkeljärn	
N	Plåt		
O	Gipsväva 2 x 13 mm	Gips	Tjocklek 1,5 mm Typgodkänd som tätningsskiva bakdörrad
P	Silpiset SP 45065	Kloropren	Kloropren
Q	SP 40067	Kloropren	Kloropren
R	Matjäm 35x2	Stål	Stål SP 40067
S	Intumesc. list	Brandsvällande 12x3	
T	Rör	Stål	Anslag
U	Gummitätning		

DETAJLITNINGAR:
 Svartrörelse Röring Nr. 4-2292-C, 4-2293-C, 4-2374-A, 4-2772, 4-1172-D.
 Glaslister och tillbehör Röring Nr. 4-2346-B, 4-2183.
 Elnätstörrelser, Centr. glas Röring Nr. 4-2460, 4-2503-A, 4-2771.
 Spårmontering, Fyllningar Röring Nr. 4-2768, 4-2770, 4-2793.
 Infallsvinkel och maxvinkel för glaslister se ritförteckning och tekniska anvisningar se Rita Nr 4-2387-D och 4-2511-A

Ritad av R.O. Kontr. - Datum 970107 Skala 1:4,5 Rit.Nr. 3-4115-C

Titel SP 76500 / SP 976500 EI30

DÖRR, VÄGG OCH FÖNSTERPARTI

FIRE RESISTANCE EI 30 - EXTRACT FROM TECHNICAL APPROVAL 1946/89 AS ISSUED BY SITAC

MATERIAL SPECIFICATION

Pos	Item	Item no.	Note
A	Profile	Serie SP 79000/75015	
B	Glazing bead	Serie SP 40000	
C	Screw	SP 40012 or SP 40020	C/C 200 mm, start 75 mm from edge.
D	Glass EI 120	Type SGG Continuum 120	
E	Glazing gasket	Type SP 40005 or SP 40006	Alt. SP 40005, Keratix or equivalent
F	Setting block	Type SP 7803906 or equivalent	
G	Perimeter sealing	Type Intumex, Glaske or equivalent	Fire expanding. Width = glass thickness
H	Clips	Type SP 41545	Alt. standard clips. Can also be welded.
I	Screw	Standard M5	2 per Clips, countersunk e.g. 30'

SP 79000/75015 detail drawing
Accessories drawing L-7054 - L-7055

Issued by R.O.	Drawing no. L-7026-x	Date 01/02/2003	Replace
Titel STÅLPROFIL SYSTEM SP 79000/75015 ISOMETRIC DRAWING SP 79022/75015 FIRE RESISTANCE 120 min			

MATERIAL SPECIFICATION

Pos	Item	Item no.	Note
A	Profile	Serie SP 79000	Profile incl. Promat insulation.
B	Glazing bead	Serie SP 40000	
C	Screw	SP 40012 or SP 40020	C/C 200 mm, start 75 mm from edge.
D	Glass EI 60	Type SGG Swisstem 60 min	Or equivalent
E	Glazing gasket	Type SP 40005 or SP 40006	Alt. Keratix or equivalent
F	Setting block	Type Promatec H or equivalent	
G	Perimeter sealing	Type Intumex, Glaske or equivalent	Fire expanding. Width = glass thickness

SP 79000 detail drawing L-7019 - L-7024
 Accessories drawing L-7054 - L-7055
 Joint of profiles either welded or clipped
 Max glass dimension according glass supplier
 Glazing should be done according glass supplier instructions
 Side fixing in wall according requirements
 Side fixing in optional profile: C/C 450 - 600 mm

Issued by R.O.	Drawing no. L-7015-x	Date 01/02/2003	Replace
Titel STÅLPROFIL SYSTEM SP 79000 OVERVIEW DRAWING SP 79022 FIRE RESISTANCE 60 MIN			

FIRE RESISTANCE - EXTRACT FROM UL LISTING ACC ASTM E-119 / UL 263 / NFPA 251

WITH OUR TESTED FIRE RESISTANT PROFILE SYSTEMS WE HAVE
DOCUMENTATION AND REPORTS
 THAT VALIDATE FILFUMENT OF
 REQUIREMENTS ACCORDING VARIOUS
NATIONAL AND INTERNATIONAL STANDARDS

FRÖNKONSTRUKTION SYSTEM SP 35000 SKJUTDÖRR BRÄNKLASS A 30 SIDO- OCH ÖVANLJUS SP 76000 BRÄNKLASS EI 30		ANMÄRKNING
MATERIALSPECIFIKATION		
A Stålrerf SP 35000	Isoleringsdjup 1,5 mm	Blank stålbyggnad för lockering
B Stålrerf SP 75000	Isoleringsdjup 1,8-2 mm	
C Stålrerf SP 76000	Isoleringsdjup 1,8-2 mm	
D All rostfritt utförande	Rostfritt stål	
E Stålrerf SP 35000	Isoleringsdjup 1,5 mm	
F Stålrerf SP 75000	Isoleringsdjup 1,8-2 mm	
G Stålrerf SP 76000	Isoleringsdjup 1,8-2 mm	
H Stålrerf SP 35000	Isoleringsdjup 1,5 mm	
I Stålrerf SP 75000	Isoleringsdjup 1,8-2 mm	
J Stålrerf SP 76000	Isoleringsdjup 1,8-2 mm	
K Besam golvstyrning	LD 550494	
L L-Profil	SP 38021	
M Rör	SP 38021	
N Keramiskt fogband	SP 38021	
O Färdigförpackat	SP 38021	
P Botterförpackning	SP 38021	
Q Topplåda	SP 38021	
R Glasmonteringsanvisning	SP 38021	
S Isoleringsband	SP 38021	
T Pål	SP 38021	
U Plåttjärn	SP 38021	
V Plåttjärn	SP 38021	
Y Yttergläns	SP 38021	
Z Yttergläns	SP 38021	
A L-Profil	SP 38021	
A Täckplåt	SP 38021	

Bedömningsunderlag 0297/97

Ritad av R.O.	Kontr.	Datum 090331	Skala 1:4,5	Rit.Nr. 3-4154-C
			Titel SKJUTDÖRR SP 35000 EI30 SIDO-ÖVANLJUS EI30	

Design principle of fire-tested sliding door section. The section has technical approval (0297/97) as issued by SITAC for fire resistance class A 30 / EI 30.

UNIQUE FIRE-RESISTANT SLIDING DOOR SECTION

Stålprofil has developed and tested a type-approved fire-resistant sliding door up to fire class EI 30. This unique fire-resistant sliding door is patented.

The door is operated using Besam Unislide (including LD 550494). Max section dimensions are 10 x 3 m, and the max door leaf dimensions are 1250 mm. This provides a max. opening of 2210 mm for bi-parting sliding doors. Please refer to type approval certificates 1653/96 and 0297/97 as issued by SITAC for more information. Please note that door leaves in sliding doors must not pass over any vertical element, as there is a risk of damages. Sliding doors must not be installed along evacuation routes and if required an emergency exit door should be installed at the side.

Patent no. 9700093-9



Fire side of sliding door after fire test made at SINTEF, Norway

