STÅLPROFILSYSTEM SP 90000

STAINLESS STEEL!

Stainless steel profile system *without insulation, insulated with a breached thermal bridge or fire insulated profiles for glazed facades, doors, sliding doors, partition walls and window sections*

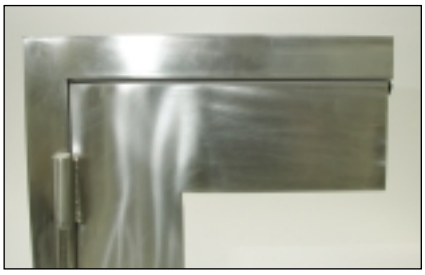
COMPLETE PARTITIONS WITH GLASS, INCLUDING ASSEMBLY!

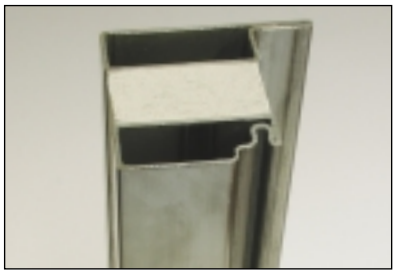
CONTENTS

Calc U-value
Module locks
Finger trap proof gasket
Burglary resistant classes 1–3
Airborne sound reduction
Rounded windows and arches
Bullet proof classes C1–C5 SF
Fire resistant classes up to EI 60







SYSTEM SUMMARY STÅLPROFILSYSTEM

Item Stainless	SP 6000 SP 96000	SP 60000	SP 35000 SP 95000	SP 55000 SP 955000	SP 75000 SP 975000	SP 56500 SP 956500	SP 58000 SP 958000	SP 76500 SP 976500	SP 79000 SP 979000	SP 711000
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.

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* The site contains the profiles and drawings in downloadable file formats. The catalogues are also available for downloads as PDF files. 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, the drawings are compatible with AutoCAD DesignCenter. There is a CD available containing the catalogues, drawings and profile systems. You can request the catalogue and the accompanying CD by e-mailing us at *cd@stalprofil.se* or fax to *+46 522- 12046*.

INDEX

FIRE PROTECTION

STÅLPROFILSYSTEM SP 90000 is approved for fire resistant glazed wall, window, door and sliding door sections, with various combinations of side- and over panels and midrails by SITAC, Swedish Institute for Technical Approval in Construction. Please refer to the respective systems to determine the valid fire resistant class. For more information regarding the fire resistant classes for the systems please refer to the STÅLPROFILSYSTEM SP 35000 and STÅLPROFILSYSTEM SP 76500 catalogues.

Glazed door, window and wall sections fire resistant classes E 30/E 60
Type approval certificate 4294/88

Glazed sliding doors with side and over panels fire resistant class E 30
Type approval certificate 1653/96

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

Glazed door sections with midrails fire resistant classes EI 30/A 30
Type approval certificate 4295/88

Glazed sliding doors with side and over panels fire resistant class EI 30
Type approval certificate 0297/97 (in combination with SP 976500)

Glazed door, window and wall sections fire resistant class EI 30
Type approval certificate 1946/89

Glazed door sections in fire resistant classes EI 60/A 60
Type approval certificate 1947/89

Glazed door, window and wall sections fire resistant class EI 60
Type approval certificate 1945/89

It is important when glazing fire resistant glass that the guidelines in the accompanying type approval certificate regarding correct assembly are followed. Manufacturing control and inspection of fire resistant material is carried out according to the recommendations from SITAC. The Swedish Testing and Research Institute carry out regular inspections of our manufacturers. Details of approved manufacturers can be provided by Stålprofil.

Unexposed side prior to testing

Exposed side after completed 60 minute test

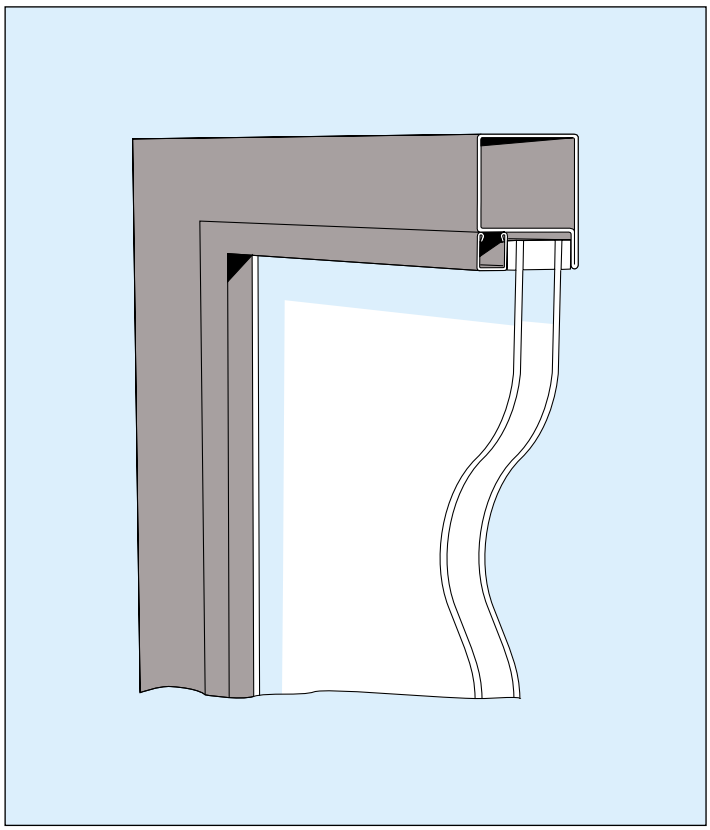
Testing time 2 minutes, oven temperature approx. 300°C

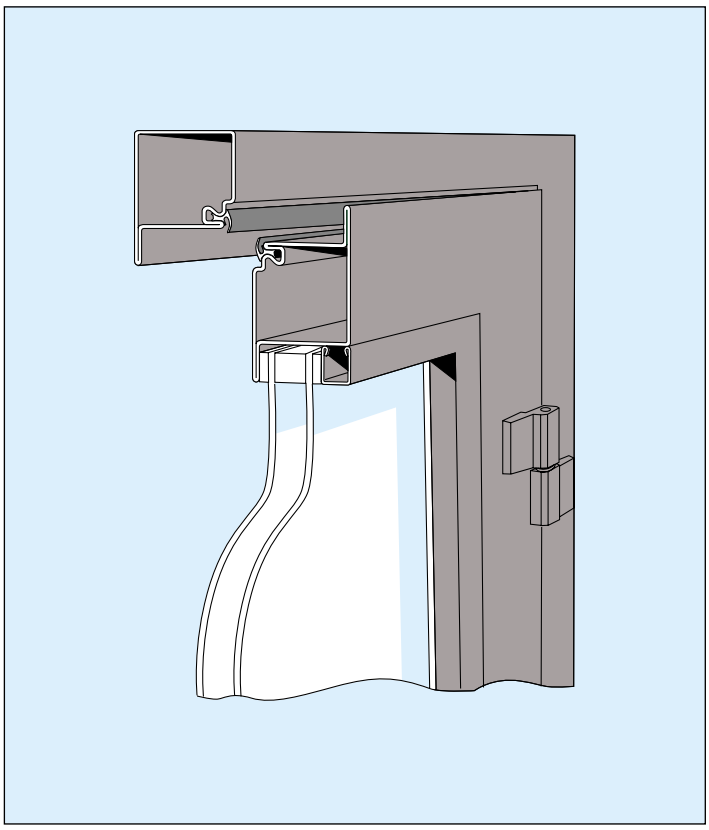
CHOOSE SAFETY!

OUR FIRE RESISTANT SYSTEMS HAVE TYPE APPROVAL CERTIFICATES FOR FIRE RESISTANT CLASSES E 30 UP TO EI 90

ACCEPT NO DISPENSATIONS FROM FIRE SAFETY REGULATIONS!

Testing time almost 60 minutes - final control of the spread of fumes





STÅLPROFILSYSTEM SP 95000 – SP 955000 – SP 975000

Glazed door, window and wall sections in fire resistant classes E 30/E 60 Type approval certificate 4294/88
Glazed door sections without midrail in fire resistant class EI 60 Type approval certificate 1132/93
Glazed door sections with midrail in fire resistant class EI 30 Type approval certificate 4295/88

STÅLPROFILSYSTEM 95000 is a non-insulated steel profile system, SP 955000 has a breached thermal bridge and SP 975000 is a fire insulated profile system. The systems are in stainless steel, quality 316L acid resistant. The profile systems are designed for door, wall and window sections in offices, business premises, schools, banks, shopping centres, airports, hotels, hospitals and service homes etc.

The systems are modern and offer maximum flexibility, safety and stability. The systems offer a variety of choices for interior design and are type approved with wide profiles for module locks, finger trap proof gasket, rounded windows and arches. The systems are tested and approved with extensive height and width measurements.

The systems innovative design with tracks for rubber sealing create 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. The profiles and glazing beads are in solid stainless steel, acid resistant quality 316L. The design of the stainless steel profiles give the pleasant classical look of stainless steel and the surface reflects the surrounding colour in a peaceful and relaxing way. The stainless steel is delivered untreated or brushed.

The solid profiles require no external covering, eliminating the risk of corrosion between the profile and covering. It also implies that there is no risk of any external covering becoming damage or deformed.The attractive purchase price and low total cost of ownership are factors that contribute to steel being the material of choice.

Bulletproofing, Burglary resistance and Noise reduction

The systems are available in bulletproof quality C1 - C5 SF complying with the tests performed by SP, The Swedish Testing and Research Institute. Steel profile system SP 95000 is available in burglary resistant quality classes 1, 2 and 3. Profile systems SP 955000 and SP 975000 are also noise reduction tested.

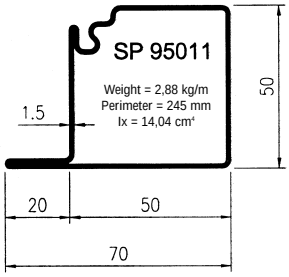
Fire resistance - Type approved systems

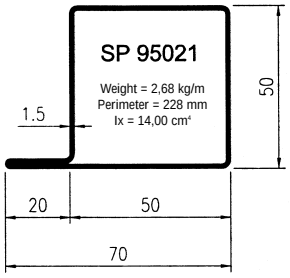
Systems SP 95000 and SP 975000 are type approved by SITAC in several fire resistant classes. The door and wall sections comprise the fire compartment in corridors, hallways and stairwells, that are used as emergency exit ways during a fire. SP 95000 and SP 975000 allow you to create light and pleasant interior environments without compromising fire safety.

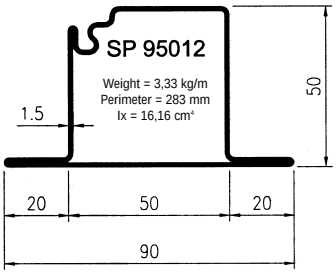
A high quality cost effective solution

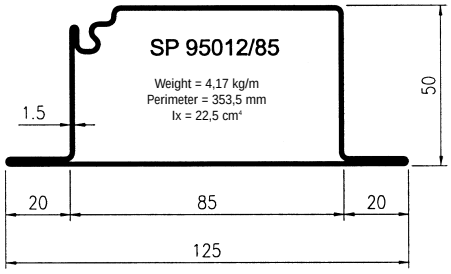
The standard glazing beads for each system are the same stainless steel quality as the profiles themselves. To maximise effectivity, simplify manufacture and reduce costs, the glazing beads are compatible in every system. The specialized design of the profiles means simplified assembly and reduced time consumption compared to conventional systems. This implies higher and more consistant quality and reduced manufacturing costs.

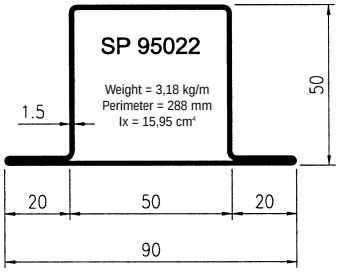
To further minimise manufacturing costs and wastage each profile is delivered from our warehouse in 6.6 metre lengths and glazing beads in 6.0 metre lengths. Manufacture and assembly is carried out by certified professionals, who undergo frequent controls and inspections by The Swedish Testing and Research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

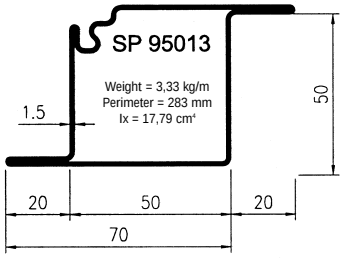

SP 95011
Weight = 2,88 kg/m
Perimeter = 245 mm
Ix = 14,04 cm⁴
1.5
50
20
50
70

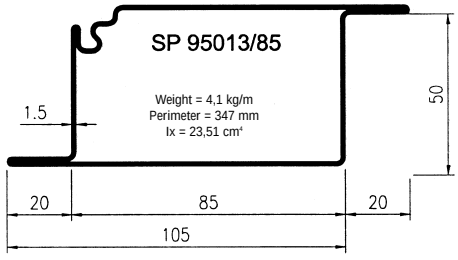

SP 95021
Weight = 2,68 kg/m
Perimeter = 228 mm
Ix = 14,00 cm⁴
1.5
50
20
50
70

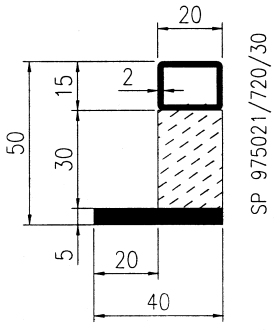

SP 95012
Weight = 3,33 kg/m
Perimeter = 283 mm
Ix = 16,16 cm⁴
1.5
50
20
50
20
90

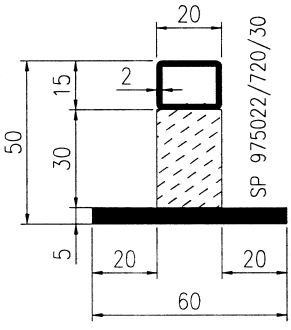

SP 95012/85
Weight = 4,17 kg/m
Perimeter = 353,5 mm
Ix = 22,5 cm⁴
1.5
50
20
85
20
125

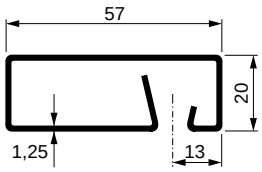

SP 95022
Weight = 3,18 kg/m
Perimeter = 288 mm
Ix = 15,95 cm⁴
1.5
50
20
50
20
90


SP 95013
Weight = 3,33 kg/m
Perimeter = 283 mm
Ix = 17,79 cm⁴
1.5
50
20
50
20
70

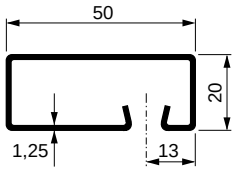

SP 95013/85
Weight = 4,1 kg/m
Perimeter = 347 mm
Ix = 23,51 cm⁴
1.5
50
20
85
20
105


20
2
15
50
30
5
20
40
SP 975021/720/30

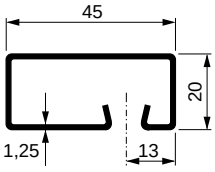

20
2
15
50
30
5
20
20
60
SP 975022/720/30



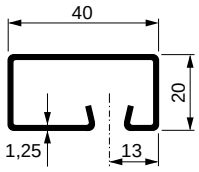
Glazing bead
SP 95720



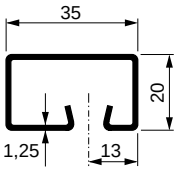
Glazing bead
SP 95020



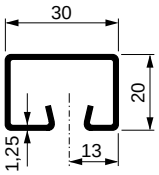
Glazing bead
SP 94520



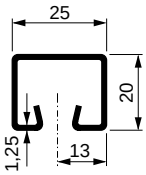
Glazing bead
SP 94020



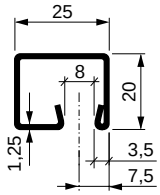
Glazing bead
SP 93520



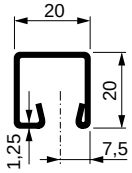
Glazing bead
SP 93020



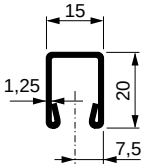
Glazing bead
SP 92520-1



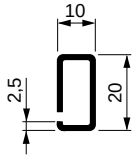
Glazing bead
SP 92520-2



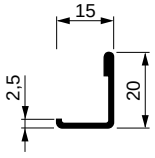
Glazing bead
SP 92020



Glazing bead
SP 91520

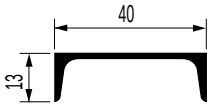


Glazing bead
SP 91020

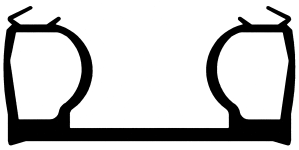


Glazing bead
SP 90520

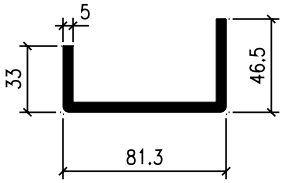
Rubber seal
SP 40010 - SP 40035
L = 100 m
Fire classified material



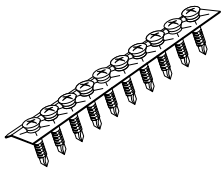
Rubber seal - threshold
SP 45065
L = 1400 mm
Fire classified material



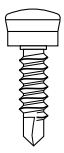
Rubber seal
Finger trap proof gasket
SP 40067
L = 2500 mm
Fire classified material



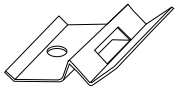
Burglary protected profile
SP 90002
L = 2300 mm



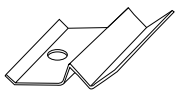
Bead screw
SP 90012 / 500 pcs



Bead screw
SP 90020 / 500 pcs



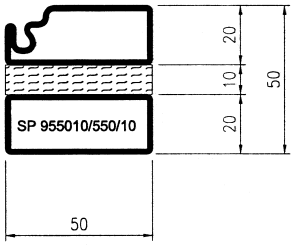
Spring
SP 40500

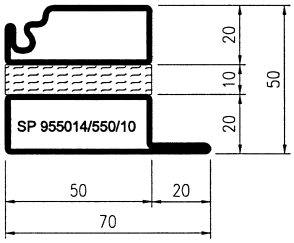


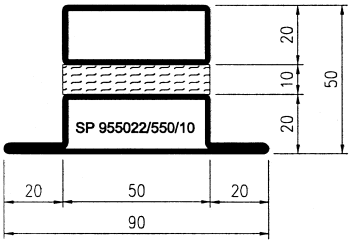
Spring
SP 41000

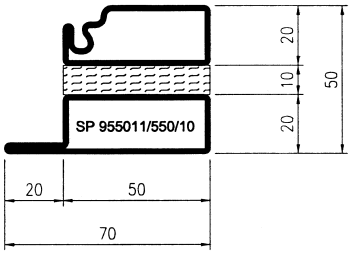
PROFILE SYSTEM SP 955000 – SP 975000*

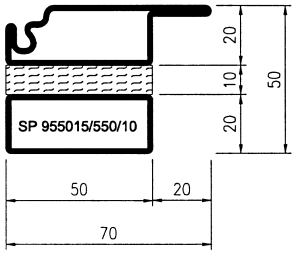
* THE DRAWING APPLY TO SP 955000 – REPLACE 55 WITH 75 FOR PROFILE SYSTEM SP 975000
SP 975000 IS TYPE APPROVED FOR FIRE RESISTANT SECTIONS

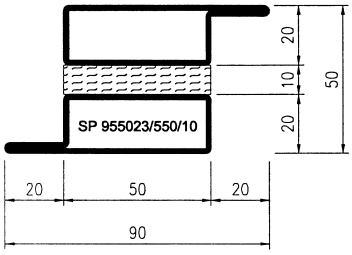


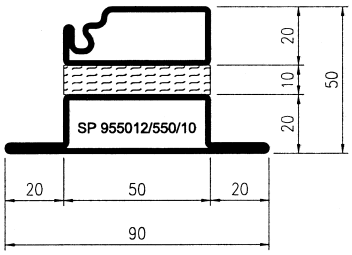


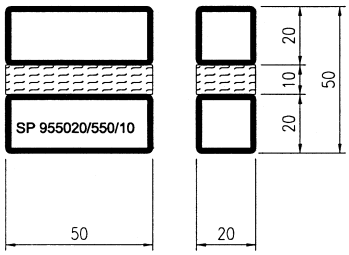


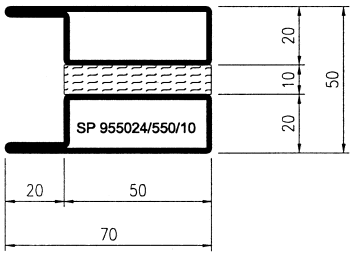


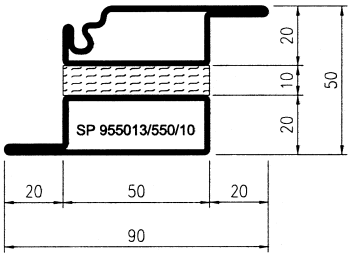


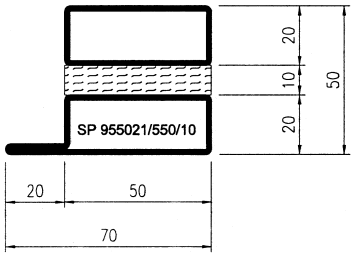


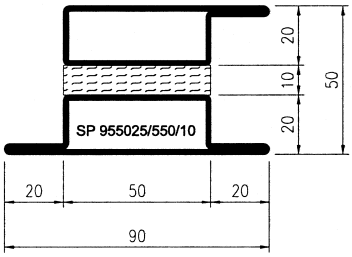






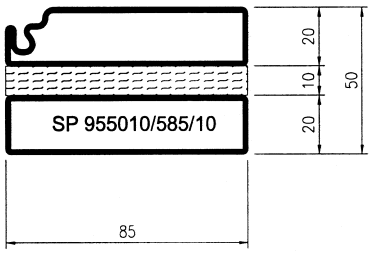


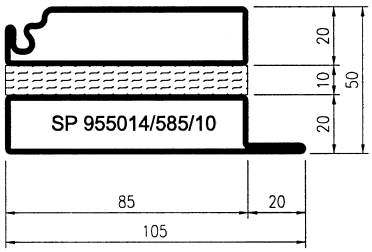


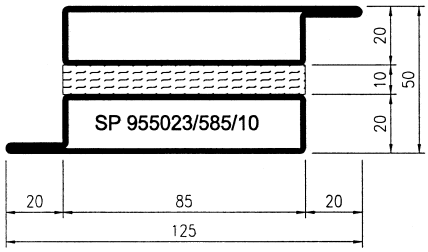


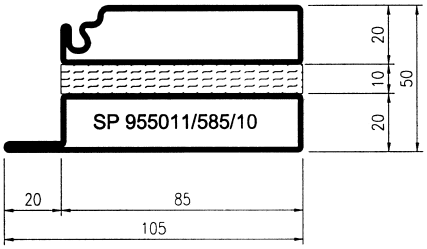
SP 975025/750/10 FOR THE DOOR MEETING
IN FIRE APPROVED SLIDING DOOR

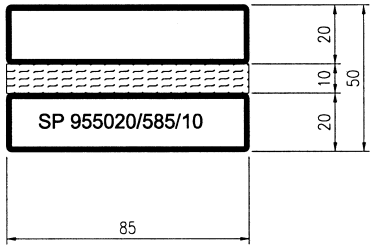
* THE DRAWING APPLY TO SP 955000 – REPLACE 55 WITH 75 FOR PROFILE SYSTEM SP 975000
SP 975000 IS TYPE APPROVED FOR FIRE RESISTANT SECTIONS

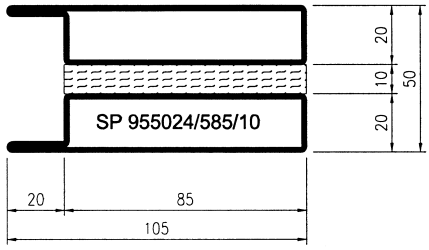


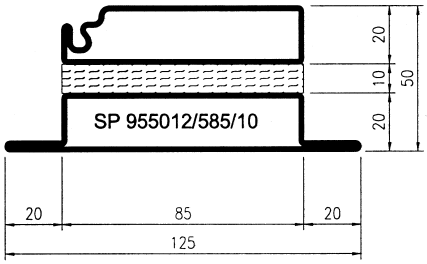


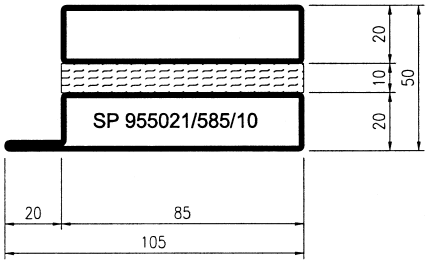


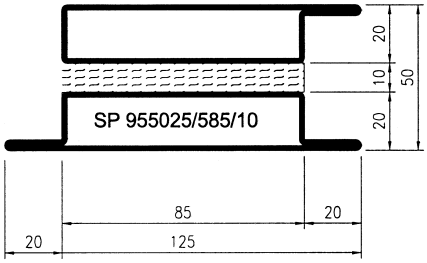


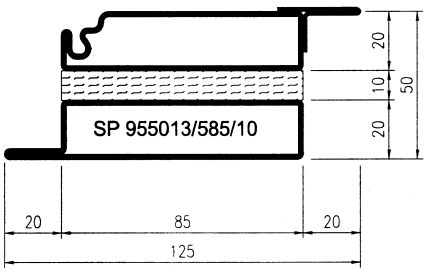


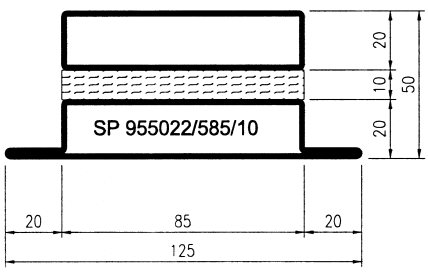




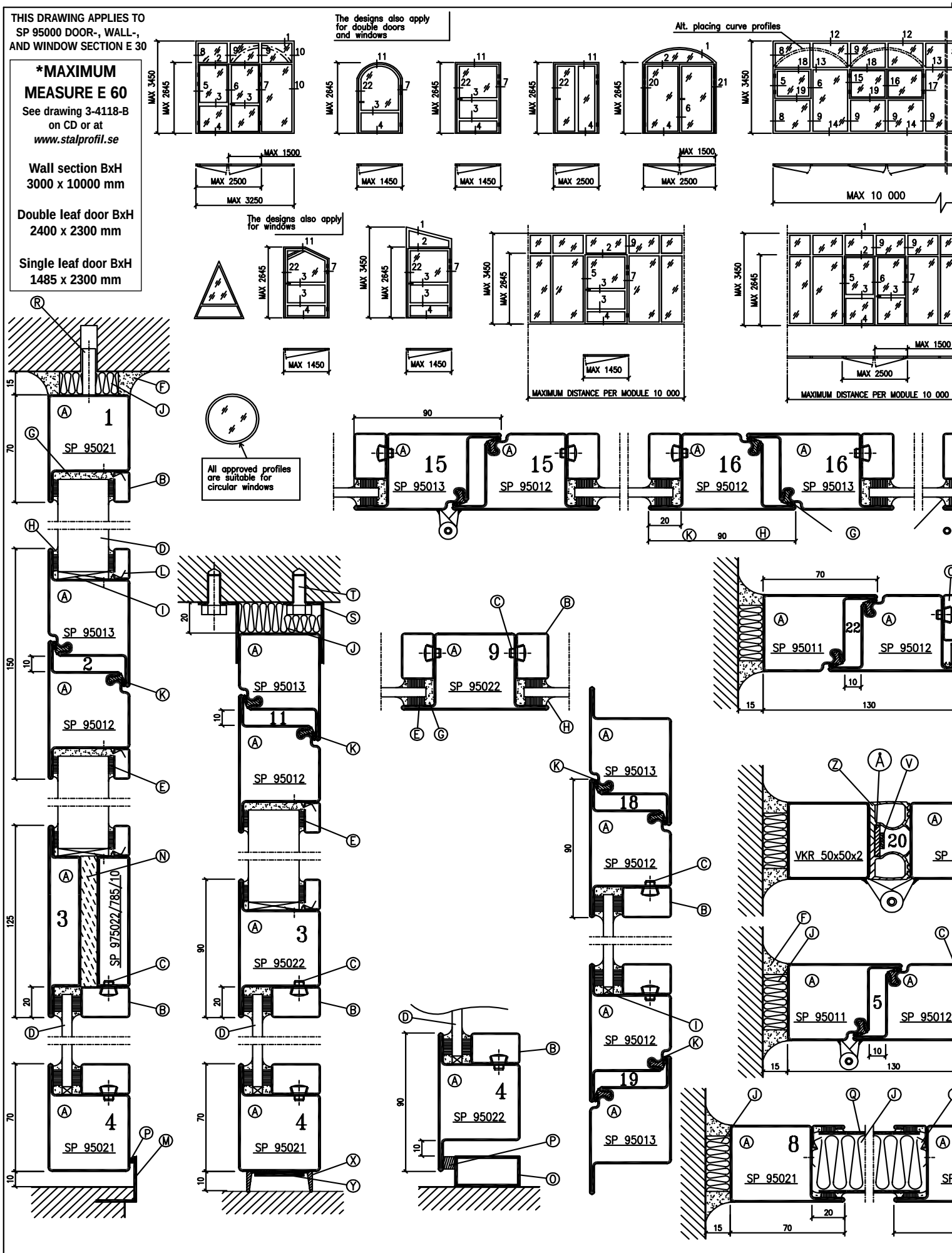


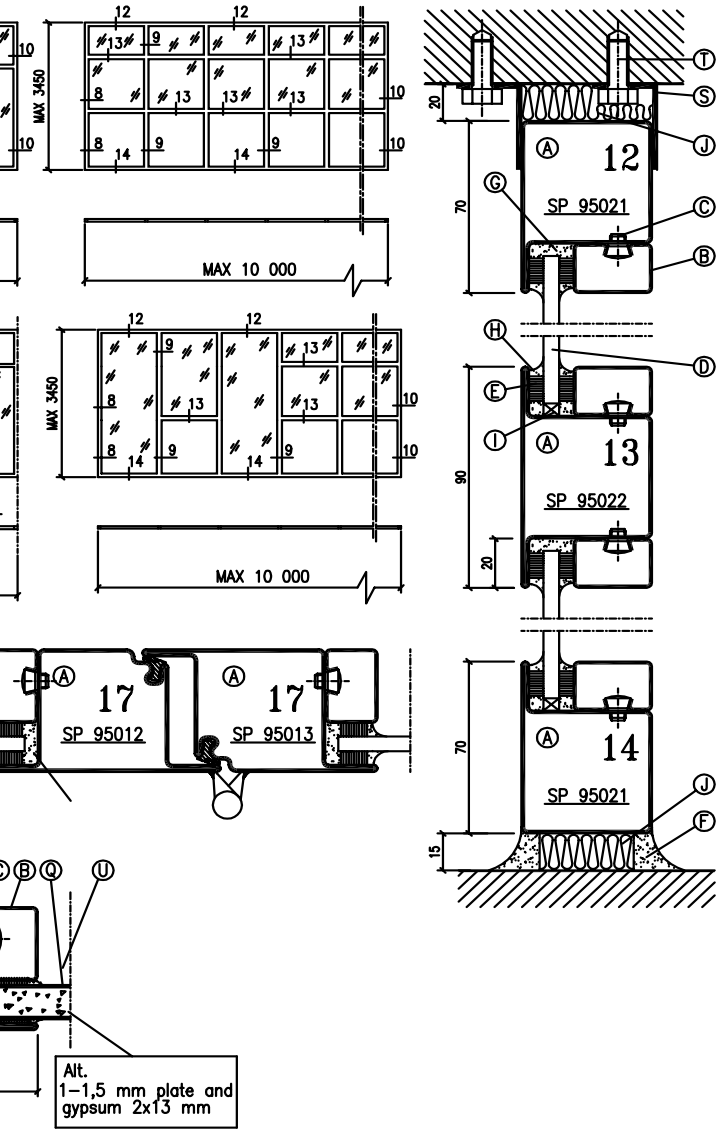






SP 95000 DOOR-, WALL- OCH WINDOWSECTION E 30/E 60*





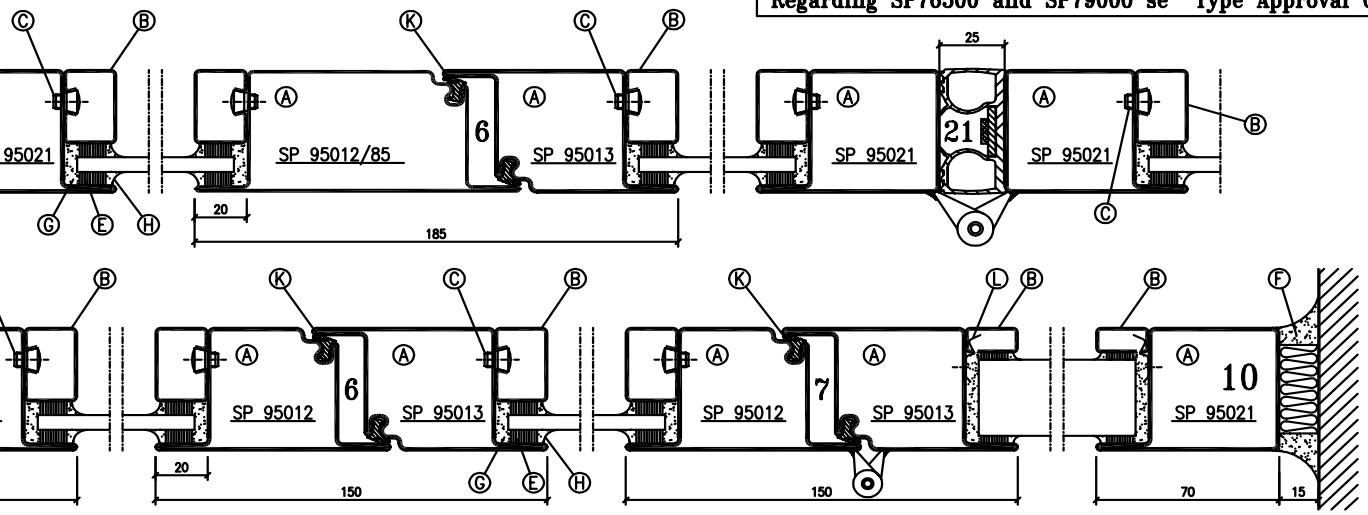
SYSTEM SP 35000 DOOR, WINDOW AND WALL SECTIONS
SPECIFICATION OF MATERIAL FIRE RESISTANCE CLASS E30

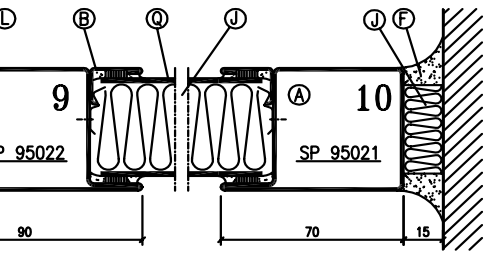
NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel profiles, SP 35000	Cold formed steel Wall–Thickness 1,5 mm	Bright steel surface suitable for laquering
	Alt. Steel profiles, SP 75000	Wall–Thickness 1,8 mm	Detalied drawings 4–2318–C, 4–2319–C
	Alt. Wide profiles		4–2366–A
	Alt. Stainless design	Stainless steel	
	SP 95000	Wall–Thickness 1,5 mm	
	SP 970000	Wall–Thickness 1,75 mm	
B	Glazing beads Serie 40000	Sheet metal ST 0,2 Senzimirband Z 275 Wall–Thickness 1,25 mm	
	Alt. Glazing beads Serie 90000	Stainless steel Wall–Thickness 1,25 mm	
C	Bead studs	Steel L=15mm ø=4,8 mm	C/C 300 mm
D	**Panes:**	**Thickness, weight and max measure :**	**Mounting:**
	Pyrodur E30	Type Approval Certificate 1474/87	Drawing no. 4–2479–A
	Pyroswiss E30	Type Approval Certificate 5267/93	Drawing no. 4–2491–A
	Pyroguard Clear E30	Type Approval Certificate 0661/97	Drawing no. 4–2476–A
	Pyran S E30	Type Approval Certificate 0537/98	Drawing no. 4–2478–B
	Fivestar E30	Type Approval Certificate 2066/96	Drawing no. 4–2477–A
	Contraflam E30	Type Approval Certificate 3935/82	Drawing no. 4–2495–A
	Contraflam 30 N2	Type Approval Certificate 0441/99	Se TAC for glass.
	Pyrostop E30	Type Approval Certificate 3673/83	Drawing no. 4–2599
	Interflam E, E30	Type Approval Certificate 0657/00	Drawing no. 4–2598
	Wireglass	SS 224406	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	
R	Steel pivot	Steel ø 8	C/C 600 mm
S	Longitudinal profile	Steel 40 x 25 x 2	
T	Bolt type expander	Steel 8 x 50	C/C 600 mm
U	Gypsum	2x13 mm	
V	Intumex bead	Fire expanding 12x3	
X	Treshold 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	Kop.	Kontr.	Stand.	Godk.	Skala	Ersätter	Ersatt av
	R.O							

Firma: STÅLPROFIL AB

Titel: SYSTEM SP 95000 DOOR, WALL AND WINDOW SECTIONS FIRE RATED IN E30

Regist.nr | Dat.: 97–01–03

Ritn.–nr: 3–4116–B E–30

STÅLPROFILS BURGLARY RESISTANT PROFILE SYSTEM

SP 95000 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, report 96B1.0235 A, B and C, 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

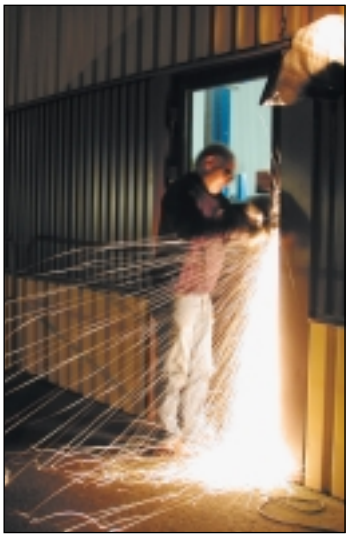
The Testing and Research Institute has on behalf of Stålprofil AB, Vårgårda tested the burglary resistant quality of steel door sections. The tests were carried out in accordance to the specifications for classes 1, 2 and 3 in SS 81 73 45 first edition. "Doors - Burglary Resistance Classification, Tests and Requirements". The door sections in question were manufactured with reinforced SP 95000 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 lock keep for the maximum time allowable in the test for each individual class. At the end of testing the lock keep 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 lock keep. 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.

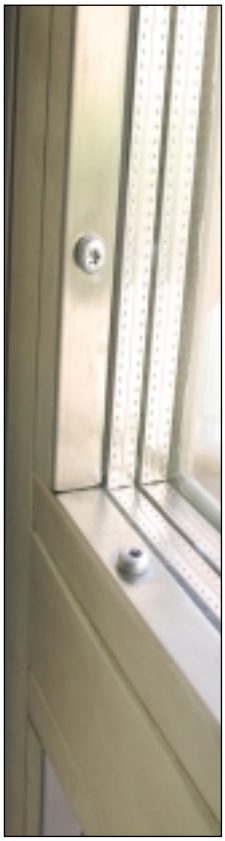


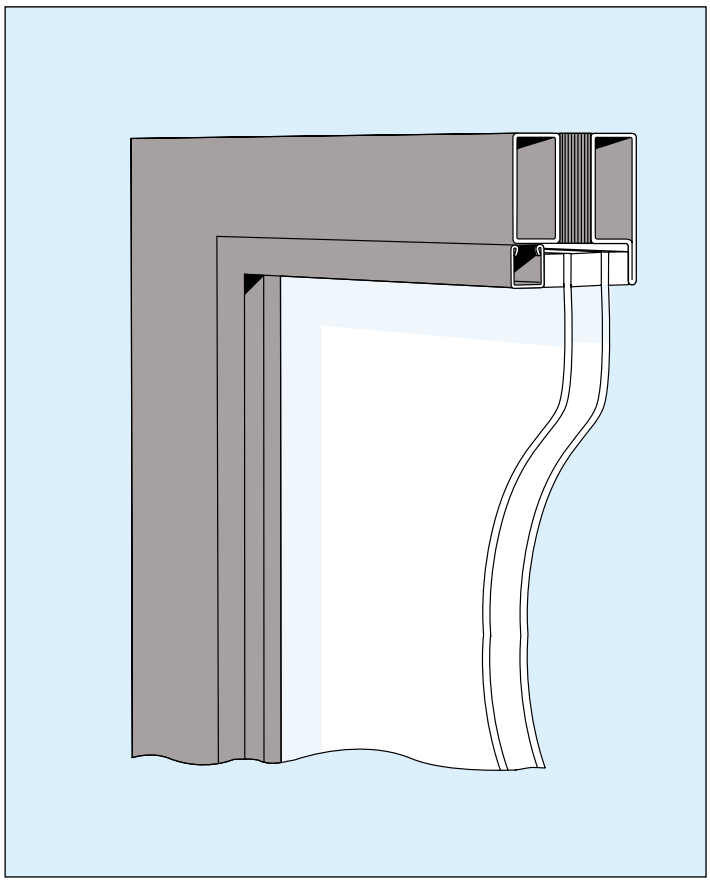
BURGLARY RESISTANT DOORS vs SAFETY CLASSIFIED DOORS

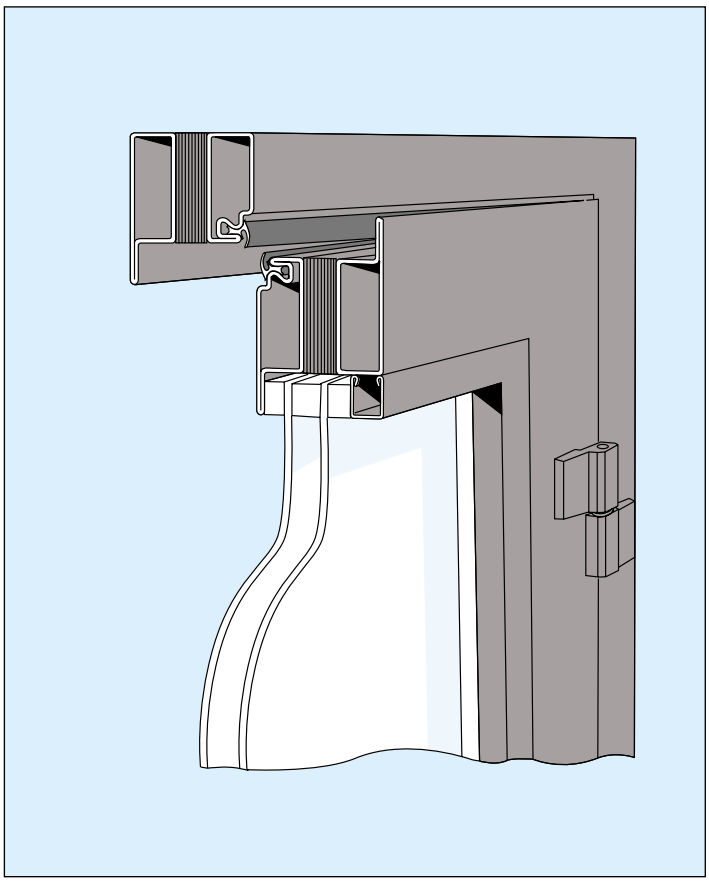
Burglary resistant doors are tested according to SS 81 73 45. The object is to test the parts of the door that can influence the capacity of the door to resist forced entry. Each part is tested according to the recommended time allowed e.g the hinges and glass in a class 3 door are tested for 10 minutes.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







STÅLPROFILSYSTEM SP 956500 WITH BREACHED THERMAL BRIDGE

Glazed door, window and wall sections with breached thermal bridge

STÅLPROFILSYSTEM SP 958000 BURGLARY RESISTANT acc. SS 81 73 45

Burglary resistant door, window and wall sections with breached thermal bridge tested according to SS 81 73 45

Profile systems with breached thermal bridges designed for door, sliding door and entrances that make high demands on insulation, wear and tear and resistance to external forces. Specifically suitable for offices, business premises, flats, schools, hotels, sports arenas, airports, hospitals and service homes etc.

SP 956500 and SP 958000 are modern profile systems providing maximum flexibility, safety and stability. They offer a variety of choices for example finger trap proof gasket and are available in wide profiles for module locks. SP 956500 is available with rounded windows and arches.

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 thermal bridge insulated core is manufactured in a special water rejecting wood fibre. The insulating core is available in 10 or 25 mm thick sections.

SP 956500 is U-value calculated and tested for airborne noise reduction by The Swedish Testing and Research Institute in Borås. The U-value calculation has been carried out for different combinations of glass and profile areas.The profile systems can be delivered in bullet-proof quality according to tests performed by the Swedish Testing and Research Institute.

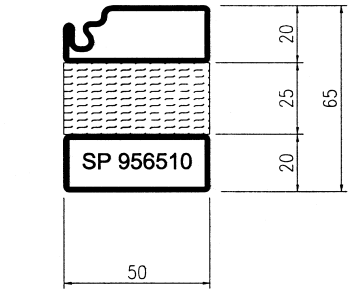
SP 958000 is a burglary resistant profile system with a breached thermal bridge designed for door sections and is approved for burglary resistant classes 1, 2 and 3 according to SS 81 73 45.

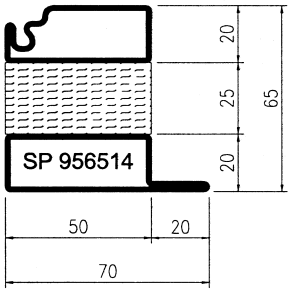
Material and Quality

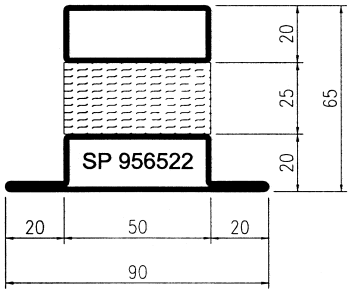
SP 956500 and SP 958000 are available in stainless steel, acid resistant quality 316L. The stainless material is delivered brushed or untreated.

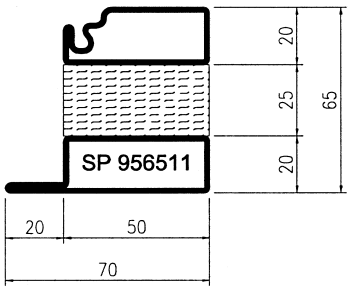
The glazing beads are of the same stainless steel quality as the profiles and to maximize flexibility, reduce costs and simplify manufacture, are compatible in all our systems. To further minimize manufacturing costs and wastage each profile is delivered from our warehouse in 6.6 metre lengths and glazing 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.

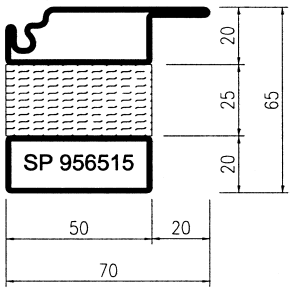
The special design of the profiles implies simplified assembly that requires far less time then conventional construction. This equates to higher and more consistent quality and reduced manufacturing costs.

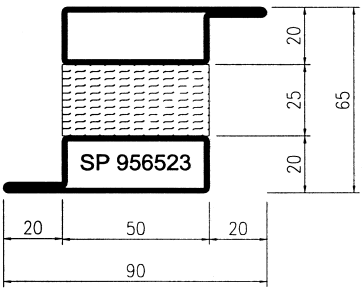

SP 956510
20
25
20
65
50

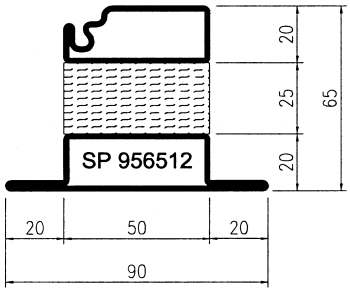

SP 956514
20
25
20
65
50
20
70

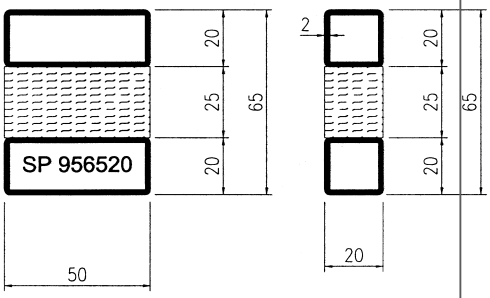

SP 956522
20
25
20
65
20
50
20
90

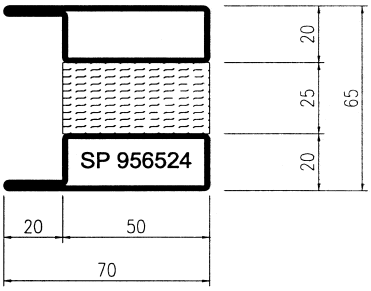

SP 956511
20
25
20
65
20
50
70

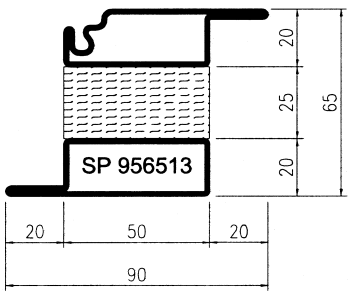

SP 956515
20
25
20
65
50
20
70

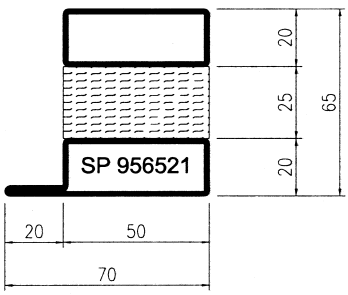

SP 956523
20
25
20
65
20
50
20
90

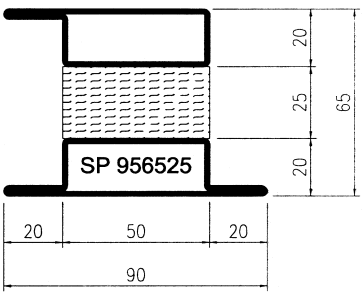

SP 956512
20
25
20
65
20
50
20
90

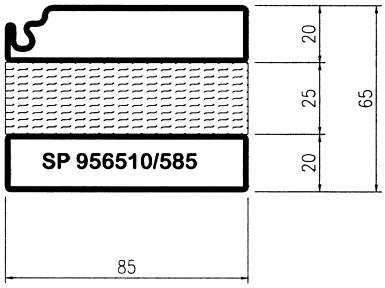

SP 956520
20
25
20
65
50
SP 956520/20
2
20
25
20
65
20

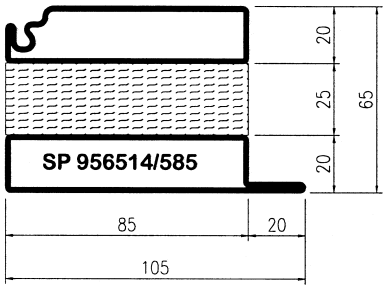

SP 956524
20
25
20
65
20
50
70

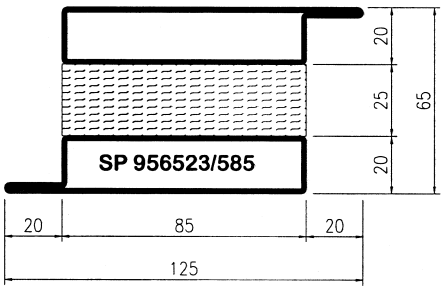

SP 956513
20
25
20
65
20
50
20
90

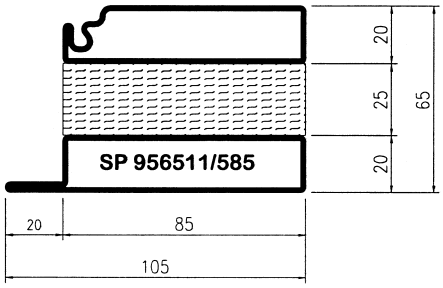

SP 956521
20
25
20
65
20
50
70

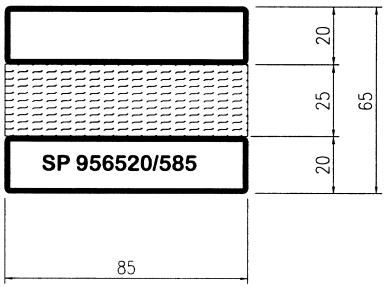

SP 956525
20
25
20
65
20
50
20
90

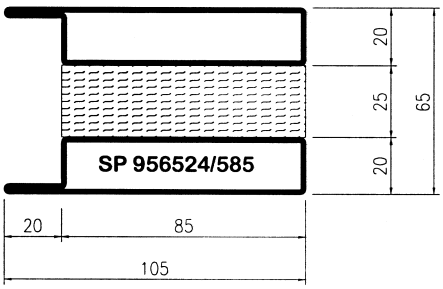

SP 956510/585
20
25
20
65
85

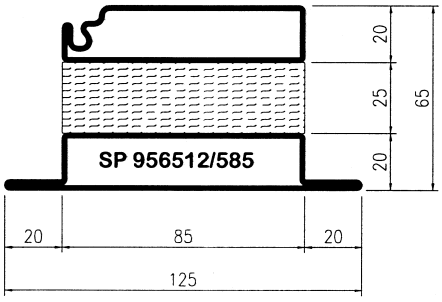

SP 956514/585
20
25
20
65
85
20
105

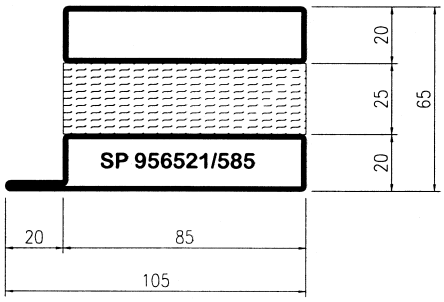

SP 956523/585
20
25
20
65
20
85
20
125

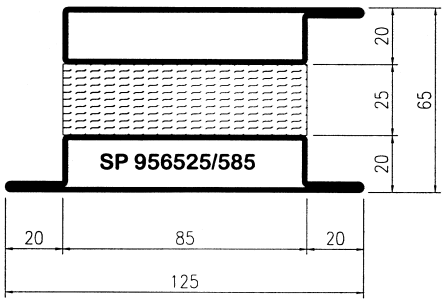

SP 956511/585
20
25
20
65
20
85
105

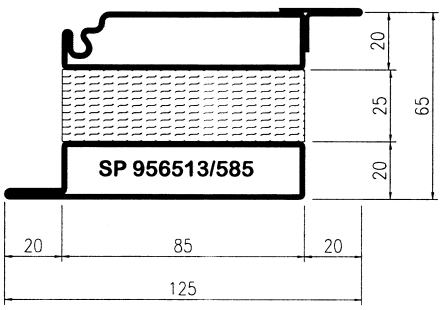

SP 956520/585
20
25
20
65
85

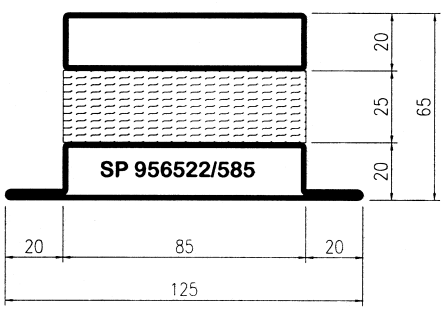

SP 956524/585
20
25
20
65
20
85
105

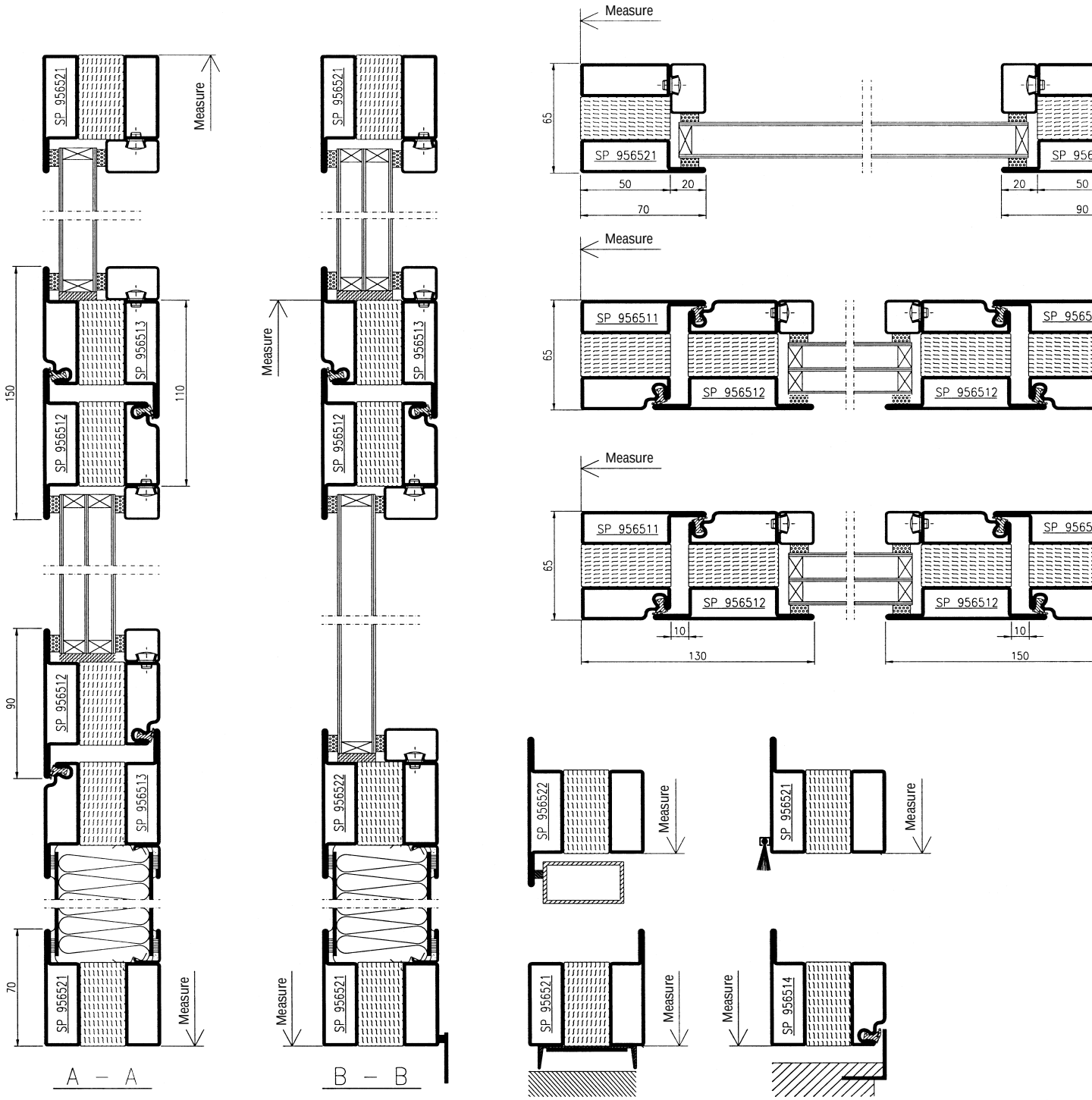

SP 956512/585
20
25
20
65
20
85
20
125


SP 956521/585
20
25
20
65
20
85
105


SP 956525/585
20
25
20
65
20
85
20
125


SP 956513/585
20
25
20
65
20
85
20
125


SP 956522/585
20
25
20
65
20
85
20
125



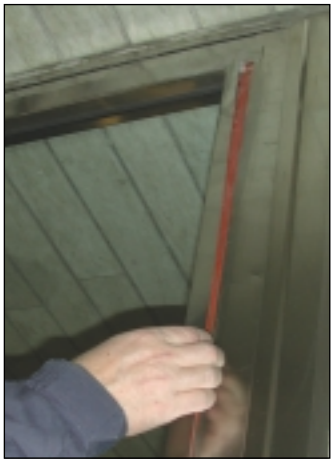
WHEN YOU CHOOSE SYSTEMS FROM STÅLPROFIL YOU ELIMINATE

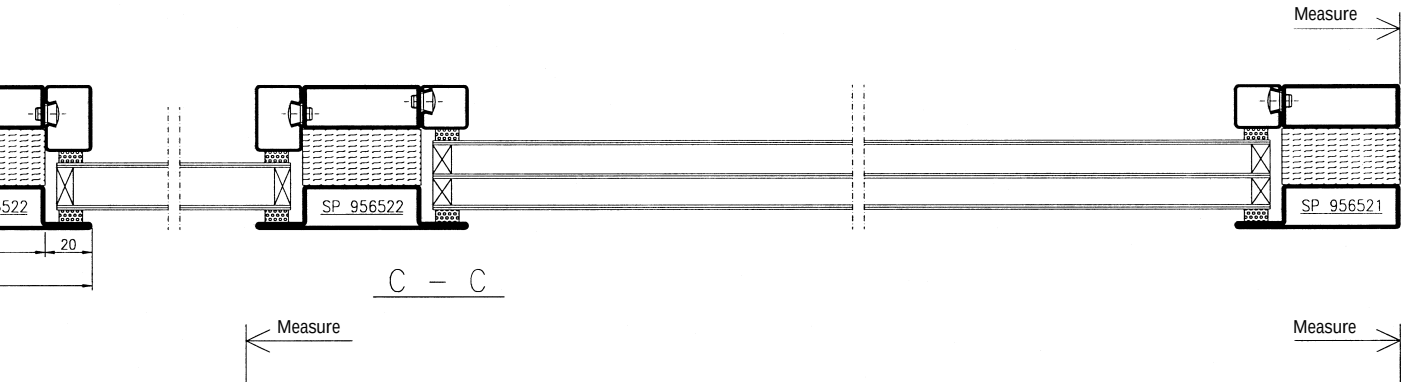
- Glued or loose metal covering
- Corrosion damage between different materials
- Wear and tear on extra covering
- Loose facing

SP 90000 IS COMPRISED OF STEEL PROFILES AND GLAZING BEADS IN STAINLESS STEEL, ACID RESISTANT QUALITY 316L

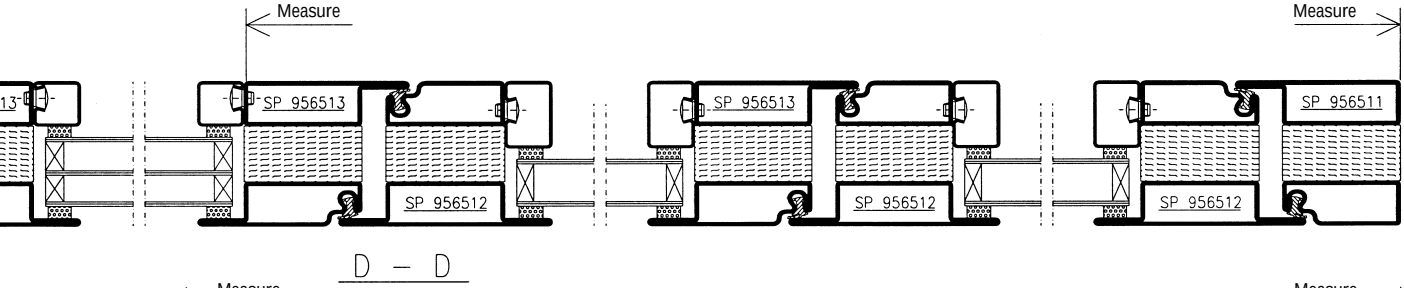
STÅLPROFILS SOLID PROFILES HAVE THE SAME HIGH QUALITY THROUGHOUT

STÅLPROFILS ACCESSORIES ARE ALL ADAPTED FOR STAINLESS STEEL QUALITY

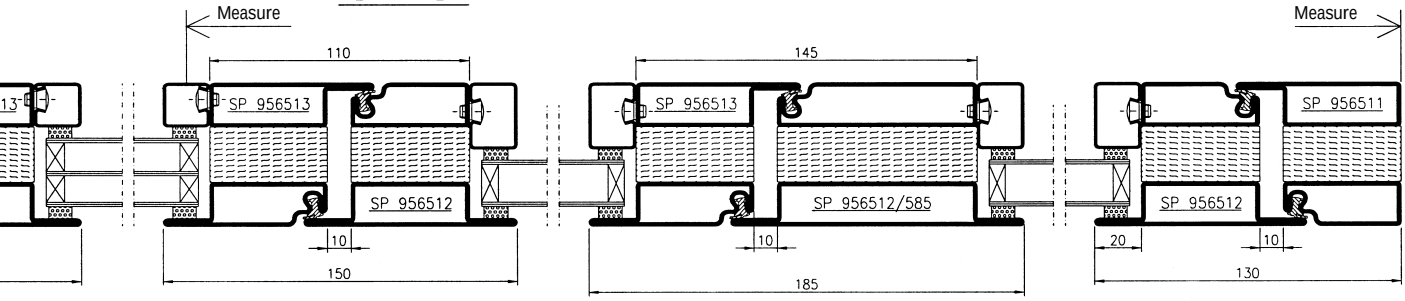




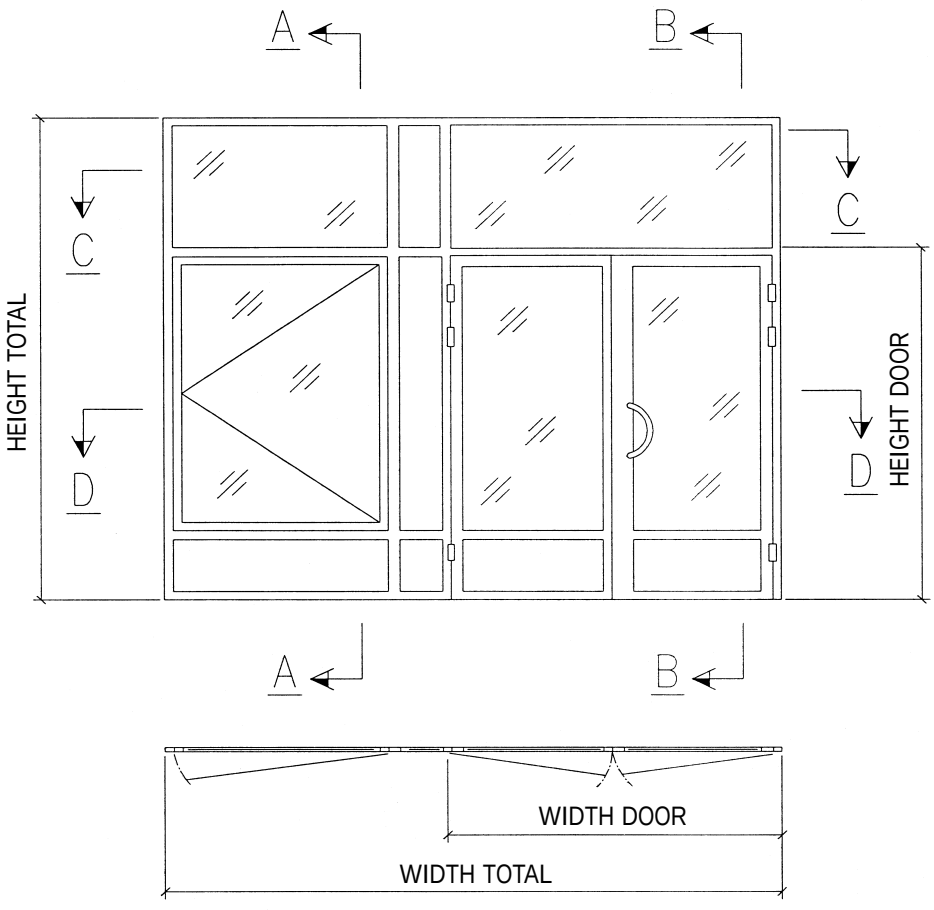
C – C



D – D



Alt. D - D for module locks



STATEMENT

Stålprofil AB
Roland Olsson
Brunnemyrsvägen 5
451 55 UDDEVALLA

Handläggare, enhet/*Handled by, department*
Hans Jonasson, hj
Acoustics
Tel: +46 (0)33 16 54 20
Email: Hans.Jonasson@sp.se

Datum/*Date*	Beteckning/*Reference*	Sida/*Page*
2001-06-19	P103159E	1 (3)

Sound insulation of facades

Assignment
To present sound insulation data in such a way that the sound insulation of a complete facade is given as a function of the sound insulation of the different building elements of the facade.

Presumptions
The starting point has been measured values as reported in our test report P102460. We have further assumed that the area of the steel profile part of the facade is 20% of the total area of the facade.

Result
See the following figures:

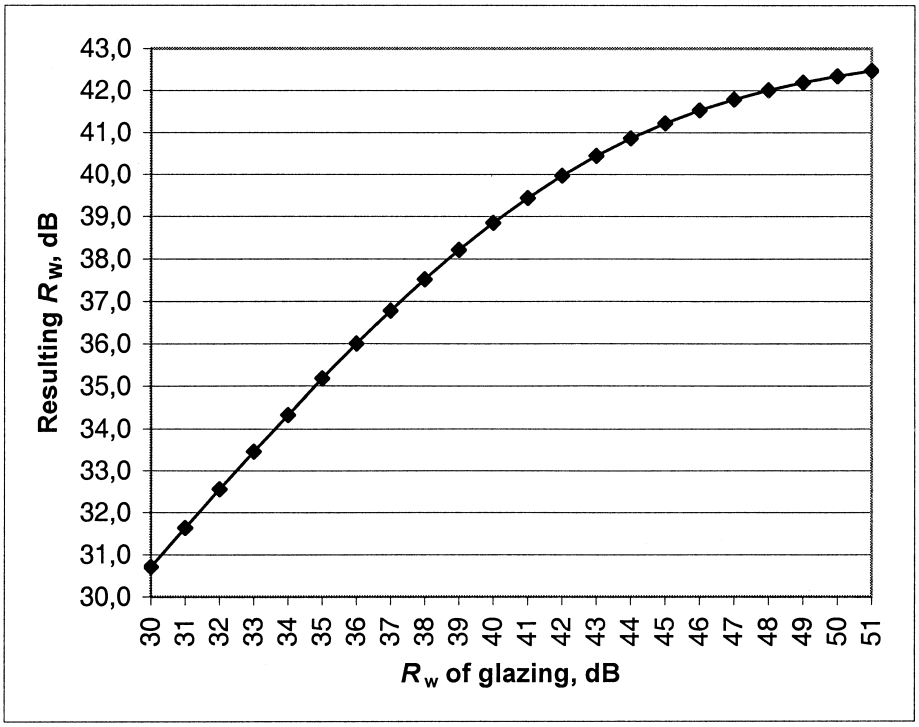


Figure 3 Resulting R_w of the complete facade as a funcion of R_w of the glazing unit mounted in the facade. The steel profile has R_w = 36 dB, a value achieved by the profiles SP 56500/SP 956500 Door.

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.

Table1: Profile type with reinforcment 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[1)]	-	3	3	6+4	6+4

[1)] 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 25mm 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

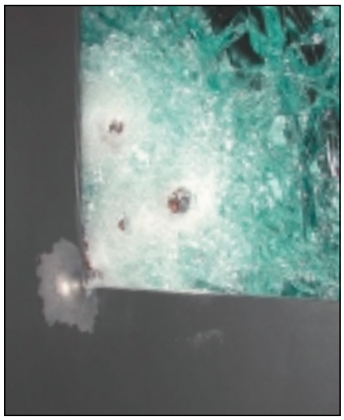
3. Result

None of the profiles in the test showed any sign of interior damage. The projectiles had in other words remained embedded in the profiles.
On the basis of the results 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.

Sveriges Provnings- och Forskningsinstitut

Kent Gylltoft
Professor Tekn.dr.
Sektionschef

Sven-Agne Nilsson
Ingenjör



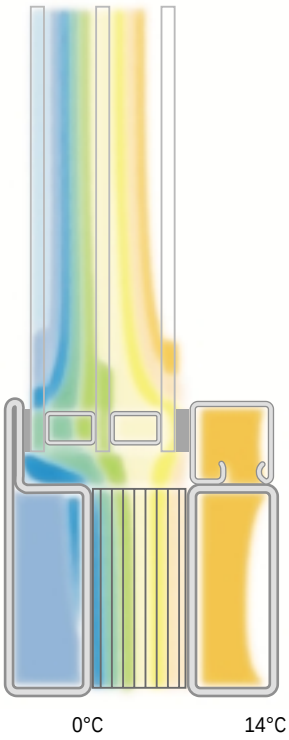
U-VALUE CALCULATION SP 956500

The calculated U-value for the complete construction is shown in the table for the different U-value mid window and part profile.

Table 1: U-value window (midpoint), W/(m²K)

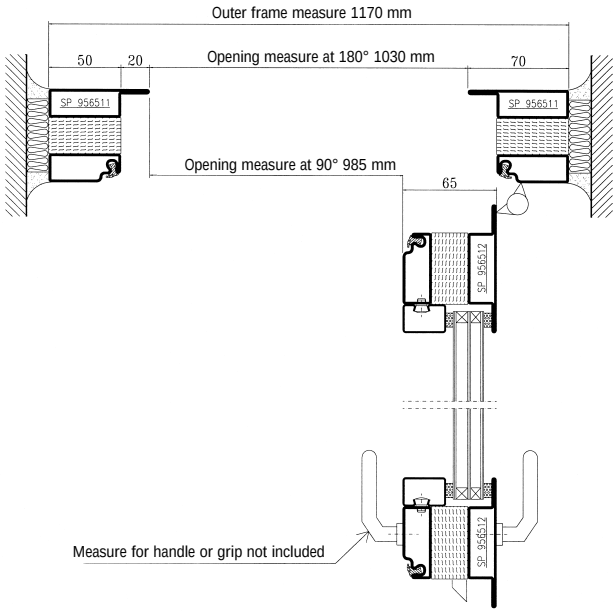
	U-value window (midpoint), W/(m²K)					
Part profile	1,1[1)]	1,2[1)]	1,45[2)]	1,85[1)]	2,4[2)]	2,8[2)]
10%	1,4	1,5	1,8	2,1	2,6	3,0
20%	1,7	1,8	2,1	2,3	2,8	3,2
30%	1,9	2,0	2,4	2,4	3,1	3,3
40%	2,2	2,3	2,8	2,6	3,3	3,5

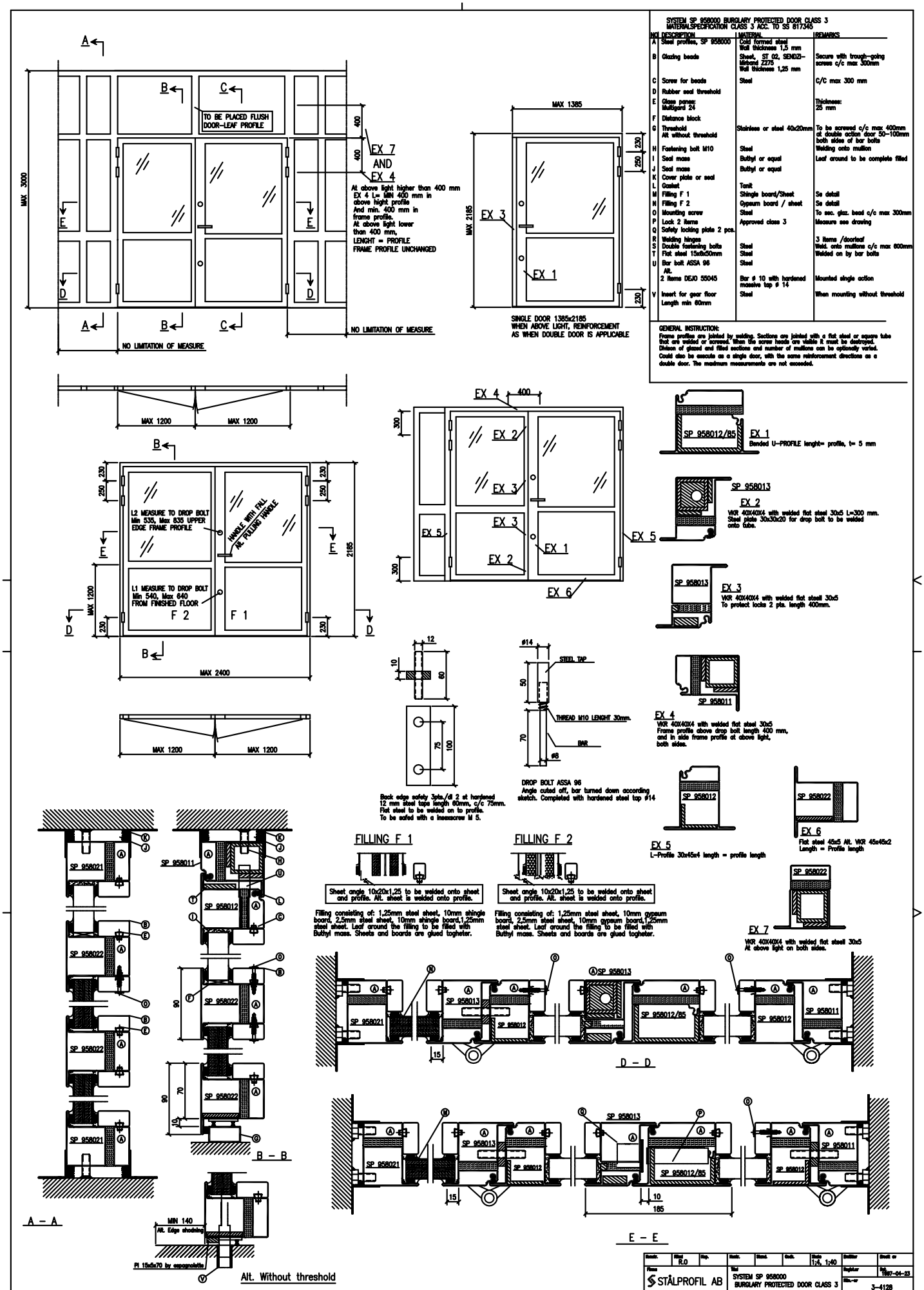
[1)] 3-window
[2)] 2-window

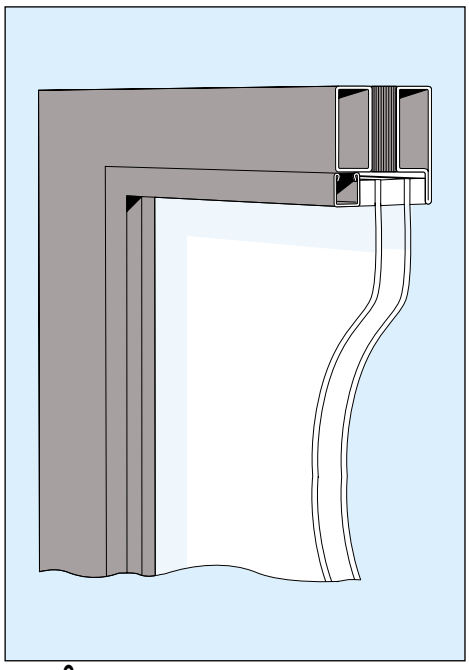
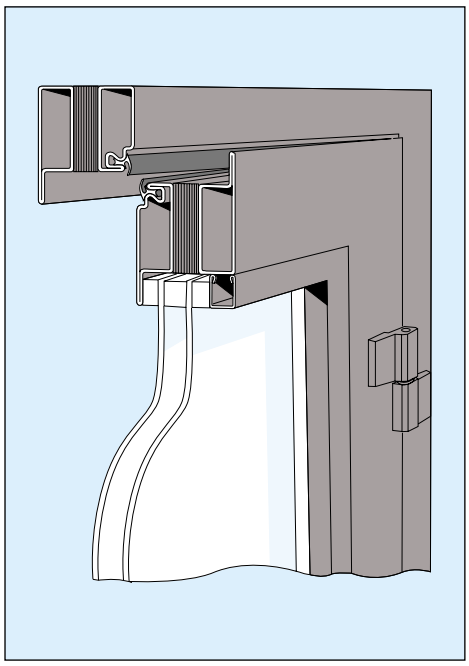
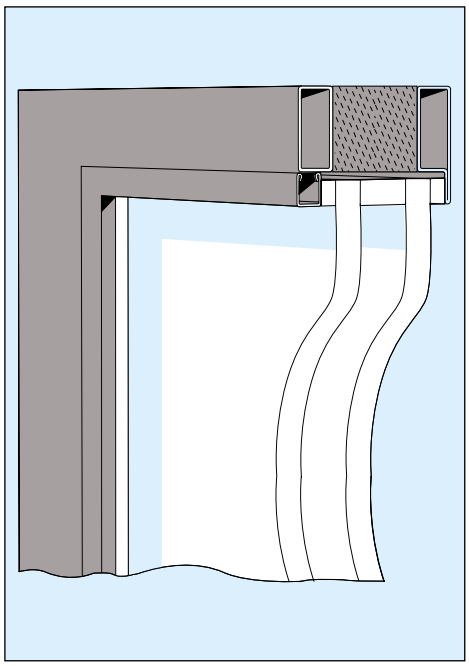


OPENING MEASUREMENT - SINGLE LEAF DOOR

Opening measure at 90° and 180°




TO BE PLACED FLUSH DOOR-LEAF PROFILE
EX 7 AND EX 4
At above light higher than 400 mm EX 4 L= MIN 400 mm in above hight profile And min. 400 mm in frame profile. At above light lower than 400 mm, LENGHT = PROFILE FRAME PROFILE UNCHANGED
NO LIMITATION OF MEASURE
MAX 3000
MAX 1385
MAX 2185
EX 3
EX 1
SINGLE DOOR 1385x2185 WHEN ABOVE LIGHT, REINFORCEMENT AS WHEN DOUBLE DOOR IS APPLICABLE
SYSTEM SP 958000 BURGLARY PROTECTED DOOR CLASS 3
MATERIALSPECIFICATION CLASS 3 ACC. TO SS 817345
NO DESCRIPTION MATERIAL REMARKS
A Steel profiles, SP 958000 Cold formed steel Wall thickness 1,5 mm
B Glazing beads Sheet, ST 02, SENDZI-Mirbond Z275 Wall thickness 1,25 mm Secure with trough-going screws c/c max 300mm
C Screw for beads Steel C/C max 300 mm
D Rubber seal threshold
E Glass panes: Multiguard 24 Thickness: 25 mm
F Distance block
G Threshold Alt without threshold Stainless or steel 40x20mm To be screwed c/c max 400mm at double action door 50-100mm both sides of bar bolts
H Fastening bolt M10 Steel Welding onto mullion
I Seal mass Buthyl or equal Leaf around to be complete filled
J Seal mass Buthyl or equal
K Cover plate or seal
L Gasket Tenit
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 300mm
P Lock 2 items Approved class 3 Measure see drawing
Q Safety locking plate 2 pcs.
R Welding hinges 3 items /doorleaf
S Double fastening bolts Steel Weld. onto mullions c/c max 600mm
T Flat steel 15x8x50mm Steel Welded on by bar bolts
U Bar bolt ASSA 96 Steel
Alt. 2 items DEJO 55045 Bar ø 10 with hardened massive tap ø 14 Mounted single action
V Insert for gear floor Length min 60mm 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 are not exceded.
MAX 1200
MAX 1200
L2 MEASURE TO DROP BOLT Min 535, Max 835 UPPER EDGE FRAME PROFILE
HANDLE WITH FALL AK. FELDING HANDLE
L1 MEASURE TO DROP BOLT Min 540, Max 640 FROM FINISHED FLOOR
F 2
F 1
MAX 2400
MAX 1200
MAX 1200
EX 4
EX 2
EX 3
EX 5
EX 1
EX 6
SP 958012/85
EX 1
Bended U-PROFILE lenght= profile, t= 5 mm
SP 958013
EX 2
VKR 40X40X4 with welded flat steel 30x5 L=300 mm. Steel plate 30x30x20 for drop bolt to be welded onto tube.
SP 958013
EX 3
VKR 40X40X4 with welded flat steell 30x5
To protect locks 2 pts. length 400mm.
Back edge safety 3pts./dl 2 st hardened 12 mm steel taps length 60mm, c/c 75mm. Flat steel to be welded on to profile. To be safed with a insexscrew M 5.
STEEL TAP
THREAD M10 LENGHT 30mm.
BAR
DROP BOLT ASSA 96
Angle cuted off, bar turned down according sketch. Completed with hardened steel tap ø14
SP 958011
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.
SP 958012
SP 958022
EX 6
Flat steel 45x5 Alt. VKR 45x45x2
Length = Profile length
EX 5
L-Profile 30x45x4 length = profile length
FILLING F 1
Sheet angle 10x20x1,25 to be welded onto sheet and profile. Alt. sheet is welded onto profile.
Filling consisting of: 1,25mm steel sheet, 10mm shingle board, 2,5mm steel sheet, 10mm shingle board,1,25mm steel sheet. Leaf around the filling to be filled with Buthyl mass. Sheets and boards are glued togheter.
FILLING F 2
Sheet angle 10x20x1,25 to be welded onto sheet and profile. Alt. sheet is welded onto profile.
Filling consisting of: 1,25mm steel sheet, 10mm gypsum board, 2,5mm steel sheet, 10mm gypsum board,1,25mm steel sheet. Leaf around the filling to be filled with Buthyl mass. Sheets and boards are glued togheter.
SP 958022
EX 7
VKR 40X40X4 with welded flat steell 30x5
At above light on both sides.
SP 958021
SP 958011
SP 958012
SP 958022
SP 958013
SP 958012/85
D - D
B - B
A - A
E - E
MIN 140
Alt. Edge shoeing
Pl 15x5x70 by expansplatte
Alt. Without threshold
STÅLPROFIL AB
SYSTEM SP 958000 BURGLARY PROTECTED DOOR CLASS 3
1997-04-23
3-4128

STÅLPROFILSYSTEM SP 976500

Glazed wall, window and door sections in fire resistant class EI 30 Type approval certificate 1946/89
Glazed door sections in resistant classes EI 60/A 60 Type approval certificate 1947/89
Glazed wall, window and door sections in fire resistant classes E 30/E 60 Type approval certificate 4294/88

STÅLPROFILSYSTEM SP 979000

Glazed wall, window and door sections in fire resistant class EI 60 Type approval certificate 1945/89
Glazed door sections in resistant classes EI 60/A 60 Type approval certificate 1947/89

Type approved profile systems in stainless steel quality designed for door, wall and window sections. Specifically suitable for offices, business premises, flats, schools, hotels, sports arenas, airports, hospitals, service homes etc.

SP 976500 and SP 979000 are modern profile systems providing maximum flexibility, safety and stability.

They offer a variety of choices, for example finger trap proof gasket, wide profiles for module locks, rounded windows and arches.

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.

The profiles and glazing beads are of solid acid resistant stainless steel quality 316L. The design of the steel profiles give them the classic and elegant stainless look while the shiny exterior surface reflects the surrounding colour scheme in a pleasant and harmonious manner.

Solid profiles

The solid profiles do not need to be covered with any other kind of covering material, such as steel plate. This effectively eliminates the risk for corrosion between two different surfaces and wear and tear on a thin metal plate covering. The low purchase price of steel combined with its other advantages reduces the total cost of ownership drastically compared to other materials. The systems are available in bullet proof quality as approved and tested by the Swedish Testing and Research Institute.

Fire Resistance - Type Approval

Steel profile systems SP 976500 and SP 979000 are type approved of SITAC, Swedish Institute for Technical Approval in Construction, in several fire resistant classes. Doors and wall sections comprise the fire compartments in corridors, hallways and stairwells that are used as emergency exit ways during fires. The fire resistant insulated core between the steel profiles effectively reduces the spread of heat from the fire to the opposite side.

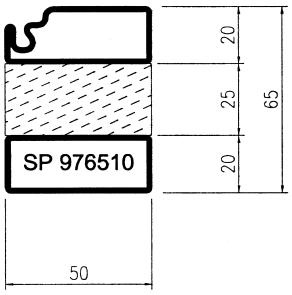
SP 976500 and SP 979000 are very adaptable and create light and pleasant environments that meet fire safety requirements.

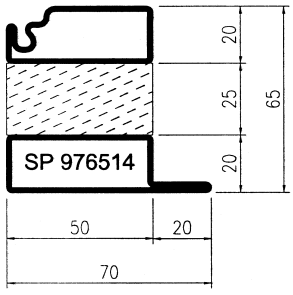
High quality, cost effective solution

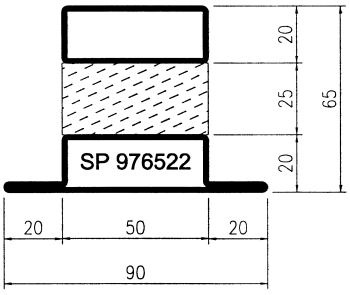
The stainless material is delivered brushed or untreated. The systems innovative design lends itself to simple assembly and reduced construction time compared to conventional systems, implying higher and more consistant quality and reduced manufacturing costs.

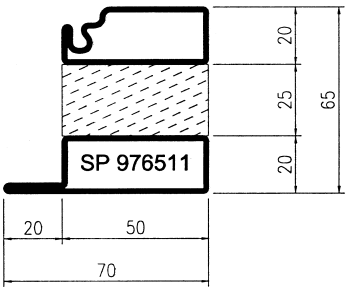
The glazing beads are of the same stainless steel quality as the profiles and, to maximize flexibility, reduce costs and simplify manufacture, are compatible in all our systems. To further minimize manufacturing costs and wastage each profile is delivered from our warehouse in 6.6 metre lengths and glazing 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.

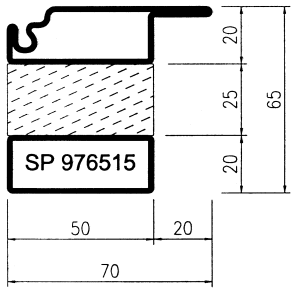
The special design of the profiles implies simplified assembly that requires far less time that conventional construction. This equates to higher and more consistent quality and reduced manufacturing costs.

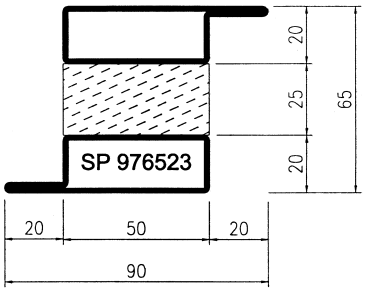

SP 976510
20
25
20
65
50

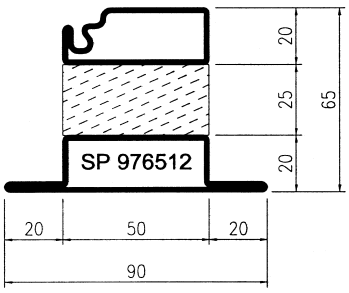

SP 976514
20
25
20
65
50
20
70

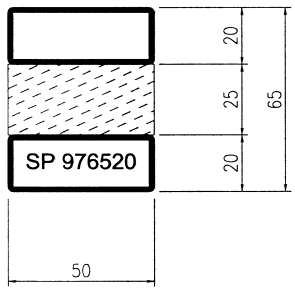

SP 976522
20
25
20
65
20
50
20
90

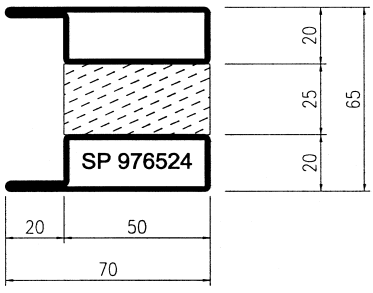

SP 976511
20
25
20
65
20
50
70

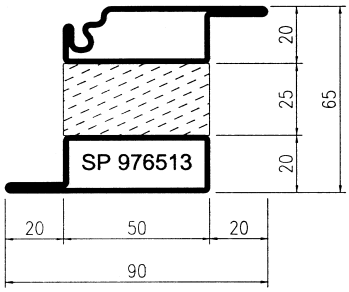

SP 976515
20
25
20
65
50
20
70

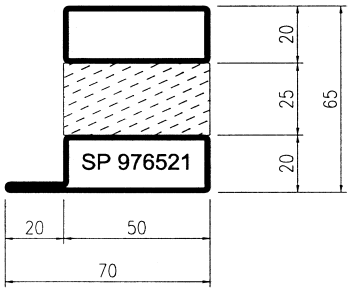

SP 976523
20
25
20
65
20
50
20
90

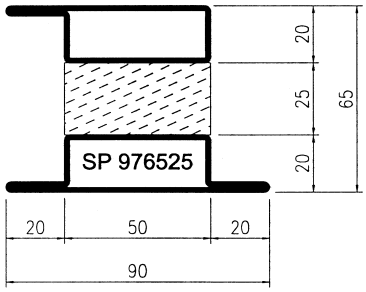

SP 976512
20
25
20
65
20
50
20
90

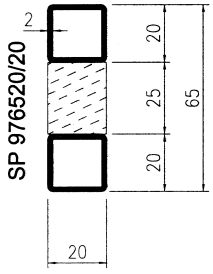

SP 976520
20
25
20
65
50

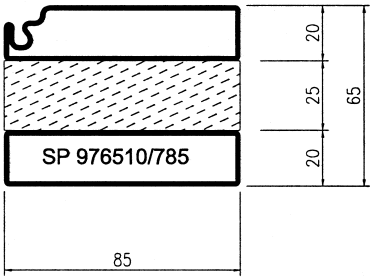

SP 976524
20
25
20
65
20
50
70

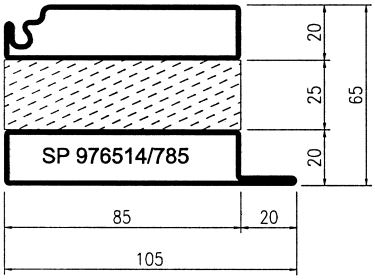

SP 976513
20
25
20
65
20
50
20
90

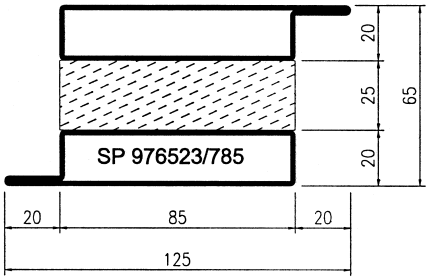

SP 976521
20
25
20
65
20
50
70

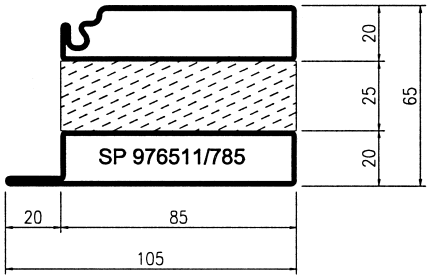

SP 976525
20
25
20
65
20
50
20
90

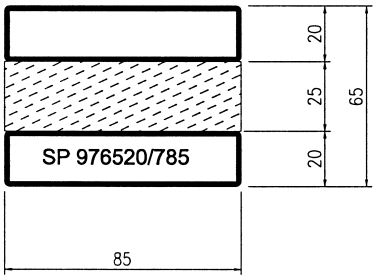

SP 976520/20
2
20
25
20
65
20

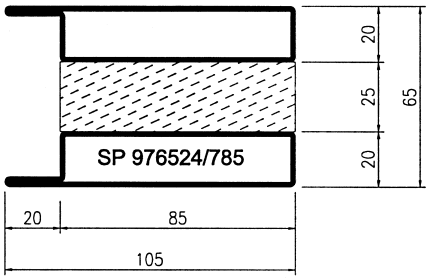

SP 976510/785
20
25
20
65
85

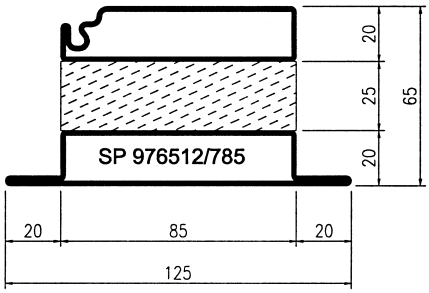

SP 976514/785
20
25
20
65
85
20
105

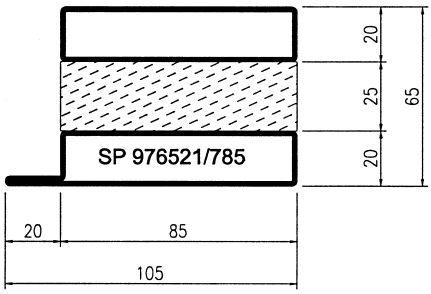

SP 976523/785
20
25
20
65
20
85
20
125

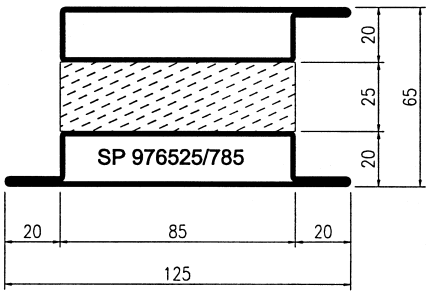

SP 976511/785
20
25
20
65
20
85
105

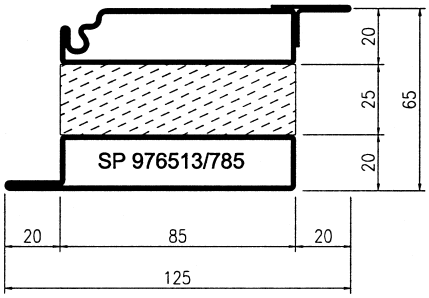

SP 976520/785
20
25
20
65
85

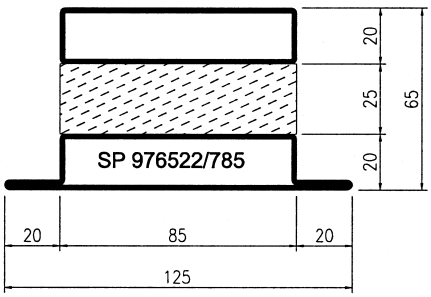

SP 976524/785
20
25
20
65
20
85
105

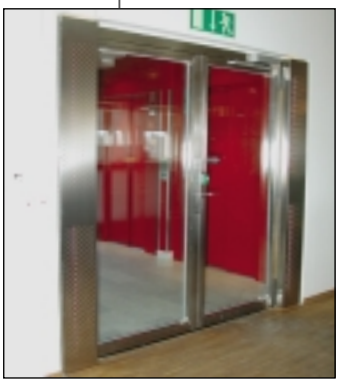

SP 976512/785
20
25
20
65
20
85
20
125

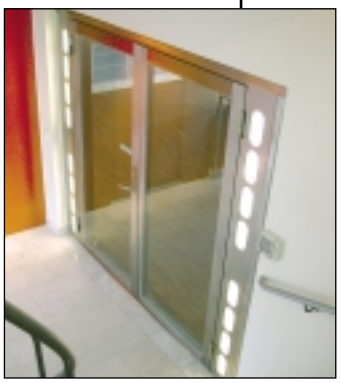

SP 976521/785
20
25
20
65
20
85
105

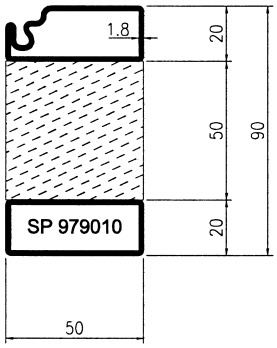

SP 976525/785
20
25
20
65
20
85
20
125

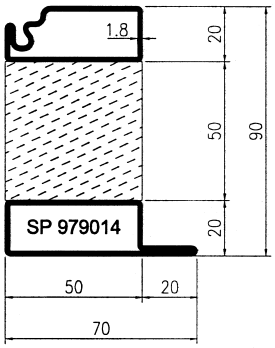

SP 976513/785
20
25
20
65
20
85
20
125

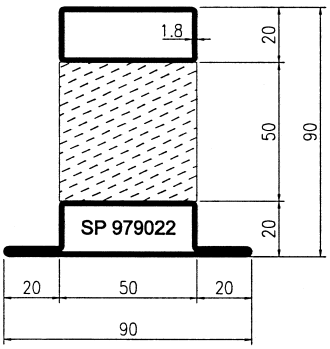

SP 976522/785
20
25
20
65
20
85
20
125

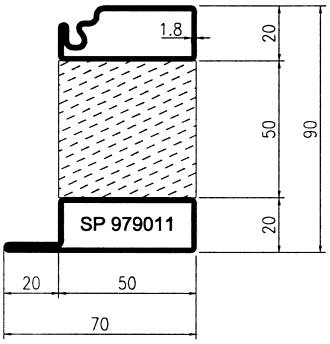


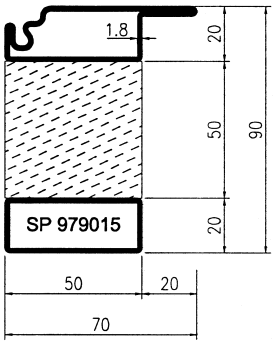


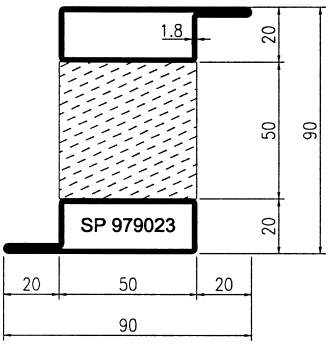

1.8
20
50
90
SP 979010
20
50

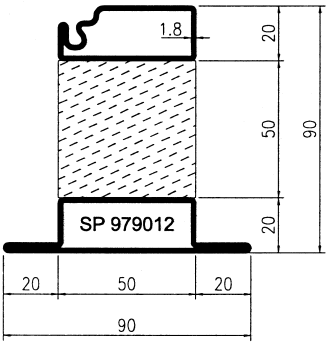

1.8
20
50
90
SP 979014
20
50
20
70

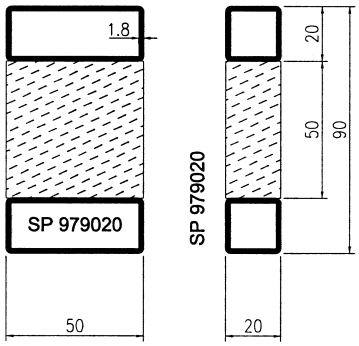

1.8
20
50
90
SP 979022
20
20
50
20
90

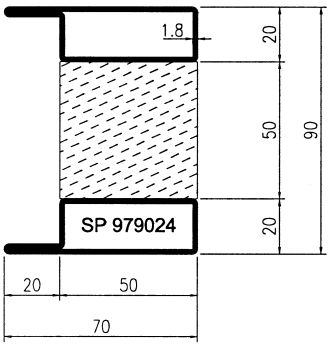

1.8
20
50
90
SP 979011
20
20
50
70

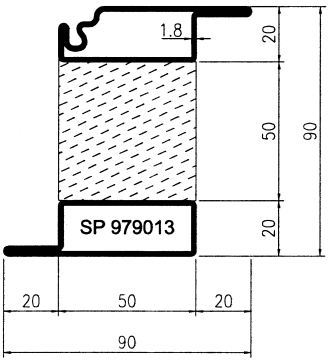

1.8
20
50
90
SP 979015
50
20
70

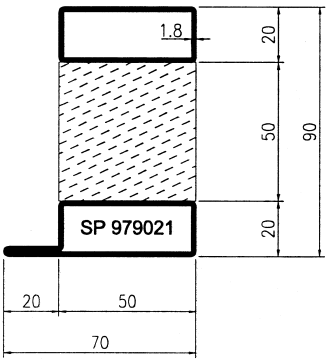

1.8
20
50
90
SP 979023
20
20
50
20
90

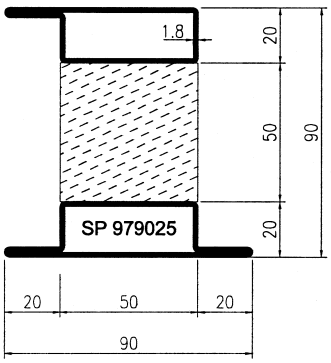

1.8
20
50
90
SP 979012
20
20
50
20
90

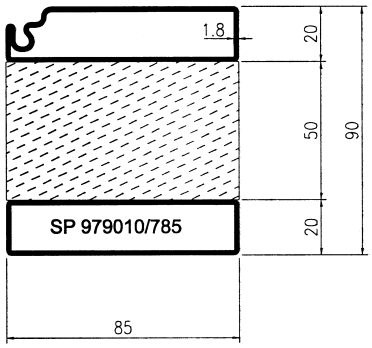

1.8
SP 979020
50
SP 979020
20
50
90
20

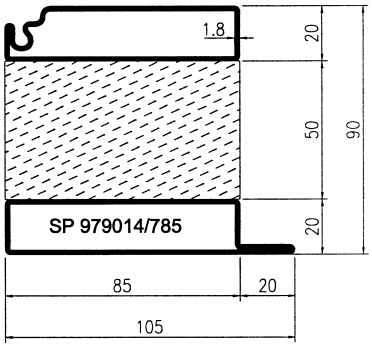

1.8
20
50
90
SP 979024
20
20
50
70

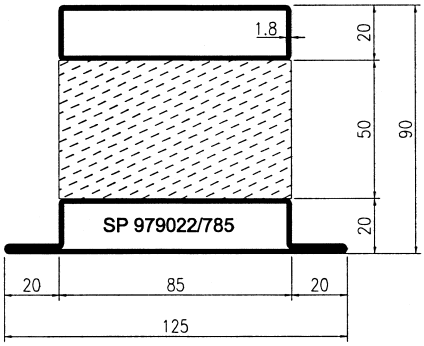

1.8
20
50
90
SP 979013
20
20
50
20
90

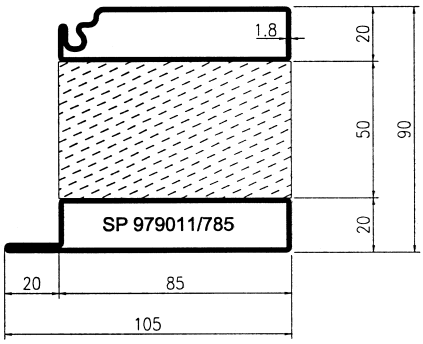

1.8
20
50
90
SP 979021
20
20
50
70

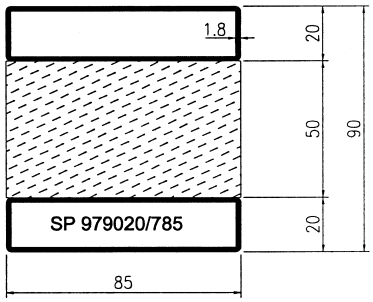

1.8
20
50
90
SP 979025
20
20
50
20
90

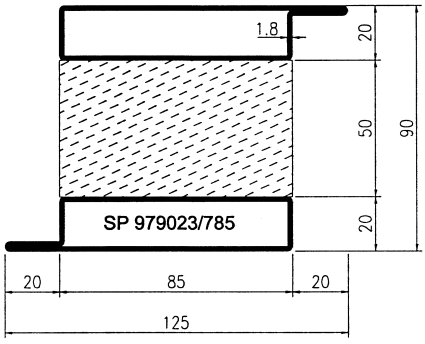

1.8
20
50
90
SP 979010/785
20
85

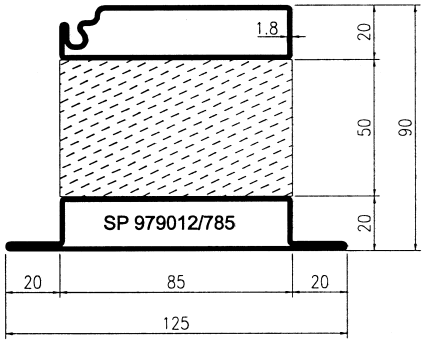

1.8
20
50
90
SP 979014/785
20
85
20
105

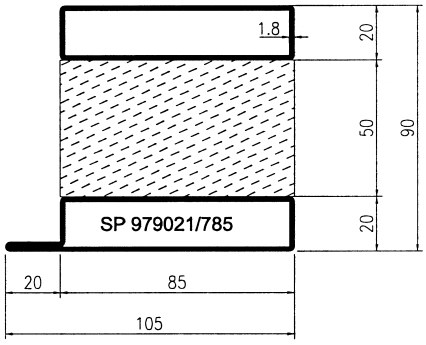

1.8
20
50
90
SP 979022/785
20
20
85
20
125

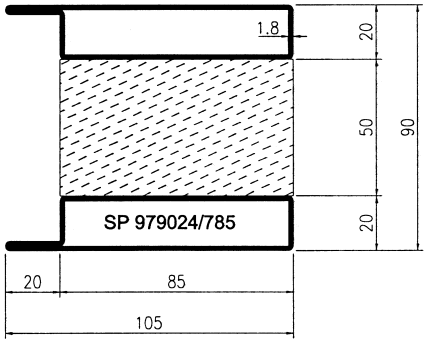

1.8
20
50
90
SP 979011/785
20
20
85
105

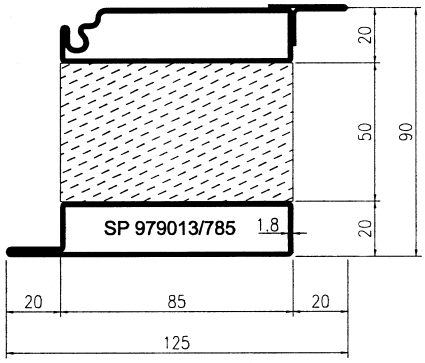

1.8
20
50
90
SP 979020/785
20
85

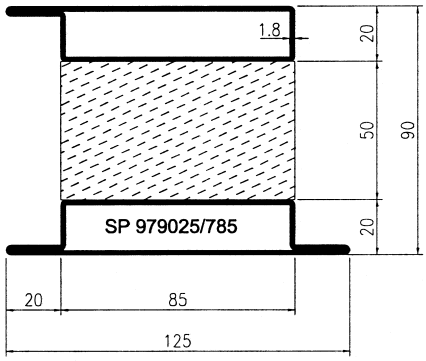

1.8
20
50
90
SP 979023/785
20
20
85
20
125

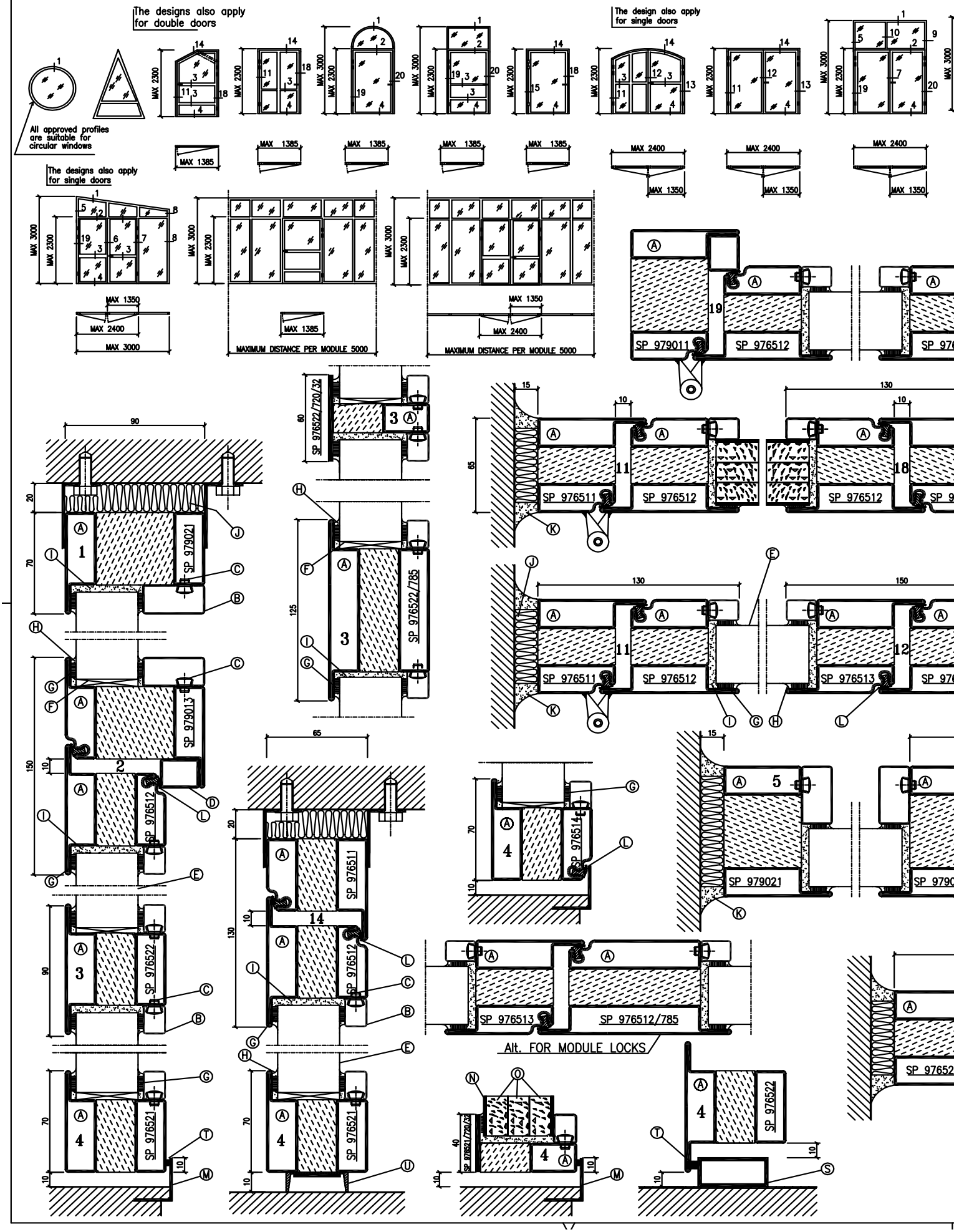

1.8
20
50
90
SP 979012/785
20
20
85
20
125

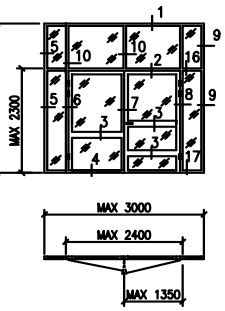

1.8
20
50
90
SP 979021/785
20
20
85
105

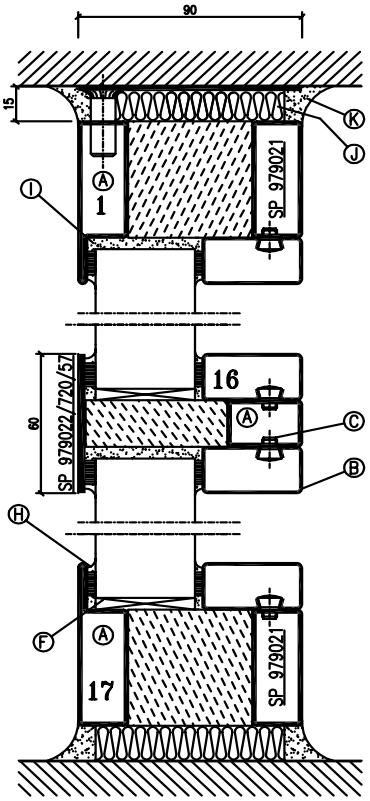

1.8
20
50
90
SP 979024/785
20
20
85
105

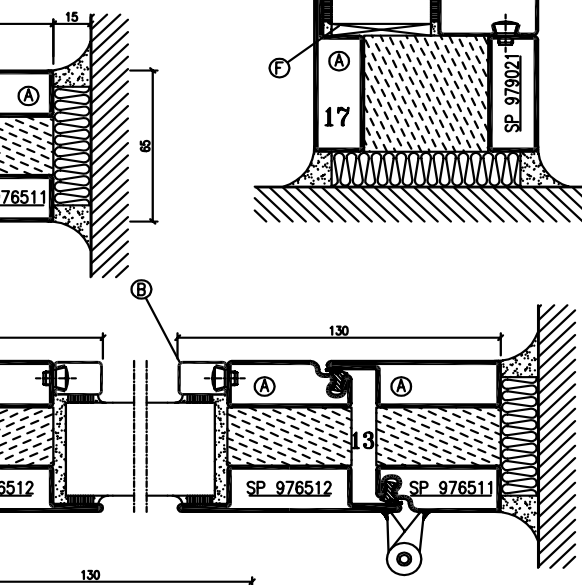

20
50
90
SP 979013/785
1.8
20
20
85
20
125


1.8
20
50
90
SP 979025/785
20
20
85
125


The designs also apply for double doors
The design also apply for single doors
All approved profiles are suitable for circular windows
The designs also apply for single doors
MAX 1385
MAX 2400
MAX 1350
MAX 3000
MAX 2300
MAXIMUM DISTANCE PER MODULE 5000
SP 979011
SP 976512
SP 976511
SP 976513
SP 976512/785
SP 976522/720/32
SP 976522/785
SP 979021
SP 979013
SP 976514
SP 976521
SP 976522
Alt. FOR MODULE LOCKS





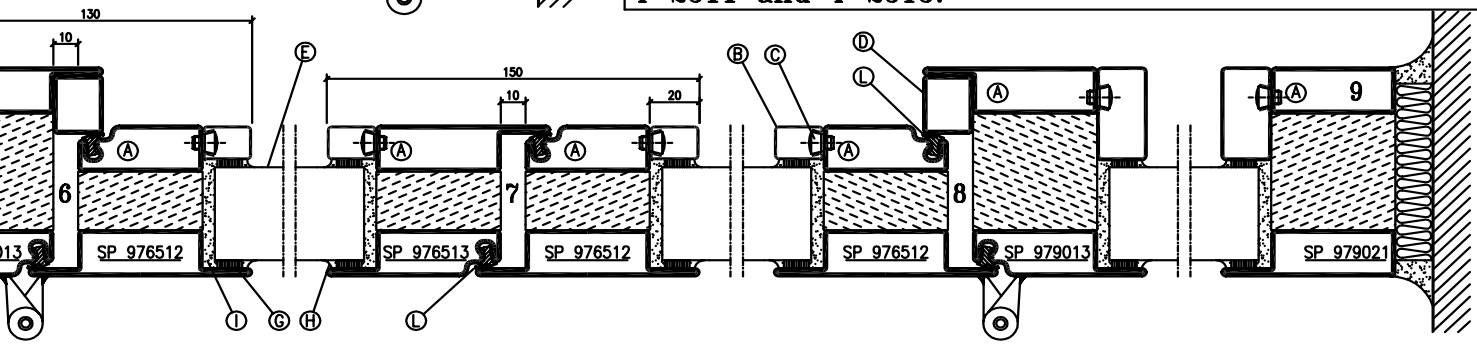


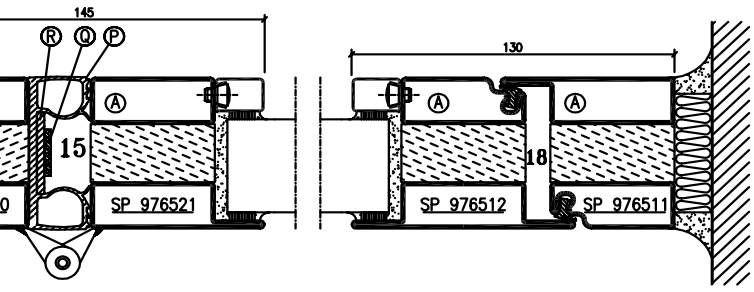
SYSTEM SP 76500 AND SP 79000 DOOR SECTIONS
SPECIFICATION OF MATERIAL FIRE RESISTANCE CLASS A–60 (DOOR) EI–60 (WALL)

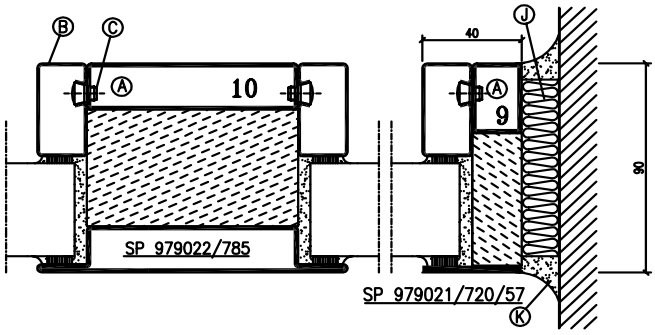
NO	DESCRIPTION	MATERIAL	REMARKS
A	Steel profiles, SP 76500 Steel profiles, SP 79000 Alt. Stainless design SP 970000	Cold formed steel Wall–Thickness 1,8 mm Stainless steel Wall–Thickness 1.75 mm	Bright steel surface suitable for laquering
B	Glass beads Serie 40000 Alt. Glass beads Serie 90000	Sheet metal ST 0,2 Senzimirband Z 275 Wall–Thickness 1,25 mm Stainless steel Wall–Thickness 1,25 mm	Glazing beads can if required screw into the profiles ex. curve profiles and circular windows. Alt. may rectangular tube be in use.
C	Bead studs	Steel	C/C 300 mm
D	Tube	Steel 25x20x2	
E	**Panes:** **Standard approved panes in fire resistance class A 60 or EI60 (DOOR) and EI 60 (WALL)** ***Contraflam 60–41**	**Thickness, weight and max measurements see standard approval cert.** **see approval cert.**	**Mounting:** **According to standard approval certif'icate** **Can be mounted in system**
F	Distance block	Oak	
G	Glazing band	Fiberfrax	Alt. Intumex bead
H	Top seal	Pyrosil B	
I	Bottom seal	Pyrosil B	
J	Insulation	Rockwool	Alt. Ceramic jointing band
K	Edge sealant	Pyrosil B	
L	Stop seal SP 40010	Chloroprene	
M	Stop bolt	Angle steel	
N	Plate	Thickness 1,5 mm	
O	Gypsum board	3 x 13 mm	Approved as fireprotecting clo'thing
P	SP 40067	Chloroprene	Finger–trap–proof–gasket
Q	Intumex bead	Fire expanding 12x3	
R	Flat steel	Steel 35x2	Fastener SP 40067
S	Tube	Steel 45x20x2	Stop bolt
T	Rubber seal		
U	Threshold SP 45065	Kloropren	

DETAILED DRAWINGS:
Frame profiles drawing no. 4–2290–B, 4–2291–B, 4–2292–B, 4–2293–B, 4–1172–C, 4–2374, 4–2375
Glass beads and accessories drawing no. 4–2346–A, 4–2183
Electric installation field, center glazed drawing no. 4–2486, 4–2505

Fixings and mounting instructions and general directions see drawing no. 4–2357–B, 4–2358–A 4–2511 and 4–2515.







REV. E: NEW GLASS MOUNTING 990226

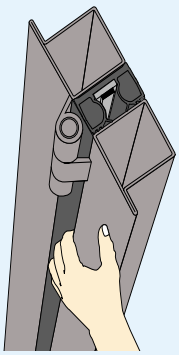
Konstr.	Ritad R.0	Kop.	Kontr.	Stand.	Godk.	Skala 1:3 1:150	Ersätter	Ersatt av
Firma: STÅLPROFIL AB			Titel: SYSTEM SP 976500 A60 DOOR ABOWE AND SIDE LIGHTS EI60				Regist.nr	Dat. 970112
							Ritn.–nr 3–4031–E	

FINGER TRAP PROOF GASKET

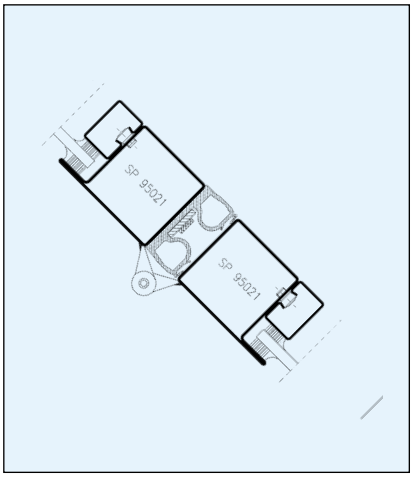
THE FINGER TRAP PROOF GASKET IS AVAILABLE FOR INSULATED AND NON - INSULATED PROFILES IN FIRE RESISTANT CLASSES UP TO AND INCLUDING E 60/EI 60

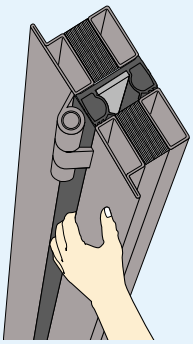
AVOID PINCH INJURIES!

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

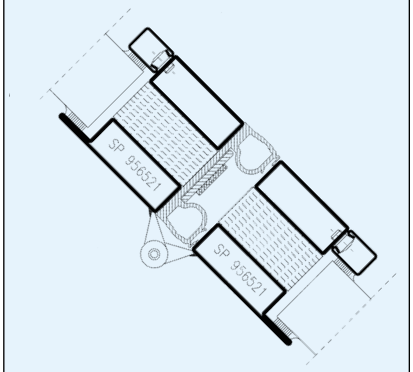


SP 95000





SP 956500
SP 976500



MODULE LOCKS

Stålprofils wide assortment of profiles functionally adapted for module locks offers the following advantages:

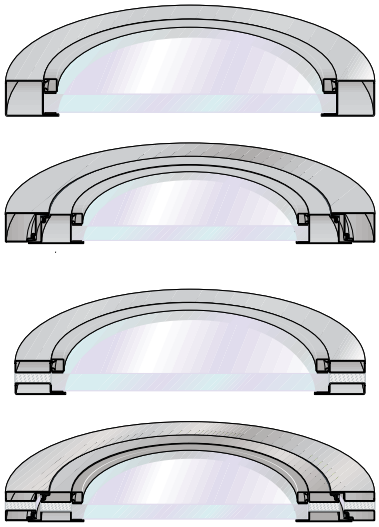
- Ranged by Swedish Standard
- 34 different locking functions for ASSA: s assortment, including narrow profiles
- Easier facilitation of handicap adaptation
- Extensive assortment of accessories, e.g surface treatment and door handles

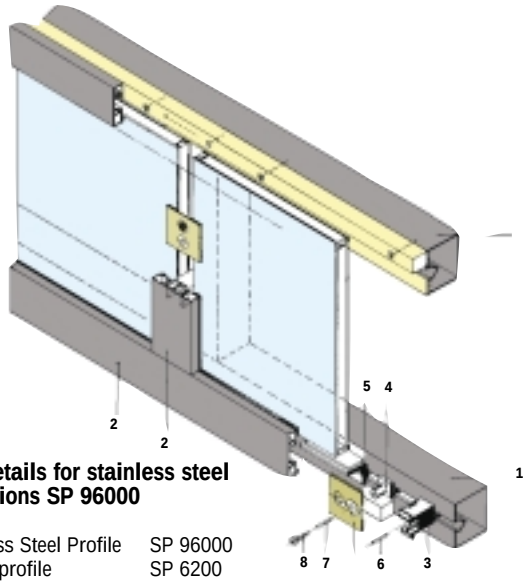
ARCHES AND ROUNDED WINDOWS

Systems SP 95000, SP 956500, SP 976500 and SP 979000 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 50mm = 500mm
- Profile width 70mm = 700mm
- Profile width 90mm = 1100mm





Glazing details for stainless steel glass sections SP 96000

1.	Stainless Steel Profile	SP 96000
2.	Facing profile	SP 6200
3.	Stud fastener	series SP 6400
4.	Glass retainer stud	series SP 6500
5.	Glass carrier	series SP 6600
6.	Glass retainer pad	SP 6599
7.	Rivet	
8.	PT screw	

PROFILSYSTEM SP 96000

Facade system in acid resistant stainless steel quality 316L

SP 96000 is designed and developed for glazed facades and slanted window sections that make heavy demands on good insulating properties, architectural design, stability and safety.

SP 96000 has been developed for Scandinavian climate conditions and represents the ideal solution at a competative price level for offices, hotels, airports, shopping and cultural centres, sports arenas, industrial premises and government buildings etc.

The solid profiles do not need any other kind of covering material, such as steel plate. This effectively eliminates the risk for corrosion between two different surfaces and wear and tear on a thin metal plate covering. The design of the steel profiles give them the classic and elegant stainless look while the shiny exterior surface reflects the surrounding colour scheme in a pleasant and harmonious manner. The stainless material is delivered in brushed or untreated quality.

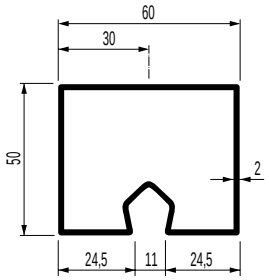
SP 96000 is designed around a special stainless steel support profile which takes up the static weight bearing function. The construction of the support profile allows high static payloads to be absorbed at very low actual weight bearing. The support profile's width is 60mm and there are alternating depths available. This allows flexibility with regard to the architectural design. Please refer to the dimension graph for profile choice.

The exterior face of the profile is delivered in stainless or hot dipped galvanised steel, brass, aluminium or copper. SP 96000 is designed to allow maximum flexibility and alternative solutions.

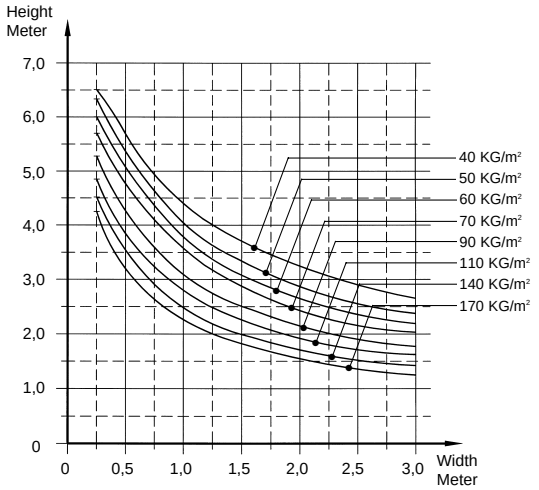
Assembly and glazing time for SP 96000 are considerably lower due to the fact that the system has been especially designed to minimise details.

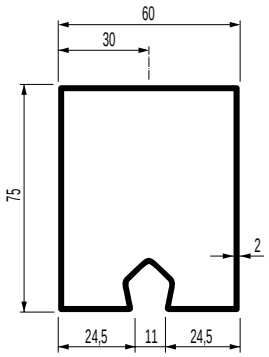
GLASS THICKN. "G"	STUD FASTENER ②	GLASS RETAINER STUD ①	GLASS RETAINER PAD ③	GLASS CARRIER ④	GLAZING DEPTH A+B+G	SPACE FOR JOINTING STRIP	JOINTING* SIZE "A"	JOINTING* SIZE "B"
8	SP 6408	SP 6508	N	SP 6608	17	9	7	5
10	↓		N		17	7	5	5
19	SP 6419	SP 6519	U		27	8	6	5
20			U		27	7	5	5
21	↓		U		27	6	4	5
22	SP 6422	↓	U	↓	29	7	5	5
23	↓	SP 6523	U	SP 6623	29	6	4	5
24	SP 6424		U		32	8	6	5
25			U		32	7	5	5
26	↓		N		32	6	4	5
27	SP 6427		N		35	8	6	5
28		↓	N		35	7	5	5
29	↓	SP 6529	U		35	6	4	5
30	SP 6430		U		38	8	6	5
31			U		38	7	5	5
32	↓		N		38	6	4	5
33	SP 6433		N		42	9	7	5
34			N		42	8	6	5
35		↓	N	↓	42	7	5	5
36	↓	SP 6536	N	SP 6636	42	6	4	5
37	SP 6437		U		44	7	5	5
38	↓		U		44	6	4	5
39	SP 6439		U		46	7	5	5
40	↓		N		46	6	4	5
41	SP 6441		N		50	9	7	5
42			N		50	8	6	5
43	↓	↓	N		50	7	5	5
48	SP 6448	SP 6548	N		58	10	8	5
49			N		58	9	7	5
50			N		58	8	6	5
51	↓	↓	N	↓	58	7	5	5

REMARK
Estimate that the jointing strip at "A" will be compressed 1 mm and that the jointing strip at "B" will be compressed 2 mm during assembly.

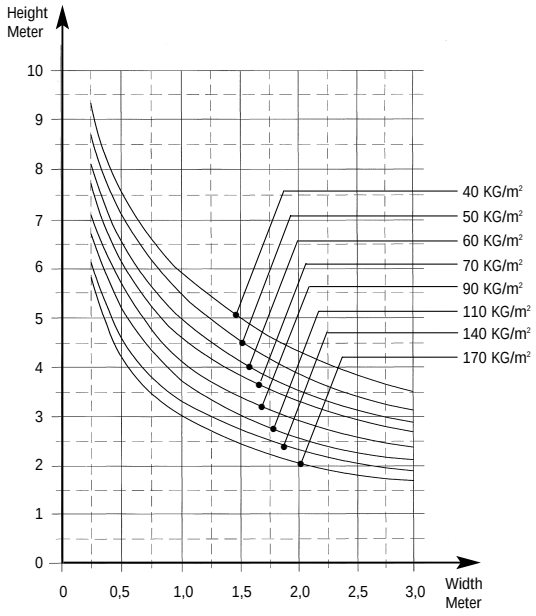


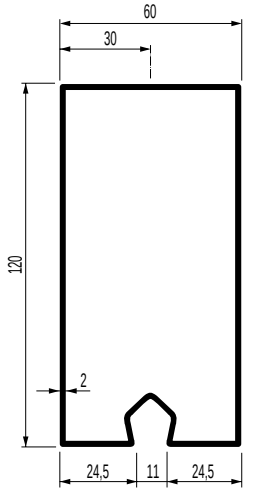
Cat.no. SP 96050
Weight = 3,550 Kg/m
I x = 16,950 cm⁴



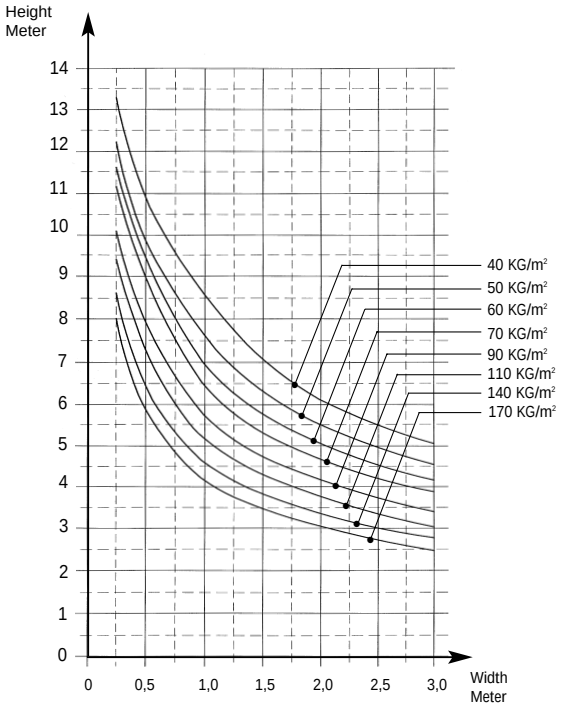


Cat.no. SP 96075
Weight = 4,340 Kg/m
I x = 45,110 cm⁴

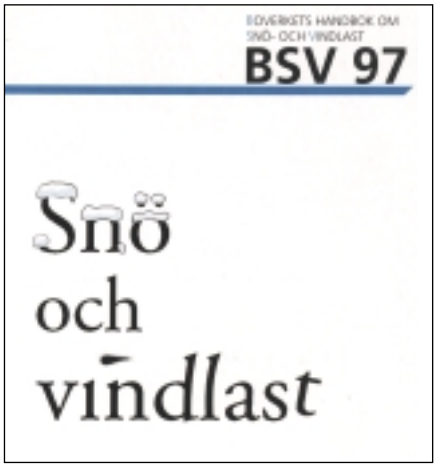




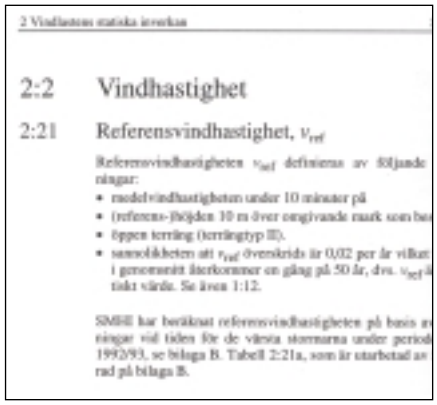
Cat.no. SP 960120
Weight = 5,8 Kg/m
I x = 142,3 cm⁴



Windloads can be calculated with the help of *The Swedish Housing and Building Department* manual on **Snow and Windloads**.
Publication from Boverkets manual on snow and windloads 2nd edition, November 1999 Please see below some excerpts from the manual.



1. The reference windspeed for the municipality



2 Vindlastens statiska inverkan

2:2 Vindhastighet

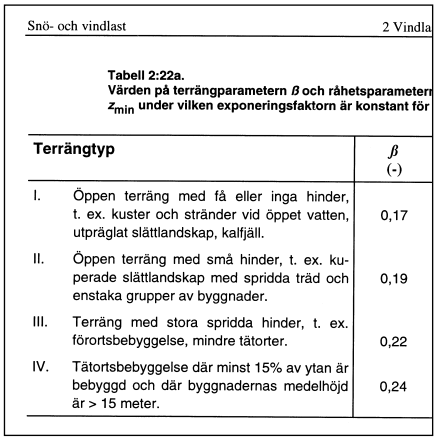
2:21 Referensvindhastighet, v_{ref}

Referensvindhastigheten v_{ref} definieras av följande förutsättningar:

- medelvindhastigheten under 10 minuter på
- (referens-)höjden 10 m över omgivande mark som har
- öppen terräng (terrängtyp II).
- sannolikheten att v_{ref} överskrids är 0,02 per år vilket i genomsnitt återkommer en gång på 50 år, dvs. v_{ref} är lika med detta värde. Se även 1:12.

SMHI har beräknat referensvindhastigheten på basis av mätningar vid tiden för de värsta stormarna under perioden 1992/93, se bilaga B. Tabell 2:21a, som är utarbetad av SMHI, redovisas på bilaga B.

2. Valid types of terrain.

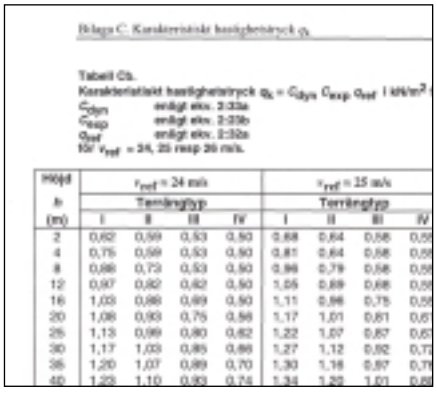


Snö- och vindlast 2 Vindla

Tabell 2:22a.
Värden på terrängparametern β och råhetsparameter z_{min} under vilken exponeringsfaktorn är konstant för

Terrängtyp		β (-)
I.	Öppen terräng med få eller inga hinder, t. ex. kuster och stränder vid öppet vatten, utpräglat slättlandskap, kalfjäll.	0,17
II.	Öppen terräng med små hinder, t. ex. kuperade slättlandskap med spridda träd och enstaka grupper av byggnader.	0,19
III.	Terräng med stora spridda hinder, t. ex. förortsbebyggelse, mindre tätorter.	0,22
IV.	Tätortsbebyggelse där minst 15% av ytan är bebyggd och där byggnadernas medelhöjd är > 15 meter.	0,24

3. Characteristic windspeed pressure.

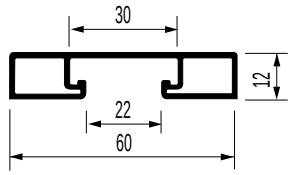


Bilaga C: Karakteristiskt hastighetstryck q_k

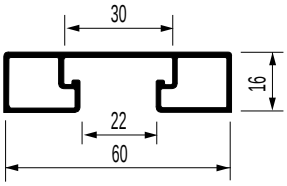
Tabell C5.
Karakteristiskt hastighetstryck $q_k = C_{dyn} \cdot C_{exp} \cdot q_{ref}$ i kN/m²
C_{dyn} enligt ekv. 3:33a
C_{exp} enligt ekv. 3:33b
q_{ref} enligt ekv. 3:32a
för v_{ref} = 24, 25 resp 26 m/s.

Höjd h (m)	v_{ref} = 24 m/s Terrängtyp I	II	III	IV	v_{ref} = 25 m/s Terrängtyp I	II	III	IV
2	0,62	0,59	0,53	0,50	0,68	0,64	0,58	0,55
4	0,75	0,59	0,53	0,50	0,81	0,64	0,58	0,55
8	0,88	0,73	0,53	0,50	0,96	0,79	0,58	0,55
12	0,97	0,82	0,62	0,50	1,05	0,89	0,68	0,55
16	1,03	0,88	0,69	0,50	1,11	0,96	0,75	0,55
20	1,08	0,93	0,75	0,56	1,17	1,01	0,81	0,61
25	1,13	0,99	0,80	0,62	1,22	1,07	0,87	0,67
30	1,17	1,03	0,85	0,66	1,27	1,12	0,92	0,72
35	1,20	1,07	0,89	0,70	1,30	1,16	0,97	0,75
40	1,23	1,10	0,93	0,74	1,34	1,20	1,01	0,80

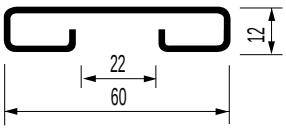
Facing profile - Façade



ALUMINIUM Kat.nr. SP 6260
Weight: 0,496 Kg/m • Perimeter: 182 mm



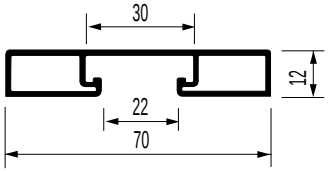
ALUMINIUM Kat.nr. SP 6261
Weight: 0,545 Kg/m • Perimeter: 197 mm



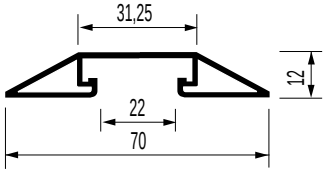
STEEL Kat.nr. SP 6262
Weight: 1,35 Kg/m

STAINLESS STEEL Kat.nr. SP 6264
Weight: 1,16 Kg/m

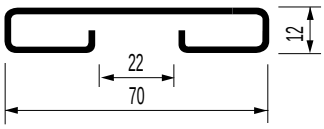
COPPER Kat.nr. SP 6266
Weight: 1,35 Kg/m



ALUMINIUM Kat.nr. SP 6270
Weight: 0,564 Kg/m • Perimeter: 202 mm

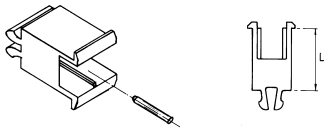


ALUMINIUM Kat.nr. SP 6271
Weight: 0,513 Kg/m • Perimeter: 186 mm



STAINLESS STEEL Kat.nr. SP 6274
Weight: 1,36 Kg/m

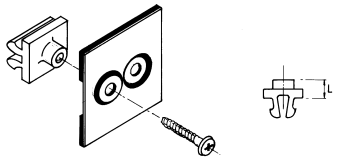
Stud fastener with rivet
Colour: black



Package: 100 pcs/box

Cat.no.	Glass thickness mm	Length mm
SP 6408	8, 10	22
SP 6419	19-21	32
SP 6422	22-23	34
SP 6424	24-26	37
SP 6427	27-29	40
SP 6430	30-32	43
SP 6433	33-36	47
SP 6437	37-38	49
SP 6439	39-40	51
SP 6441	41-43	55
SP 6448	48-51	63

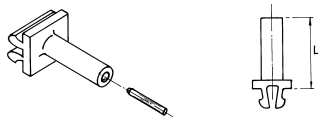
Glass retainer stud with washer and screw 60x25



Package: 100 pcs/box

Cat.no.	Glass thickness mm	Length mm
SP 6508	8-10	10,5

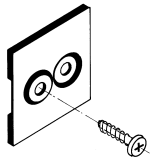
Glass retainer stud with rivet
Colour: black



Package: 100 pcs/box

Cat.no.	Glass thickness mm	Length mm
SP 6519	19-22	24
SP 6523	23-28	28
SP 6529	29-35	34
SP 6536	36-43	41
SP 6548	48-51	50,5

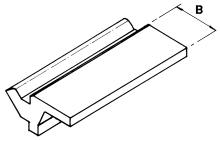
Glass retainer pad with screw 6x18, alt.6x25



Package: 100 pcs/box

Cat.no.	Pad 50x50 zinkplated with rubber bead and screw
SP 6599	-"-
SP 66599	-"-

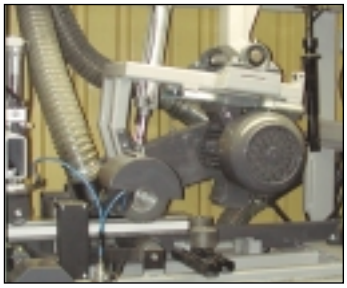
Glass carrier
Material: Aluminium

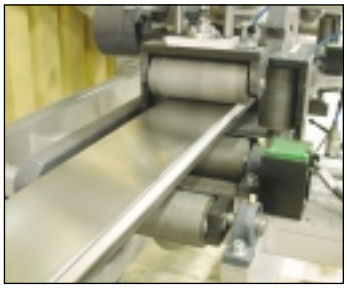


Package: 50 pcs/box

Cat.no.	Glass thickness SP 6000	Length mm
SP 6608	8-10, 19-22	24
SP 6623	23-35	38
SP 6636	36-51	53

STÅLPROFIL AB





STÅLPROFIL AB

STÅLPROFIL AB
Box 37
SE-447 22 Vårgårda, Sweden
www.stalprofil.se

Telefon +46 322 – 62 50 60
Telefax +46 322 – 62 18 68
info@stalprofil.se