

# STÅLPROFILSYSTEM SP 35000

NOW ALSO IN  
STAINLESS!

# 6

Profile system without insulation, insulated with a broken thermal bridge or fire insulated steel profiles for glazed doors, sliding doors, partition walls and window sections



COMPLETE PARTITIONS  
WITH GLASS,  
INCLUDING ASSEMBLY!

## CONTENTS

SP 35000

SP 55000

SP 75000

Module locks

Calculated U-value

Finger trap proof gasket

Burglar proof classes 1 – 3

Rounded windows and arches

Bullet proof classes C1 – C5 SF

Fire resistant classes E 30/E 60/EI 30

Sliding door in class E 30



 **STÅLPROFIL AB**

# STÅLPROFIL AB

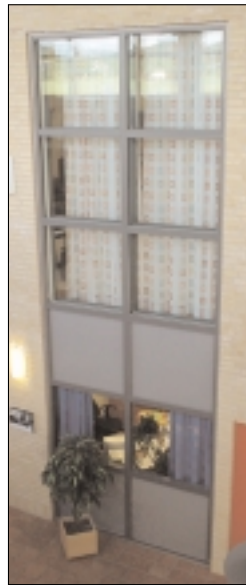


## SYSTEM SUMMARY STÅLPROFILSYSTEM

Item	SP 6000	SP 60000	SP 35000	SP 55000	SP 75000	SP 56500	SP 58000	SP 76500	SP 79000	SP 711000
Stainless	SP 96000		SP 95000	SP 955000	SP 975000	SP 956500	SP 958000	SP 976500	SP 979000	
Height	50/75/120	50/75/120	50	50	50	65	80	65	90	110
Thermal bridge	•	•	-	10	-	25	10	-	-	-
Fire resistance	-	-	-	-	10	-	-	25	50	2 x 25
Wall sections	•	•	E 30/E 60	•	E 30/E 60	•	•	EI 30/E 60	E 60/EI 60	EI 90
Door without midrail	-	-	EI 30/EI 60	•	EI 30/EI 60	•	•	EI 30/A 60/E 60	E 60/EI 60	-
Door with midrail	-	-	A 30	•	A 30	•	•	EI 30/A 60/E 60	E 60/EI 60	-
Window	-	-	E 30/E 60	•	E 30/E 60	•	•	EI 30/E 60	E 60/EI 60	-
Sliding door	-	-	E 30/EI 30/A 30	•	E 30/EI 30/A 30	•	•	EI 30	-	-
Arches	•	-	•	•	•	•	•	EI 30/A 60/E 60	E 60/EI 60	-
Rounded windows	-	-	•	•	•	•	•	EI 30	E 60/EI 60	-
Finger trap gasket	-	-	•	•	•	•	-	•	-	-
Module locks	-	-	•	•	•	•	•	•	•	-
Burglary resistant	-	-	CI 1-3	-	-	-	CI 1-3	-	-	-
Bullet proof	-	-	C1-C5 SF	C1-C5 SF	C1-C5 SF	C1-C5 SF	C1-C5 SF	C1-C5 SF	C1-C5 SF	-
U-value	•	•	-	-	-	•	-	•	•	-
Noise reduction	•	•	-	•	•	•	-	•	•	-

Note: The values for fire resistant and safety classes above are the maximums. Some constructions have lower fire resistant and safety classes. Fire resistant classes above comply with SITAC type approval certificates. Please refer to each systems catalogue for further details.





## STÅLPROFILSYSTEM SP 35000

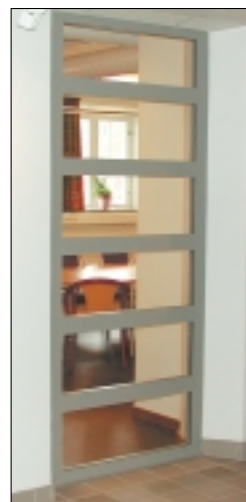
- Entrance sections
- Glazed intersecting walls
- Interior doors without side or ceiling lighting
- Burglary resistant door sections in classes 1, 2 and 3
- Shooting tests performed by SP, The Swedish Testing and Research Institute
- Glazed door, window and wall sections in fire resistant classes E 30/E 60
- Glazed sliding door sections with side or ceiling lighting in fire resistant class E 30
- Glazed door sections without midrail in classes EI 60
- Glazed door sections with midrail in classes EI 30/A 30
- Finger trap proof gasket in fire resistant classes E 30/E 60/EI 30/EI 60
- Arches in classes E 30/E 60/EI 30/A 30
- Rounded windows in classes E 30/E 60
- Adapted to BBR99



## STÅLPROFIL ONLINE AND ON CD



You can now get the latest updates and news from Stålprofil by visiting our web site at [www.stalprofil.se](http://www.stalprofil.se). The site contains profiles and drawings from Stålprofil in downloadable file formats. Our latest catalogue is also available for download as a PDF file. All of the drawings are in DWG format compatible with AutoCAD and DXF for other technical drawing software. To simplify the construction process our drawings have been created in layers and have insertion points. To further facilitate construction we have also created a library of symbols that are compatible with AutoCAD and can be easily used with the software. There is also a CD available containing the drawings and profile systems. You can request the catalogue and receive the accompanying CD by e-mailing us at: [cd@stalprofil.se](mailto:cd@stalprofil.se) or fax to +46 522-120 46.



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### FIRE TESTING – DOOR PARTITION 60 MIN



Test time 2 min, oven temperature approx. 300°C



Test time 10 min, oven temperature approx. 700°C – deflection approximately 50mm

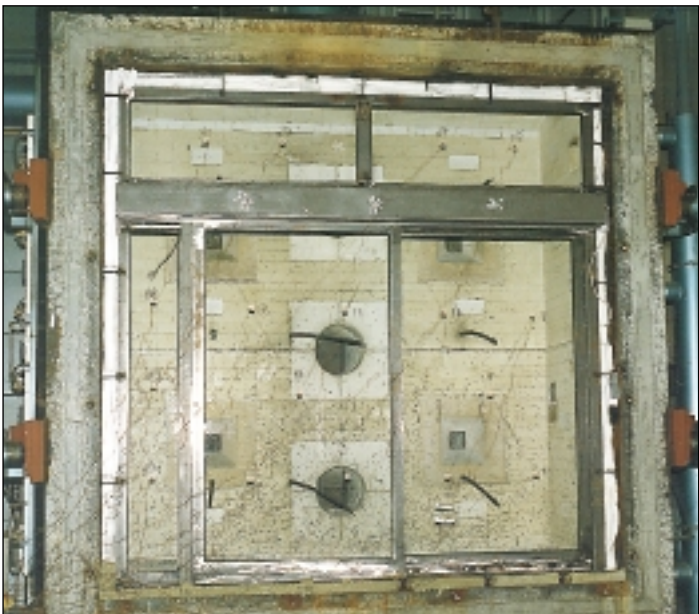


Test time 40 min, oven temperature approx. 900 °C



Test time 60 min – final control of the spread of fumes

### STÅLPROFILS SLIDING DOOR TYPE APPROVED IN FIRE RESISTANCE CLASS E 30/EI 30/A30



Sliding door fire test – unexposed side prior to testing



Sliding door fire test – exposed side after final testing 60 min

### ... AND A REAL-LIFE FIRE

Approximately 5.40 pm on October 27<sup>th</sup> 1999 a worker at the Domus department store in Karlstad discovered a fire in the clothing department. The fire was caused by an old fashioned steam generator, used to steampress clothes in the store. The generator had not been turned off after previous usage. This is how the Swedish Fire Departments own published report, "The fire at Domus in Karlstad Oct. 1999 – Follow up of fire safety and departmental actions taken to put out fire," starts. The report states that there was a fire resistant window section by the stairwell. The window section fulfilled its purpose and prevented further spread of the fire to the upper floors of the department store. The type approved window section was a system manufactured by Stålprofil. Read more about the Domus fire in **Stålprofil system SP 76500 system catalogue**.



CHOOSE SAFETY!

ALL OF OUR FIRE RESISTANT SYSTEMS CARRY WITH THEM A TYPE APPROVAL CERTIFICATE FOR CLASSES E30 UP TO AND INCLUDING EI90

ACCEPT NO DISPENSATIONS FROM CURRENT FIRE SAFETY REGULATIONS!

FOR YOUR SAFETY ALL OF OUR MANUFACTURERS UNDERGO REGULAR CONTROL INSPECTIONS CARRIED OUT THE SWEDISH TESTING AND RESEARCH INSTITUTE

**SITAC** English version 1 (3)  
30 April 1999 Reg. No. E1-02099

**TYPE APPROVAL CERTIFICATE 4294/88**  
in accordance with (J 19-2) of the Act (1994:847) on Technical Property Requirements for Construction Works etc., (JTL)

**KEY WORDS: FIRE PROTECTION**  
Fire separating walls class E  
Fire doors class E

**SEAR: S12111**

**SYSTEM SP 35000 - E 30/E 60**  
Glass wall, window and door partition

Issued to: Stålfprofil AB, Box 27, SE-447 21 Värgheda, tel: +46 322 42 91 60, fax: +46 322 42 91 64

Product: SYSTEM SP 35000, glass wall, window and door partition of steel for reinforced steel, maximum size width-height 1700x2000 mm, door 2400x1800 mm, E 30/E 60

Intended use: Glass parts used in the partition are to be type approved for the relevant fire resistance grade.

Intended use: Fire separating glass wall, window and door partitions including

**SITAC** English version 1 (3)  
30 April 1999 Reg. No. E1-02099

**TYPE APPROVAL CERTIFICATE 4295/88**  
in accordance with (J 19-2) of the Act (1994:847) on Technical Property Requirements for Construction Works etc., (JTL)

**KEY WORDS: FIRE PROTECTION**  
Fire doors class E1

**SEAR: S12111**

**SYSTEM SP 35000+SP 76500 - EI 30**  
Glass door partition with side- and over panels

Issued to: Stålfprofil AB, Box 27, SE-447 21 Värgheda, tel: +46 322 42 91 60, fax: +46 322 42 91 64

Product: SYSTEM SP 35000+SP 76500, glass door partition of steel for reinforced steel, maximum door size width-height 1700x2000 mm, including side- and over panels 3000x1400 mm, EI 30

Intended use: Glass parts used in the partition are to be type approved for class EI 30 or higher

Intended use: Fire separating glass door partition including

Trade name: Stålfprofil System SP 35000 separately SP 76500 - EI 30

**SINTEF**

Stålfprofil AB  
Box 27  
441 22 Värgheda  
Sverige

**PRÖVINGSRAPPORT**

Öppning nr: 25000/2001/30

Prövningsmetod/Standard: EN 1364 - 1, del 1, 1997

Utförare och projekter: Teknisklaboratoriet i 10 nummer för materialkontrollen

Prövning utförd av: SINTEF NBL - Høgskolen i Nord-Norge  
8 3076 Trondheim

**SITAC** English version 1 (3)  
30 April 1999 Reg. No. E1-02099

**TYPE APPROVAL CERTIFICATE 1132/93**  
in accordance with (J 19-2) of the Act (1994:847) on Technical Property Requirements for Construction Works etc., (JTL)

**KEY WORDS: FIRE PROTECTION**  
Fire doors class E1

**SEAR: S12111**

**SYSTEM SP 35000 - EI 60**  
Glass door partition

Issued to: Stålfprofil AB, Box 27, SE-447 21 Värgheda, tel: +46 322 42 91 60, fax: +46 322 42 91 64

Product: SYSTEM SP 35000, glass, singleleaf leaf door of steel for reinforced steel, maximum size width-height 1700x2000 mm (single leaf door), separately 1800x2000 mm (double leaf door), EI 60

Intended use: Glass parts used in the partition are to be type approved for class EI 60 or higher

Intended use: Fire separating glass door partition including

Trade name: Stålfprofil System SP 35000 - EI 60



Fire test of door with finger trap proof gasket 60 min

**SINTEF**

Stålfprofil AB  
Box 27  
441 22 Värgheda  
Sverige

**PRÖVINGSRAPPORT**

Öppning nr: 84000/1790/54

Prövningsmetod/Standard: NS 9001 - Brannmekanisk prövning av dører, porter og luker, Brannmekanisk tilfyllingsmetode EN 1364-1:1997

Utførere og projekter: Teknisklaboratoriet i 10 nummer for materialkontrollen

**SITAC** English version 1 (3)  
30 April 1999 Reg. No. E1-02099

**TYPE APPROVAL CERTIFICATE 1653/96**  
in accordance with (J 19-2) of the Act (1994:847) on Technical Property Requirements for Construction Works etc., (JTL)

**KEY WORDS: FIRE PROTECTION**  
Fire doors class E1

**SEAR: S12111**

**SYSTEM SP 35000 - E 30**  
Glass, sliding door partition with side- and over panels

Issued to: Stålfprofil AB, Box 27, SE-447 21 Värgheda, tel: +46 322 42 91 60, fax: +46 322 42 91 64

Product: SYSTEM SP 35000, glass, sliding door partition of steel for reinforced steel, maximum size width-height 3000x1400 mm, E 30

Intended use: Glass parts used in the partition are to be type approved for class E 30 or higher

Intended use: Fire separating glass door partition including (except in escape routes)

Trade name: Stålfprofil System SP 35000 - E 30

**SITAC** English version 1 (3)  
30 April 1999 Reg. No. E1-02099

**TYPE APPROVAL CERTIFICATE 0297/97**  
in accordance with (J 19-2) of the Act (1994:847) on Technical Property Requirements for Construction Works etc., (JTL)

**KEY WORDS: FIRE PROTECTION**  
Fire doors class E1

**SEAR: S12111**

**SYSTEM SP 35000+SP 76500 - EI 30**  
Glass, sliding door partition with side- and over panels

Issued to: Stålfprofil AB, Box 27, SE-447 21 Värgheda, tel: +46 322 42 91 60, fax: +46 322 42 91 64

Product: SYSTEM SP 35000+SP 76500, glass, sliding door partition of steel for reinforced steel, maximum size width-height 3000x1400 mm, EI 30

Intended use: Glass parts used in the partition are to be type approved for class EI 30 or higher

Intended use: Fire separating glass door partition including (except in escape routes)

Trade name: Stålfprofil System SP 35000 separately SP 76500 - EI 30

**DNV**

**DET NORSKE VERITAS**

**TYPE APPROVAL CERTIFICATE**

Certificate No. F-12548

THIS IS TO CERTIFY THAT

the class B bulkhead

"B-30 GLASS PARTITION"

manufactured by

Read Products A/S

Ravnsborgvn. 56, 1364 Hvalstad, Norge

is found to comply with

Det Norske Veritas' Rules for Classification of Ships and Mobile Offshore Units

Det Norske Veritas' interpretation of SOLAS 1974 Convention as amended.

**STF**

**YMPÄRISTÖMINISTERIÖN**  
**TYYPPIHYVÄKSYNTÄPÄÄTÖS**

Dno: 436/221/2001 1 (3)  
Annettu: 20.6.2001  
Voimassa: 31.3.2006

Ympäristöministeriön on maankäyttö- ja rakennuslain (132/1999) 148 §:n nojalla myöntänyt seuraavan tyyppihyväksynnän.

**TUOTE**

Lasseinä, -ikkuna ja -ovirakenne, karmit ovat terästä tai ruostumattomasta terästä.  
Eriolosien on käytetty Promatek Lita tai Promatek H1ta tai kipsiä.  
System SP 3500 - E 30/E 60.  
Valenssien paksuus: 3 - 4118 A (97-01-03); 3 - 4118 A (97-01-03); 4 - 2474 (98-12-02); 4 - 2478 (99-02-11); 4 - 2477 (99-02-10); 4 - 2478 (99-02-02); 4 - 2478 (99-02-03); 4 - 2485 (99-12-20); 4 - 2490 (99-02-08); 4 - 2491 (99-02-11); 4 - 2495 (99-02-11); 4 - 2499 (99-02-23); 4 - 2508 (99-02-01); 4 - 2385 - B (97-02-12); 4 - 2318 (96-05-21); 4 - 2319 - C (96-05-16); 4 - 2319 - C (96-05-19); 4 - 2345 - A (96-05-19); 4 - 2366 - B (96-11-09); 4 - 2115-B (95-04-05) ja Sitacin tyyppihyväksynnän 4294/88 (1999-04-10) mukaan.

**HAKIJA**

Metaliteute Valikko Oy, Jämsäjärvi

**VALMISTAJA**

Karmit valmistaa Stålfprofil AB, Värgheda, Ruotsi.  
Ovet valmistaa hakija.

**HYVÄKSYNNÄN**  
**LAAJUUS**

Tällä hyväksynnällä todetaan palo-ovirakenteiden täyttävän Suomen rakennusmääräyskokoelman vaatimusten pöytäkirjoitusten osasta Palokukka E 30 tai E 60.

**PÄASTEAMET**

**NATIONAL RESCUE BOARD**

**VASTAVUSSERTIFIKAAT**  
Nr. 660/99

**Taotleja:** T-TAMMER OÜ, Mustamäe tee 22, 10621 Tallinn, EESTI.

**Toode:** Süsteem SP 35000 klaasitud seinä-, akna- ja uksearistid.

**Tootja:** T-TAMMER OÜ, EESTI.

**Normdokumendid:** EN 101 "Eesti Projektteenimisnormid. Ehitiste tuleohutus. Üldeskiiri".  
EN 106 "Eesti Projektteenimisnormid. Ehitiste tuleohutus. Tuletõkkurused".

**Klass:** Süsteem SP 35000 vastab tulepuvusklassi E30 / E60, A30 / A60 nõuetele kui kasutatakse tehnoospefikaaits aratoodud profile, ning kui on lagatud tehnoloogilise tootmistuskiili vastavus esitatud tingimustele ja selle pidav kontrol.

**Nemko Certification**

Vår dato: 2000-08-23 Vår referans: 801.45-Pyrotec

Vedlegg nr. 4 till certifieringslåsens nr. 462 med utstedelsesdato 1992-03-27 for **BSI**-merking av brannteknisk klassifiserte vinduer (Utgave 2)

**Produktnavn:** Futura brannvindu A 80

**Produkttype:** Brannteknisk klassifisert, åpningsbratt vindu

**Klassifisering:** A 60

**Beskrivelse:** Vindu bestående av stålprofilsystem SP 79000 isolert med 50 mm fiberrullkapte type Promatek H, tegning nr. 4-1172-A av 1989-04-19.  
- Maks lysåpning b x h = 1450 x 1500 mm.  
Innsett glass-type:  
21 mm Pyrostop 60-10 GB (II), alternativt:  
27 mm Pyrostop 60-20 GB (III)  
35 mm Pyrostop 60-25 GB (III)  
41 mm Pyrostop 60-25 GB (III)  
Produksjon i henhold til tegning 1-4012 B av 1994-01-27 og tegning 3-4015 av 1993-12-03 for innfasingen av alternative glassstyper.  
Både på karm og ramme skal det for innvendig bruk monteres Interders F 10 x 2 mm og for utvendig bruk Exterders F 10 x 2 mm, tegning 1-4012 B av 1994-01-27.  
- For monteringer i A 80 SP 79000 stålprofilglass veggsystem, alt. fast mur- eller betongvegg.

**Typpeskriving:** SINTEF NBL rapport nr. 250000/2093/329 av 1994-02-04 og vurdering nr. 25006/94.025 av 1994-02-11.



### FIRE PROTECTION

**S**TÅLPROFILSYSTEM SP 35000 and SP 75000 are approved by the Swedish Building Standards AB, SITAC, for glazed wall, window and door sections in fire resistant class E 30/E 60, sliding doors with side and ceiling lights in fire resistant class E 30 and glazed door sections with midrail, ceiling and side-lights in SP 76500 in class EI 30/ A 30. Please refer to the catalogue STÅLPROFILSYSTEM SP 76500 for further details.

*Glazed doors, windows and wall sections E 30/E 60  
Type approval certificate 4294/88*

*Glazed sliding doors with side and ceiling lights E 30  
Type approval certificate 1653/96*

*Glazed door sections without midrail EI 60  
Type approval certificate 1132/93*

*Glazed door sections with midrail EI 30  
Type approval certificate 4295/88*

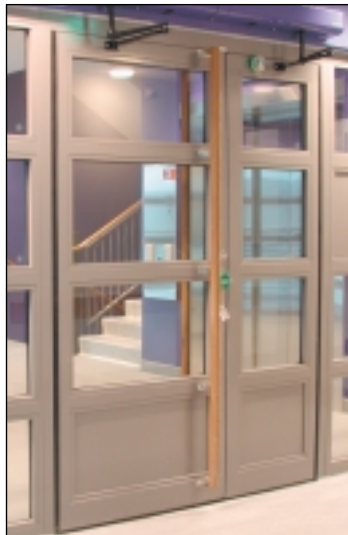
*Glazed sliding door sections with side and ceiling lights EI 30  
Type approval certificate 0297/97 (together with SP 76500)*

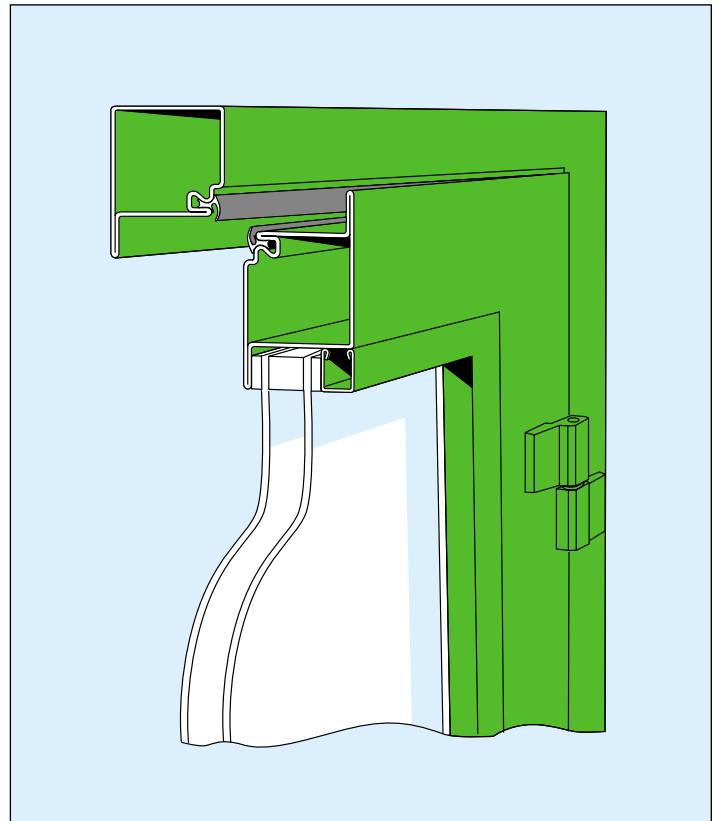
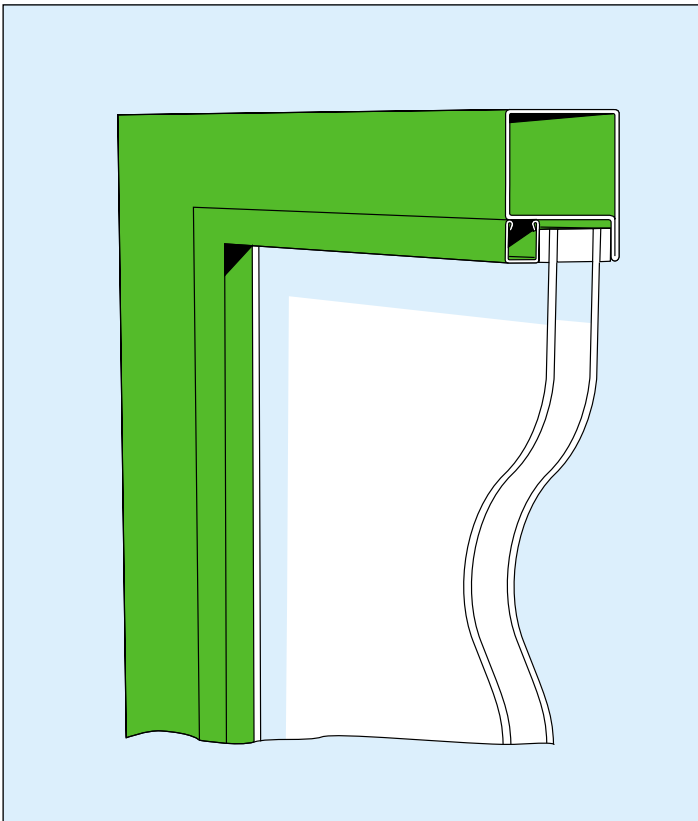
It is important when glazing fire resistant glass that the accompanying assembly instructions are adhered to. Manufacturing control and inspection of fire resistant material must be carried out according to SITACs recommendations. The Swedish Testing and Research Institute carry out regular inspections of all of our manufacturers. Details of approved manufacturers can be requested from Stålprofil.



### CHOOSE SAFETY!

ALL OF OUR FIRE RESISTANT SYSTEMS CARRY WITH THEM A TYPE APPROVAL CERTIFICATE FOR CLASSES E30 UP TO AND INCLUDING EI90  
**ACCEPT NO DISPENSATIONS FROM CURRENT FIRE SAFETY REGULATIONS!**





## STÅLPROFILSYSTEM SP 35000 – SP 55000 – SP 75000

*Glazed doors, windows and wall sections fire resistant classes E 30/E60 Type approval certificate 4294/88*

*Glazed sliding doors with side and ceiling lights fire resistant class E 30 Type approval certificate 1653/96*

*Glazed door sections without midrail fire resistant class EI 60 Type approval certificate 1132/93*

*Glazed door sections with midrail fire resistant class EI 30 Type approval certificate 4295/88*

*Glazed sliding doors with side and ceiling lights fire resistant class EI 30/A 30<sup>1)</sup> Type approval certificate 0297/97*

<sup>1)</sup> together with SP 76500

**T**he profiles that comprise SP 35000 are non-insulated steel profiles. SP 55000 steel profile system has a breached thermal bridge, and SP 75000 system comprises of fire insulated steel profiles. The profile systems are designed for door, sliding door, wall and window sections in offices, places of business, blocks of flats, schools, hotels, sports arenas, hospitals and service homes.

The systems are modern and provide maximum flexibility, safety and stability. They offer a variety of choices for interior design and are type approved. Each system has finger trap proof rear edging, rounded windows and arches. The systems are available in wide profiles for module locks.

The systems innovative design with tracks for rubber sealing creates smooth interior and exterior surfaces on doors and intersecting wall partitions complying with architectural requirements.

The increased stability, resistance to fire and other external forces that steel offers compared to other materials is making it the material of choice. Steel has also unlimited choices with regard to colour and is environment friendly. The advantageous price combined with its other advantages reduces the total cost of ownership drastically compared to other materials.

### **Bulletproof, burglary and fire resistance**

The systems are available in bulletproof quality complying with the tests performed by SP The Swedish Testing and Research Institute. Burglary resistance quality classes 1, 2 and 3.

Stålprofil systems SP 35000 and SP 75000 are type approved by SITAC, The Swedish Building Standards organization in several fire resistant classes. Door and wall sections function as fire barriers in corridors, hallways and stairwells. Stålprofilssystem SP 35000 and SP 75000 all offer varied light and pleasant interior environments without compromising current fire safety regulations.

### **Black, stainless or sendzimir zinc galvanised steel**

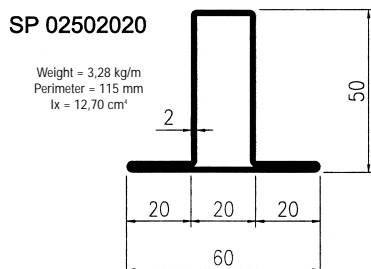
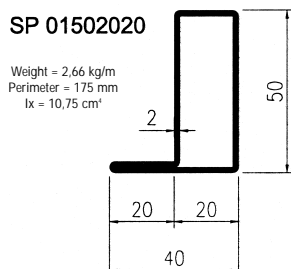
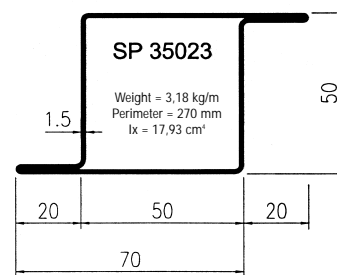
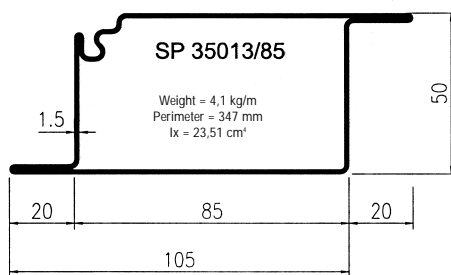
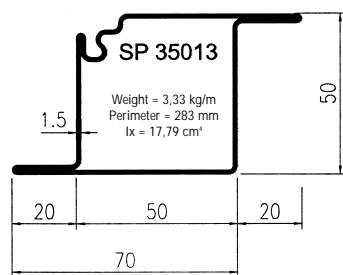
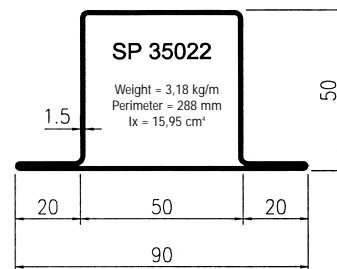
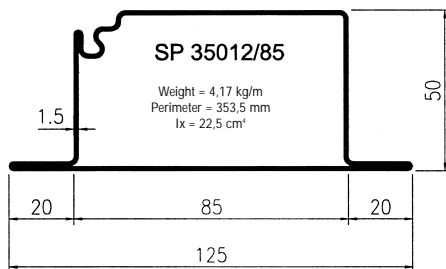
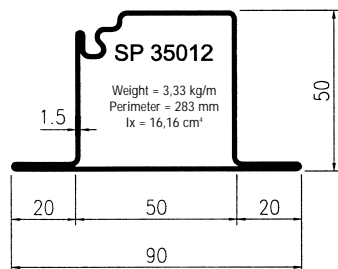
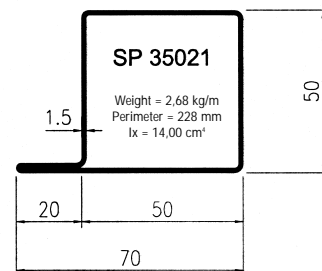
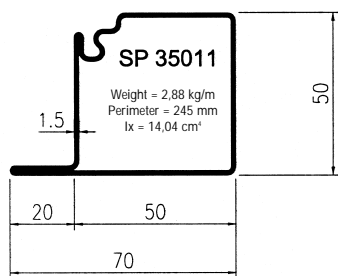
SP 35000 is available in untreated steel quality SS 1312 allowing maximum flexibility for choice of surface. The system is also available in stainless steel quality 316L, please refer to separate catalogue STÅLPROFILSYSTEM SP 90000 for further details. The stainless steel profile is delivered brushed or untreated. The third quality available is sendzimir zinc galvanised. Sendzimir zinc galvanisation is a form of hot dipped galvanisation. After the treatment the interior and exterior zinc surfaces are 20µm equating to 275g/m<sup>2</sup>. The pre-treatment in combination with the subsequent laquering eliminate the risk of corrosion. Our recommendations are sandblasting, spray galvanising, primer, wash or powder coating.

### **A high quality cost effective solution**

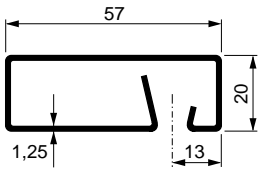
The systems innovative design lend themselves to simple assembly and reduced construction time compared to conventional systems, implying higher and more consistent quality and reduced manufacturing costs.

The standard glazing beads for each system are pre-treated with sendzimir zinc. The beads are also available in stainless steel. Laquered profiles with stainless steel glazing beads offer an exiting architectural combination. To maximise effectivity, simplify manufacture and reduce costs, the glazing beads are compatible in every system.

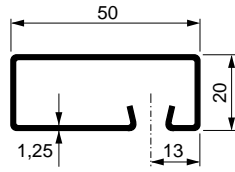
To further minimise manufacturing costs and wastage each profile is delivered from our warehouse in 6.6 metre lengths and glazing beads in 6.0 metre lengths. Manufacture and assembly is carried out by certified professionals, who undergo frequent controls and inspections by The Swedish Testing and Research Institute.



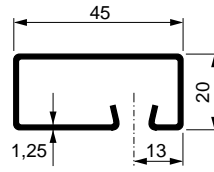




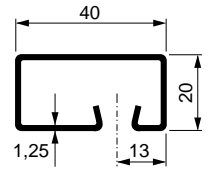
Glazing bead  
SP 45720



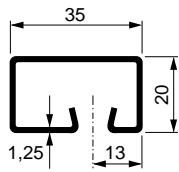
Glazing bead  
SP 45020



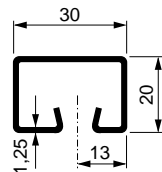
Glazing bead  
SP 44520



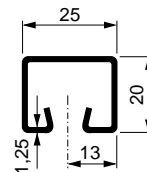
Glazing bead  
SP 44020



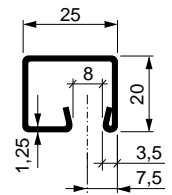
Glazing bead  
SP 43520



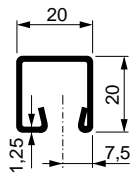
Glazing bead  
SP 43020



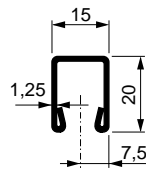
Glazing bead  
SP 42520-1



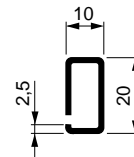
Glazing bead  
SP 42520-2



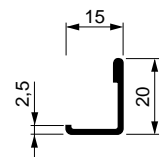
Glazing bead  
SP 42020



Glazing bead  
SP 41520



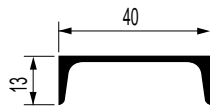
Glazing bead  
SP 41020



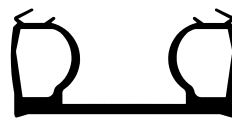
Glazing bead  
SP 40520



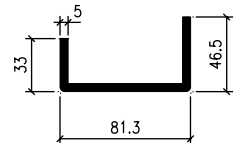
Rubber seal  
SP 40035  
L = 100 m  
Fire classified material



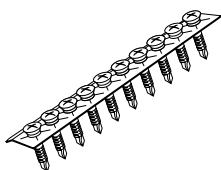
Rubber seal - threshold  
SP 45065  
L = 1400 mm  
Fire classified material



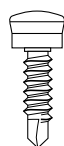
Rubber seal  
Finger trap proof gasket  
SP 40052  
L = 2500 mm  
Fire classified material



Burglary protected profile  
SP 30002  
L = 2500 mm



Bead screw  
SP 40012 / 500 pcs



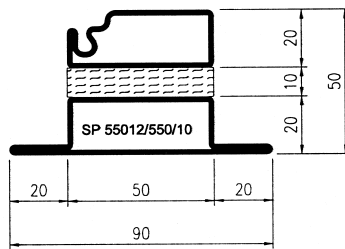
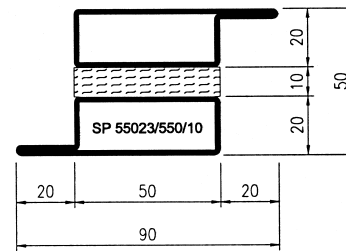
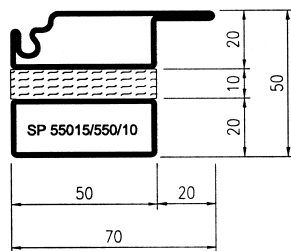
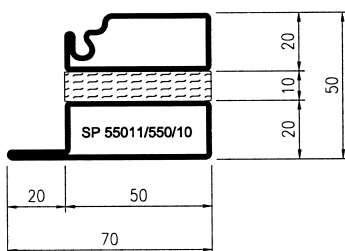
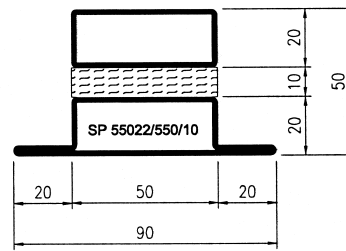
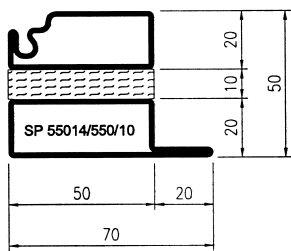
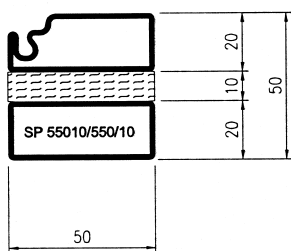
Bead screw  
SP 40020 / 500 pcs



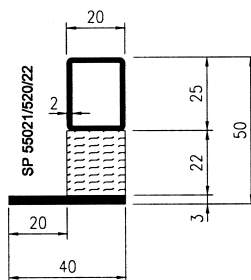
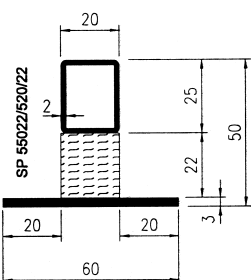
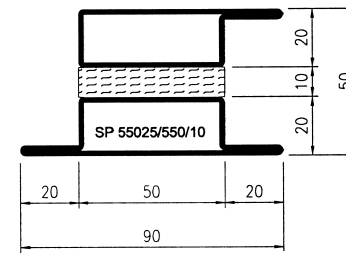
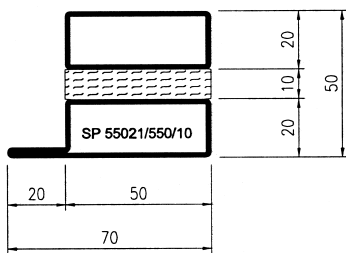
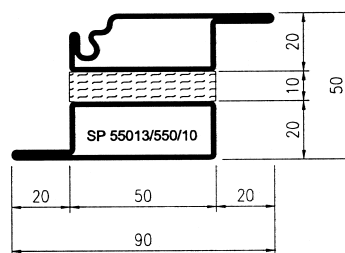
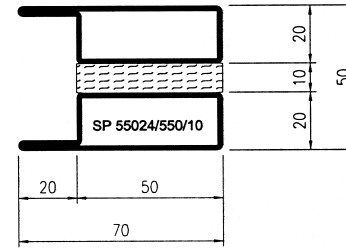
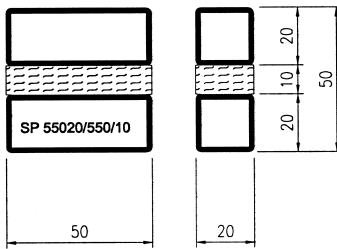
Spring  
SP 40500



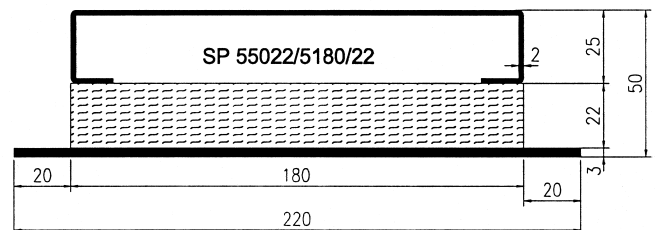
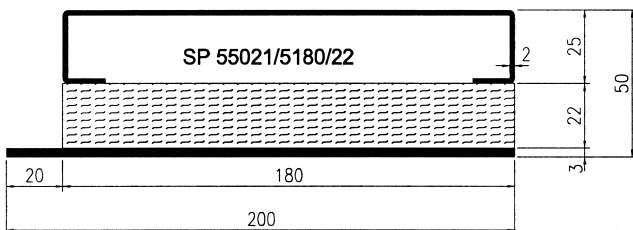
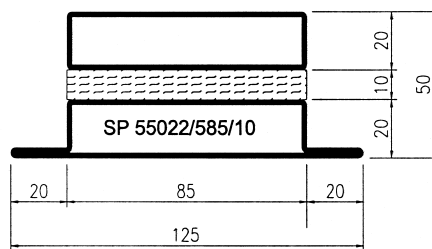
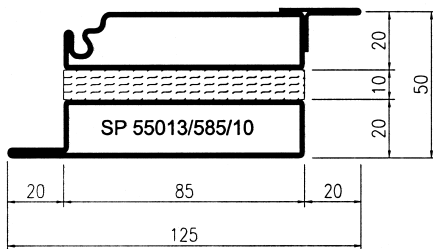
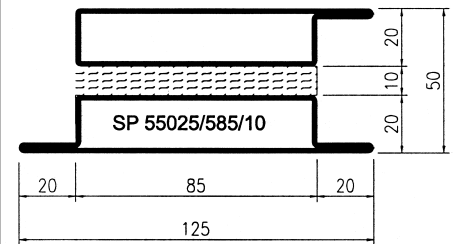
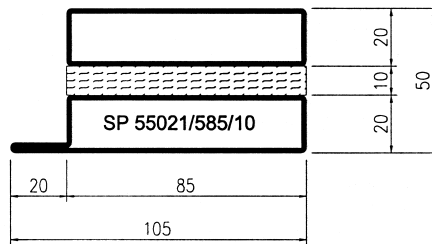
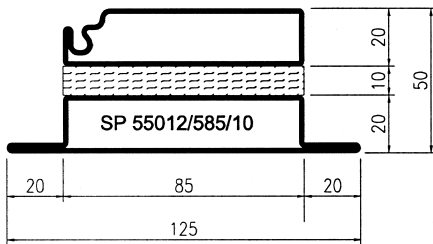
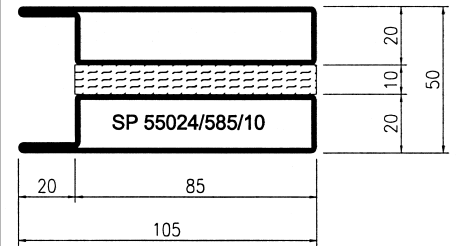
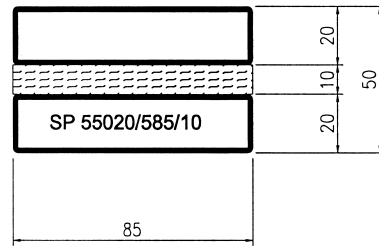
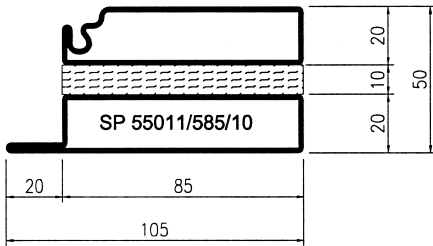
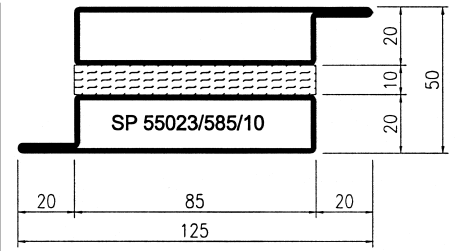
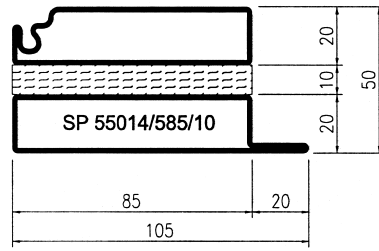
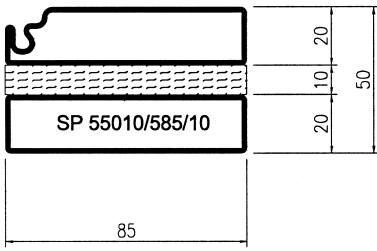
Spring  
SP 41000

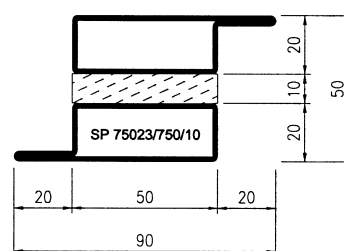
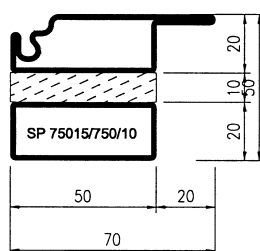
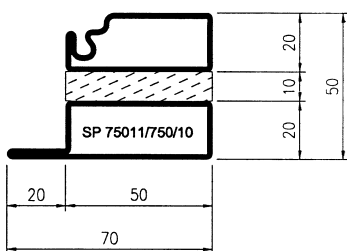
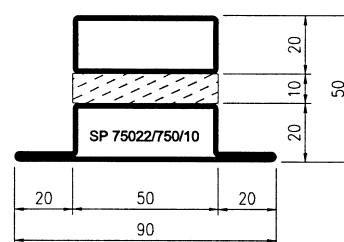
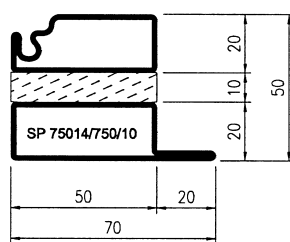
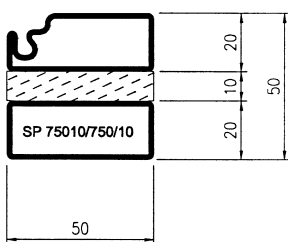


SP 55020/20/10

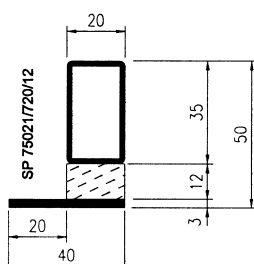
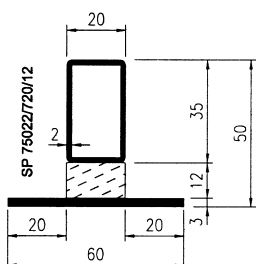
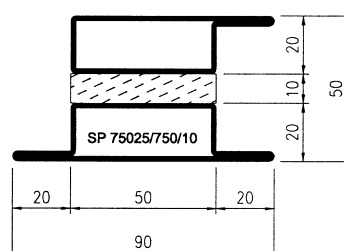
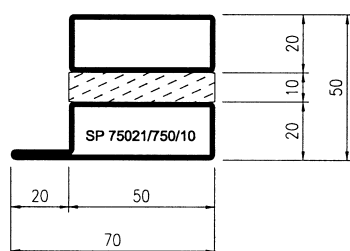
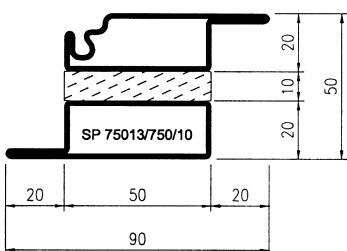
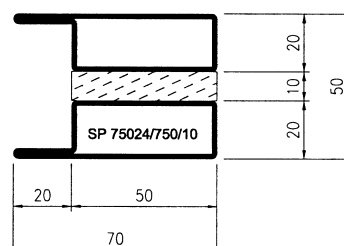
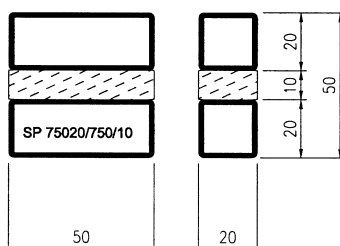
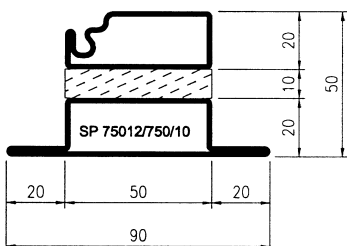




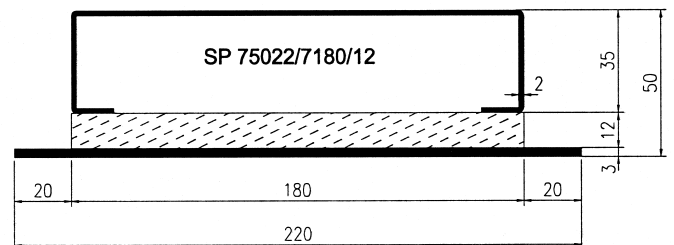
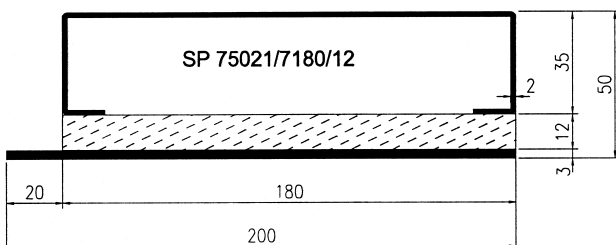
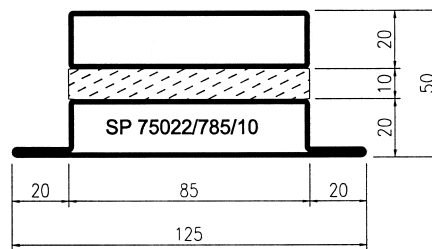
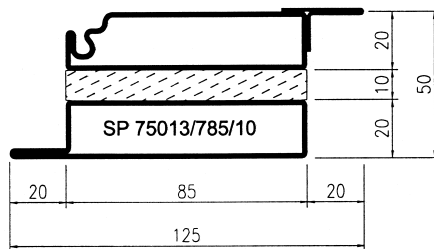
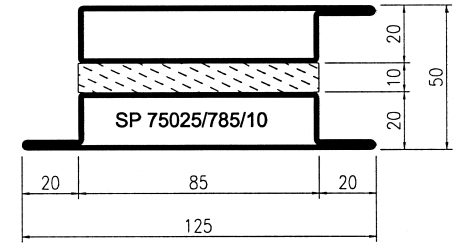
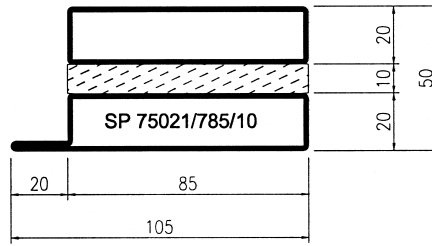
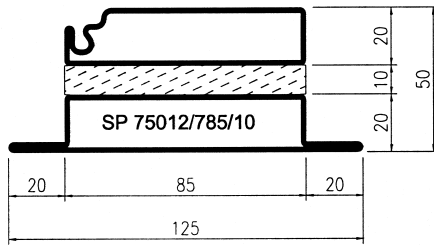
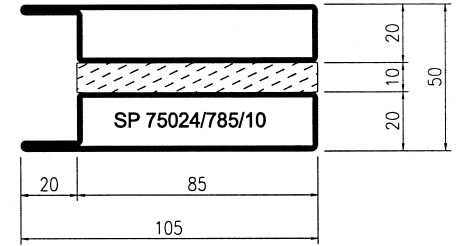
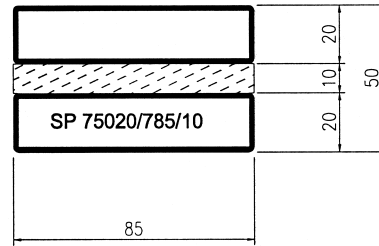
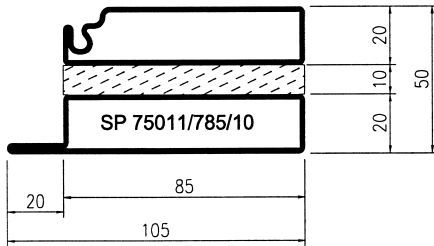
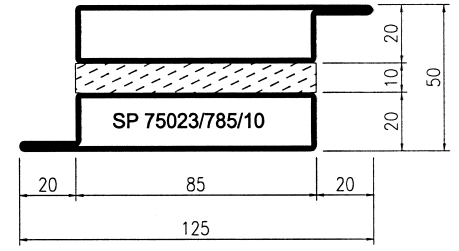
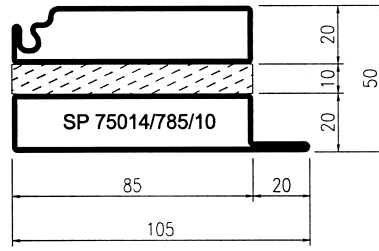
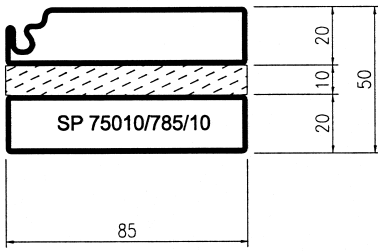




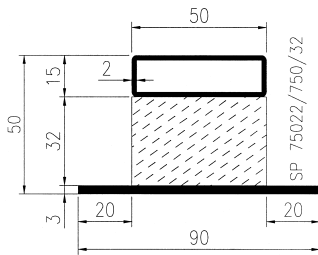
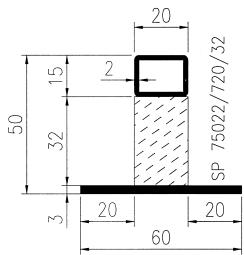
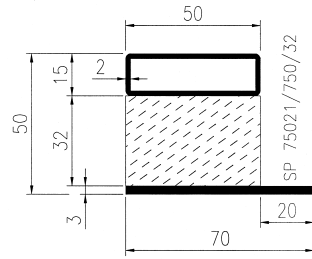
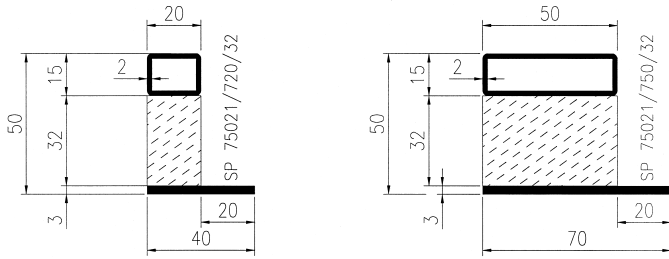
SP 75020/20/10



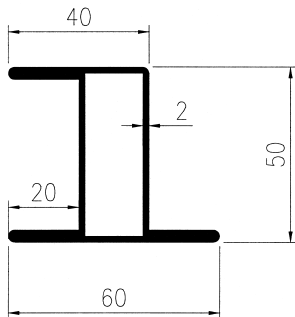




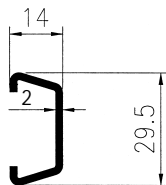
### MIDRAIL FOR DOORS IN FIRE RESISTANT CLASS A 30



### ACCESSORIES SLIDING DOOR FIRE RESISTANT CLASSES E 30/A 30/EI 30

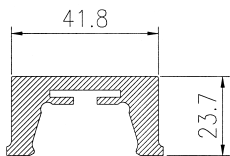


SP\_05502020

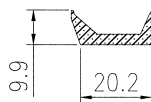


SP 20003

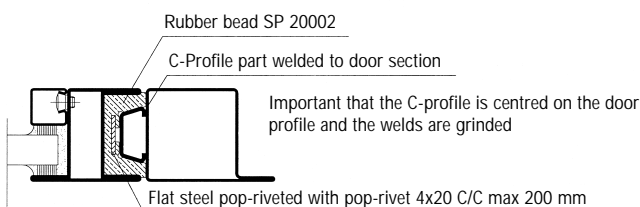
Length 4,4 m



Rubber bead  
SP 20002  
Length 2,3 m

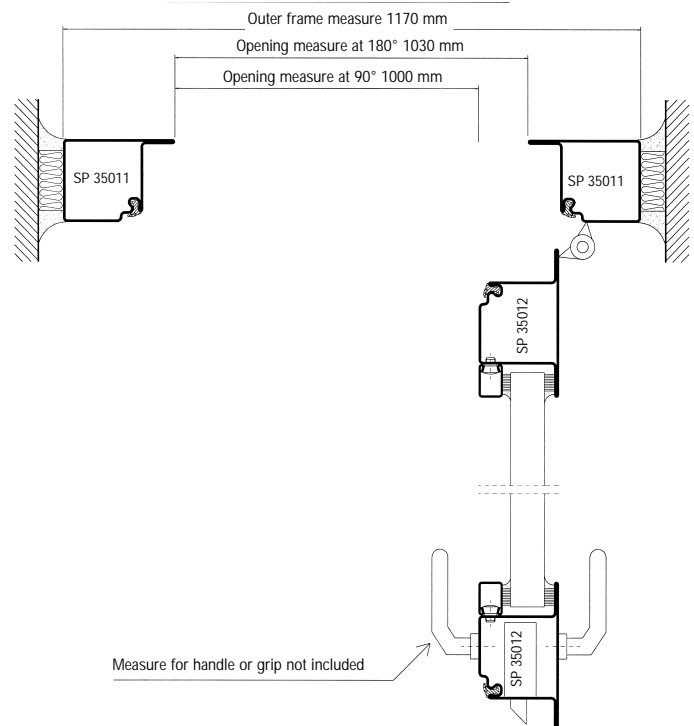


Rubber bead  
SP 20001  
Length 2,5 m



### OPENING MEASUREMENT – SINGLE LEAF DOOR

#### Opening measure - single leaf door



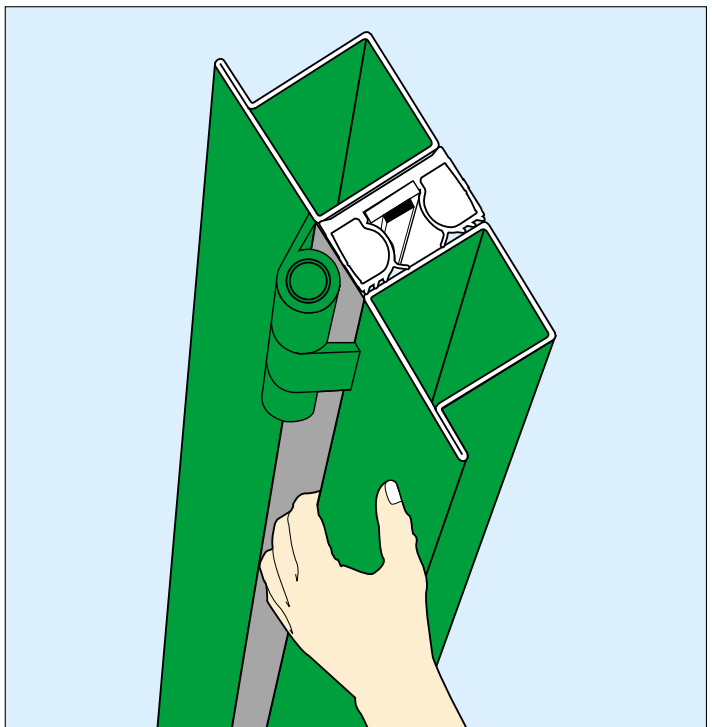
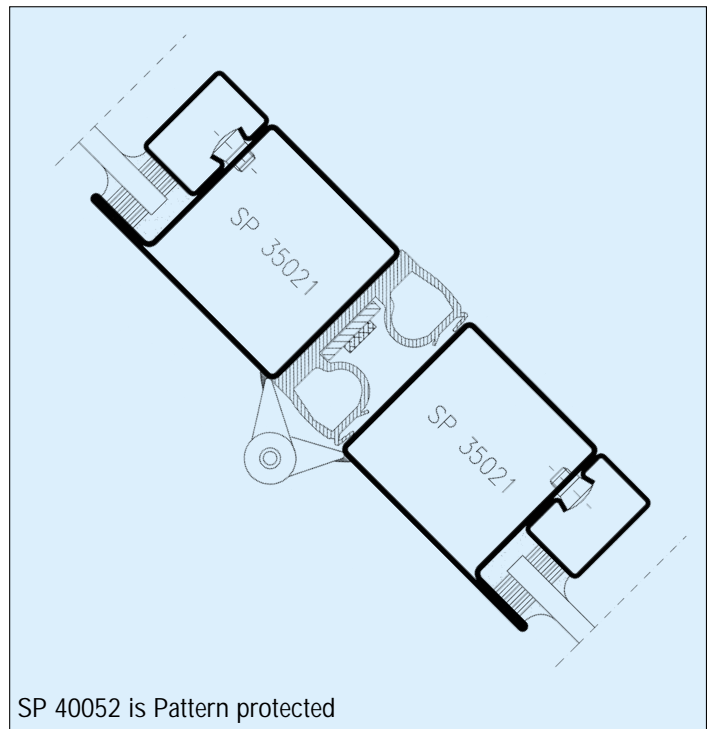


# FINGER TRAP PROOF GASKET

THE FINGER TRAP PROOF GASKET IS AVAILABLE FOR INSULATED AND NON-INSULATED PROFILES IN FIRE RESISTANT CLASSES UP TO AND INCLUDING E 60/EI 60

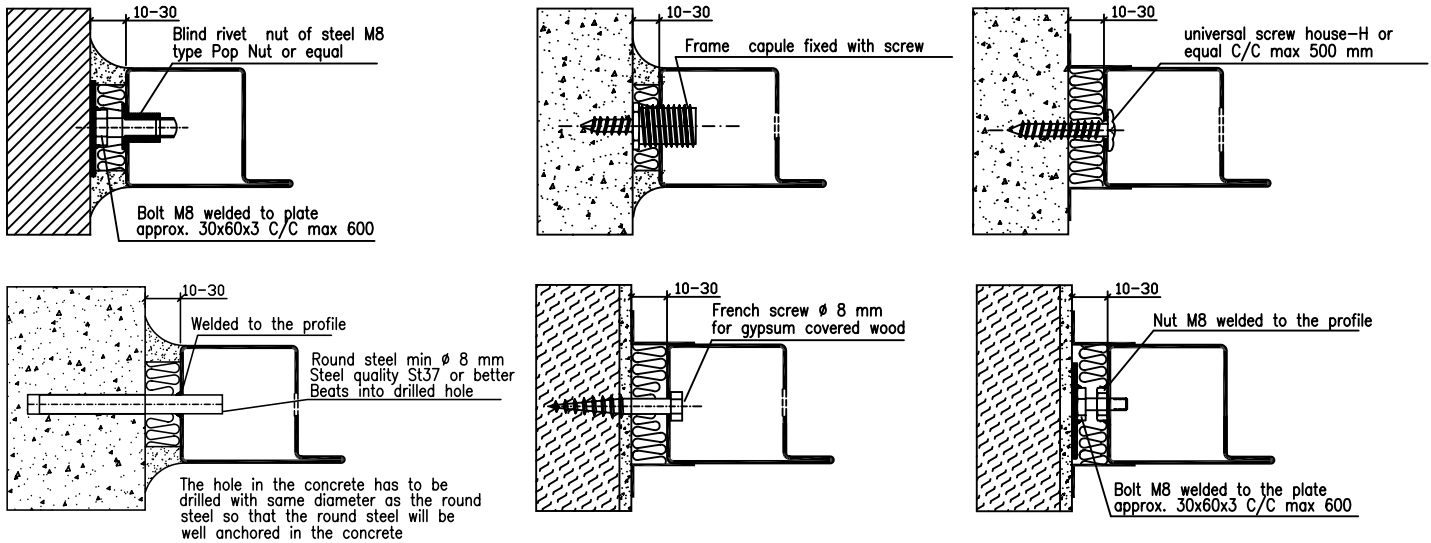
## AVOID PINCH INJURIES!

MAKE SURE YOUR DOOR SECTIONS CONTAINS THE DESIGN PROTECTED FINGER TRAP PROOF GASKET FROM STÅLPROFIL



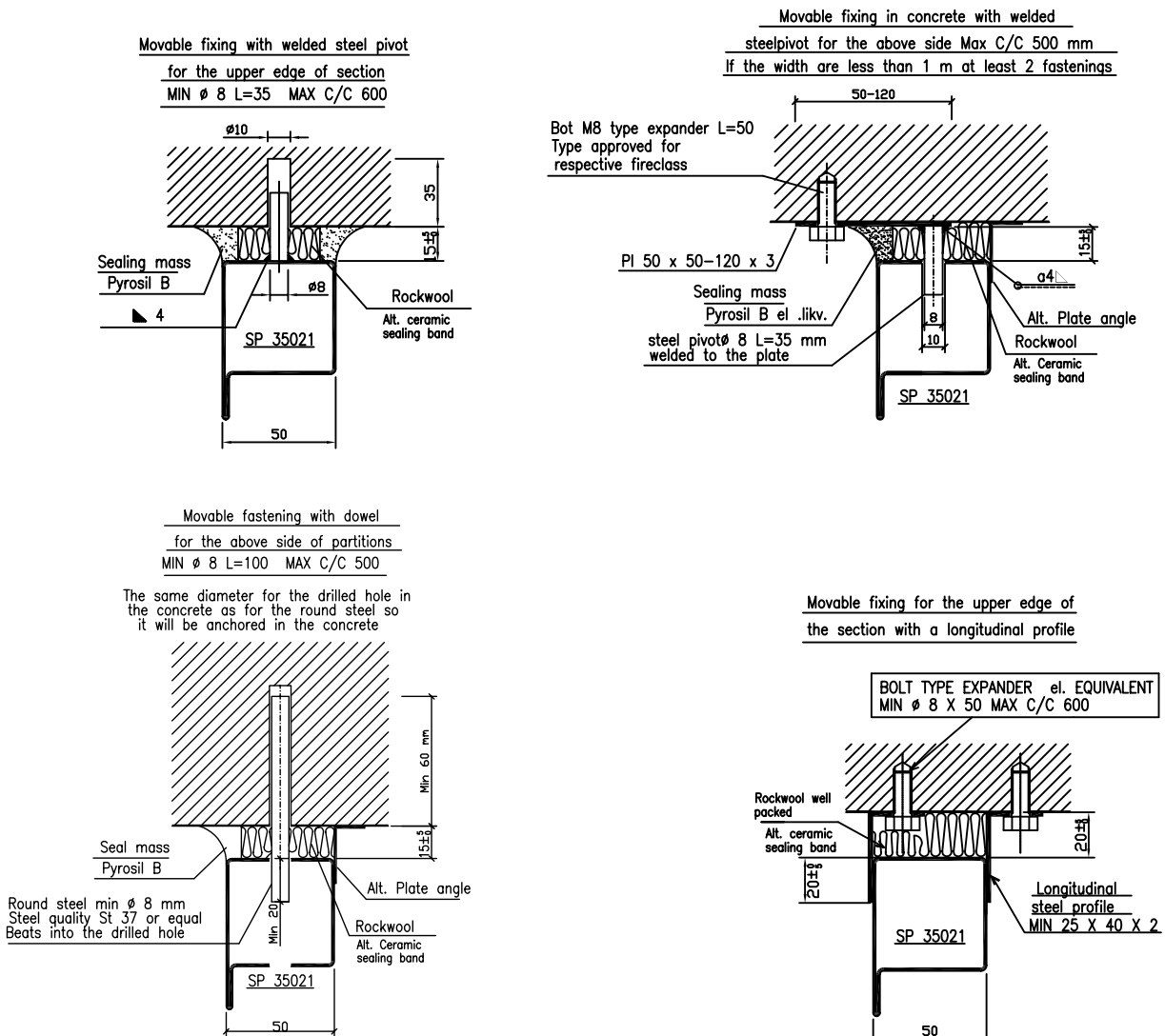
## SIDE-FASTENINGS FIRE RESISTANCE SECTIONS

- Principal suggestion for mounting the section side in fire resistant classes E 30/E 60/A 30/EI 30/EI 60
- Maximum fixing centers of 600 mm
- Sheet metal and fire resistant sealing can be varied as required



## FASTENINGS FIRE RESISTANCE SECTIONS AT THE UPPER EDGE

- The upper edge of the section should always be mounted with moveable fixation
- Detailed explanations are supplied with each profiles fire resistant class type approval certificate



**SOME ADVICE FOR YOUR FIRE RESISTANT SECTIONS PROJECT**

- Always ask for a type approval certificate with accompanying documents so that the sections can be fixed and mounted according to the recommendations in the certificate
- Make sure you understand exactly what the certificate allows
  - We supply type approval certificates from E30–EI90
- Note the maximum measurements for each specific system. The measurements can vary in different fire resistant classes
  - We have door sections in classes E 30/EI 30 WxH 2500 x 2645 mm fixed sections max. height 3450 mm
- Note the locking functions for module or small profile locks electronic locking bolt mechanism, automatic door opening and closing mechanisms. What has been tested and approved?
  - Always carry out a control of functions and combinations
- Is your choice of glass approved for usage with the system and what is the maximum allowed size?
  - Never exceed the maximum measurements
- Sliding doors of type approved design
  - May not be used in emergency exit passageways
  - Automatic functions according to Type approval certificates

*An excerpt from Stålsprofilers type approved certificate (general directions and for all profile systems)*

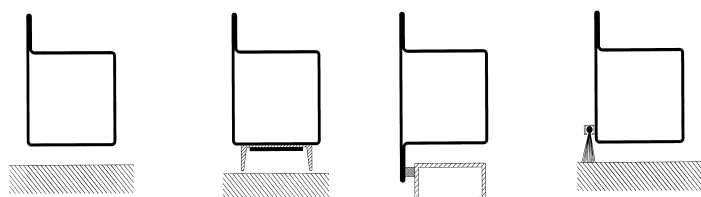
**SPACE BETWEEN THE DOOR AND FLOOR**

Doors can be mounted without a threshold leaving a space between the lower edge and the floor of not more than 10 mm. In these cases doors can be supplied with any kind of dragleaf, automatic threshold. This applies also to Findin Total types. Doors facing stairwells however may not have a space between the lower edge and floor.

The doorframe and panel can be furnished with sheet metal covering up to 0.5m providing the covering is attached so that it will not easily loosen should a fire break out.

Doors in classes EI 30 and E 30 can be mounted with a threshold, dragleaf SP 45065 or automatic threshold in combustible or non-combustible material, plastic, rubber etc. providing that complete closure is achieved. The space between the lower edge and floor for doors without threshold may not exceed 18 mm without official testing results proving otherwise.

Doors in classes EI 60 and E 60 may have up to a 10 mm maximum space between the lower edge and floor combined with dragleaf SP 45065 providing full closure is achieved.



*Alternative design of space between door and floor:*

- 1) None 2) Dragleaf SP 45065 3) Threshold 4) Dragleaf

**APPLICABLE POLICYS WHEN DOORS ETC IN CLASS A 30 ARE USED AS AN ALTERNATIVE TO DOORS ETC IN FIRE RESISTANT CLASS EI 30**  
*Excerpt from BBR BFS 1993:57 with changes including BFS 1998:38*

**FIRE RESISTANT CLASSIFICATION FOR DOORS**

Doors and doorlike objects in combustible material that comply with the insulation and integrity requirements in group 2 (earlier class A) according to Boverkets general directions: *The guidelines for type approved fire resistance (1993:2)* or comparative earlier guidelines can be used as alternatives to EI classified doors etc in the following situations:

- a) Between stairwells and
  - basements or attics
  - in fire or airlocks
  - shops, warehouses or industrial premises
- b) Between lift shafts that are in themselves fire barriers or airlocks and corridors
- c) Between conduit and treatment building
- d) In fire resistant wall sections
- e) Front door of a flat





THIS DRAWING APPLYS TO  
SP 35000 DOOR-, WALL-,  
AND WINDOW SECTIONS E 30  
AND WINDOW SECTIONS E 30

**\*MAXIMUM  
MEASURE E 60**

See drawing 3-4118-B  
on CD or at  
[www.stalprofil.se](http://www.stalprofil.se)

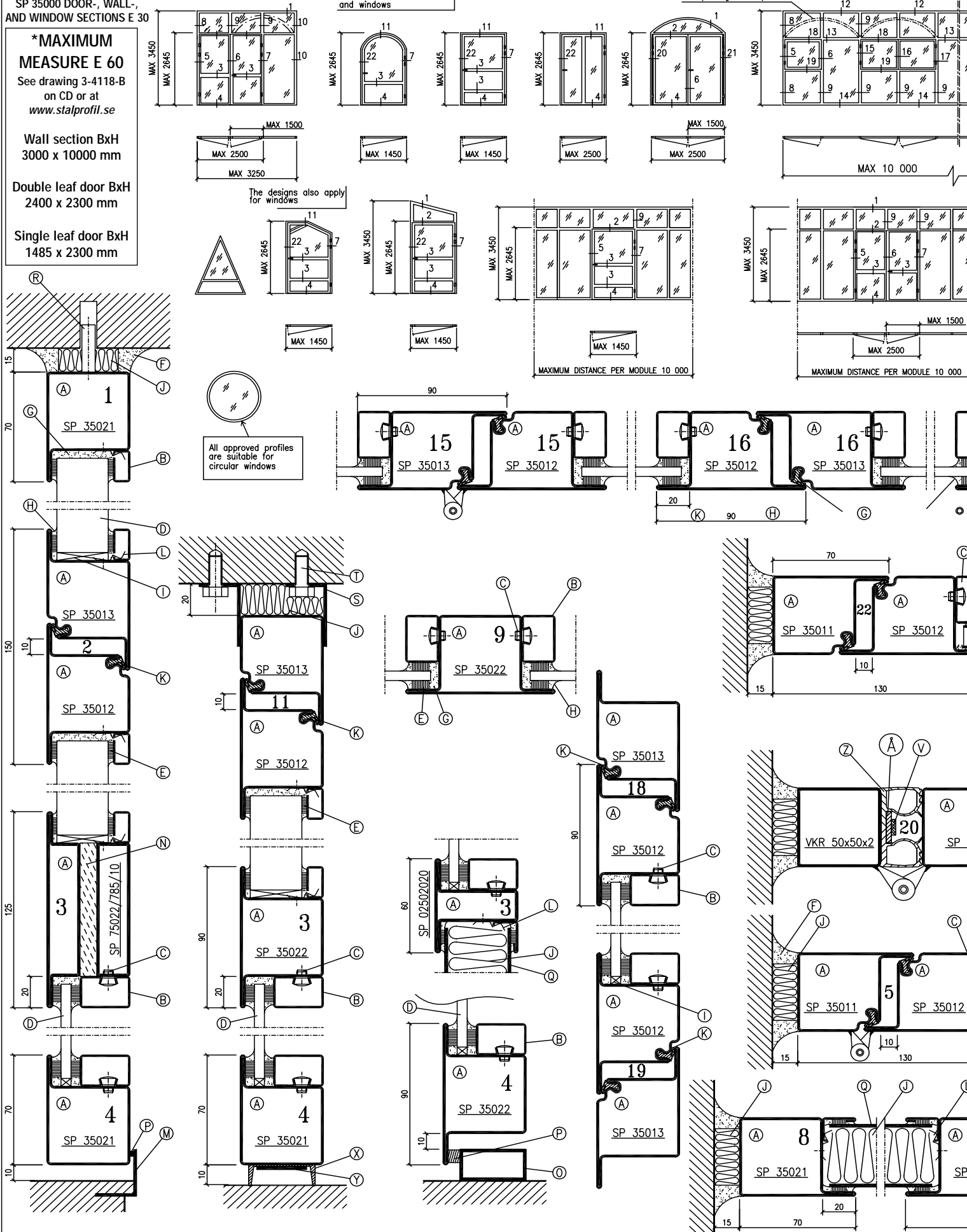
Wall section BxH  
3000 x 10000 mm

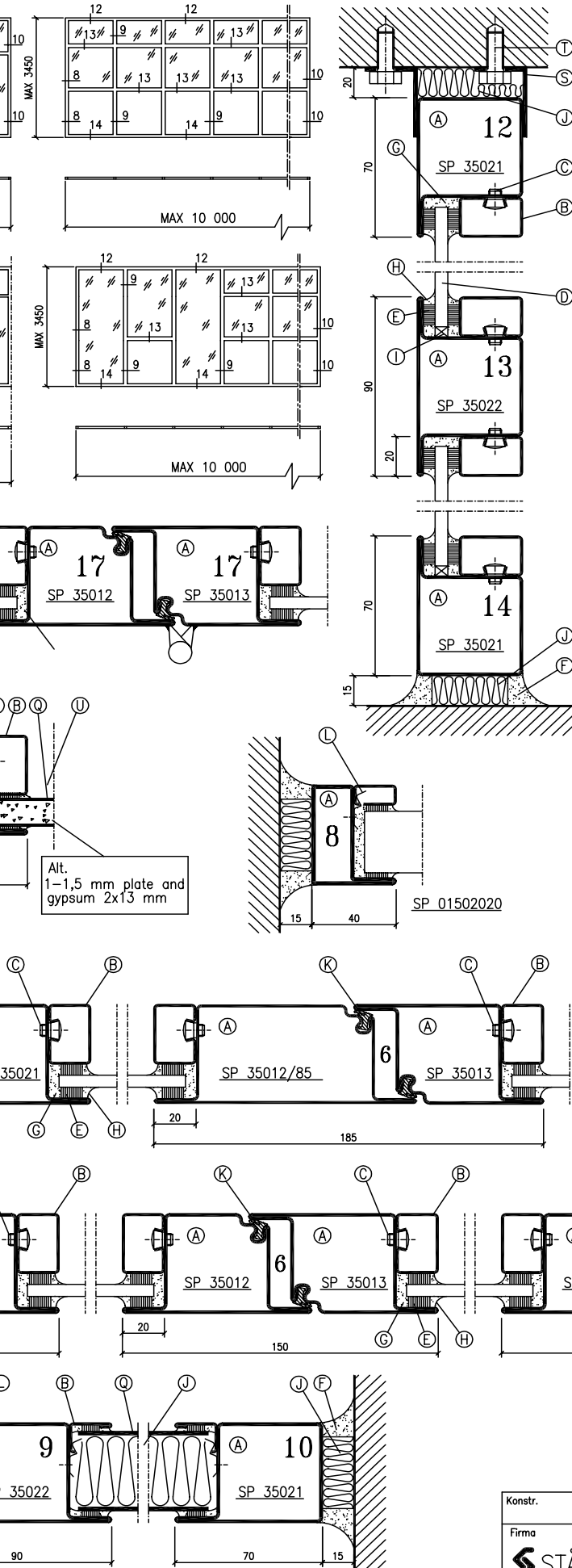
Double leaf door BxH  
2400 x 2300 mm

Single leaf door BxH  
1485 x 2300 mm

The designs also apply  
for double doors  
and windows

Alt. placing curve profiles





SYSTEM SP 35000 DOOR, WINDOW AND WALL SECTIONS  
SPECIFICATION OF MATERIAL FIRE RESISTANCE CLASS E30

NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel profiles, SP 35000 Alt. Steel profiles, SP 75000 Alt. Wide profiles	Cold formed steel Wall-Thickness 1,5 mm Wall-Thickness 1,8 mm	Bright steel surface suitable for laquering Detailed drawings 4-2318-C, 4-2319-C 4-2366-A
	Alt. Stainless design SP 95000 SP 970000	Stainless steel Wall-Thickness 1,5 mm Wall-Thickness 1,75 mm	
B	Glazing beads Serie 40000 Alt. Glazing beads Serie 90000	Sheet metal ST 0,2 Senzimirband Z 275 Wall-Thickness 1,25 mm Stainless steel Wall-Thickness 1,25 mm	
C	Bead studs	Steel L=15mm $\phi$ =4,8 mm	C/C 300 mm
D	Panels:	<b>Thickness, weight and max measure :</b> Pyrodur E30 Type Approval Certificate 1474/87 Pyroswiss E30 Type Approval Certificate 5267/93 Pyrogard Clear E30 Type Approval Certificate 0661/97 Pyran S E30 Type Approval Certificate 0537/98 Fivestar E30 Type Approval Certificate 2066/96 Contraflam E30 Type Approval Certificate 3935/82 Contraflam 30 N2 Type Approval Certificate 0441/99 Pyrostop E30 Type Approval Certificate 3673/83 Interflam E, E30 Type Approval Certificate 0657/00 Wireglass SS 224406	<b>Mounting:</b> Drawing no. 4-2479-A Drawing no. 4-2491-A Drawing no. 4-2476-A Drawing no. 4-2478-B Drawing no. 4-2477-A Drawing no. 4-2495-A Se TAC for glass. Drawing no. 4-2599 Drawing no. 4-2598 MTK:s mounting instruction.
E	Glazing band	Fiberfrax or equivalent	
F	Edge sealant	Pyrosil B	
G	Bottom seal	Pyrosil B	Se mounting instructions
H	Top seal	Pyrosil B	Se mounting instructions
I	Distance block	Oak	
J	Insulation	Rockwool	Alt. Ceramic jointing band
K	Stop seal SP 40035	Chloroprene	
L	Spring/Screw	Steel	C/C 300 mm
M	Stop bolt	Angle steel	
N	Gypsum		
O	Stop bolt	Tube 45x20x2	
P	Rubber seal		
Q	Plate	Steel thickness 1,5 mm Steel $\phi$ 8	C/C 600 mm
R	Steel pivot		
S	Longitudinal profile	Steel 40 x 25 x 2	C/C 600 mm
T	Bolt type expander	Steel 8 x 50	C/C 600 mm
U	Gypsum	2x13 mm	
V	Intumex bead	Fire expanding 12x3	
X	Threshold SP 45065	Chloroprene	
Y	Flat steel 30x2		Fastener SP 40065
Z	SP 40052	Chloroprene	Finger-trap-proof-gasket
Å	Flat steel 20x2		Fastener SP 40052

DETAILED DRAWINGS:

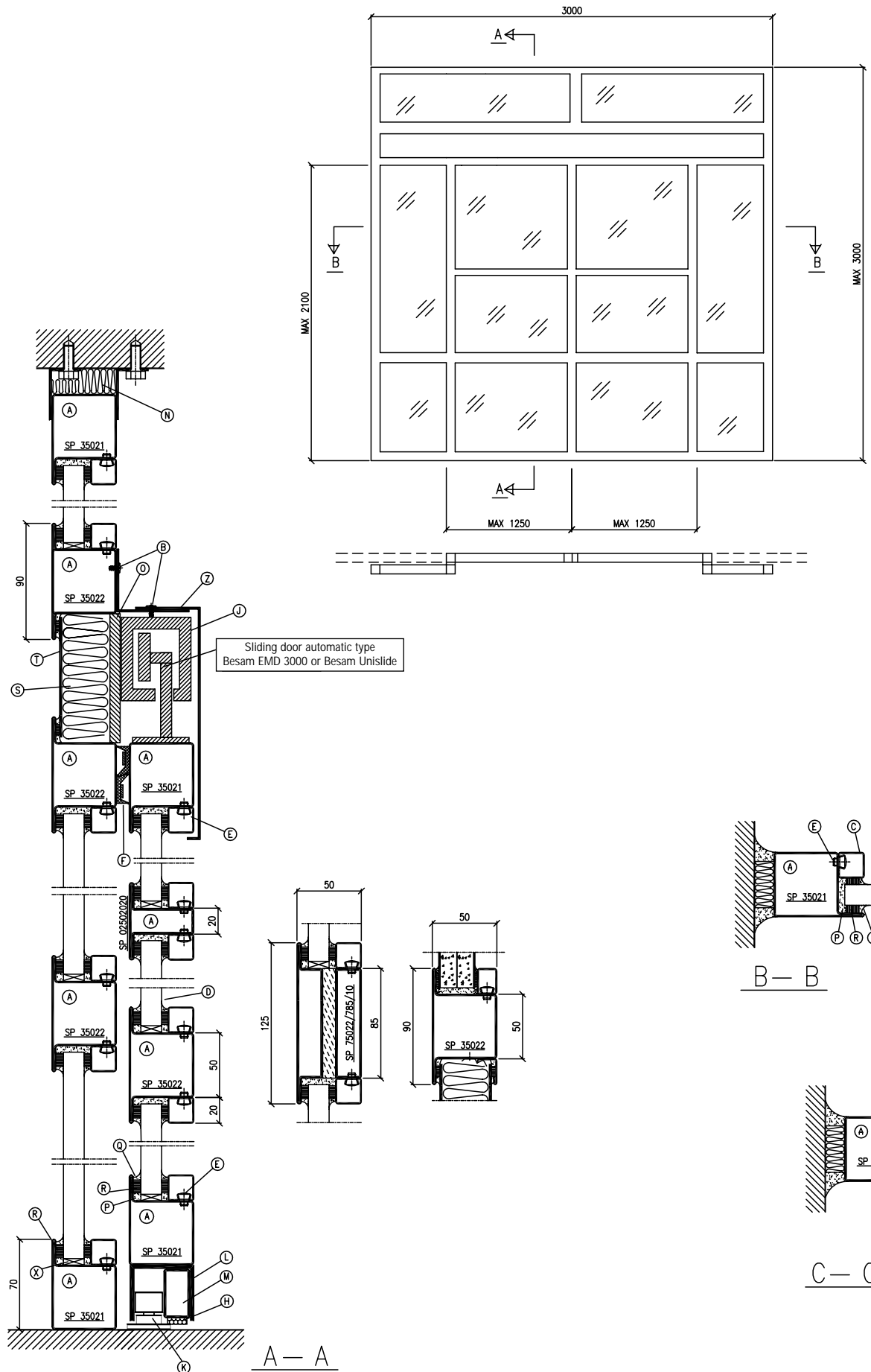
Frame profiles drawing no. 4-2313-A, 4-2318-D, 4-2319-D, 4-2366-C, 1172-C  
Glass beads and accessories drawing no. 4-2345, 2115-B  
Electric installation field drawing no. 4-2483  
Center glazed and side fastening drawing no. 4-2499, 4-2602 och 4-2603

**Fixings and mounting instructions and general directions see drawing no. 4-2355-D, 4-2490-A, 4-2508-A, 4-2600, 4-2601, 4-2602 OCH 4-2603**

Regarding SP76500 and SP79000 se Type Approval Cert 1947/89

REV B NEW GLASS AND MOUNTING INSTRUCTIONS 001229  
REV A NEW MEASURE AND MOUNTING INSTRUCTIONS 990215

Konstr.	Ritad R.O	Kop.	Kontr.	Stand.	Godk.	Skala	Ersätter	Ersatt av
Firma STÅLPROFIL AB			Titel SYSTEM SP 35000 DOOR, WALL AND WINDOW SECTIONS FIRE RATED IN E30			Regist.nr	Dat. 97-01-03	
						Ritn.-nr	3-4116-B E-30	





SYSTEM SP 35000 SLIDING DOORS  
SPECIFICATION OF MATERIAL FIRE RESISTANCE CLASS E 30

NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel Profiles SP_35000 Alt. Stainless design SP 95000	Wall-Thickness 1,5 mm Stainless steel Wall-Thickness 1,5 mm	
B	Fixing screw 6x20	Steel	For cover plate
C	Glass beads Serie 40000 Alt. Glass beads Serie 90000	Senzimir Z 275 Stainless steel Wall-Thickness 1,25 mm	
D	Panels: Pyroguard Clear E30 Fivestar E30 Pyran S E30 Pyrodur E30 Pyroswiss E30 Contraflam E30 Wireglass	Thickness, weight and max measurements Type Approval Certificate 0661/97 Type Approval Certificate 2066/96 Type Approval Certificate 0537/98 Type Approval Certificate 1474/87 Type Approval Certificate 5267/93 Type Approval Certificate 3935/82 SS 22 44 06	Mounting: Drawing no. 4-2476 Drawing no. 4-2477 Drawing no. 4-2478 Drawing no. 4-2479 Drawing no. 4-2491 Drawing no. 4-2495 MTK:s mounting instruction.
E	Bead studs	Steel	C/C Max 300
F	Rubber seal SP 20001	Chloroprene	
G	Rubber seal SP 20002	Chloroprene	
H	Intumex bead		Fire expanding
I	Intumex bead		Fire expanding
J	Door automatic	Type BESAM EMD 3000	
K	Besam floor steering		
L	U-Profile	Steel 50x40x2	
M	Tube	Steel 35x20x2	
N	Ceramic jointing band		Alt. Rockwool
O	Strengthenings plate	Steel 180x8	Firm Besamrail
P	Bottom seal	Pyrosil or equivalent	Not at Intumex bead
Q	Top seal	Pyrosil or equivalent	
R	Glazing band	Fiberfrax	Alt. Intumex bead
S	Insulation	Rockwool	125 kg/m <sup>3</sup>
T	Plate	Steel =1,5 mm	
U	Flat steel	Steel 10x2	Pop-Rivets C/C 200
V	Flat steel	Steel 20x2	Pop-Rivets C/C 200
X	Distance block	Oak or Promatek	
Y	Tracking section	Steel	
Z	Cover plate	Steel =2 mm	
Å	Flat steel 20x2		Fastener SP 40052

GENERAL INSTRUCTIONS: Frame profiles are jointed by welding.

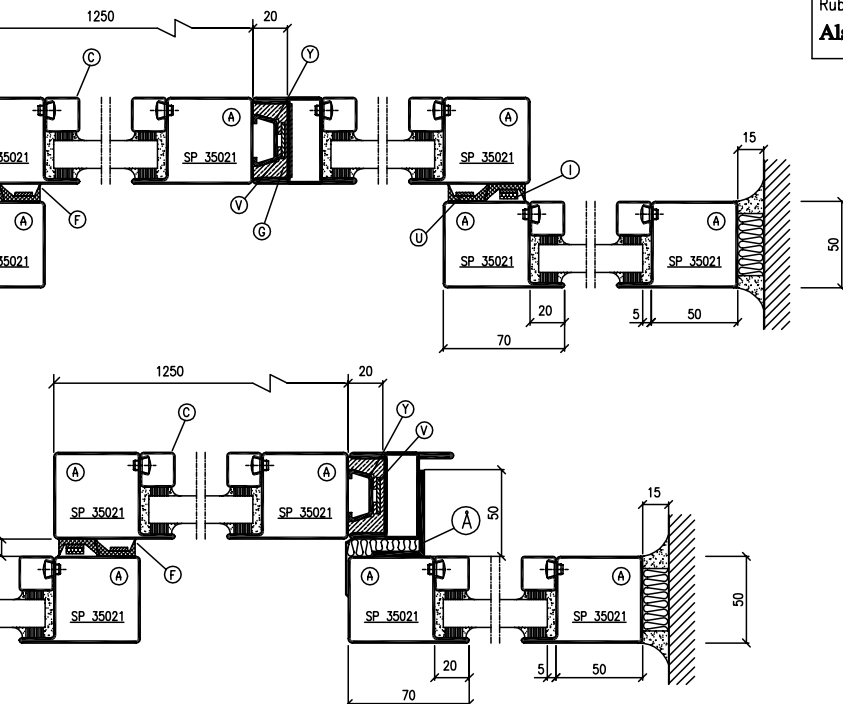
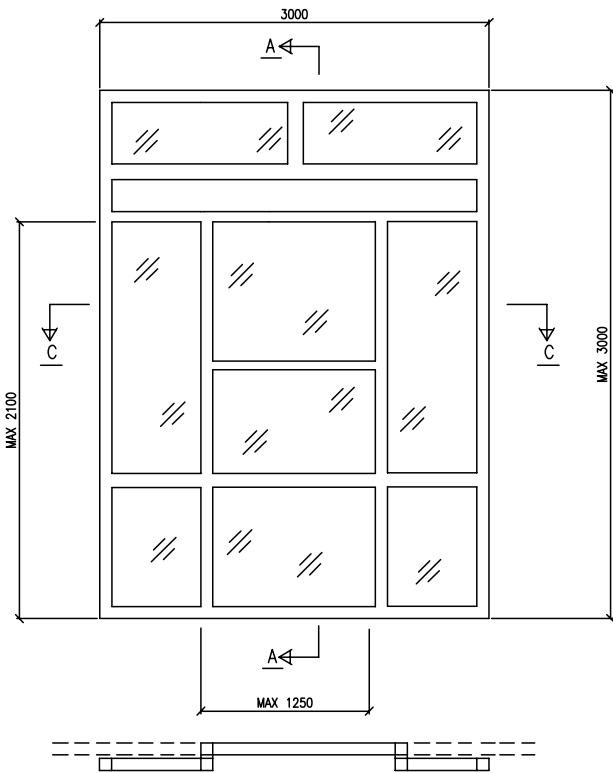
Frame profiles drawing no: 4-2338-A, 4-2519

Glazing beads and accessories drawing no: 4-2349

Fixing details and instructions drawing no: 4-2391

Rubber gaskets to be mounted in a way that perfect tightness is obtained.

**Also check the mounting instructions drawing no: 4-2352**

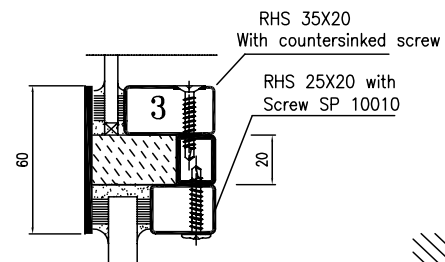
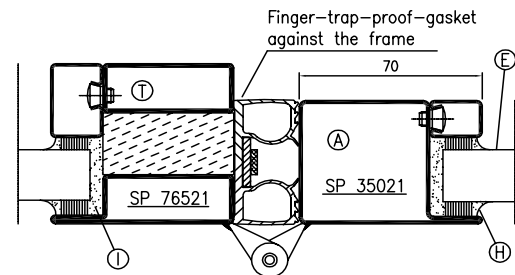
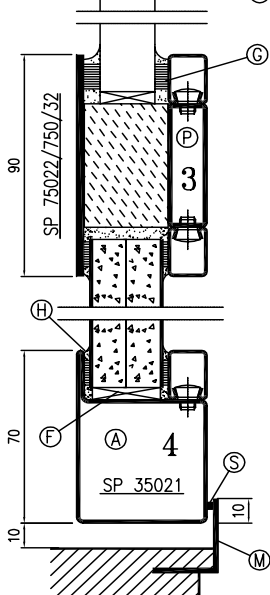
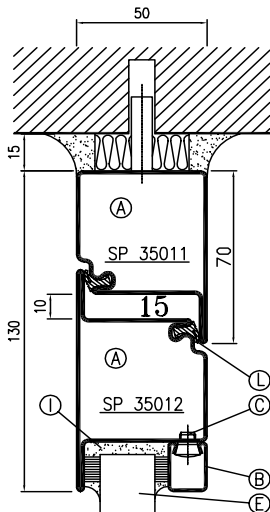
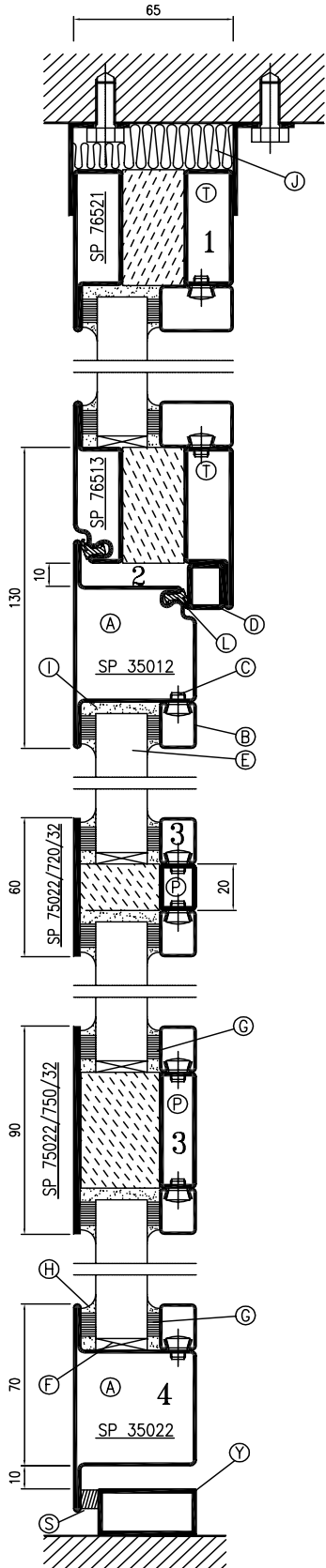
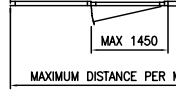
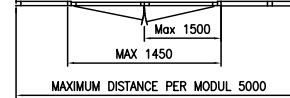
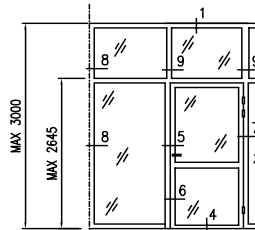
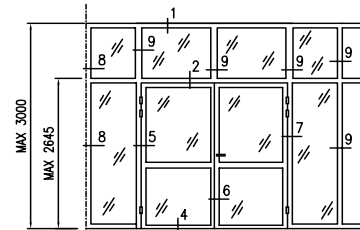
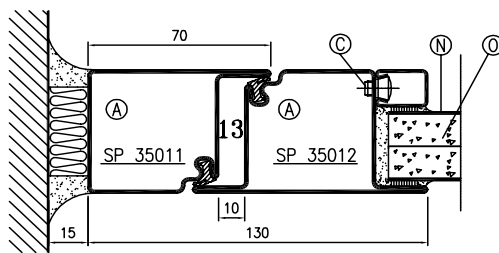
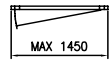
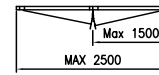
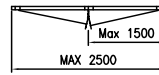
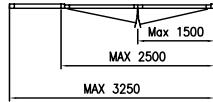
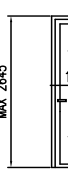
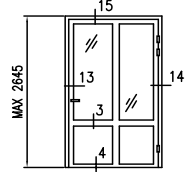
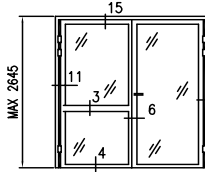
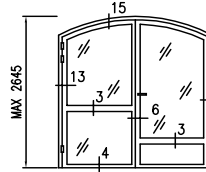
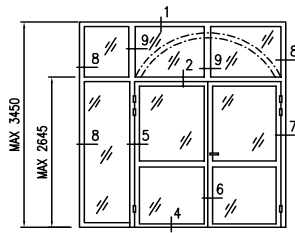
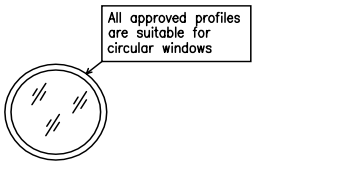


REV C	GLASS MOUNTING AND SINGEL DOOR	990225 RO
REV B	MID BAND	970822 RO
REV A	MODIFIED TEXT GLASS	970219 RO

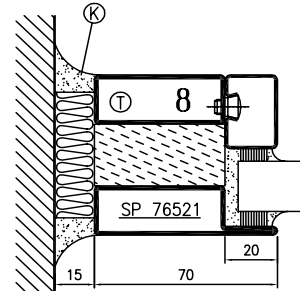
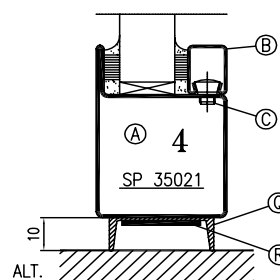
Konstr.	Ritad	Kop.	Konstr.	Stand.	Godk.	Skala	Ersätter	Ersatt av
	R.O					1:4, 1:40		
Firma			Titel			Regist.nr		Dot
STÅLPROFIL AB			SYSTEM SP 35000 SLIDING DOORS			3-4117-C		1997-02-19
			FIRE RATED IN E30					

The designs also apply for double doors

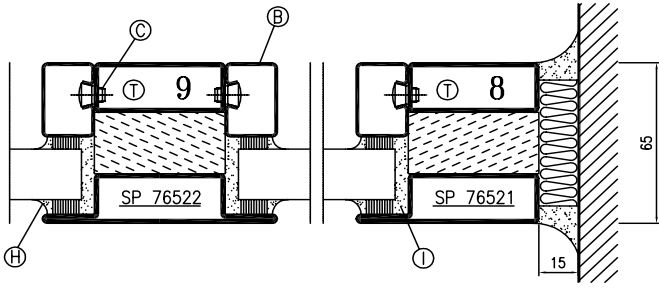
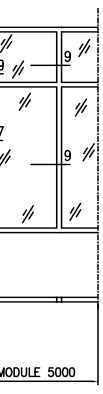
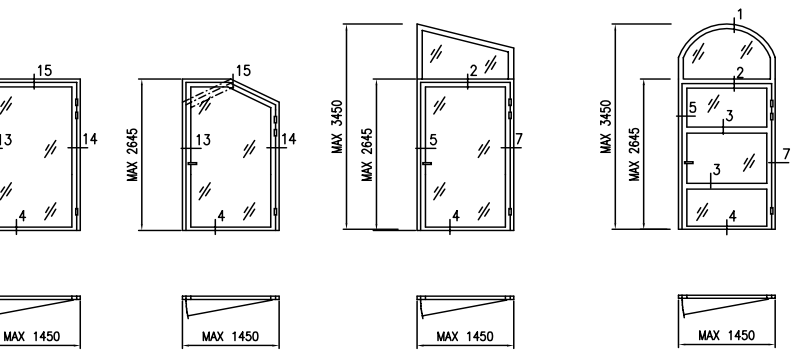
All approved profiles are suitable for circular windows



ALT. When profiles 75000/700/32 are used  
Glazing beads= RHS-RÖR  
Measure from 15X20 to 40X20  
with 5 mm interval



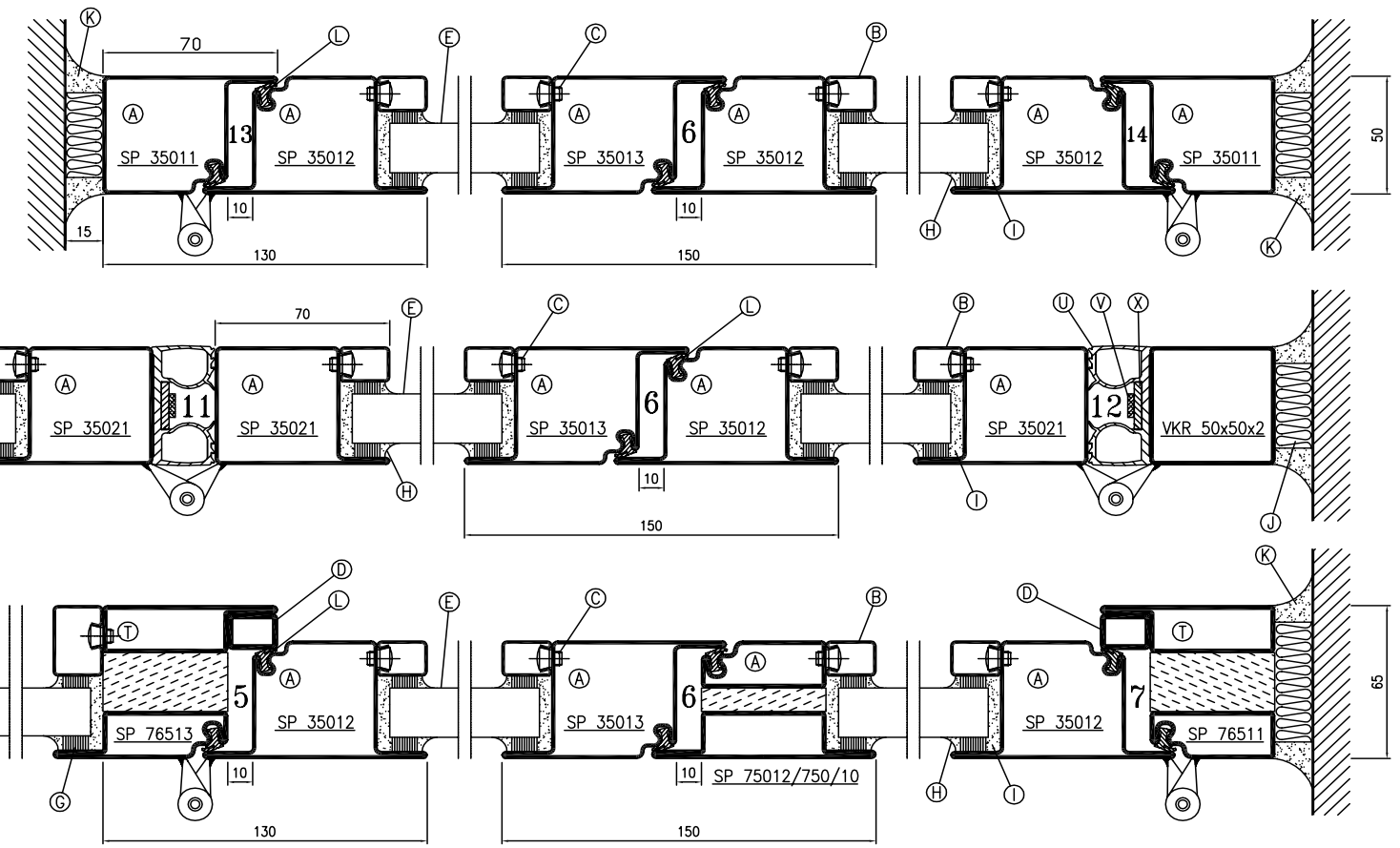
EXEMPLE LEANING PARTITION



SYSTEM SP 35000 DOOR SECTIONS SPECIFICATION OF MATERIAL FIRE RESISTANCECLASS EI30			
NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel profiles, SP 35000	Cold formed steel Wall-Thickness 1,5 mm	Bright steel surface suitable for laquering
	Alt. SP 75000	Cold formed steel Wall-Thickness 1,5 mm	Bright steel surface suitable for laquering
	Alt. Stainless design	Stainless steel	
	SP 95000	Wall-Thickness 1,5 mm	
	SP 970000	Wall-Thickness 1,75 mm	
B	Glazing beads	Sheet metal ST 0,2 Senzimirband Z 275 Wall-Thickness 1,25 mm	
	Alt. Glazing beads	Stainless steel Wall-Thickness 1,25 mm	
C	Bead studs	Steel L=15mm $\phi$ =4,8mm	C/C 300 mm
D	Tube	Steel 15x20x1,5	
E	<b>Panes:</b>	<b>Thickness, weight and max measurements</b>	<b>Mounting:</b>
	Pyrostop EI30	Type approval Certificate 3673/83	Drawing no. 4-2513
	Swissflam EI30	Type Approval Certificate 0711/94	Drawing no. 4-2492, 4-2493
	Contraflam EI30	Type Approval Certificate 3935/82	Drawing no. 4-2494, 4-2495
F	Distance block	Oak	
G	Glazing band	Fiberfrax or equivalent	
H	Top seal	Pyrosil B	Alt. Intumex bead Se glass mounting
I	Bottom seal	Pyrosil B	Se glass mounting
J	Insulation	Rockwool	Alt. Ceramic jointing band
K	Edge sealant	Pyrosil B	
L	Stop seal SP 40035	Chloroprene	
M	Stop bolt	Angle steel	
N	Plate	Steel thickness 1,5 mm	
O	Gypsum	2x13 mm	
P	Steel profiles, SP 75000	Cold formed steel	
Q	Threshold SP 45065	Chloroprene	
R	Flat steel 30x2	Steel 30x2 mm	Fastener SP 40065
S	Rubber seal		
T	Steel profiles, SP 76500	Cold formed steel Wall-Thickness 1,8 mm	Bright steel surface suitable for laquering
U	SP 40052	Chloroprene	Finger-trap-proof-gasket
V	Intumex bead	Fire expanding 12x3	
X	Flat steel 20x2		Fastener SP 40052
Y	Stop bolt	Tube 45 x 20 x 2	


**DETAILED DRAWINGS:**  
 Frame profiles drawing no. 4-2365-A, 4-2336-B, 4-2537, 4-2292-B, 4-2293-B, 4-1172-C  
 Glass beads and accessories drawing no. 4-2345-A, 4-2115-B  
 Electric installation field and center glazed drawing no. 4-2485, 4-2538 and 4-2503

**Fixings and mounting instructions and general directions see drawing no. 4-2540, 4-2357-B 4-2511, 4-2539 and 4-2541.**



Konstr.	Ritad R.O	Kop.	Kontr.	Stand.	Godk.	Skala 1:3 1:100	Ersätter	Ersatt av
Firma <b>STÅLPROFIL AB</b>			Titel SYSTEM SP 35000 EI30/A30 WITH ABOVE AND SIDE LIGHTS SP 76500 EI30			Regist.nr	Dat. 97-01-07	
REV G: ALTERED FIRE RESISTANCE CLASS 991216 REV F: NEW MEASUREMENTS AND GLASS MOUNTING 990226						Ritn.-nr	3-4110-G	





## REPORT

Stålprofil AB  
Box 37  
447 22 VÄRGÅRDA

Beställningsreferens / Beställningsnummer  
S-A Nilsson, Building Technology, acg  
Tel +46 (0)33 365215

Order Date  
1996-08-20

Building Reference  
96B1,0235A

Side Page  
1 (3)

**Test of Class 2 Doorset for burglary resistance**  
(1 appendix)

**1 Introduction**

On the instructions of Stålprofil AB, Värgråda, tests have been carried out on a door section with respect to burglary resistance.

**2 Test Method**

The test was carried out in accordance with class 2 in SS 81 73-05, edition 1 "Doors - Burglary resistance - Classification, Requirements and Testing".

**3 Object of Test**

The doorset entitled System SP 35000 was manufactured from steel profiles with reinforcement, and is described in Appendix 1. The doorset was delivered by the manufacturer on 11 March 1996, and was tested on 12 March 1996, with additional tests on 29 March 1996 and 3 April 1996.


The doorset was fitted in a steel frame with the attack side outwards during the manual attack.

**4 Procedure and Results**

**4.1 Static loads**

When loads were applied at the various points specified in SS-ISO 8269, the deformations recorded in table 1 were noted.

SP, Sveriges Provnings- och Forskningsinstitut, Box 807, SE-161 80 BOMÅS, Tel 0045-01 80 30, Telefax 0045-01 80 40, E-mail info@sp.se, Orgnr 209494-0074  
SP, Swedish National Testing and Research Institute, Box 807, SE-161 80 BOMÅS, Sweden, Tel +46 (0) 18 30 30, Telefax +46 (0) 18 30 40, E-mail info@sp.se, Regnr 209494-0074  
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## REPORT

Stålprofil AB  
Box 37  
447 22 VÄRGÅRDA

Beställningsreferens / Beställningsnummer  
S-A Nilsson, Building Technology, acg  
Tel +46 (0)33 365215

Order Date  
1996-08-20

Building Reference  
96B1,0235A

Side Page  
1 (3)

**Test of Class 3 Doorset for burglary resistance**  
(1 appendix)

**1 Introduction**

On the instructions of Stålprofil AB, Värgråda, tests have been carried out on a door section with respect to burglary resistance.

**2 Test Method**

The test was carried out in accordance with class 3 in SS 81 73-05, edition 1 "Doors - Burglary resistance - Classification, Requirements and Testing".

**3 Object of Test**

The doorset entitled System SP 35000 was manufactured from steel profiles with reinforcement, and is described in Appendix 1. The doorset was delivered by the manufacturer on 11 March 1996, and was tested on 12 March 1996, with additional tests on 29 March 1996 and 3 April 1996.


The doorset was fitted in a steel frame with the attack side outwards during the manual attack.

**4 Procedure and Results**

**4.1 Static loads**

When loads were applied at the various points specified in SS-ISO 8269, the deformations recorded in table 1 were noted.

SP, Sveriges Provnings- och Forskningsinstitut, Box 807, SE-161 80 BOMÅS, Tel 0045-01 80 30, Telefax 0045-01 80 40, E-mail info@sp.se, Orgnr 209494-0074  
SP, Swedish National Testing and Research Institute, Box 807, SE-161 80 BOMÅS, Sweden, Tel +46 (0) 18 30 30, Telefax +46 (0) 18 30 40, E-mail info@sp.se, Regnr 209494-0074  
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## REPORT

Stålprofil AB  
Box 37  
447 22 VÄRGÅRDA

Beställningsreferens / Beställningsnummer  
1996-08-20 96B1,0235B

Order Date  
1996-08-20

Building Reference  
96B1,0235B

Side Page  
2 (3)

**Table 1 Measured deformations under static load**

Point	Load (kN)	Measured deformation (mm)	Requirement (mm)
F1	6,0	1,8	3,0
F2N	2,0	29,5	30,0
F3D	2,0	22,2	30,0
F3	6,0	4,6	30,0
F4	6,0	15,5	30,0
F5	6,0	1,5	3,0

In the static parts of the test, the requirement for class 1 in accordance with SS 81 73-05 were met.

**4.2 Attack with hand tools**

For all the attacks, tools as specified in class 1 were provided.

The attacks were carried out against the lock fitted with reinforcement. The attack was discontinued after 180 seconds, and the lock had not been released or opened.

An attack was carried out against the striking plate and the total period of attack amounted to more than 180 seconds, when the attack was discontinued and the striking plate had not been forced.

An attack was carried out against the door panel in an attempt to make a standard hole. The total period of the attack amounted to more than 180 seconds, when the attack was discontinued and a standard hole had not been made in the door panel.


An attack was carried out against the hinge-side, which was supplied with three hinges and three rear-edge fastenings. The total period of the attack amounted to more than 180 seconds, when the attack was discontinued and the hinge side had not been forced.

**5 Summary**

On the instructions of Stålprofil AB, a steel doorset has been tested with regard to burglary resistance. The test was carried out in accordance with class 1 in SS 81 73-05, edition 1 "Doors - Burglary resistance - Classification, Requirements and Testing".

Static loads in accordance with SS-ISO 8269 were applied in accordance with class 1 with measured deformations which met the current requirements for this class.

SP, Sveriges Provnings- och Forskningsinstitut, Box 807, SE-161 80 BOMÅS, Tel 0045-01 80 30, Telefax 0045-01 80 40, E-mail info@sp.se, Orgnr 209494-0074  
SP, Swedish National Testing and Research Institute, Box 807, SE-161 80 BOMÅS, Sweden, Tel +46 (0) 18 30 30, Telefax +46 (0) 18 30 40, E-mail info@sp.se, Regnr 209494-0074  
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## REPORT

Stålprofil AB  
Box 37  
447 22 VÄRGÅRDA

Beställningsreferens / Beställningsnummer  
S-A Nilsson, Building Technology, acg  
Tel +46 (0)33 365215

Order Date  
1996-10-25

Building Reference  
96B1,0235C

Side Page  
1 (1)

**Testing of Glass for Doors for burglary resistance**

**1 Introduction**


On the instructions of Stålprofil AB, Värgråda, tests have been carried out on doors offering burglary resistance, see Reports 96B1,0235A, 96B1,0235B and 96B1,0235C. These reports refer to doors offering burglary resistance, class 1-3 under SS 81 73-05 edition 1 "Doors - Burglary resistance - Classification, Requirements and Testing".

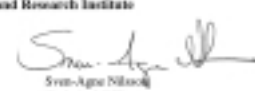
As part of these tests, a test was carried out in accordance with the above-mentioned standards on Report DSK 3 and Multiguard 18 on glass panels, where the glass section was attacked with hand tools in accordance with class 3.

**2 Result**

Report DSK 3 was attacked with hand tools in accordance with class 3, and an opening of 300 x 470 mm was made after 3 minutes and 45 seconds. The corresponding period for Multiguard 18 was 2 minutes and 43 seconds. In accordance with SS 81 73-05, the time for class 3 must exceed 30 minutes. The samples were not approved.

**The Swedish National Testing and Research Institute**  
**Building Structures**

  
Gunnar Söderlund  
Technical Manager

  
Sven-Agne Nilsson  
Technical Officer

This is a translation from the Swedish original document. In the event of any dispute as to the content of the document, the Swedish text shall take precedence.

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SP, Swedish National Testing and Research Institute, Box 807, SE-161 80 BOMÅS, Sweden, Tel +46 (0) 18 30 30, Telefax +46 (0) 18 30 40, E-mail info@sp.se, Regnr 209494-0074  
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## STÅLPROFILS BURGLARY RESISTANT PROFILE SYSTEM

SP 35000 is available in burglary resistant glazed door sections, classes 1, 2 and 3. The door sections are in compliance with the burglary resistant requirements in SS 81 73 45, 96B1.0235 A, B and C report, and the recommendations in 97B1.0581 from The Swedish Testing and Research Institute.

**TABELL 1: Testing time and class**

Class	1	2	3
Max time (sec)	180	600	600

### Test report

The Testing and Research Institute has on behalf of Stålprofil AB, Vårgårda tested the burglary resistant quality of steel door sections. The tests were carried out in accordance to the specifications for classes 1, 2 and 3 in SS 81 73 45 first edition. "Doors – Burglary Resistance Classification, Tests and Requirements". The door sections in question were manufactured with reinforced SP 35000 profile systems. See separate drawing.

- Static load tests were performed according to SS-ISO 8296 and all resulting deformations were less or considerably less than the basic requirements of the classes.
- The appropriate tools, as laid out in each class were present and used on the door sections to force entry
- Assaults were made on the reinforced locks for the maximum time allowed in each class, see table 1. At the end of the testing the locks were still locked and intact.
- Assaults were made on the face plate for the maximum time allowable in the test for each individual class. At the end of testing the face plate was still intact.
- The door panelling was subjected to testing with the aim of creating a hole in the door panel. The test ended after the maximum time allowed for each class without achieving a hole in the panel.
- Each door had 3 hinges and 3 rear edge fasteners. As with the previous tests the maximum time allowed for each class was utilized without causing the hinges to break.

### Summary

Static testing was carried out in compliance with classes 1, 2 and 3. The resulting deformations after testing were all within the allowable for each class.

Manual assaults with tools were carried out on locks, hinges and face plate. The testing was further enhanced by a separate test to try and create a hole in the door panelling. Each individual manual assault was carried out for more than 180 seconds for class 1, and for over 600 seconds in classes 2 and 3.



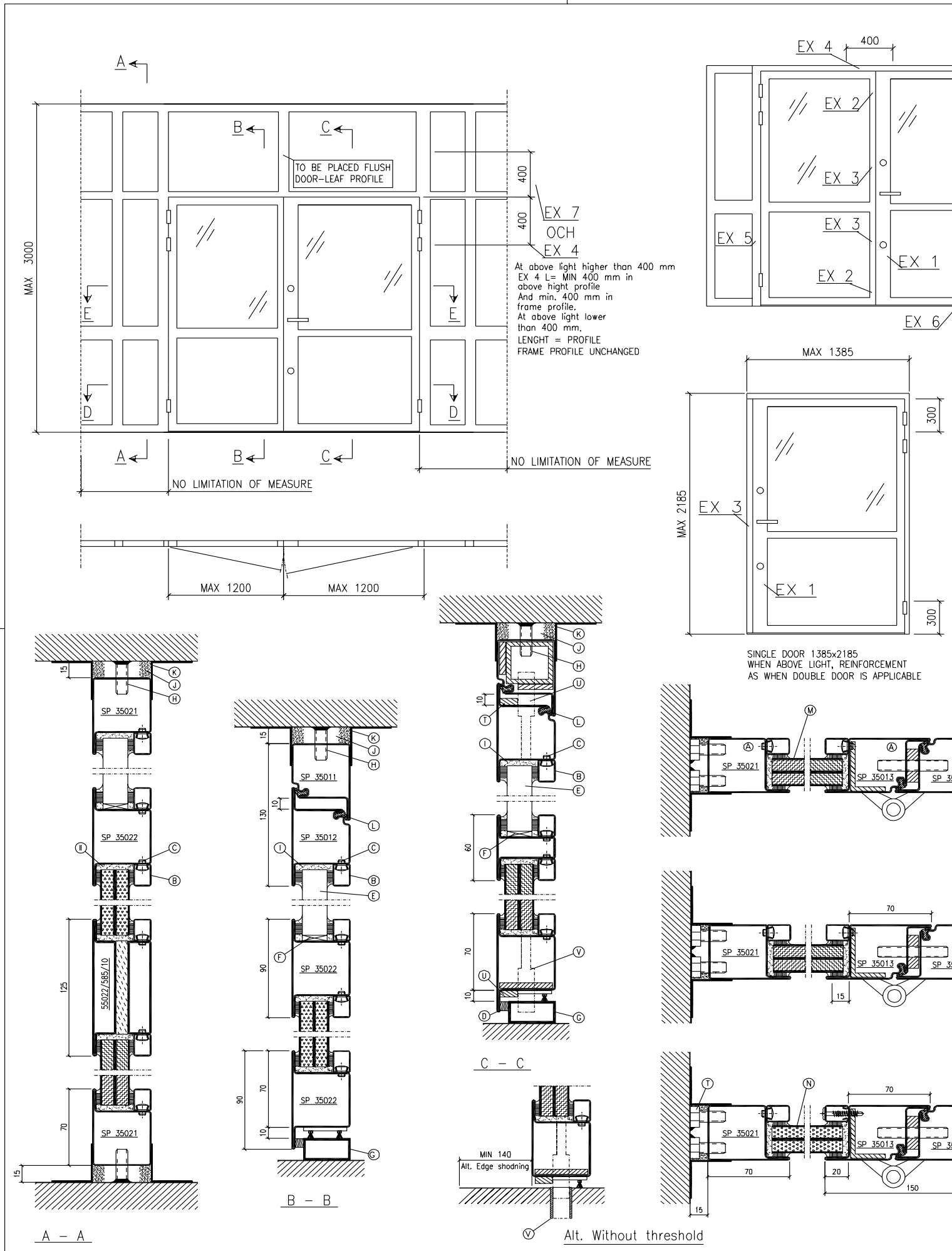
### BURGLARY RESISTANT DOORS – SAFETY CLASSIFIED DOORS

Burglary resistant doors are tested according to SS 81 73 45. The object is to test the parts of the door that can influence the capacity of the door to resist forced entry. Each part is tested according to the recommended time allowed e.g the hinges and glass in a class 3 door are tested for 10 minutes. Doors that withstand forced entry for the time period allowed in the test are considered to comply with the requirements in the standard.

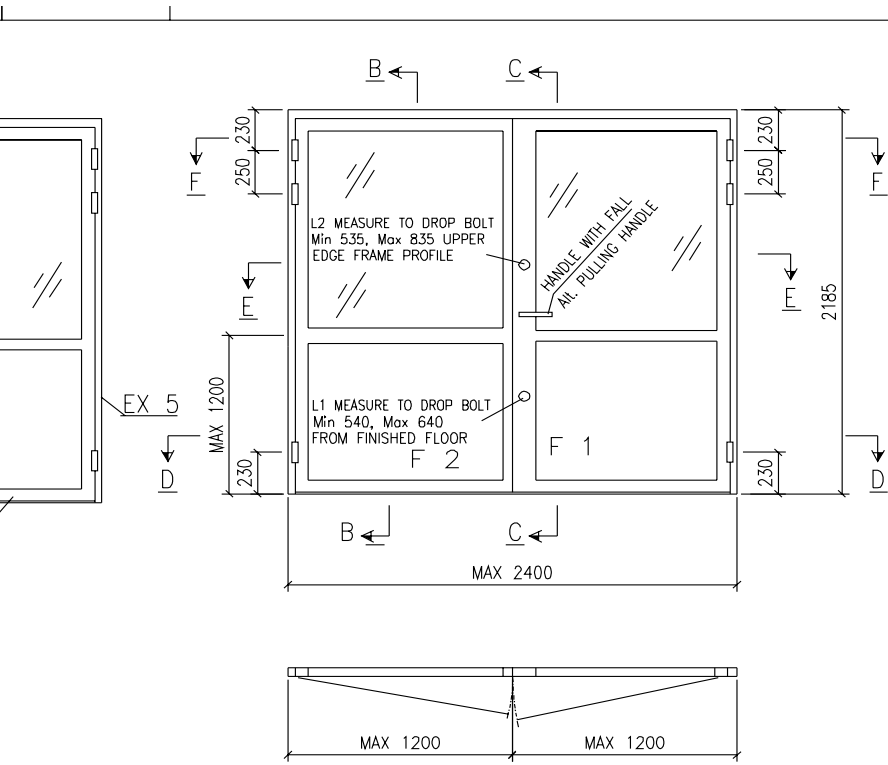
The guidelines from The Swedish Anti-Burglary Union, who actually are responsible for the RUS regulations, stipulate that doors meeting the requirements in SS 81 73 45 should be your first choice. The inevitable conclusion is that from the start of your project a tested door would be preferable, and that inside windows meet the requirements for burglary resistant doors.

In those cases where the standard cannot be adhered to or followed it is the responsibility of the insurance company to advise as to how burglary resistance quality should be attained.









SYSTEM SP 35000 BURGLARY PROTECTED DOOR CLASS 3			
MATERIALS SPECIFICATION CLASS 3 ACC. TO SS 817345			
NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel profiles, SP 35000	Cold formed steel Wall thickness 1,5 mm	Untreated steel surface suitable for lacquering
B	Glazing beads	Sheet, ST 02, SENDZI-Mirband Z275 Wall thickness 1,25 mm	Secure with trough-going screws c/c max 300 mm
C	Bead studs	Steel	C/C max 300 mm
D	Rubber seal threshold		
E	Glass panes: Multigord 24		Thickness: 25 mm
F	Distance block		
G	Threshold Alt without threshold	Stainless or steel 40x20 mm	To be screwed c/c max 400 mm at double action door 50-100 mm both sides of bar bolts Welding onto mullion
H	Fastening bolt M10	Steel	
I	Edge sealant	Buthyl or equal	Leaf around to be complete filled
J	Edge sealant	Buthyl or equal	
K	Cover plate or seal		
L	Gasket	Tanit	
M	Filling F 1	Shingle board/Sheet	Se detail
N	Filling F 2	Gypsum board / sheet	Se detail
O	Mounting screw	Steel	To sec. glaz. bead c/c max 300 mm
P	Lock 2 items	Approved class 3	Measure see drawing
Q	Safety locking plate 2 it.		
R	Welding hinges		3 items/doorleaf
S	Double fastening bolts	Steel	Weld. onto mullions c/c max 600 mm
T	Flat steel 15x6x50 mm	Steel	Welded on by bar bolts
U	Bar bolt ASSA 96 Alt. 2 items DEJO 55045	Stål	Förstärkt se detalj Mounted single action
V	Insert for gear floor Length min 60 mm	Steel	When mounting without threshold

**GENERAL INSTRUCTION:**  
Frame profiles are jointed by welding. Sections are jointed with a flat steel or square tube that are welded or screwed. When the screw heads are visible it must be destroyed. Division of glazed and filled sections and number of mullions can be optionally varied. Could also be execute as a single door, with the same reinforcement directions as a double door. The maximum measurements must not be exceeded.

FILLING F 1



Sheet angle 10x20x1,25 to be welded onto sheet and profile. Alt. sheet is welded onto profile.

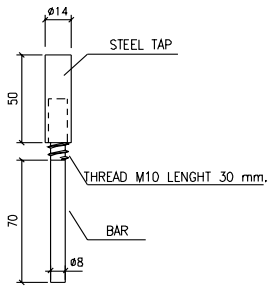
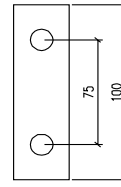
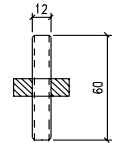
Filling consisting of: 1,25 mm steel sheet, 10 mm shingle board, 2,5 mm steel sheet, 10 mm shingle board, 1,25 mm steel sheet. Leaf around the filling to be filled with Buthyl mass. Sheets and boards are glued together.

FILLING F 2



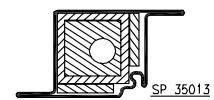
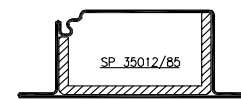
Sheet angle 10x20x1,25 to be welded onto sheet and profile. Alt. sheet is welded onto profile.

Filling consisting of: 1,25 mm steel sheet, 10 mm gypsum board, 2,5 mm steel sheet, 10 mm gypsum board, 1,25 mm steel sheet. Leaf around the filling to be filled with Buthyl mass. Sheets and boards are glued together.



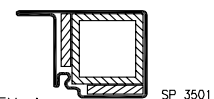
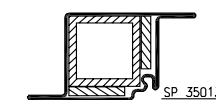
**DROP BOLT ASSA 96**  
Angle cutted off, bar turned down according sketch. Completed with hardened steel top Ø14

Back edge safety 3pts./dl 2 st hardened 12 mm steel taps length 60 mm, c/c 75 mm. Flat steel to be welded on to profile. To be safed with a insexscrew M 5.

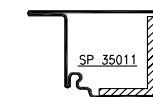


**EX 2**  
VKR 40X40X4 with welded flat steel 30x5 L=300 mm. Steel plate 30x30x20 for drop bolt to be welded onto tube.

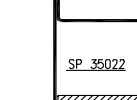
**EX 1**  
Bended U-PROFILE length= profile, t= 5 mm



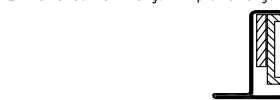
**EX 3**  
VKR 40X40X4 with welded flat steel 30x5 To protect locks 2 pcs. length 400 mm.



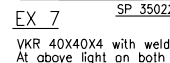
**EX 4**  
VKR 40X40X4 with welded flat steel 30x5 Frame profile above drop bolt length 400 mm, and in side frame profile at above light, both sides.



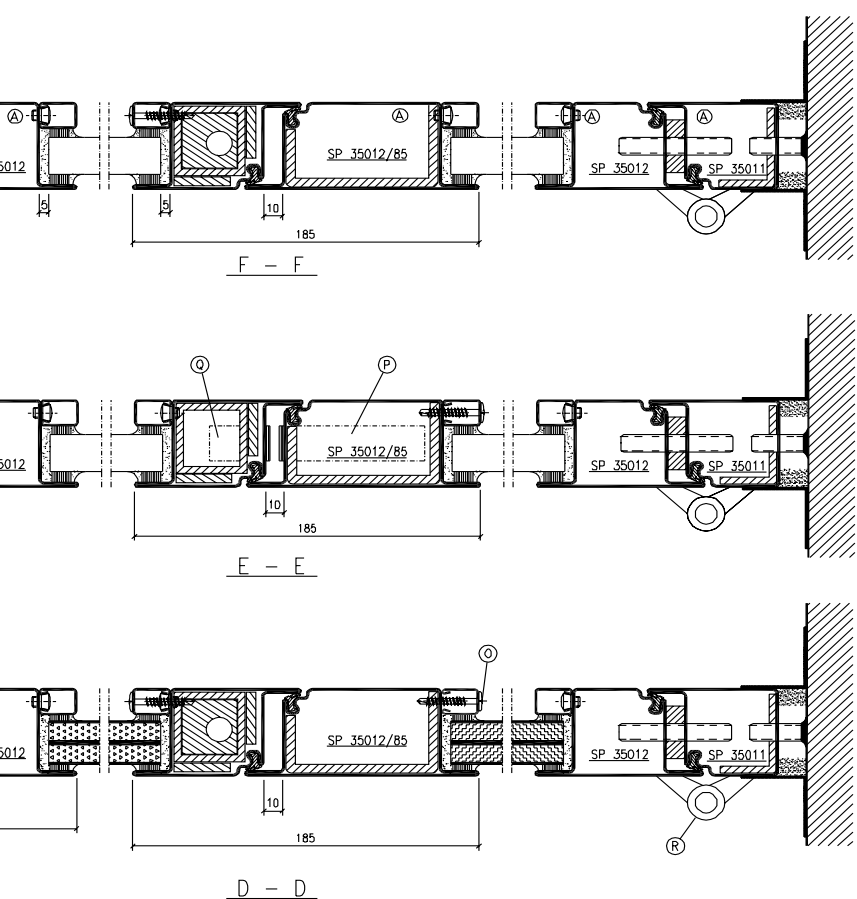
**EX 5**  
L-Profile 30x45x4 length = profile length



**EX 6**  
Flat steel 45x5 Alt. VKR 45x45x2 Length = Profile length



**EX 7**  
VKR 40X40X4 with welded flat steel 30x5 At above light on both sides.



Konstr.	Ritad	Kop.	Kontr.	Stand.	Godk.	Skala	Erstbter	Erstst av
Firma	R.O.					1:4-1:40		
STÅLPROFIL AB		Titel		SYSTEM SP 35000		Regist.nr		Dot.
		BURGLARY PROTECTED DOOR CLASS 3				3-4101-SK3-C		960625

### BULLET RESISTANCE TESTING

Test protocol REV 1993-04-21 Building Construction Techniques, Swedish Testing and Research Centre, Borås

#### 1. Introduction

On behalf of Stålprofil, bullet resistance testing was performed in March and April 1993 on steel profiles. SP report number 92B1.4092. The testing was carried out in Uddevalla.

#### 2. Scope and Performance

The different steel profiles are called 350xx, 565xx, 765xx and 900xx (stainless steel). Reinforcements for each profile type are presented in table 1. Profile descriptions can be found in the appendix to SP report number 92B1.4092.

**Table 1: Profile type with reinforcement of metal plate (mm)**

Profil nr	Class C1	Class C2	Class C3	Class C4	Class C5
350xx	4	5	8	12	12
565xx	-	-	-	8	8
765xx	-	-	-	8	8
900xx <sup>1)</sup>	-	3	3	6+4	6+4

<sup>1)</sup> Reinforced with stainless steel metal plate

The tests were performed according to the appropriate sections of Swedish Standard SS 22 44 29 "Construction Glass – Safety Windows – Classification". These particular standards address glass, but were used as the starting point for the tests. The profiles were fixed in a steel frame and shots were fired from 3, 10 and 25 metres. Each profile was subjected to at least 3 shots with approximately 25 mm spacing. The measurements taken at the testing site are not exact measurements, but the difference is marginal in relation to the distribution between the tested objects. The weapons and ammunition used is presented in table 2.

**Table 2: Weapon and ammunition type**

Class	Weapon	Ammunition
C1	Army machine gun	9 mm standard
C2	357 Magnum Marlin model 1894 CS	Hornady XTP 158 grain Norma RI 23 150 grain
C3	44 Magnum Ruger Super Red Hawk 9"	Norma fabrics Nr 11103 240 grain 15 gram
C4	.308 Winchester Remington	7.62 x 51 mm 9.7 gram
C5	.308 Winchester Remington	7.62 x 51 mm 9.7 gram

#### 3. Result

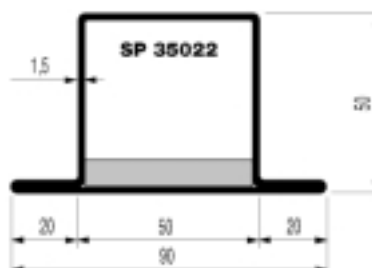
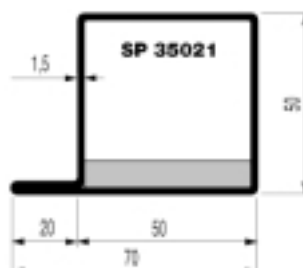
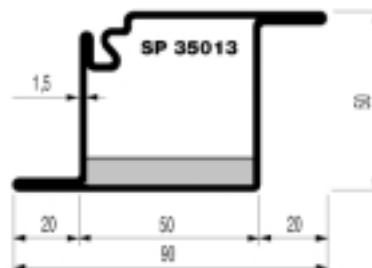
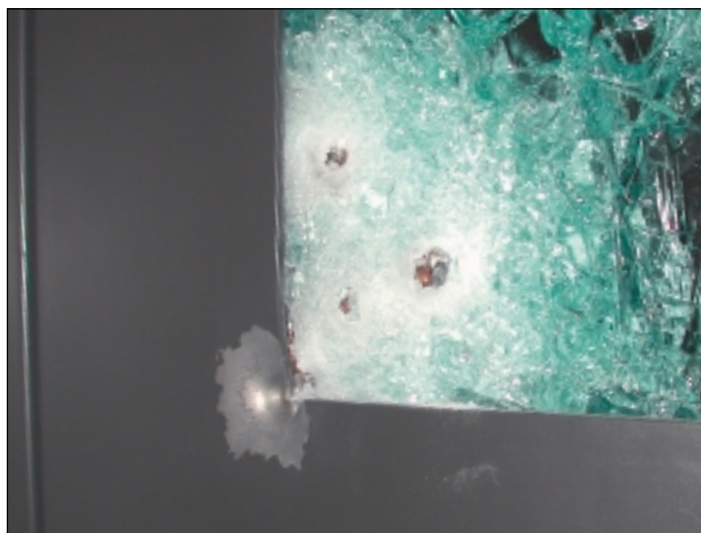
None of the profiles in the test showed any damage on the interior side. The projectiles had in other words remained inside of the profiles. On the basis of the result the reinforced profiles are judged to be in compliance with the requirements for classes C1-SF to C5-SF according to SS 22 44 25. SF refers to the fact that the profiles were splinterproof on the inside.

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Swedish Testing and Research Institut

Kent Gylltoft  
Prof. Dr.  
Head of Divison

Sven-Agne Nilsson  
Engineer



**LABORATORY STIPULATED NOISE REDUCTION INSULATION IN STEEL PROFILE SYSTEMS IN ACCORDANCE WITH SS-EN ISO 140/3:95**

**Tested object**

Assembled profile systems in various formats measuring 0.9m across and 2.1m long.

Test date 2001-04-03

**Result**

Noise reduction value (R), Average noise reduction value ( $R_{medel}$ ) and weighted noise reduction value ( $R_w$ ) are shown in appendix 1-6.


**Measure method**

The measurements were taken according to Swedish and International standards SS-EN ISO 140/3:95. The noise reduction value was determined by  $R=L_1-L_2+10lg(S/A)$ .

**Equipment**

Instrument	Manufacturer	TypE	Serial/SP nr.	Room
Microphone	Bruel & Kjaer	4166	1011605	Sending
Microphone	Bruel & Kjaer	4166	1011668	Receiving
Amplifier	Bruel & Kjaer	2619	970886	Sending
Amplifier	Bruel & Kjaer	2619	726782	Receiving
Voltmeter	Bruel & Kjaer	2804	815268	Sending
Voltmeter	Bruel & Kjaer	2807	1145249	Receiving
Microphone Bar	Bruel & Kjaer	3923	1419759	Sending
Microphone Bar	Bruel & Kjaer	3923	1419759	Sending
Analysor	Norsonic	830	500338	
Calibrator	Bruel & Kjaer	4230	1410946	
Speakers	SP	Globe		
Amplifier	Labgruppen	LAB 2000		





Robot/Department  
**Acoustics**  
Handledigare/Handled by  
**Joachim Stadig**

**REPORT**  
Datum/Date  
**June 18, 2001**  
Erv. datum/Ersv. date

Enclosure 1  
Beteckning/Reference  
**P102460E**  
Er referens/för. referens  
**Roland Olsson**

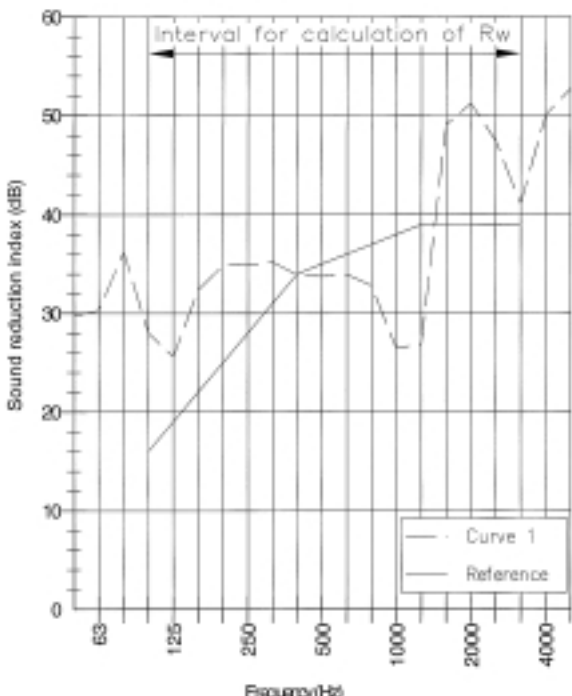
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**Determination of sound insulation in a laboratory according to SS EN ISO 140-3:95**

Client: Stålprofil AB  
Test object: SP 55000/SP 955000

Date of test: 2001-04-03

Result: Area of the test opening and module: 1,94 m<sup>2</sup>, M9\*M21  
Curve 1 - Test object  
Curve 2 - Reference Curve

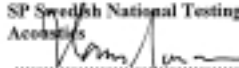


Frequency (Hz)	Curve 1 (dB)
50	29,7
63	30,3
80	30,3
100	28
125	23,6
160	32,4
200	34,9
250	34,9
315	32,2
400	33,9
500	33,7
630	34
800	32,8
1000	26,4
1250	26,9
1600	49
2000	51,2
2500	47,4
3150	41,1
4000	50,1
5000	52,7


R <sub>w</sub>	39
(C; C <sub>tr</sub> )	(-3;-4)
50-3150	(-3;-4)
50-5000	(-2;-4)
Mean	39,3
Sam. Dev.	51,3
Min. Dev.	12,1
Frequency	1289

SP Sveriges Provnings- och Forskningsinstitut / SP Swedish National Testing and Research Institute

Acoustics



Hans Jonasson  
Technical Manager



Joachim Stadig  
Technical Officer

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SP Sveriges Provnings- och Forskningsinstitut / SP Swedish National Testing and Research Institute  
SP Staatliche Materialprüfungs- und Forschungsanstalt - SP Institut national d'essais des matériaux et de recherche

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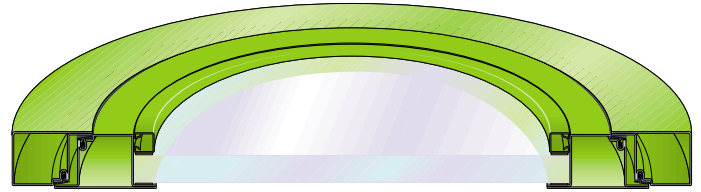
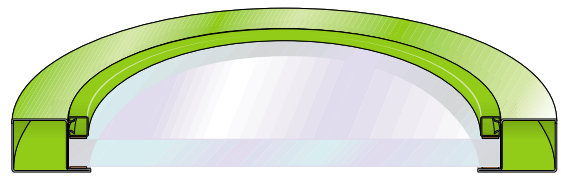




## MODULE LOCKS

Stålprofil's wide assortment of profiles functionally adapted for module locks offers the following advantages:

- Ranged by Swedish Standard
- 34 different locking functions for ASSA:s assortment, including narrow profiles
- Easier facilitate handicap adaptation
- Extensive assortment of accessories, e.g surface treatment and door handles



## ARCHES AND ROUNDED WINDOWS

Stålprofilssystem SP 35000, SP 55000 and SP 75000 are available with arches, rounded windows and arched doors. The round profiles have the same characteristics as other system parts. Finger trap proof rear edging can be applied to arched doors and windows. All of the arches, arched doors and rounded windows are tested and type approved by SITAC.

Minimal size for exterior diameter

- Profile width 50 mm = 500 mm
- Profile width 70 mm = 700 mm
- Profile width 90 mm = 1100 mm







