

evolutionDrive

# Plus+ Planning manual



**SALAMANDER**  
WINDOW & DOOR SYSTEMS

[salamander-windows.com](https://salamander-windows.com)



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Chapter 1

**Introduction**

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**Designation**

**Page**

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Introduction Planungshandbuch

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**About this manual**

This manual contains important information and instructions for planning window and door elements with Salamander products. We present a wide range of applications and possible combinations. It is, however, not possible to show all applications. Please use our planning tool as a supplement or consult our technical customer service.

This manual has been prepared and checked with great care. However, errors cannot be excluded. We therefore kindly ask you to contact our technical customer service if you discover any errors or discrepancies.

This manual is an important part of the evolutionDrive Plus+ system kit.

- ▶ Always keep it within easy reach.

**Scale**

The illustrations and drawings are mostly not to scale. Illustrations drawn to scale are marked accordingly.

**Online**

You will also find this manual, test certificates and other technical documents in electronic form in the log-in area of our homepage at salamander-windows.com. Please note that the electronic documents may be more up-to-date than the printed editions.

**Further information**

Further information can be found in the log-in area of our website salamander-windows.com:

- Production manual
- Planning tool
- Statics calculator


We also recommend the following on the website ift-rosenheim.de:

- ift assembly planner

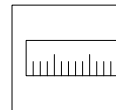
**Abbreviations**

RAM	Outer frame dimension
FAM	Outer sash dimension
B	Width
H	Height
L	Length
D	Thickness
AD	Overlap gasket, overlap gasket system
MD	Central gasket, central gasket system
DK	Tilt-turn
D-DK	Turn/tilt-turn
PSK	Parallel slide and tilt

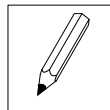
**Symbols**

~	Dimensions are approximations
-----	Decor film
- · - ·	Instantaneous axis
- · - ·	Symmetry line
	Sealant

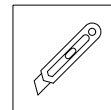
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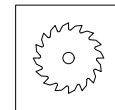
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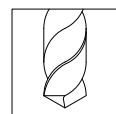
Mark



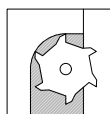
Cut



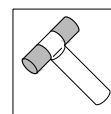
Saw



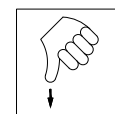
Drill



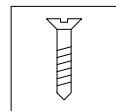
Shape



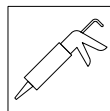
Tapping with a re-coiless soft-face hammer



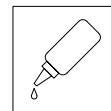
Impression



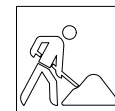
Screw



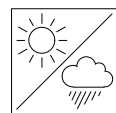
Seal\*\*



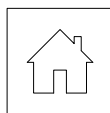
Bond



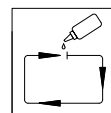
On the construction site



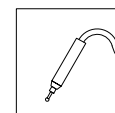
Outer side



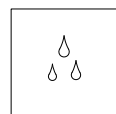
Room interior



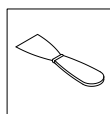
Insert gasket, bond joint



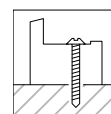
Shape gasket groove



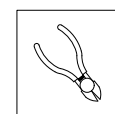
Condensation



Sickle knife, spatula



Dowel drilling



Remove with side cutters

**i INFO**

\*\* Seal with permanently elastic, neutrally cross-linking sealant, suitable for PVC and galvanised steel.

Deviations noted separately.

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<b>Standards and guidelines</b>	<p>Standards and guidelines specified in this manual and other applicable standards and directives:</p> <ul style="list-style-type: none"><li>▪ DIN EN 12608</li><li>▪ DIN 16941-2A</li><li>▪ DIN 18055</li><li>▪ Eurocode 1</li><li>▪ DIN EN 14351-1</li><li>▪ Technical guidelines of the glass trade</li><li>▪ Guideline for planning and executing the installation of windows and entrance doors</li></ul>
<b>Copyright</b>	<p>The contents of these documents are protected by copyright. The resulting rights, in particular those of reprinting, extraction of illustrations and translation, are reserved.</p>
<b>Liability exclusion</b>	<p>Our consultation – verbal or written – is based on experience and is given to the best of our knowledge. However, no guarantee is granted for the completeness and correctness of any information in this manual. In particular, it does not contain any assurance of characteristics. We reserve the right to technical changes without prior notice. Working conditions beyond our control and different conditions of use exclude any claim based on our information. The end-user must check the suitability of selected products for the concrete application on his own responsibility. Application, use and fabrication of the products are beyond our control and are therefore the exclusive responsibility of the end-user.</p> <p>Statements require our written confirmation to be legally effective.</p> <p>Where products from other suppliers are shown in this manual, this is intended to represent possibilities. As far as legally permissible, we do not assume any warranty or liability for these representations and/or the concrete use of third-party products that are not original Salamander products. Please clarify suitability and operation purpose with the respective supplier before application.</p> <p>If, notwithstanding this, liability on our part should come into consideration, this shall be governed exclusively by our respectively valid General Terms and Conditions. These can be viewed, downloaded and printed out at <a href="http://salamander-windows.com/rechtliches/agb">salamander-windows.com/rechtliches/agb</a>. Upon written enquiry, we will also send them by post or e-mail.</p>



## Chapter 2

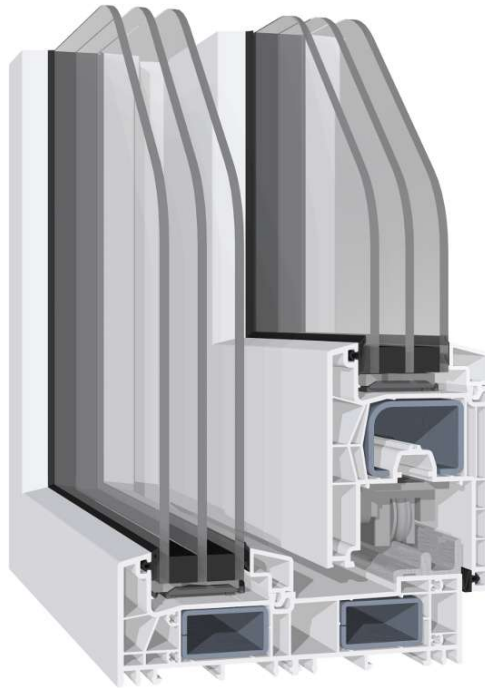
**System features**

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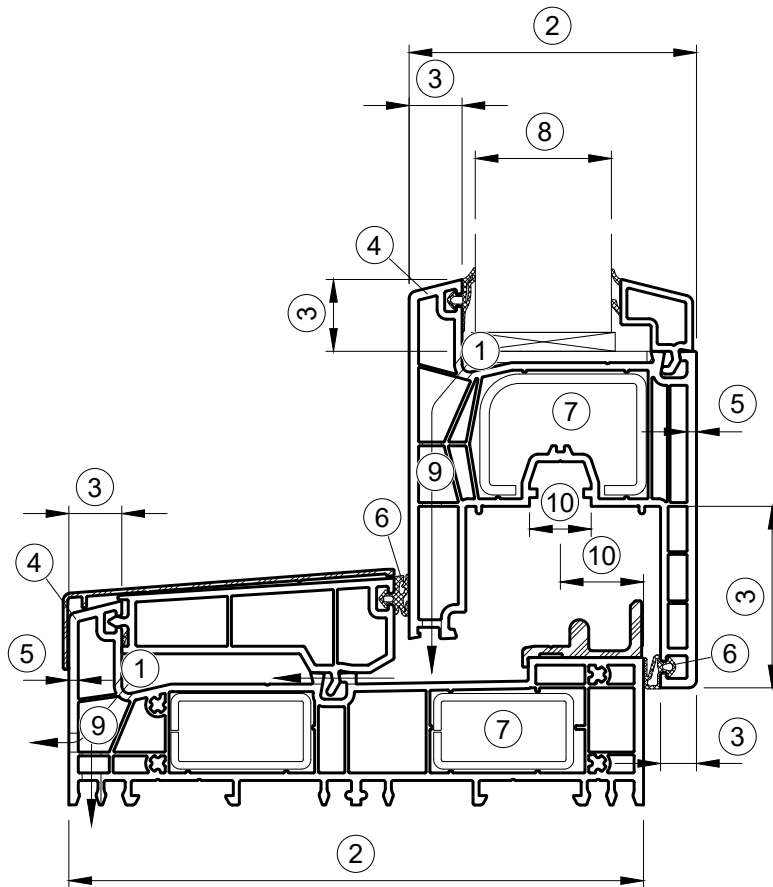
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**System highlights**

- Standard production possible via processing line.
- Everything from one source "System including fittings".
- Convenience (Easy operation due to low operating forces, no need to lift the door).
- Slim view and plenty of light entry due to fixed glazing directly in the frame (without additional, fixed sash).
- A variety of accessories can be used from the greenEvolution modular system.

## Design features

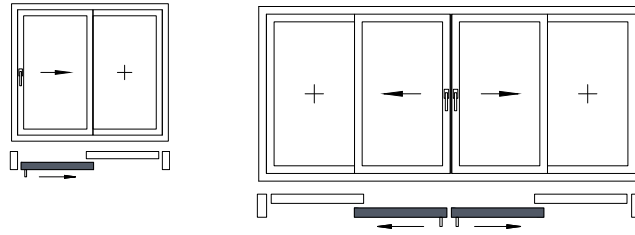


①	Rebate	Glazing rebate with water drainage channel and 3 mm upstand in frame and sash.
②	Construction depth	Frame: 152 mm Sash: 76 mm Post: 76 mm
③	Fittings	Fitting height: outside 19 mm. Fitting width: outside 14 mm, inside 13.5 mm.
④	Fitting shape	Outer stop bevelled at 14°. Inner sash stops straight. Glazing bead with 14° bevel, design variants available.
⑤	Profile wall thickness	Outer walls of main profiles according to RAL-GZ 716. Inner walls according to design requirements.
⑥	Seals	Stop seal outside in the cover profile made of EPDM. Stop seal inside in the sash made of EPDM. Glazing seal outside in the sash made of PVC-P, weldable, factory-fitted. Glazing seal outside in frame made of EPDM. Glazing bead seal made of PVC-P. Gap dimension of glazing 3.5 mm. Gap dimension outer stop 4 mm, gap dimension inner stop 4.5 mm.
⑦	Bracing	Galvanised steel profiles according to RAL-GZ 716.
⑧	Glazing	All commercially available insulating glass panes for heat, sound and burglary protection. Infill thickness up to 48 mm.
⑨	Drainage / ventilation	Via separate antechambers to the front or concealed downwards.
⑩	Fittings	Move by Salamander.
⑪	Profile connection	Frame and sash corner connection by butt welding. Posts, transoms and mullions by mechanical connection.
⑫	Chamber construction	Frame: 7 chambers. Sash: 5 chambers. Post: 5 chambers.

## Type 3

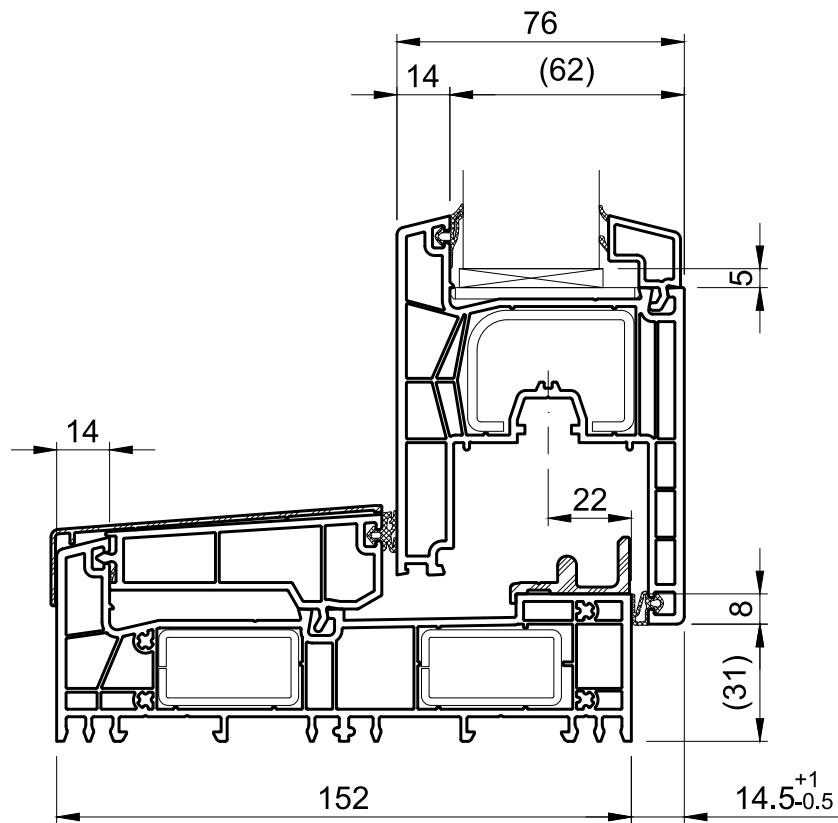
**3.3 Sliding windows, sliding doors**

Windows and doors (according to DIN EN 14351-1).



Frame  
660---

Sash  
661---



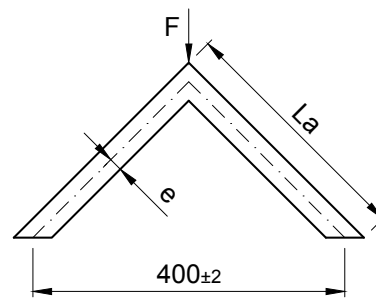
**Dimensional deviations**

The dimensions listed below are approximate. Tolerances result from DIN 16941-2A , unless agreed separately.

The internal overlap depth in the evolutionDrive Plus+ system is 14.5 +1/-0.5 mm. Deviations from this nominal dimensional specification may result from tolerances in the profiles, seals and fittings used, as well as from the window manufacture it-self.

The dimension of the overlap depth alone is not meaningful for the evaluation of the tightness of window elements; possible dimensional deviations therefore do not necessarily constitute a defect. Only technical test assessments and classifications in accordance with the applicable EN standards are authoritative for air and water tightness. The specification for permissible operating forces on window elements ( $\leq 10$  Nm) has priority over compliance with the overturning dimensions.

Art. no.	La [mm]	Cut [mm]	F <sub>target</sub> un-rendered [N]	F <sub>target</sub> rendered [N]
666000	324	327	2917	2333
661000	395	398	7355	5884
762011	363	366	3612	2889
762013	363	366	3586	2869



- I<sub>x</sub> Moment of area around the X-axis
  - e Distance of the critical fibre from the neutral fibre
  - W<sub>x</sub> Section modulus in direction of stress (inner corner)
  - h Lever arm
  - L<sub>i</sub> Length of the profile-pieces on the inside
  - F<sub>target</sub> Minimum value of the breaking force
  - b Profile width
  - L<sub>a</sub> Length of the profile-pieces on the outside
- \*\* For F<sub>target</sub>/F actual value above 8000 N the maximum limit pursuant to RAL-GZ 716 – Section I with 8000 N applies.

**Profile material**

SALAMANDER plastic window profiles are made of high-impact modified rigid PVC in accordance with the RAL quality and testing regulations for plastic window profiles RAL-GZ 716.

Moulding compound:

Through-dyed rigid PVC moulding compound in white, cream, caramel, brown and anthracite.

Designation according to DIN EN ISO 1163-1:

Moulding compound ISO 1163-PVC-U, EDLP, 082-25-28

PVC = polyvinyl chloride

D = Powder

U = Hard (plasticiser-free)

L = Light and weather resistant stabilized (White and cream. Caramel, brown and anthracite only available with decorative film).

E = Extrusion

P = Impact modified

SALAMANDER moulding compound exceeds the requirements of RAL-GZ 716.

PVC type		Delivery form		Processing	
Letter	Meaning	Letter	Meaning	Letter	Meaning
U	Free of plasticisers	D	Powder	E	Extrusion
Vicat softening temperature VST/B		Min. notched impact strength		Min. bending modulus of elasticity	
Digit	°C	Digit	kJ/m <sup>2</sup>	Digit	N/mm <sup>2</sup>
082	>80 ≤84	25	>20	28	>2500

Testing on press plates

**Window profiles**

Measurement on test pieces of extruded profiles: (taken in extrusion direction)

	Test method	Unit	Value
Density	DIN EN ISO 1183 - 1	g/cm <sup>3</sup>	1.44 ±0.03
Thermostability	DIN EN ISO 182 - 2	min	>30
Vicat softening temperature VST/B	DIN EN ISO 306	°C	80-83 °C
Coefficient of linear expansion between -30 °C and +50 °C	Leitz dilatometer	K <sup>1</sup>	8x10 <sup>5</sup>
Thermal conductivity	DIN EN ISO 10077 - 1	W/(m·K)	0.17
Fire behaviour	DIN EN 13501 - 1		Class E
Resistance to artificial weathering	DIN EN 513	GJ/m <sup>2</sup>	12, ΔE <3.8
Tensile modulus of elasticity	DIN EN ISO 527	N/mm <sup>2</sup>	>2500 ±300
Notched impact strength at +23 °C	DIN EN ISO 179-1/ fA	kJ/m <sup>2</sup>	>55 (wall thickness A) >60 (wall thickness B)
Impact strength	EN ISO 8256	kJ/m <sup>2</sup>	>500 (23 °C)

## Seals, PVC-P

PVC-P quality according to RAL-GZ 716, section II; product class IV (exterior and interior)

	Test method	Unit	Value
Density	DIN EN ISO 1183-1	g/cm <sup>3</sup>	1.22 ±0.03
Tensile strength	DIN 53 504	N/mm <sup>2</sup>	≥5.0
Elongation at break	DIN 53 504	%	≥250
Compression set (-25 °C / 22 h / 25 %)	DIN ISO 815	%	≤90
(23 °C / 22 h / 25 %)		%	≤35
(70 °C / 22 h / 25 %)		%	≤50
Behaviour after heat ageing	DIN 53 508 (7 days, 100 °C)		No complaints
Change in hardness	DIN ISO 48	IRHD	≤5
Change in tensile strength	DIN 53 504/53 455	%	≤25
Elongation at break (absolute)	DIN 53 504/53 455	%	≥200
Change in Shore hardness with temperature change from 23 °C to -10 °C	DIN 53 505	-	≤25
Behaviour after exposure to ozone	DIN 53 509	Crack level	0
Weather resistance	ISO 188	GMA02	≥3 no cracks, blisters
Weather resistance	ISO 105 A	%	≥200
Contact discolouration	ISO 3865	GMA02	≥4
Weight loss	DIN 53407, Method A	%	≤3.0
Compatibility	Contact under tensile bending stress of 0-15 N/mm <sup>2</sup>		No cracking in the contact material

**Seals, EPDM**

Quality in accordance with DIN 7863 or RAL-GZ 716, section II; elastomer class A

	Test method	Unit	Value	Value
Nominal hardness		IRHD	≤50	>50 / ≤70
Density	DIN 53479, procedure A	g/cm <sup>3</sup>		
Tolerance of nominal hardness	DIN 53 519	IRHD	±5	±5
Tensile test	DIN 53 504			
Tensile strength		N/mm <sup>2</sup>	≥7.5	≥7.5
Elongation at break		%	≥300	≥200
Compression set (-25 °C / 22 h / 25 %)	DIN ISO 815	%	≤70	≤80
(23 °C / 22 h / 25 %)		%	≤15	≤15
(100 °C / 22 h / 25 %)		%	≤35	≤35
Behaviour after heat ageing	DIN 53 508 (7 days, 100 °C)		No complaints	
Change in hardness	DIN 53 519	IRHD	≤15	≤15
Change in tensile strength	DIN 53 504	%	≤25	≤25
Elongation at break (absolute)	DIN 53 504	%	≥200	≥150
Change in Shore hardness with temperature change from 23 °C to -10 °C	DIN 53 505	Shore A	≤10	≤10
Behaviour after exposure to ozone	DIN 53 509	Crack level	0	0
Behaviour under artificial weathering	RAL-GZ 716, Section I		no cracks, blisters	
Weather resistance	DIN 53504 (elongation at break)	%	≥200	≥150
Contact discoloration	DIN 53 540	Fastness number (A02)	≥3	≥3
		Fastness number (A03)	≥4	≥4

	Test method	Unit	Value	Value
Weight loss	DIN EN ISO 176 method A	%	≤3.0	≤3.0
Compatibility	Contact under tensile bending stress of 0 - 15 N/mm <sup>2</sup>		No cracking in the contact material	

## Chapter 3

**Profile overview**

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Chapter 3

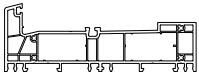
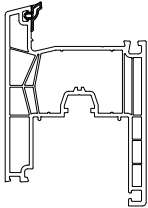
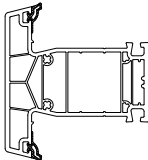
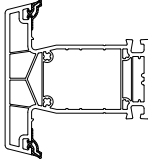
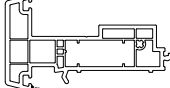
**Profile overview**

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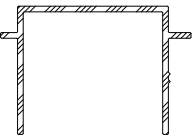
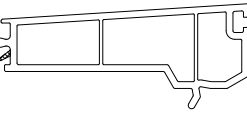
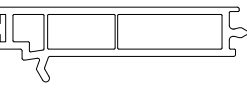


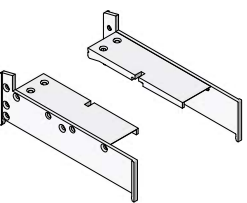

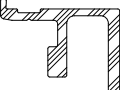
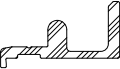
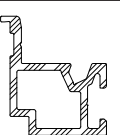
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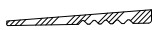


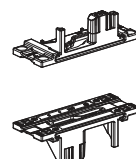
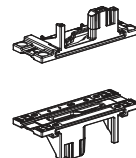


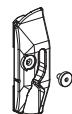
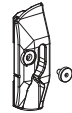
Main profiles

Colour base body: SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White Colour seal: s = black; g = grey Décor: <input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside						
Illustration	Description	Article no.	Length / PU	Colour main body+colour gasket	Pattern	From page
	Frame 54 7K B	<b>660000</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 23</a>
	Sash 108 5K B	<b>661000</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 24</a>
	Glazing bar / mullion 80 6K B	<b>762011</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 25</a>
	Glazing bar / mullion 80 5K B	<b>762013</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 26</a>
	Forend 51,1	<b>666000</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 27</a>

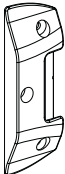
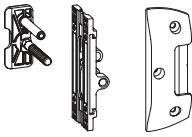
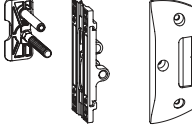







Accessories sliding windows

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Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Support profile for floating mullion / face-plate	<b>665003</b>	5.8m	Upon request	-	<a href="#">Chapter 3</a> <a href="#">Page 28</a>
	Cover profile for frame	<b>666001</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 29</a>
	Cover profile for sash	<b>666002</b>	6.5m	SW; BW; C; SB; A	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 29</a>
	Sealing pad	<b>664000</b>	1 pair	Black	-	<a href="#">Chapter 3</a> <a href="#">Page 49</a>
	Site connector set	<b>667061</b>	1 pc.	White; Cream; Caramel; Brown; Black	-	<a href="#">Chapter 3</a> <a href="#">Page 49</a>
	Site connector	<b>668000</b>	1 pair	White; Cream; Caramel; Brown; Black	-	<a href="#">Chapter 3</a> <a href="#">Page 49</a>
	Kick plate	<b>669000</b>	5.8 m; 6.5m	Aluminium	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 29</a>
	Top guide-track	<b>669001</b>	5.8 m; 6.5m	Alu	-	<a href="#">Chapter 3</a> <a href="#">Page 28</a>
	Bottom roller track	<b>669002</b>	5.8 m; 6.5m	Alu	-	<a href="#">Chapter 3</a> <a href="#">Page 28</a>
	Closing rail handle side	<b>669003</b>	5.8 m; 6.5m	Alu	-	<a href="#">Chapter 3</a> <a href="#">Page 28</a>




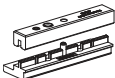
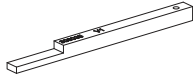
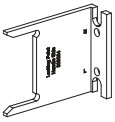

Accessories sliding windows

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Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Rebate drainage	<b>669008</b>	6.5 m; 5.8 m	Alu	-	<a href="#">Chapter 3</a> <a href="#">Page 30</a>
<b>Hardware sets</b>						
Not depicted	Hardware S+ left	<b>667010</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 35</a>
Without illustration	Hardware S+ right	<b>667011</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 35</a>
	Hardware locking points left BG	<b>667016</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 35</a>
	Hardware locking points right BG	<b>667017</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 35</a>
<b>Single hardware parts</b>						
	Hardware locking points left	<b>667012</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware locking points right	<b>667013</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware guide	<b>667014</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware bogie	<b>667015</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware locking component left	<b>667018</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware locking component right	<b>667019</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>

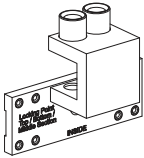
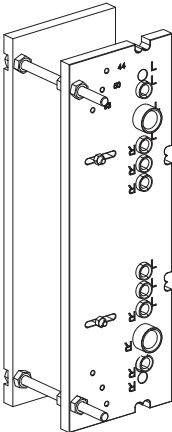
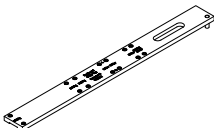
## Accessories sliding windows

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Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Hardware locking plate	<b>667020</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Fitting locking left	<b>667021</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Fitting locking right	<b>667022</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system corner drive Diagram A	<b>667023</b>	20 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system corner drive Diagram C	<b>667024</b>	20 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system espagnolette 470 - 800 mm	<b>667025</b>	5 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system gear 801 - 1250 mm	<b>667026</b>	5 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system gear 1341 - 1590 mm	<b>667027</b>	5 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system extension 235 mm for floating mullion / faceplate	<b>667028</b>	10 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Central locking system extension 470 mm for centre lock	<b>667029</b>	20 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>

Accessories sliding windows

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Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Central locking system link gear 1150 mm	<b>667030</b>	15 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
Without illustration	Hardware S+ left Diagram C	<b>667031</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
Without illustration	Hardware S+ right Diagram C	<b>667032</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Hardware stop Diagram C	<b>667033</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
	Top buffer stop	<b>667062</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
<b>Hardware accessories RC2</b>						
Without illustration	Fitting accessories RC2	<b>667034</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 36</a>
<b>Hardware drilling jigs</b>						
	Hardware drilling jig stop	<b>667035</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
	Hardware jig locking points	<b>667036</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
	Hardware jig locking plate	<b>667037</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
	Hardware drilling jig runner	<b>667038</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>

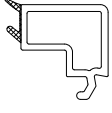
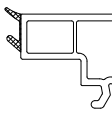







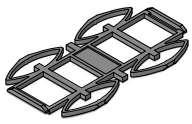
## Accessories sliding windows

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Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Hardware drilling jig centre joint	<b>667039</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
	Hardware drilling jig	<b>667047</b>	Upon request	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
	Drilling jig mount bogie floating mullion / faceplate	<b>667058</b>	1 pc.	-	-	<a href="#">Chapter 3</a> <a href="#">Page 38</a>
<b>Assembly packages</b>						
Without illustration	Assembly package Diagram A	<b>667055</b>	Upon request	-	-	<a href="#">Chapter 3</a> <a href="#">Page 39</a>
Without illustration	Assembly package Diagram C	<b>667056</b>	Upon request	-	-	<a href="#">Chapter 3</a> <a href="#">Page 39</a>

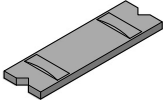
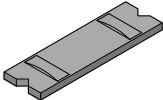
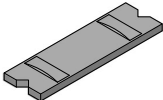
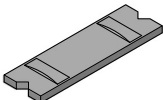
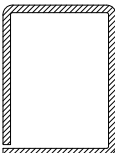
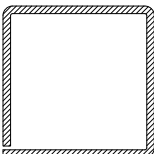

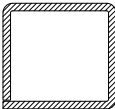

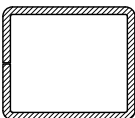
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		☐ = without	☐☐ = on both sides	☐☐☐ = outside	☐☐☐☐ = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
<b>Glazing-beads</b>						
	Glazing-bead	<b>413001</b>	6 m	SW+s; SW+g; BW+s; BW+g; C+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413003</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413005</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413007</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413009</b>	6 m	SW+s; SW+g; BW+s; BW+g; C+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413011</b>	6 m	SW+s; SW+g; BW+s; BW+g; C+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glass bar	<b>413013</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐☐	<a href="#">Chapter 3 Page 40</a>
	Glazing-bead box	<b>413201</b>	6 m	SW+s; SW+g; SB+s	☐ ☐☐	Glass bar box
	Glass bar box	<b>413205</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐☐	Glass bar box
	Glass bar box	<b>413207</b>	6 m	SW+s; SW+g; SB+s	☐ ☐☐	Glass bar box


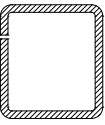
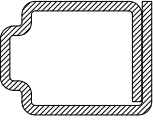
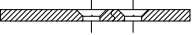
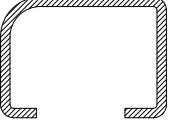
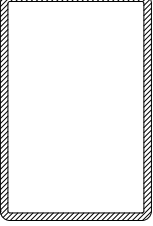

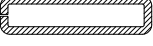
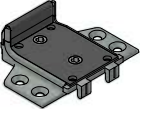

## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		☐ = without	☐  = on both sides	☐ = outside	☐  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Glass bar box	<b>413209</b>	6 m	SW+s; SW+g; C+g; SB+s	☐ ☐	Glass bar box
	Glass bar box	<b>413211</b>	6 m	SW+s; SW+g; BW+s; BW+g; SB+s	☐ ☐	Glass bar box
<b>Gaskets</b>						
	Brush seal	<b>404930</b>	100 m	Black	-	<a href="#">Chapter 3 Page 43</a> <a href="#">Chapter 3 Page 79</a> <a href="#">Chapter 3 Page 80</a> <a href="#">Chapter 3 Page 83</a>
	Brush seal	<b>404935</b>	100 m	Black	-	<a href="#">Chapter 3 Page 43</a> <a href="#">Chapter 3 Page 80</a> <a href="#">Chapter 3 Page 81</a> <a href="#">Chapter 3 Page 82</a>
	Gasket	<b>414565</b>	300 m / coil	Black, grey	-	<a href="#">Chapter 3 Page 43</a>
	Seal	<b>414566</b>	300 m / roll	Black, grey	-	<a href="#">Chapter 3 Page 43</a>
	Combination gasket	<b>464100</b>	100 m	Black, grey	-	<a href="#">Chapter 3 Page 43</a>
	Stopper gasket	<b>464203</b>	300 m	Black, grey	-	<a href="#">Chapter 3 Page 43</a>
	Brush seal	<b>DP9065</b>	200 m	Black, light grey	-	<a href="#">Chapter 3 Page 43</a>
<b>Block bridges and glass blocks</b>						
	Block bridge	<b>417000</b>	100 pc.	Grey	-	<a href="#">Chapter 3 Page 44</a>

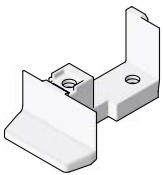
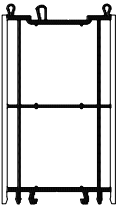
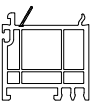
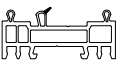
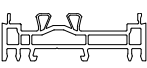
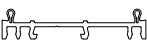
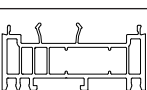
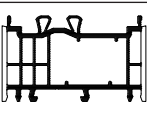
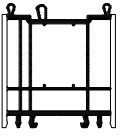
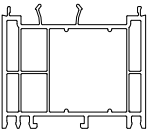
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		□ = without	□  = on both sides	□ = outside	□  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Glass blocks	<b>GZ3020 – GZ3060</b>	500 pc. / carton	Colourful	-	<a href="#">Chapter 3 Page 44</a>
	Glass blocks	<b>GZ3420 – GZ3450</b>	500 pc. / box	Colourful	-	<a href="#">Chapter 3 Page 44</a>
	Glass blocks	<b>GZ4020 – GZ4050</b>	500 pc. / box	Colourful	-	<a href="#">Chapter 3 Page 44</a>
	Glass blocks	<b>GZ4820 – GZ4850</b>	500 pc. / box	Colourful	-	<a href="#">Chapter 3 Page 44</a>
<b>Strengthenings</b>						
	Strengthening	<b>405040</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>405060</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>415020</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>415028</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>435110</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>445030</b>	5.8 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>

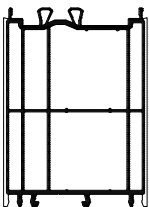
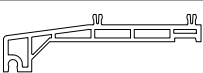
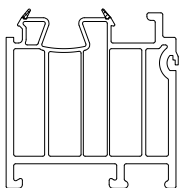
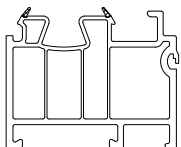
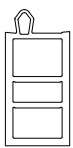
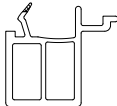
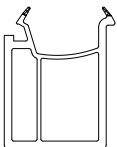
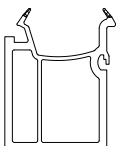
## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		□ = without	□  = on both sides	□ = outside	□  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Strengthening	<b>465001</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>465002</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>465007</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Rebate strengthening	<b>465022</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>665004</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>AR4630</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>VS8320</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
	Strengthening	<b>VS9810</b>	6 m	Steel, galvanised	-	<a href="#">Chapter 3 Page 45</a>
<b>Mullion connector</b>						
	Mullion cross connector wide AD	<b>468034</b>	50 pc.	Silver	-	<a href="#">Chapter 3 Page 50</a>
	Sealing block	<b>667048</b>	Upon request		-	<a href="#">Chapter 3 Page 50</a>

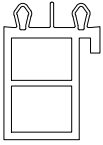
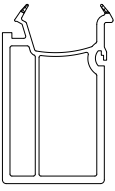
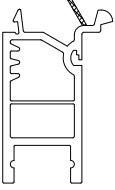
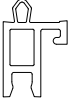


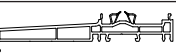
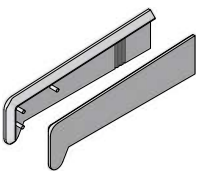
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		□ = without	□  = on both sides	□ = outside	□  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
<b>Floating-mullion end cover cap set</b>						
	Forend cap set	667008	10 pair	White; Cream; Brown; Black	-	<a href="#">Chapter 3 Page 51</a>
<b>Widenings</b>						
	Alargamento	406177	6 m	SW	□  □   □ □	<a href="#">Chapter 3 Page 56</a>
	Balcony door connection	416146	6 m	SW+s	□	<a href="#">Chapter 3 Page 55</a>
	Widening	416157	6 m	SW+s	□  □   □ □	<a href="#">Chapter 3 Page 55</a>
	Widening	416160	6 m	SW	□  □   □ □	<a href="#">Chapter 3 Page 52</a>
	Widening	416161	6 m	SW	□  □   □ □	<a href="#">Chapter 3 Page 52</a>
	Widening	416163	6 m	SW	□  □   □ □	<a href="#">Chapter 3 Page 52</a>
	Widening	416167	6.5 m	SW+s	□  □   □ □	<a href="#">Chapter 3 Page 53</a>
	Widening	416168	6.5 m	SW+s; SB+s	□  □   □ □	<a href="#">Chapter 3 Page 55</a>
	Widening	416170	6 m	SW	□  □   □ □	<a href="#">Chapter 3 Page 53</a>



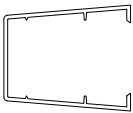
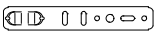

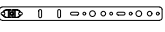
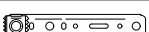



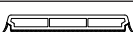
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/>   = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Widening	<b>416177</b>	6 m	SW	<input type="checkbox"/>   <input type="checkbox"/>   <input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3</a> <a href="#">Page 54</a>
<b>Sill connection</b>						
	Window sill connection	<b>406115</b>	6 m	SW; SB	-	<a href="#">Chapter 3</a> <a href="#">Page 58</a>
	Sill connection	<b>416100</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>
	Sill connection	<b>416106</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>
	Sill connection	<b>416107</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>
	Sill connection	<b>416122</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>
	Sill connection	<b>416131</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>
	Sill connection	<b>416134</b>	6 m	Colourful	-	<a href="#">Chapter 3</a> <a href="#">Page 57</a>






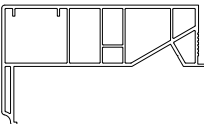

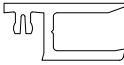



Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		☐ = without	☐  = on both sides	☐ = outside	☐  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Sill connection	<b>416139</b>	6 m	Colourful	☐  ☐   ☐ ☐	<a href="#">Chapter 3 Page 58</a>
	Sill connection	<b>416141</b>	6 m	Colourful	-	<a href="#">Chapter 3 Page 57</a>
	Sill connection	<b>416142</b>	6 m	SW	-	<a href="#">Chapter 3 Page 59</a>
	Window sill connection	<b>416148</b>	6 m	SW	☐  ☐	<a href="#">Chapter 3 Page 58</a>
	Window sill connection	<b>416147</b>	6 m	SW	☐  ☐	<a href="#">Chapter 3 Page 58</a>
<b>Fixing clip</b>						
	Fixing clip	<b>417530</b>	250 pc.	Spring steel, galvanised	-	<a href="#">Chapter 3 Page 60</a>
<b>Window sills</b>						
	Window sill	<b>416112</b>	6 m	SW; SB	☐  ☐   ☐ ☐	<a href="#">Chapter 3 Page 61</a>
	End caps for window sill	<b>417115</b>	50 pairs	SW; SC; SB	-	<a href="#">Chapter 3 Page 61</a>

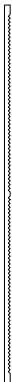



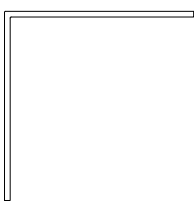
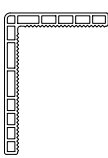
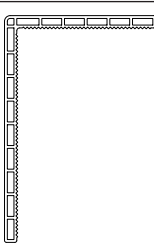
## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without	<input type="checkbox"/> = on both sides	<input type="checkbox"/> = outside	<input type="checkbox"/> = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
<b>Couplings</b>						
	Coupling profile	<b>406255</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 62</a>
	Coupling spring	<b>414915</b>	150m / roll	Black, grey	-	<a href="#">Chapter 3 Page 62</a>
<b>Static profiles (pilaster strips)</b>						
	Attachment frame	<b>406271</b>	6.5 m	SW; BW	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 63</a>
<b>Fixings</b>						
	Wall anchor	<b>417540</b>	250 pc.	Galvanised	-	<a href="#">Chapter 3 Page 64</a>
	Wall anchor	<b>417545</b>	150 pc.	Galvanised	-	<a href="#">Chapter 3 Page 64</a>
	Wall anchor	<b>417548</b>	250 pc.	Galvanised	-	<a href="#">Chapter 3 Page 64</a>
	Wall anchor	<b>417550</b>	250 pc.	Galvanised	-	<a href="#">Chapter 3 Page 64</a>
	Rebate corner angle	<b>438566</b>	20 pc.	Titanium-silver	-	<a href="#">Chapter 3 Page 65</a>
<b>Glazing bars / mullions, self-adhesive</b>						
	Glazing bar / mullion, self-adhesive	<b>416302</b>	6 m	SW+s; SW+g; SB+s; BW+s; BW+g	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>
	Mullion, self-adhesive	<b>416304</b>	6 m	SW+s; SW+g; SB+s; BW+s; BW+g	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>
	Mullion, self-adhesive	<b>416306</b>	6 m	SW+s; SW+g; SB+s; BW+s; BW+g	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>

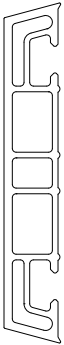
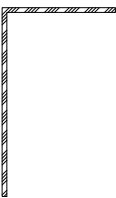
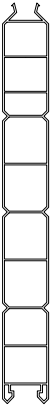

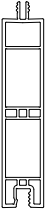
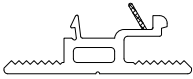
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/>   = on both sides <input type="checkbox"/> = outside <input type="checkbox"/>   = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Mullion, self-adhesive	<b>416322</b>	6 m	SW+s; SW+g; SB+s; BW+s; BW+g	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>
	Mullion, self-adhesive	<b>416324</b>	6 m	SW+s; SW+g; BW+s	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>
	Mullion, self-adhesive	<b>416326</b>	6 m	SW+s; SW+g; BW+s	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 66</a>
Cladding profiles						
	Impact strip inside	<b>216230</b>	6 m	SW; SC; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 73</a>
	End cap	<b>217240</b>	50 pc.	White; Caramel; Brown	-	<a href="#">Chapter 3 Page 73</a>
	Soffit cladding	<b>406010</b>	6 m	SW	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 67</a>
	Soffit cladding	<b>406020</b>	6 m	SW	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 67</a>
	Adapter for cladding	<b>406307</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 75</a>
	Profile strip	<b>406310</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Self-adhesive profile strip	<b>406312</b>	6 m	SW; SC; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Self-adhesive trim profile	<b>406315</b>	6 m	SW; SC; SB	<input type="checkbox"/>   <input type="checkbox"/>	

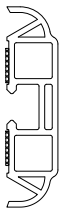



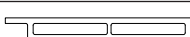










## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Trim profile	<b>406316</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 71</a>
	Self-adhesive trim profile	<b>406317</b>	6 m	SW; SC; SB	-	
	Corner-bracket	<b>406319</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 71</a>
	Angle	<b>406320</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 71</a>
	Angle	<b>406321</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 71</a>
	Old building angle	<b>406325</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 70</a>
	Old building angle	<b>406329</b>	6 m	SW; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 70</a>


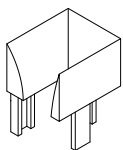
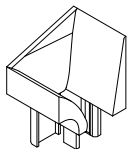

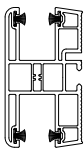
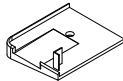
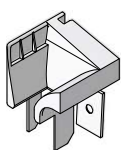
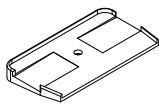
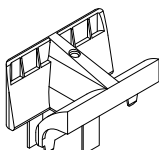
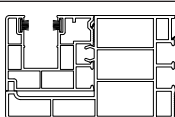
Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Cover	<b>406340</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 72</a>
	Pattern old building corner aluminium	<b>406660</b>	6 m	Aluminium brown (powder-coated)	<input type="checkbox"/>	<a href="#">Chapter 3 Page 70</a>
	Panel profile	<b>406670</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/> <input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 69</a>
	Cover profile	<b>416182</b>	6.5 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 75</a>
	Filling panel	<b>416274</b>	6 m	SW	Upon request	<a href="#">Chapter 3 Page 69</a>
	Adapter	<b>416305</b>	6 m	Colourful	-	<a href="#">Chapter 3 Page 70</a>



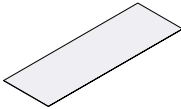
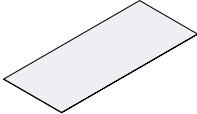
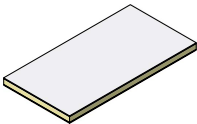
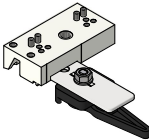
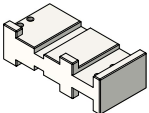
## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Trim profile, self-adhesive	<b>416312</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 73</a>
	Self-adhesive trim profile	<b>416328</b>	6 m	SW; SC; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Cover profile, self-adhesive	<b>416327</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Cover profile, self-adhesive	<b>416337</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Cover profile, self-adhesive	<b>416357</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	
	Tapee	<b>416386</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 68</a>
	Cladding	<b>550800</b>	6.5 m	SW+s; SC+s; BW+s	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 76</a>
	Cladding	<b>550801</b>	6.5 m	SW+s; SC+s; BW+s	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 76</a>
	Panel strip	<b>553424</b>	6.5 m	SW+s; SC+s; BW+s	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 76</a>
<b>Roller shutter accessories</b>						
	Roll-off slat	<b>406050</b>	6 m	SW	-	<a href="#">Chapter 3 Page 79</a>
	Roller shutter cross bar	<b>406051</b>	6 m	SW; SB	-	<a href="#">Chapter 3 Page 78</a>
	Cover connection	<b>406053</b>	6 m	SW; SC; SB	-	<a href="#">Chapter 3 Page 78</a>
	Roller shutter guide	<b>406065</b>	6 m	SW; SB	<input type="checkbox"/>   <input type="checkbox"/>	<a href="#">Chapter 3 Page 79</a>
	Reinforcement	<b>406066</b>	6 m	SW; SB	-	<a href="#">Chapter 3 Page 79</a>
	Roller shutter guide	<b>406073</b>	6 m	SW	-	<a href="#">Chapter 3 Page 80</a>

Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Reinforcement	<b>406081</b>	6 m	SW	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 81</a>
	Inlet funnel	<b>407065</b>	50 pairs	SW; SB	-	<a href="#">Chapter 3 Page 79</a>
	Inlet funnel	<b>407070</b>	50 pairs	SW	-	<a href="#">Chapter 3 Page 80</a>
	Roller shutter guide	<b>416086</b>	6 m	SW; SC; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 81</a>
	Double roller shutter guide	<b>416096</b>	6 m	SW; SC; SB	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 82</a>
	End cap	<b>417081</b>	50 pairs	White; Caramel; Brown	-	<a href="#">Chapter 3 Page 80</a> <a href="#">Chapter 3 Page 81</a>
	Inlet funnel	<b>417082</b>	50 pairs	SW; SC; SB	-	<a href="#">Chapter 3 Page 80</a> <a href="#">Chapter 3 Page 81</a>
	End cap	<b>417095</b>	30 pc.	White; Caramel; Brown	-	<a href="#">Chapter 3 Page 82</a>
	Inlet funnel	<b>417096</b>	30 pc.	SW; SB	-	<a href="#">Chapter 3 Page 82</a>
	Adapter profile with roller shutter guide and brush	<b>556070</b>	6.5 m	SW; SC	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 83</a>









Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		<input type="checkbox"/> = without <input type="checkbox"/> = on both sides <input type="checkbox"/> = outside <input type="checkbox"/> = inside				
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Roll-off profile	<b>556075</b>	6 m	SW; SB	-	<a href="#">Chapter 3 Page 83</a>
	Inlet funnel	<b>557170</b>	50 pairs	SW; SB	-	<a href="#">Chapter 3 Page 83</a>
<b>Mounting-plates</b>						
	PVC mounting-plate	<b>407912</b>	1 pc.	White	-	<a href="#">Chapter 3 Page 77</a>
	Laminate board	<b>407914</b>	1 pc.	SW; A	<input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 77</a>
	Sandwich panel	<b>407920</b>	1 pc.	SW; SC	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<a href="#">Chapter 3 Page 77</a>
<b>Drilling jigs</b>						
	Drilling jig	<b>467001</b>	1 pc.	-	-	<a href="#">Chapter 3 Page 84</a>
	Drilling jig	<b>667054</b>	1 pc.	-	-	<a href="#">Chapter 3 Page 84</a>

Side profiles and accessories

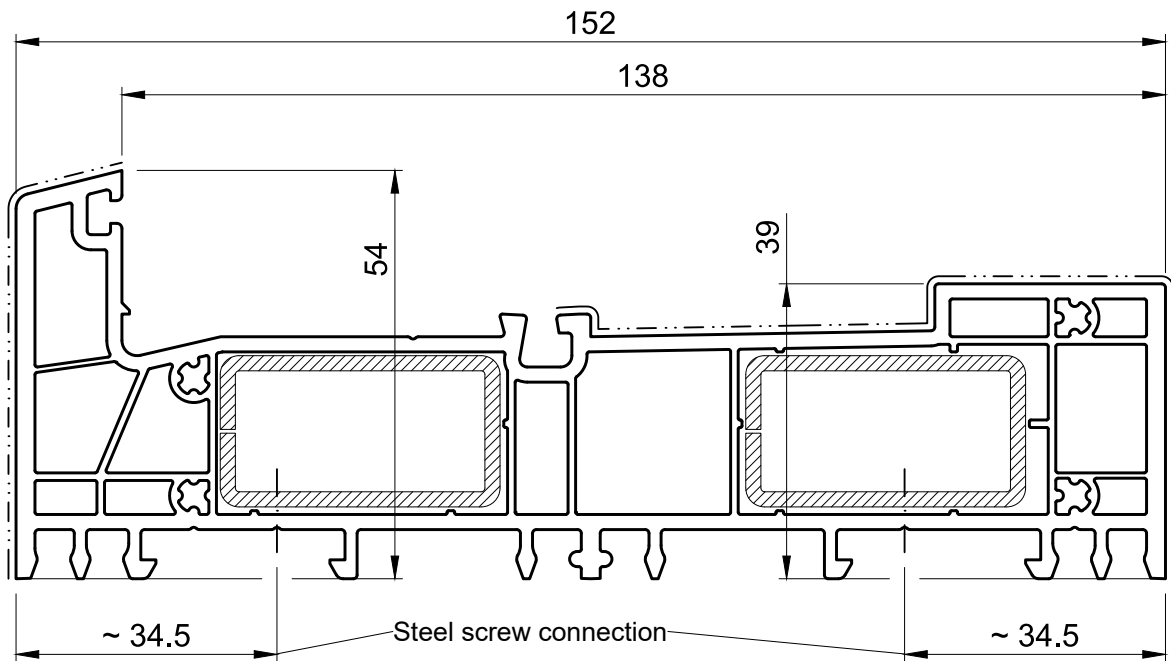
Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brügmann White				
Colour seal:		s = black; g = grey				
Décor:		□ = without	□  = on both sides	□ = outside	□  = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
<b>Miscellaneous accessories</b>						
	Clamp-strip PVC	<b>406335</b>	30 m	Colourful	-	Chapter 3 Page 68 Chapter 3 Page 72 Chapter 3 Page 73 Chapter 3 Page 80 Chapter 3 Page 81
	Clamp-strip aluminium	<b>406635</b>	6 m	Alu	-	Chapter 3 Page 68 Chapter 3 Page 72 Chapter 3 Page 73 Chapter 3 Page 80 Chapter 3 Page 81 Chapter 3 Page 82 Chapter 3 Page 82
	Pipe cap	<b>407025</b>	100 pc.	SW; SC; SB	-	Chapter 3 Page 85
	APTK adhesive	<b>407710</b>	1 pc.	-	-	
	Adhesive Fenoplast KF (for white profiles)	<b>407720-000 edition</b>	1 pc.	-	-	

## Side profiles and accessories

Chapter 3 Page 59						
Colour base body:		SW = Salamander White; SC = Salamander Caramel; SB = Salamander Brown; A = Anthracite, C = Cream; BW = Brüggmann White				
Colour seal:		s = black; g = grey				
Décor:		☐ = without	☐☐ = on both sides	☐☐ = outside	☐☐☐ = inside	
Illustration	Description	Article no.	Length / PU	Colour main body+colour seal	Décor	From page
	Fenoplast PMMA (for decorative profiles)	<b>407725-000</b> edition	1 pc.	-	-	
	Fenoplast PMMA (for white profiles)	<b>407730-000</b> edition	1 pc.	-	-	
	Snap-in head screw	<b>407900</b>	1000 pc.	Galvanised	-	<a href="#">Chapter 3 Page 68</a> <a href="#">Chapter 3 Page 72</a> <a href="#">Chapter 3 Page 73</a> <a href="#">Chapter 3 Page 80</a> <a href="#">Chapter 3 Page 81</a> <a href="#">Chapter 3 Page 82</a> <a href="#">Chapter 3 Page 82</a>
	Snap-in head screw	<b>407965</b>	500 pc.	Galvanised	-	<a href="#">Chapter 3 Page 79</a> <a href="#">Chapter 3 Page 83</a>
	Water slot cap	<b>417025</b>	200 pc.	SW; SC; SB	-	<a href="#">Chapter 3 Page 85</a>
	Outer cap round	<b>457025</b>	100 pc.	Black	-	<a href="#">Chapter 3 Page 85</a>
	Water slot cap with check	<b>647022</b>	200 pc.	SW; SC; SB	-	<a href="#">Chapter 3 Page 85</a>
	Clamp-strip	<b>NP1940</b>	6 m	Colourful	-	<a href="#">Chapter 3 Page 81</a>

Frame 54 7K B

660000



**Accessories (not to scale)**

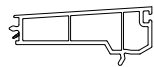
Strengthening

VS8320



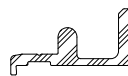
Cover profile for frame

666001



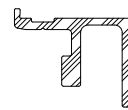
Bottom guide rail

669002



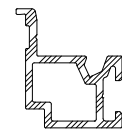
Guide rail top

669001

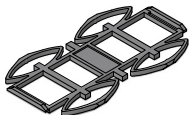


Closing rail handle side

669003



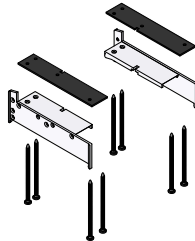
Block bridge  
417000



Kick plate  
669000



Site connector set  
667061

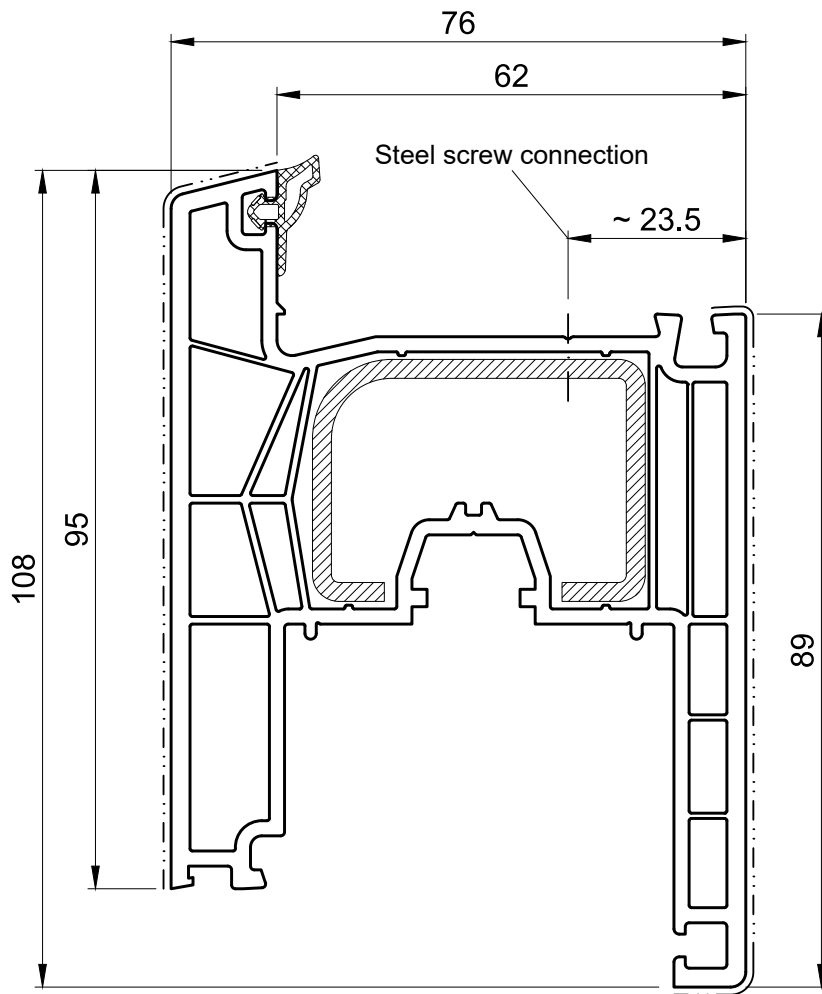


Rebate drainage  
669008



Sash 108 5K B

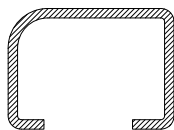
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**Accessories** (not to scale)

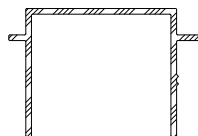
Strengthening

665004



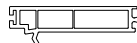
Support profile for forend

665003

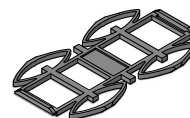


Cover profile for sash Block bridge

666002

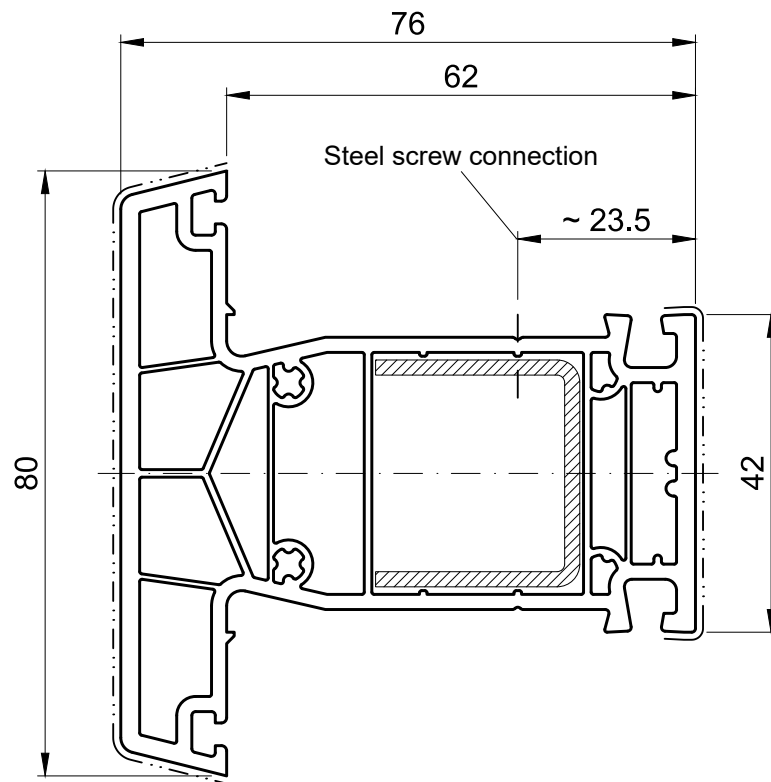


417000



Mullion 80 6K B

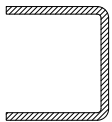
762011



**Accessories (not to scale)**

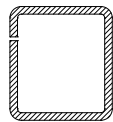
Strengthening

465001



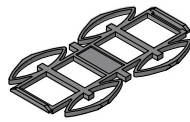
Reforço

465002



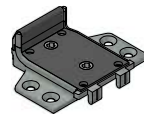
Block bridge

417000



Fixed-mullion cross connector

468034



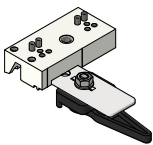
Sealing block

667048



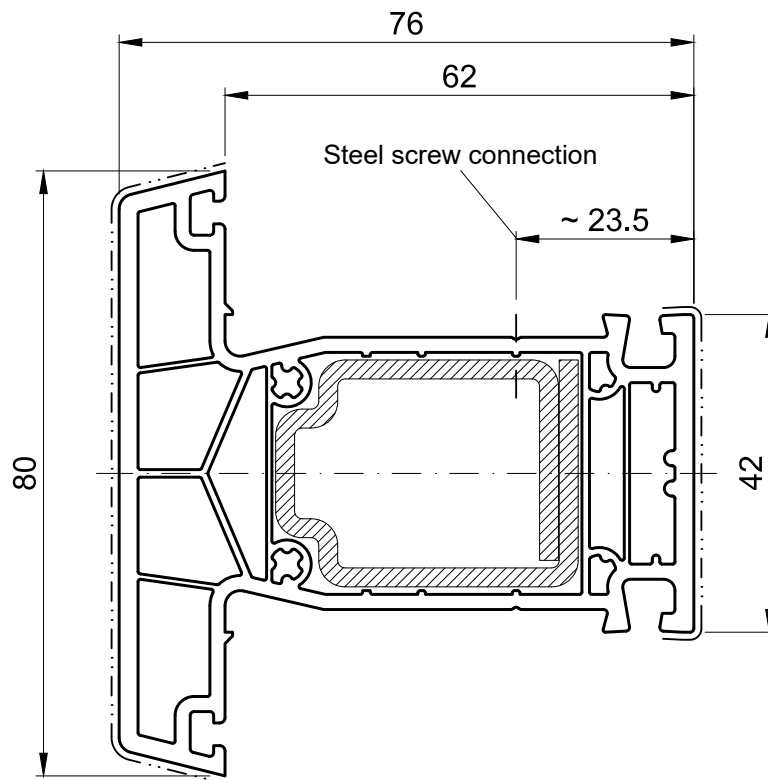
Drilling jig

467001



Mullion 80 5K B

762013



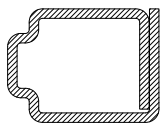
**i** INFO

Static post

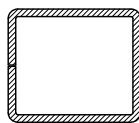
- Only approved with steel 465007.
- Only available on special order.

**Accessories** (not to scale)

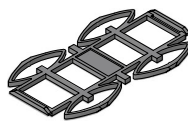
Strengthening  
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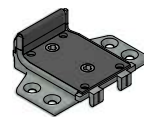
Reforço  
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Block bridge  
417000



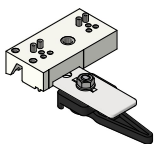
Post cross connector  
468034



Sealing block  
667048

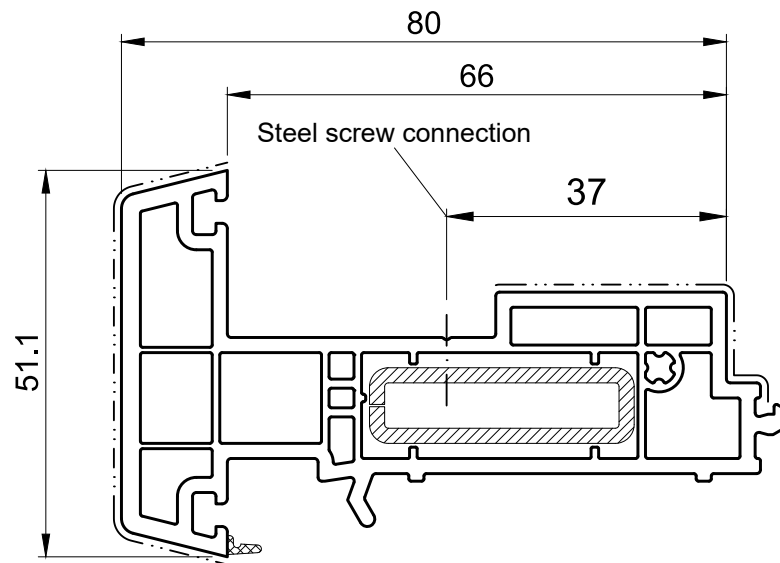


Drilling jig  
467001



Forend 51,1

**666000**



**Accessories** (not to scale)

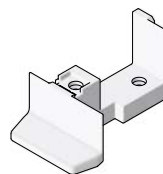
Strengthening

435110



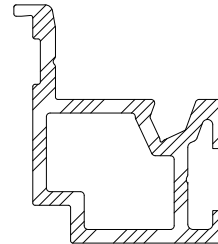
floating-mullion end  
cover cap set, 2-part

667008



Closing rail handle  
side

669003

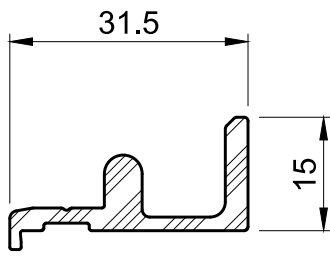


Running track  
669002

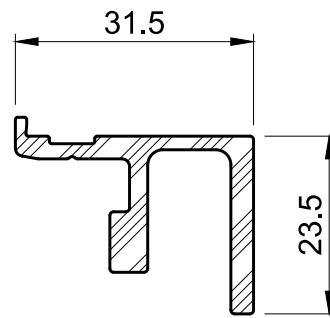
Guide track  
669001

Locking track  
669003

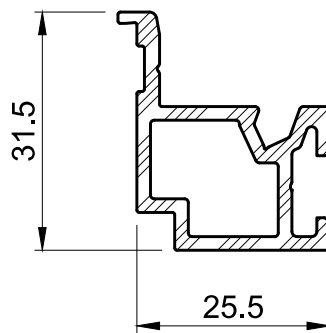
Support profile for forend  
665003



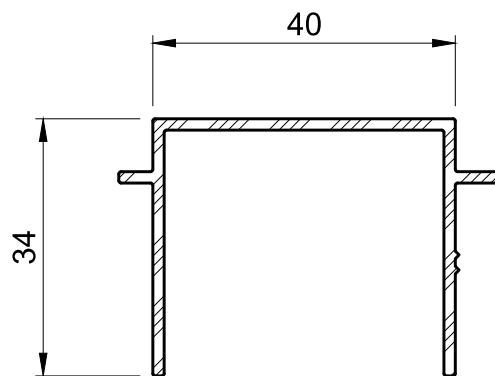
**669002**  
Bottom guide rail



**669001**  
Guide rail top



**669003**  
Closing rail handle side

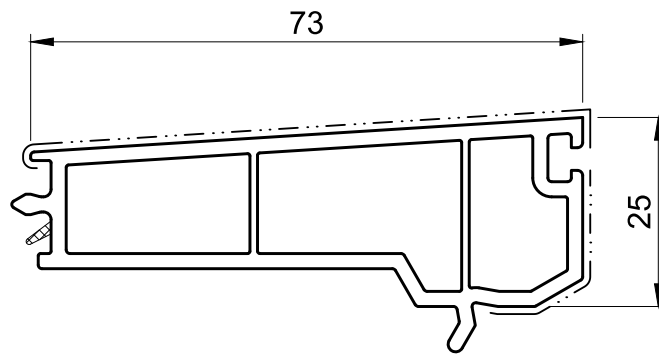


**665003**  
Support profile for forend

Cover profile for frame  
**666001**

Cover profile for sash  
**666002**

Kick plate  
**669000**

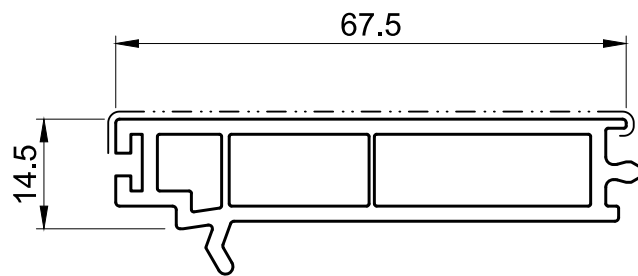


**666001**

**Accessories** (not to scale)

Seal

414565

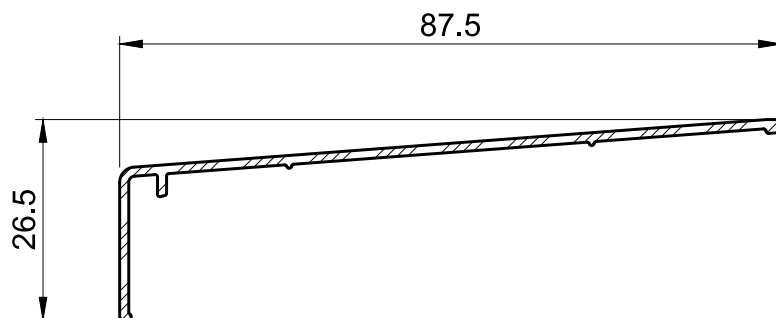


**666002**

**Accessories** (not to scale)

Brush seal

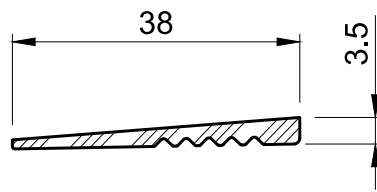
DP9065



**669000**

Rebate drainage

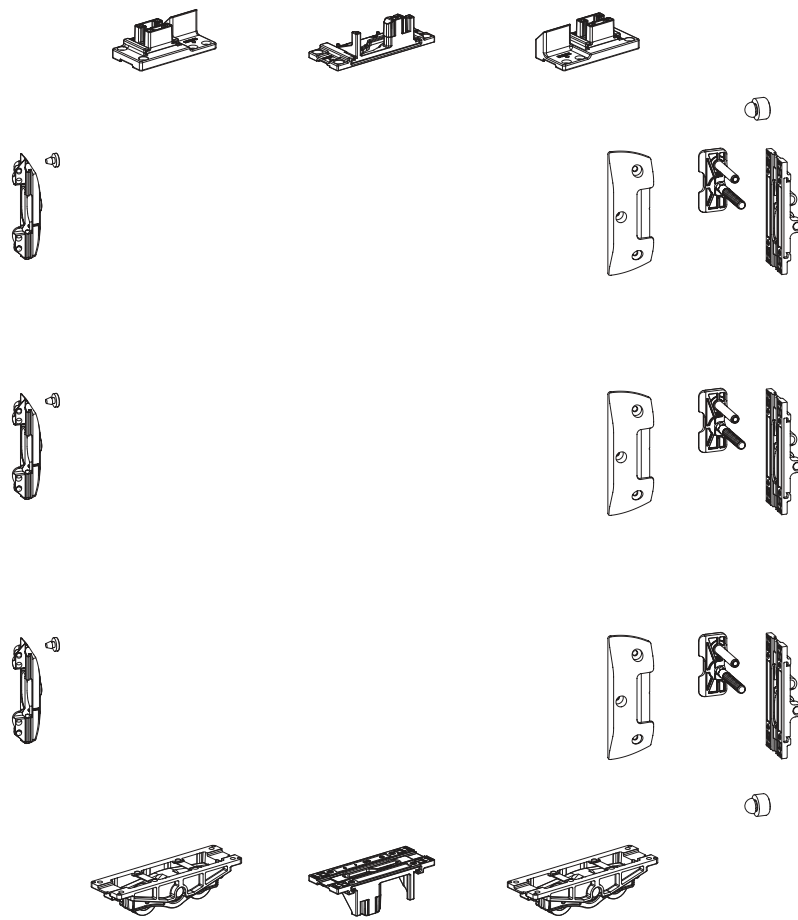
669008



669008  
for frame 660000

Fitting set

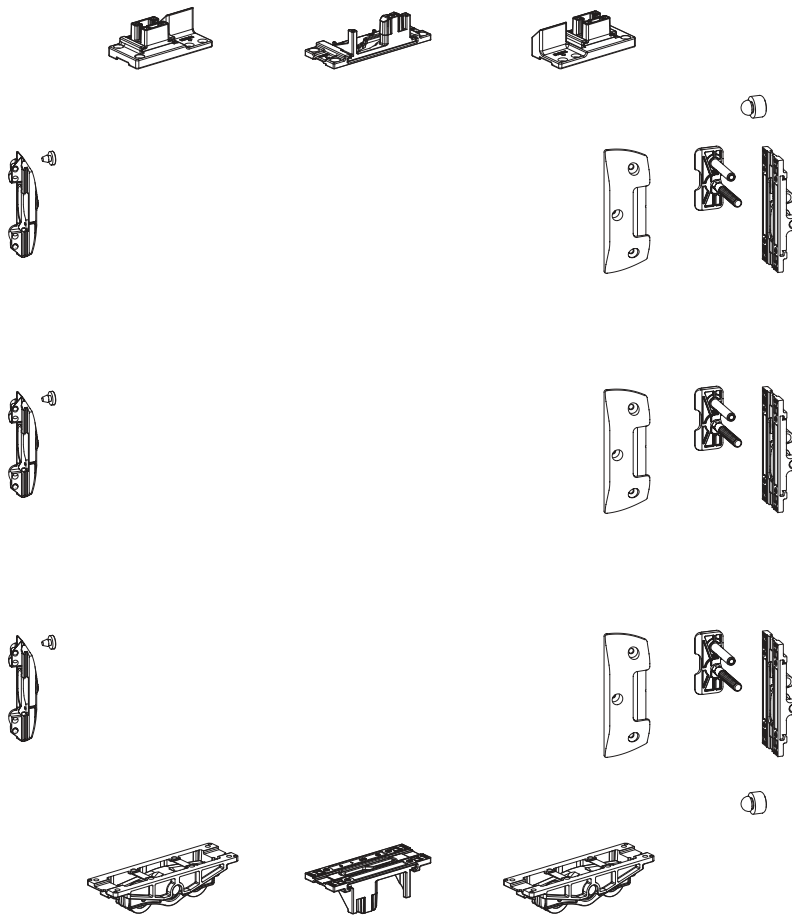
667010



Fitting S+ left

Fitting set

667011



Fitting S+ right

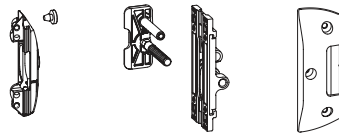
Fitting sets

**667016, 667017**

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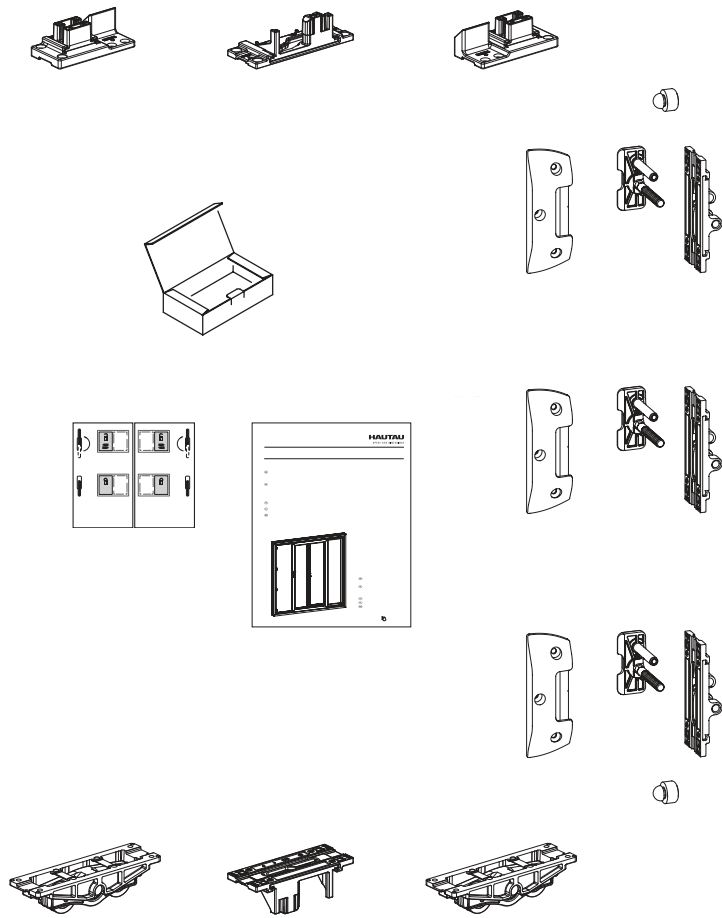
**667016**  
Fitting locking left BG



**667017**  
Fitting locking right BG

Fitting sets

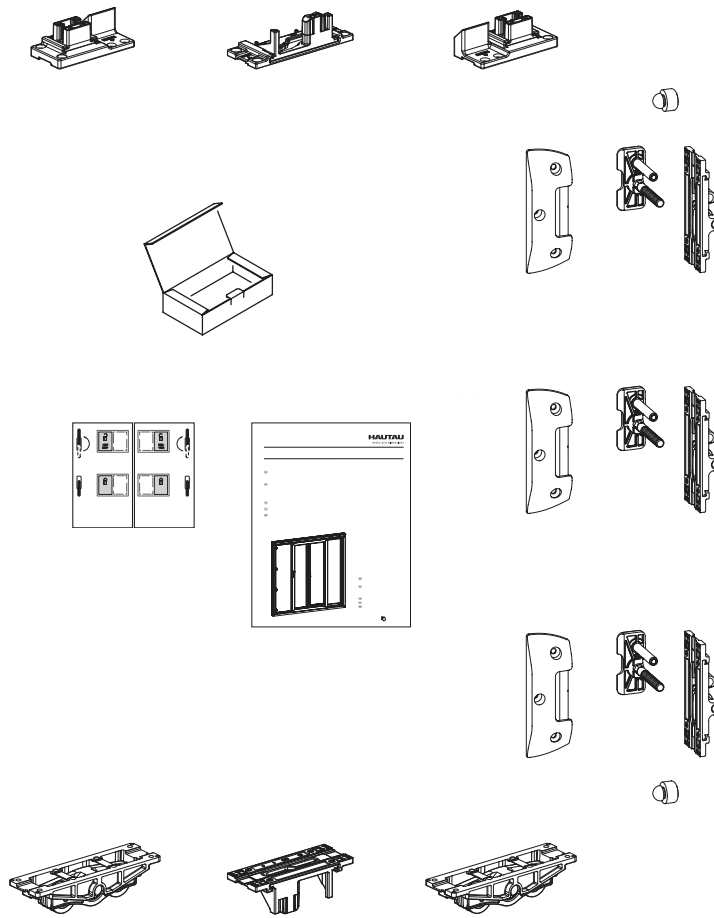
667031



Fitting S+ left scheme C

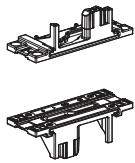
Fitting set

667032

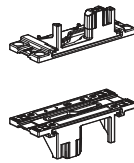


Fitting S+ right scheme C

Single fitting parts



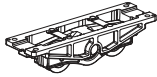
**667012**  
Fitting locking left



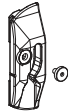
**667013**  
Fitting locking right



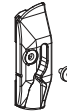
**667014**  
Fitting guide



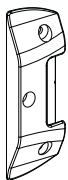
**667015**  
Fitting runner



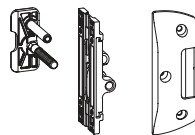
**667018**  
Fitting locking part left



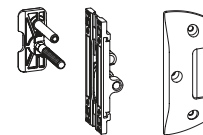
**667019**  
Fitting locking part right



**667020**  
Fitting strike plate



**667021**  
Fitting locking left



**667022**  
Fitting locking right



**667023**  
Central locking system corner deflec-  
tion Scheme A



**667024**  
Central locking system corner deflec-  
tion Scheme C



**667025**  
Central locking system espagnolette 470-800 mm



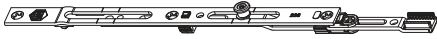
**667026**  
Central locking system gear 801-1250 mm

Single fitting parts



**667027**

Central locking system gear 1341-1590 mm



**667028**

Central locking system extension 235 mm for floating mullion / faceplate



**667029**

Central locking system extension 470 mm for centre lock



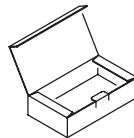
**667030**

Central locking system width part 1150 mm



**667033**

Hardware stop  
Diagram C



**667034**

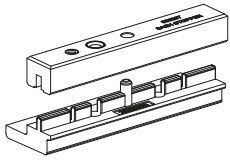
Fitting accessories RC2



**667062**

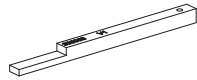
Top buffer stop

Fitting drilling jigs



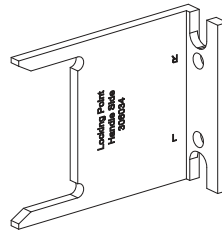
**667035**

Fitting drilling jig stop



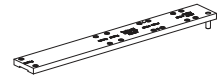
**667036**

Fitting jig locking



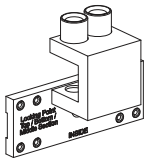
**667037**

Fitting gauge striker plate



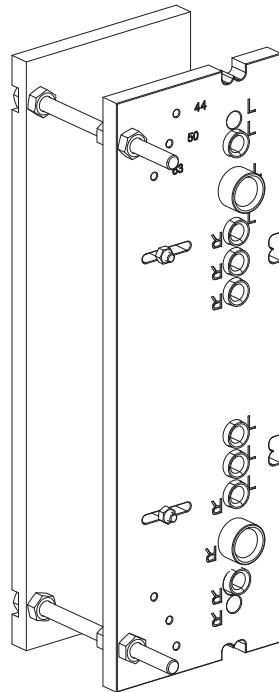
**667038**

Fitting drilling jig runner



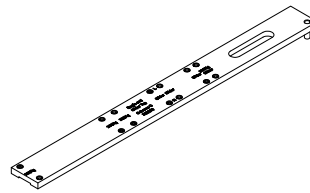
**667039**

Fitting drilling jig centre joint



**667047**

Fitting drilling jig



**667058**

Drilling jig mount bogie  
floating mullion / faceplate

## Assembly packages

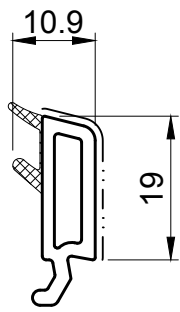
**667055, 667056****Assembly package Diagram A 667055 contains:**

Description	Article no.	Quantity
Overlap gasket EPDM	<b>464203</b>	8 m
Glazing gasket EPDM	<b>414565</b>	10 m
Glazing gasket EPDM	<b>414566</b>	22 m
Sealing block	<b>667048</b>	1 pc.
Brush seal	<b>DP9065</b>	3 m

**Assembly package Diagram C 667056 contains:**

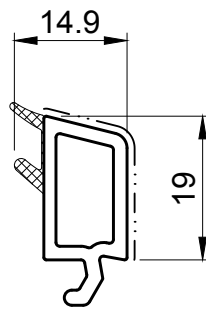
Description	Article no.	Quantity
Overlap gasket EPDM	<b>464203</b>	10 m
Glazing gasket EPDM	<b>414565</b>	10 m
Glazing gasket EPDM	<b>414566</b>	25 m
Sealing block	<b>667048</b>	2 pc.
Brush seal	<b>DP9065</b>	6 m

Glass bar



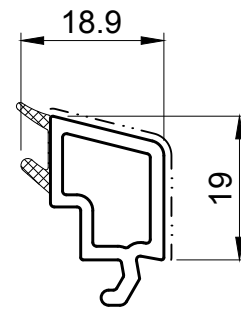
**413001**

Glass thickness: 47 – 48 – 49



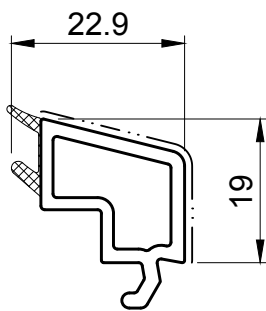
**413003**

Glass thickness: 43 – 44 – 45



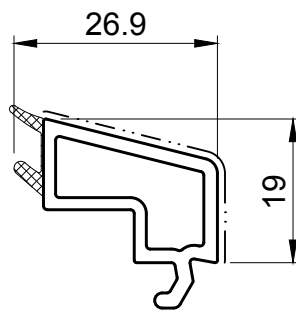
**413005**

Glass thickness: 39 – 40 – 41



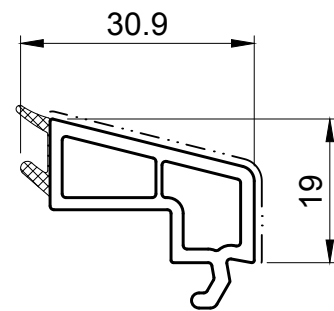
**413007**

Glass thickness: 35 – 36 – 37



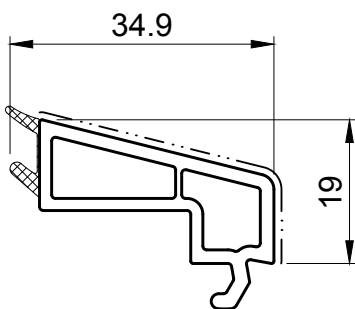
**413009**

Glass thickness: 31 – 32 – 33



**413011**

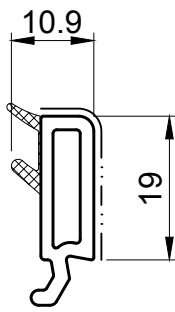
Glass thickness: 27 – 28 – 29



**413013**

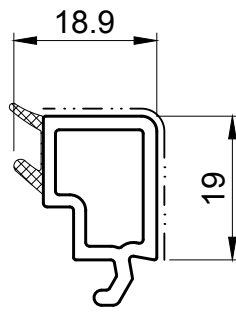
Glass thickness: 23 – 24 – 25

Glass bar box



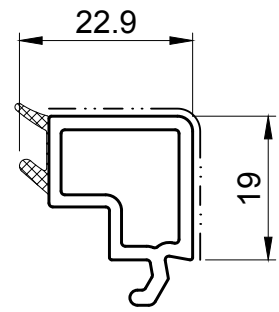
**413201**

Glass thickness: 47 – 48 – 49



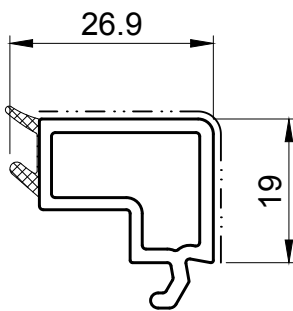
**413205**

Glass thickness: 39 – 40 – 41



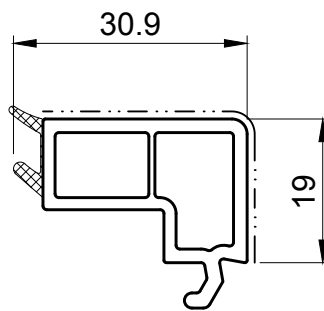
**413207**

Glass thickness: 35 – 36 – 37



**413209**

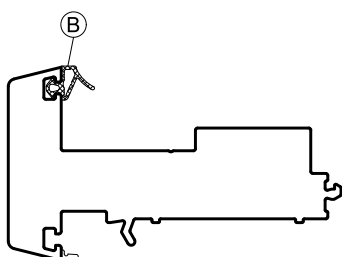
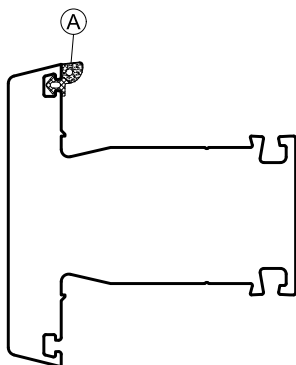
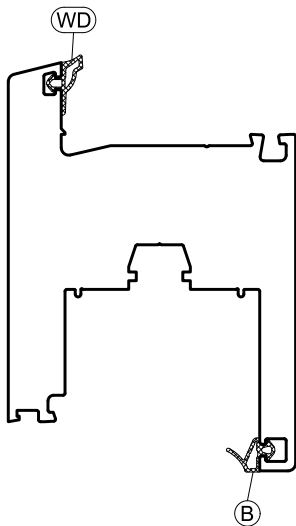
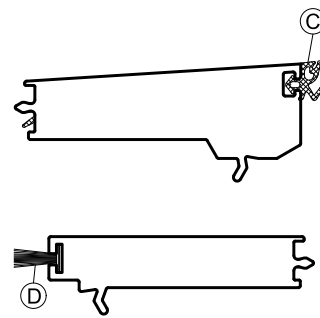
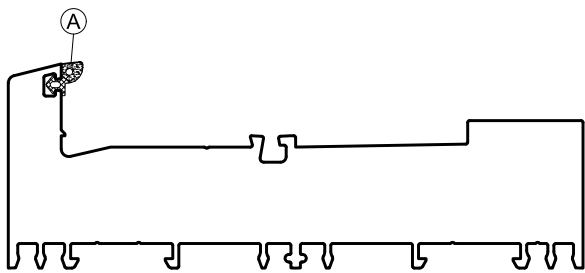
Glass thickness: 31 – 32 – 33



**413211**

Glass thickness: 27 – 28 – 29

Gasket overview, main profiles



ⓂWD = Gasket fitted ex-works

Ⓐ = EPDM 414566 Frame gasket, glazing bar / mullion (fixed glazing / fixed glazing / fixed light)

Ⓑ = EPDM 464203 Sash gasket, floating mullion / faceplate

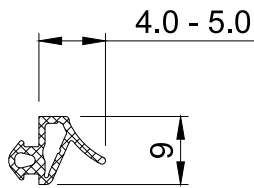
Ⓒ = EPDM 414565 Gasket cover profile for frame

Ⓓ = DP9065 Brush seal cover profile for sash

Seals

**Gaskets**

EPDM

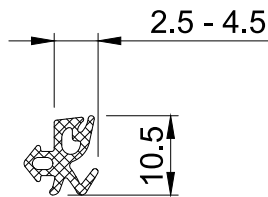


**464203**

Stopper seal

Sash / Floating mullion / faceplate

Colour: Black, grey

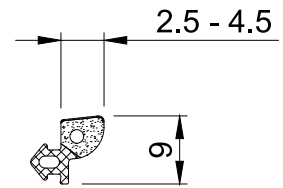


**414565**

Stopper seal

Cover profile for frame

Colour: Black, grey



**414566**

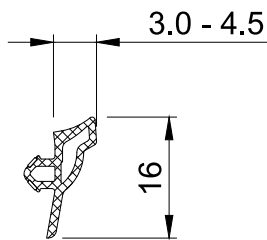
Glazing gasket

Frame, glazing bar / mullion (fixed glazing / fixed light)

Colour: Black, grey

**Repair gasket**

PVC-P



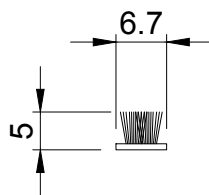
**464100**

Glazing seal

Sashes

Colour: Black, grey

**Brush seals**

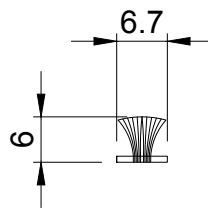


**404930**

Brush seal

Roller shutter guide

Colour: Black

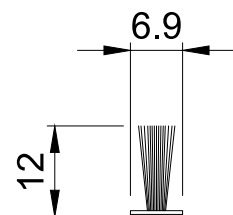


**404935**

Brush seal

Roller shutter guide

Colour: Black



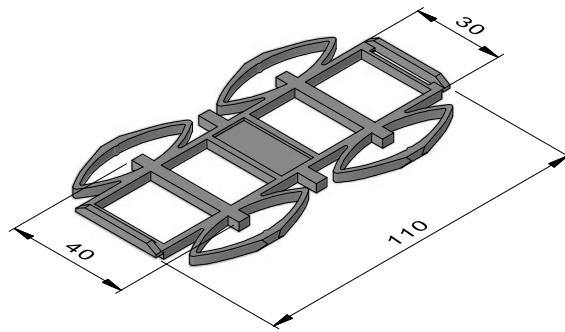
**DP9065**

Brush seal

Cover profile for sash  
Colour: Black, light grey

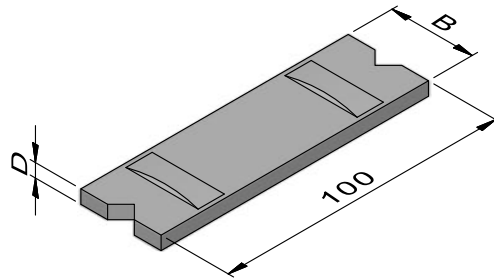
Block bridge  
417000

Glass blocks  
GZ3020 - GZ4850



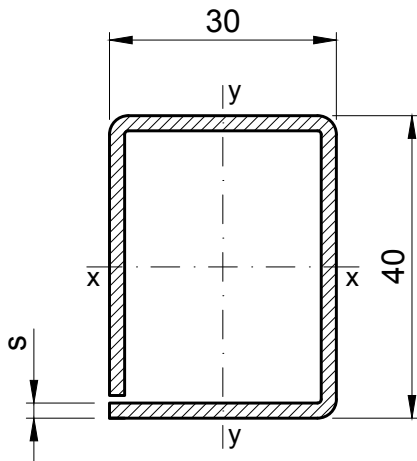
**417000**

for sashes, frames, glazing bars / mullions, fixed mullions



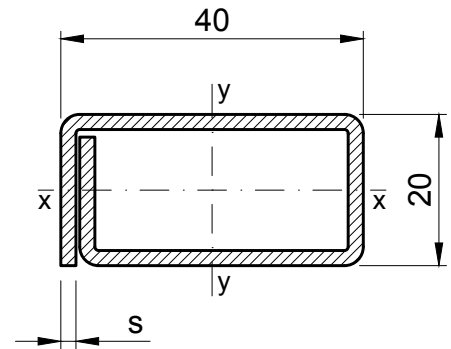
Article no.	Width B	Thickness D
<b>GZ3020 – GZ3060</b>	30 mm	2 - 6 mm
<b>GZ3420 – GZ3450</b>	34 mm	2 - 5 mm
<b>GZ4020 – GZ4050</b>	40 mm	2 - 5 mm
<b>GZ4820 – GZ4850</b>	48 mm	2 - 5 mm

Bracing



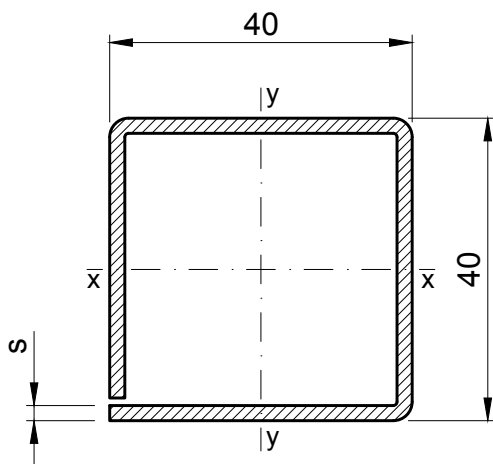
**405040**

Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
73	1.5	4.46	2.85	Approx. 1547
74	2.0	5.68	3.61	Approx. 2026
Use	406010			



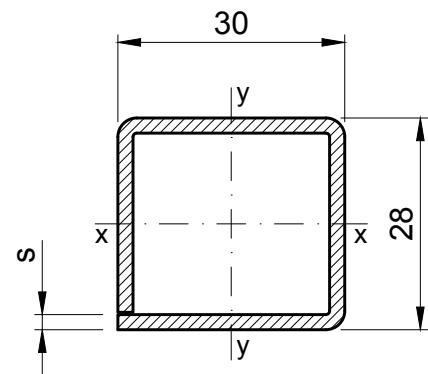
**415020**

Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
74	2.0	1.44	4.96	Approx. 1946
Use	416167			



**405060**

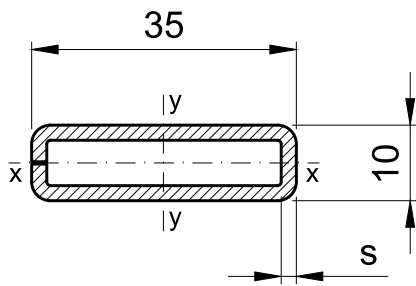
Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
73	1.5	5.57	5.57	Approx. 1783
74	2.0	7.13	7.12	Approx. 2340
Use	406177, 416170, 416176			



**415028**

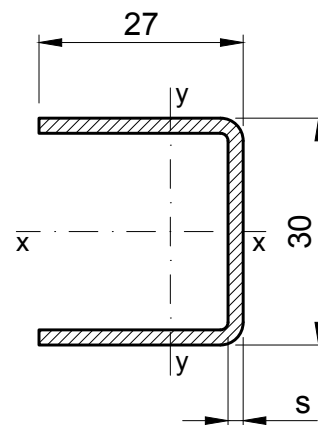
Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
73	1.5	1.92	2.14	Approx. 1273
74	2.0	2.42	2.70	Approx. 1660
Use	416168			

Bracing



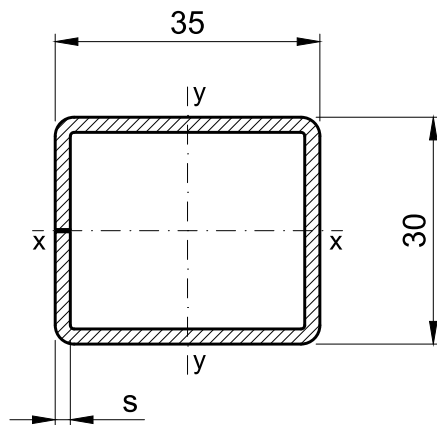
**435110**

Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
74	2.0	0.23	1.92	Approx. 1243
Use	666000			



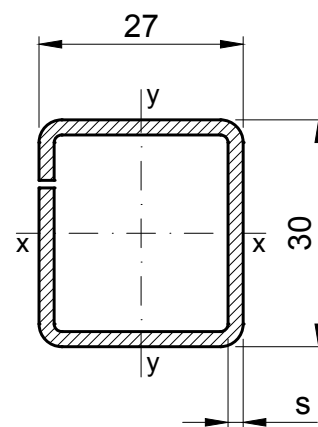
**465001**

Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
73	1.5	1.84	0.91	Approx. 936
74	2.0	2.34	1.18	Approx. 1229
Use	762011			



**445030**

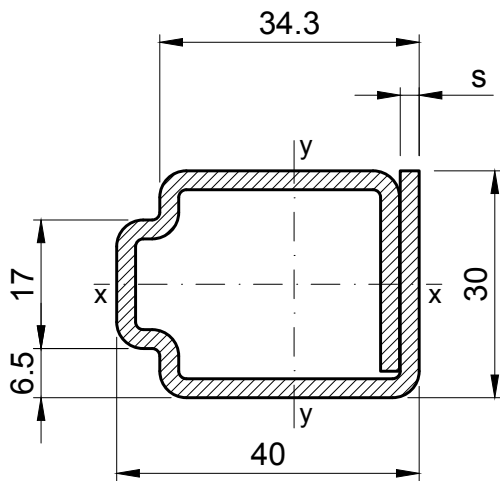
Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
74	2.0	3.23	4.10	Approx. 1870
Use	762013			



**465002**

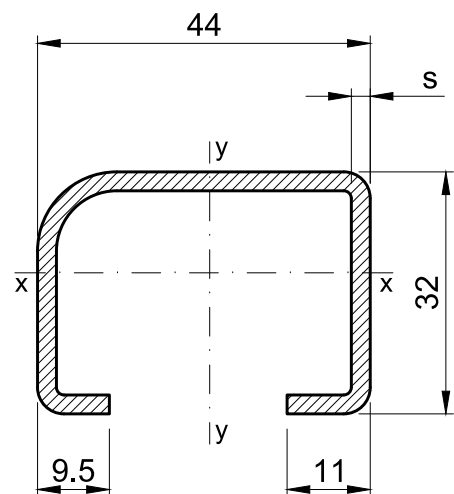
Key number	Thickness s (mm)	Ix (cm <sup>4</sup> )	Iy (cm <sup>4</sup> )	Weight (g/m)
73	1.5	2.04	1.71	Approx. 1225
74	2.0	2.55	2.14	Approx. 1595
Use	762011			

Bracing



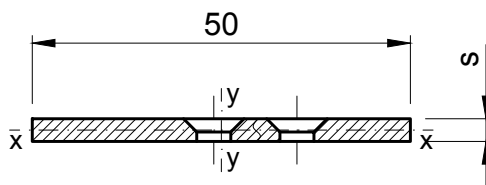
**465007**

Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
75	2.5	4.09	7.08	Approx. 2869
Use	762013			



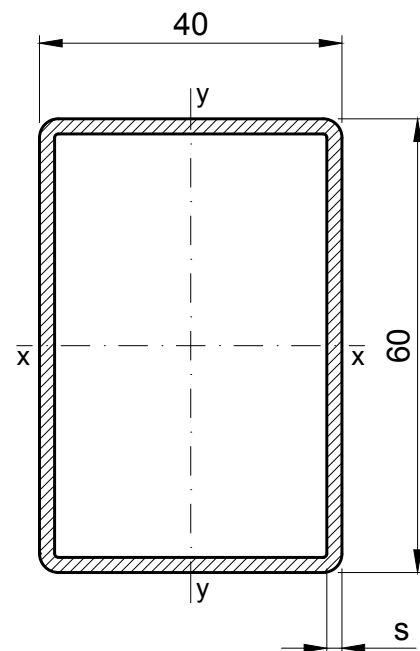
**665004**

Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
73	1.5	2.43	5.31	Approx. 1352
74	2.5	3.70	8.26	Approx. 2191
Use	661000			



**465022**

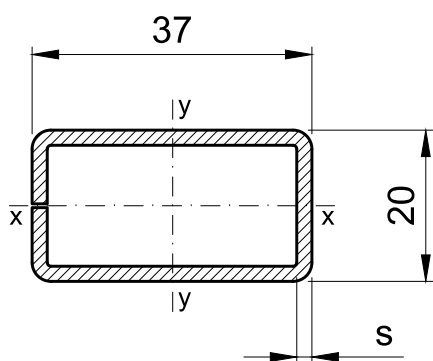
Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
	3.0	0.01	3.13	Approx. 5281
Use	661000			



**AR4630**

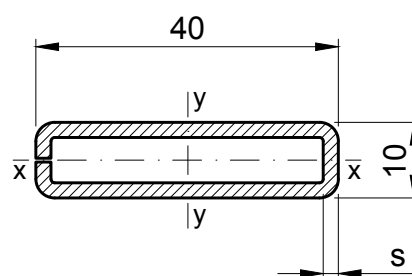
Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
74	2.0	18.86	10.03	Approx. 2974
Use	416269			

Bracing



**VS8320**

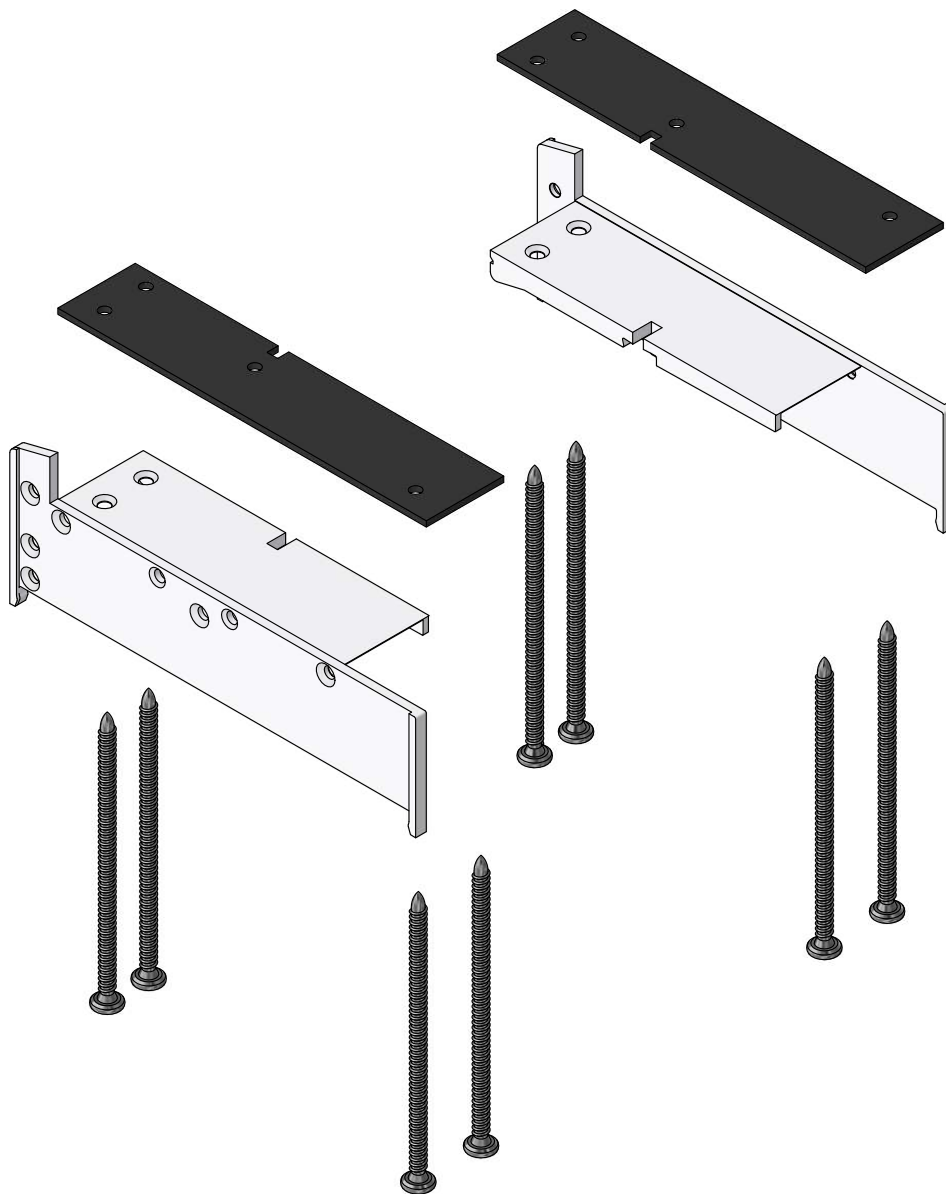
Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
74	2.0	1.29	3.45	Approx. 1616
Use	660000			



**VS9810**

Key number	Thickness s (mm)	I <sub>x</sub> (cm <sup>4</sup> )	I <sub>y</sub> (cm <sup>4</sup> )	Weight (g/m)
74	2.0	0.26	2.77	Approx. 1396
Use	416163			

## Site connector set

**667061****667061**

Site connector set for frame 660000

Included in the set:

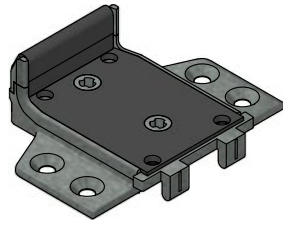
2 pairs of site connectors 668000 left / right

2 pairs of sealing pads 664000 left / right

16 pc. wood screws 5 x 100 mm

Mullion connector  
**468034**

Sealing block  
**667048**



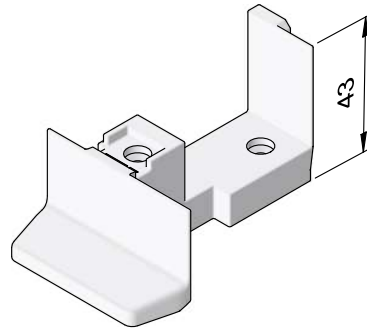
**468034**  
Mullion connector  
for mullion 762011, 762013  
Drilling jig 467001 (not shown)



**667048**  
Sealing block

Forend cap set

**667008**



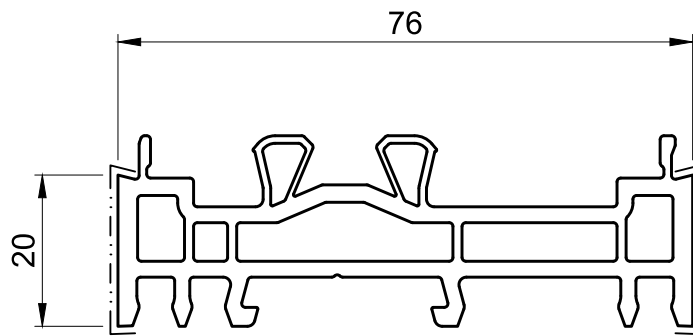
**667008**

Forend cap set

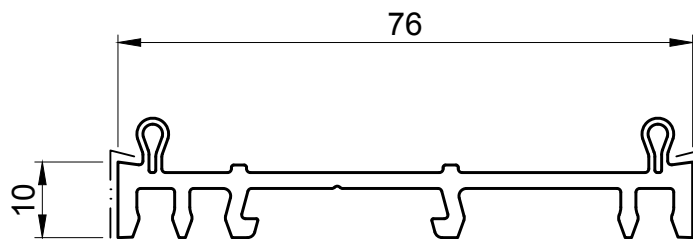
for floating mullion / faceplate 666000

Widening

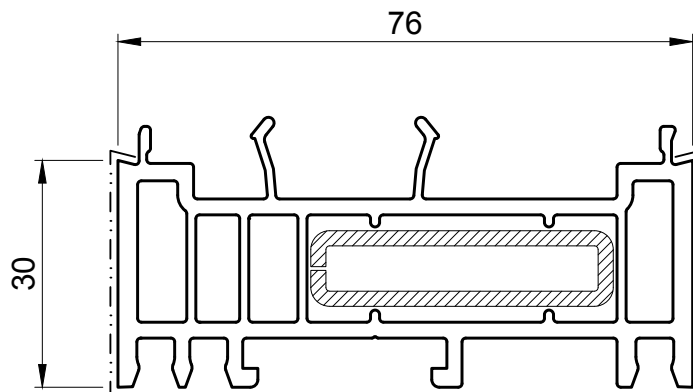
416160, 416161, 416163



416160



416161

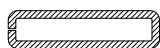


416163

**Accessories** (not to scale)

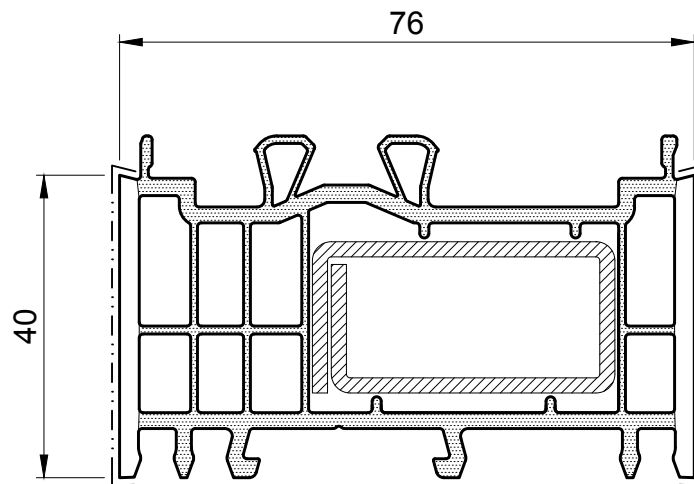
Bracing

VS9810



Widenings

416167, 416170

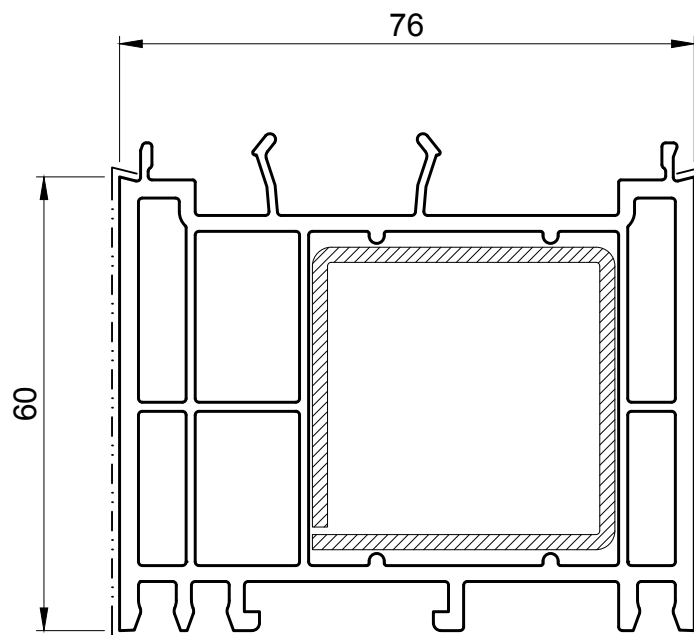


416167

**Accessories** (not to scale)

Bracing

415020

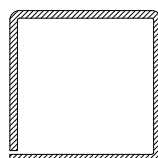


416170

**Accessories** (not to scale)

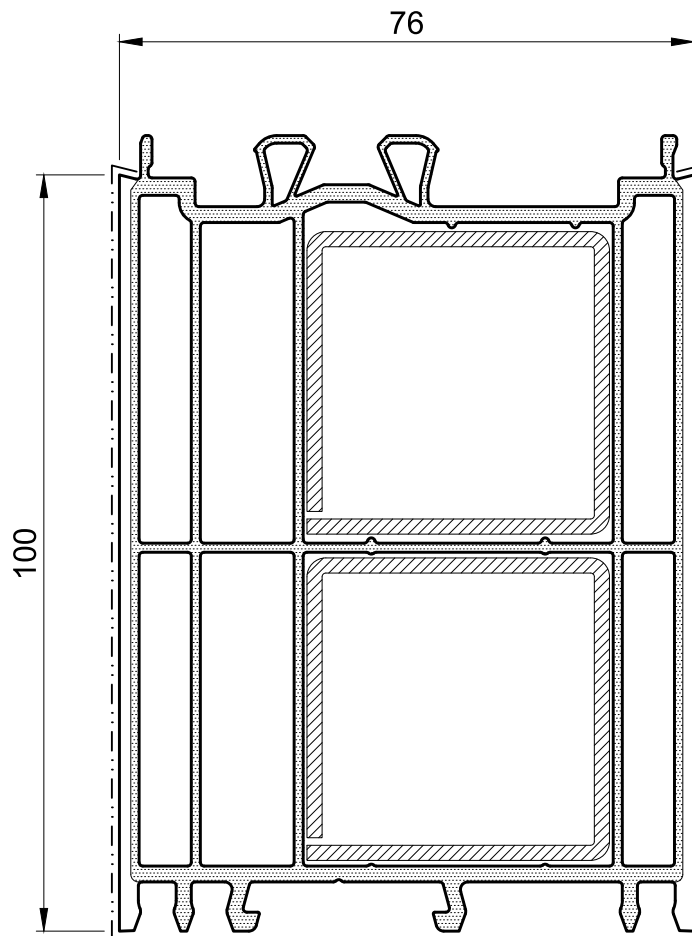
Bracing

405060



Widening

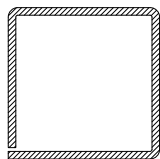
416177



**Accessories** (not to scale)

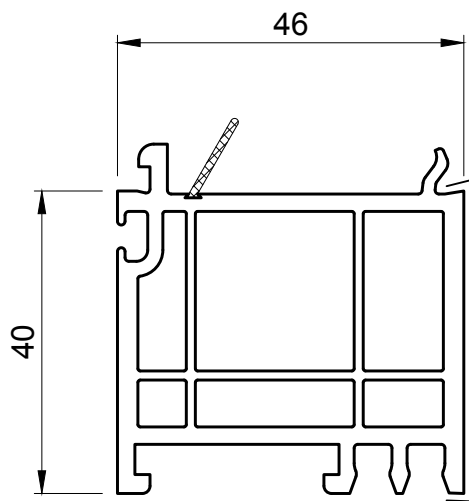
Strengthening

405060

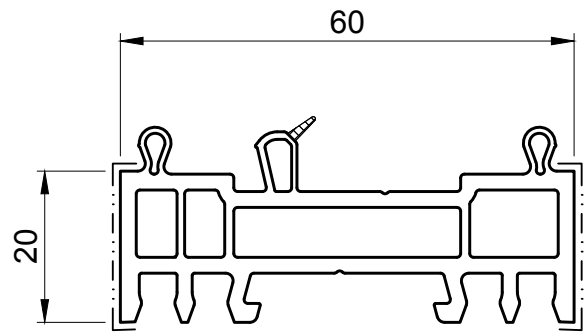


Balcony door connection  
416146

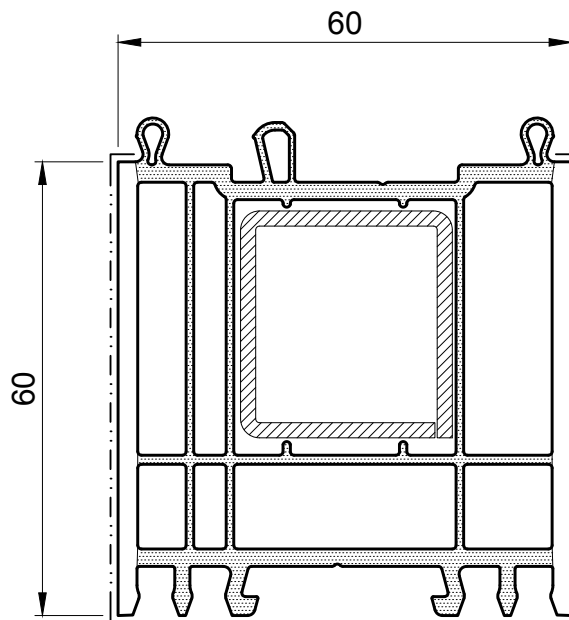
Widenings  
416157, 416168



416146



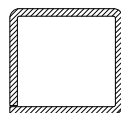
416157



416168

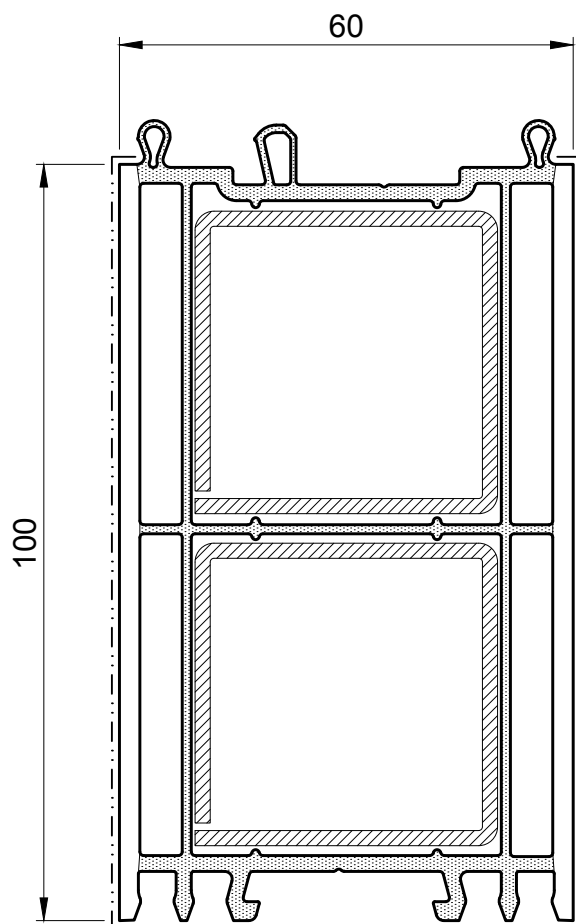
**Accessories (not to scale)**

Bracing  
415028



Widening

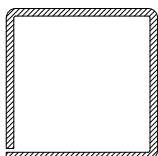
406177



**Accessories** (not to scale)

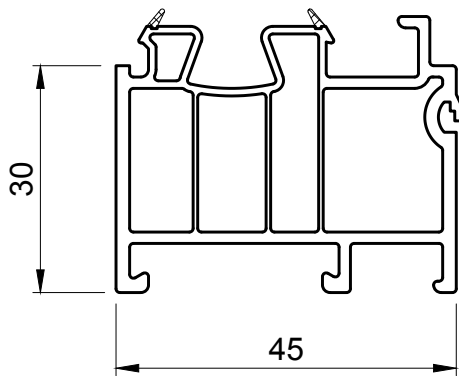
Strengthening

405060

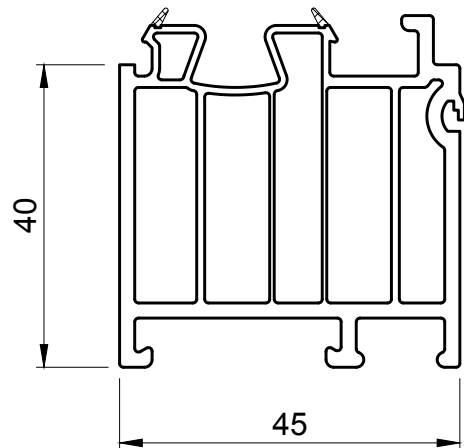


Sill connection

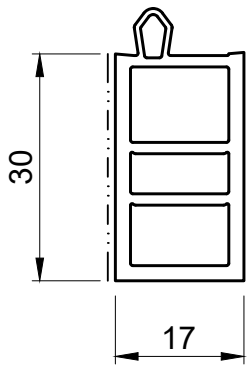
**416106, 416107, 416100, 416122, 416131, 416134, 416141**



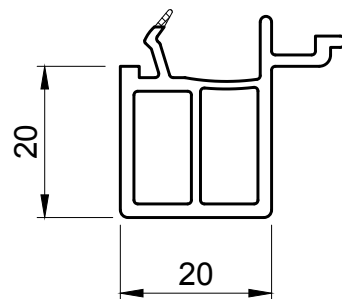
**416106**



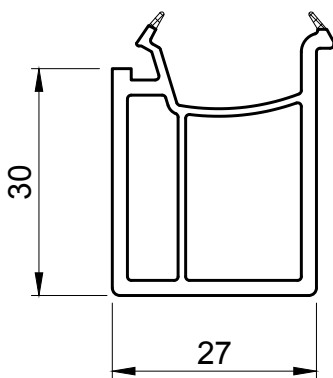
**416100**



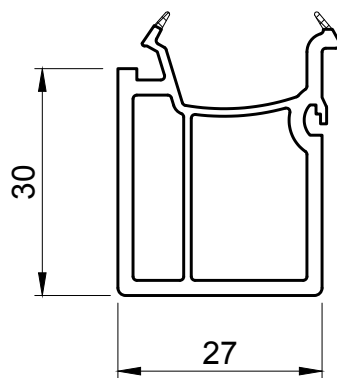
**416107**



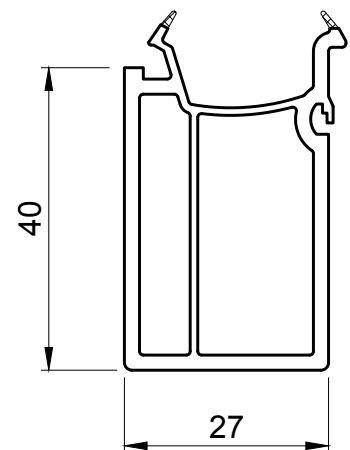
**416122**



**416131**



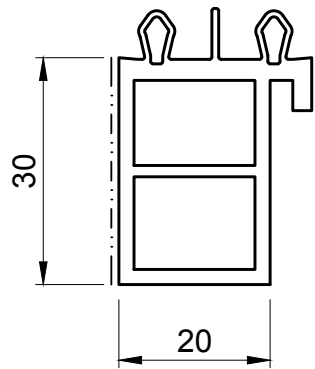
**416134**



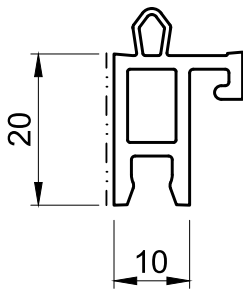
**416141**

Sill connection  
416139

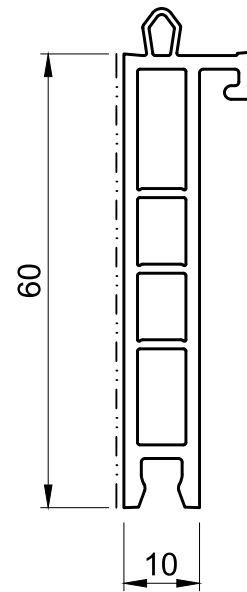
Window sill connections  
416148, 416147, 406115



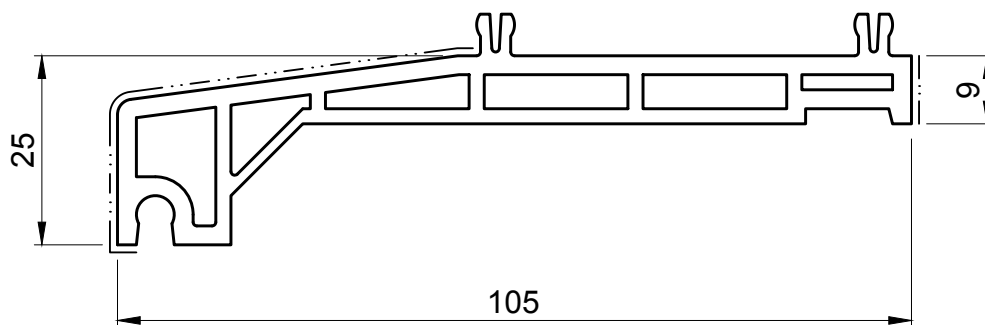
416139



416148



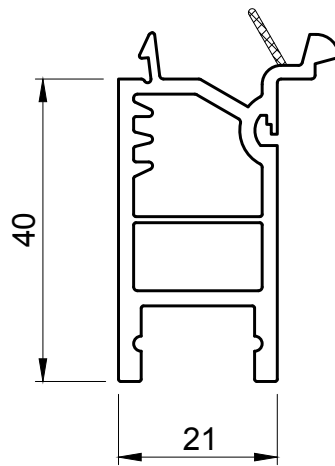
416147



406115

Sill connection

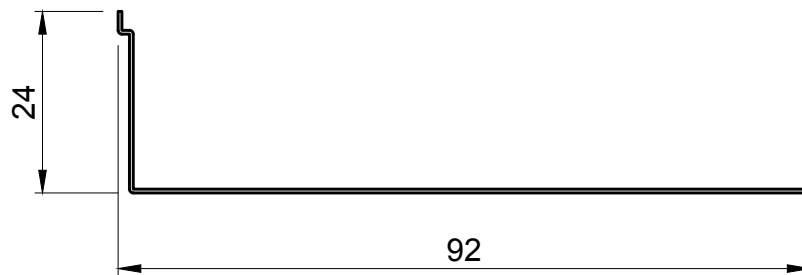
**416142**



**416142**

Fixing clip

417530



417530

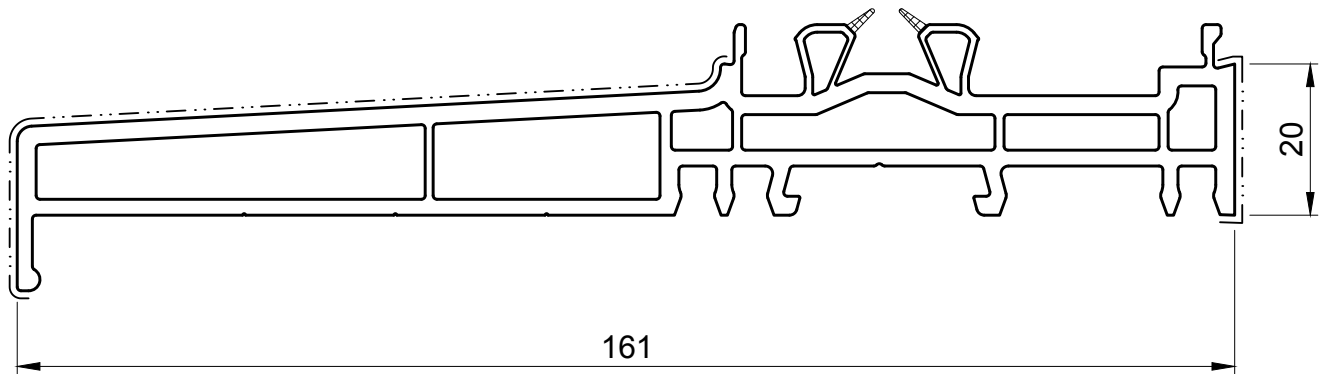
**i** INFO

Used with the following sill connections:

416100, 416106, 416133, 416134, 416135, 416141, 416142

Window sill

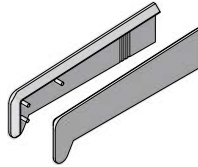
**416112**



**Accessories** (not to scale)

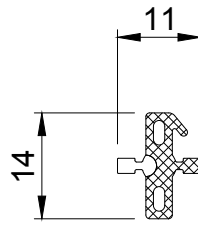
End cap

417115

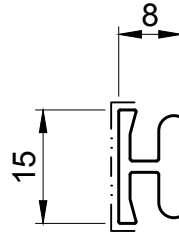


Coupling spring  
**414915**

Coupling profile  
**406255**

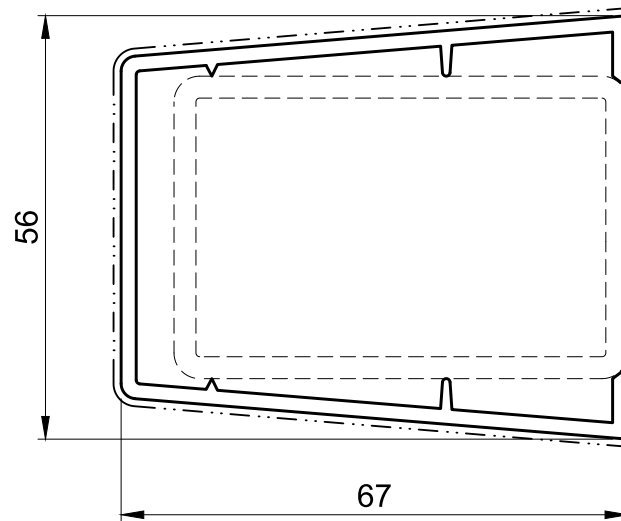


**414915**



**406255**

Attachment frame

**406271****406271****Accessories**

Strengthening

Steel, galvanised

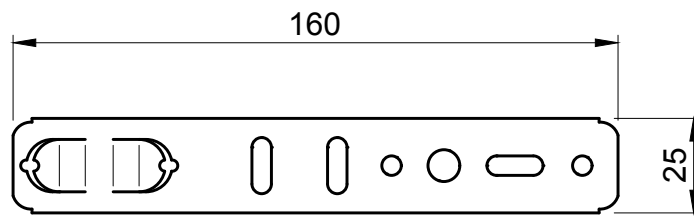
60 x 40 x ... mm.

Thickness according to static guidelines.

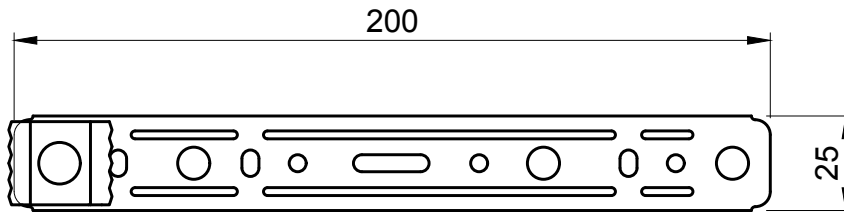
Purchase through steel trade.

Wall anchor

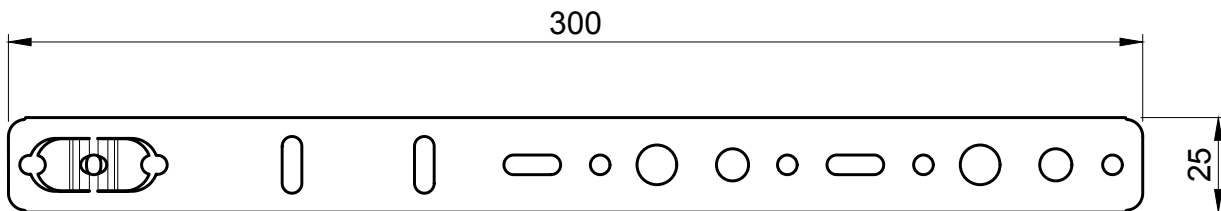
417540, 417545, 417548, 417550



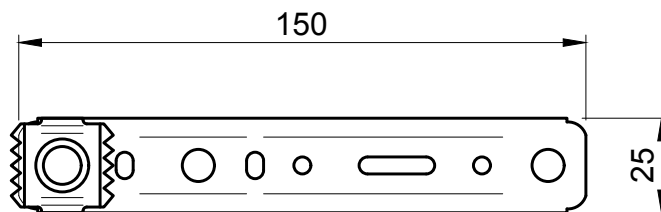
417540



417545



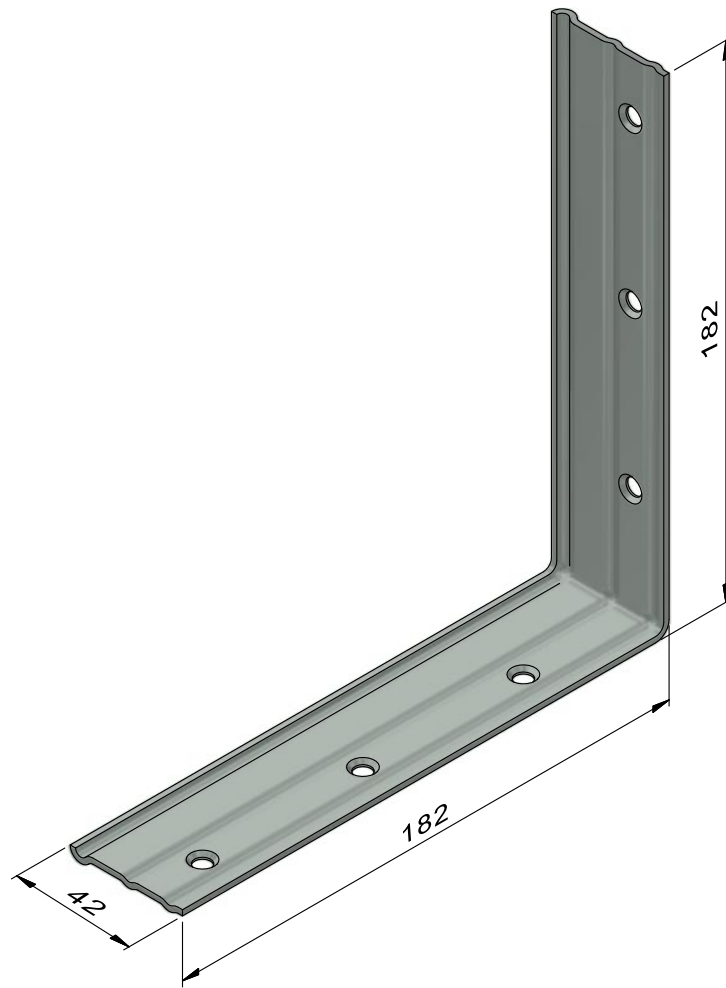
417548



417550

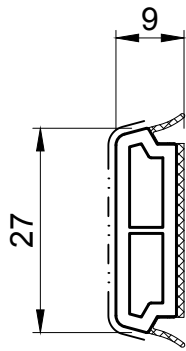
Rebate corner angle

438566

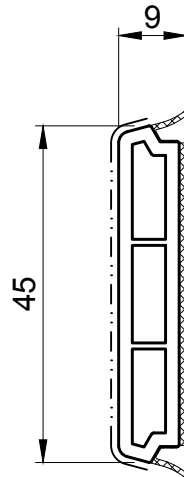


Mullions, self-adhesive

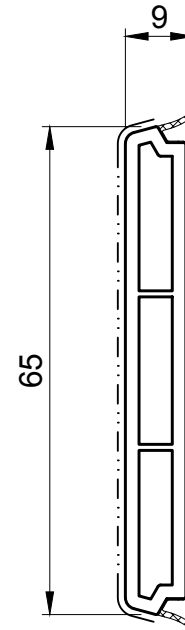
416302, 416304, 416306, 416322, 416324, 416326



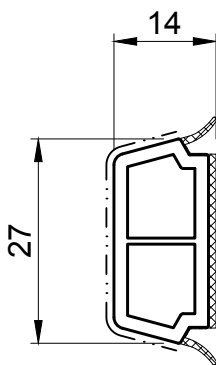
416302



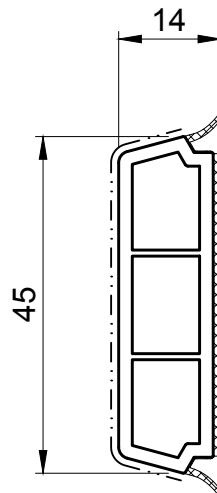
416304



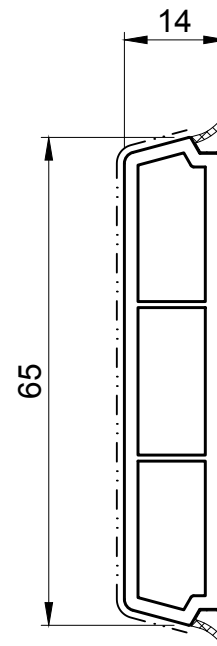
416306



416322



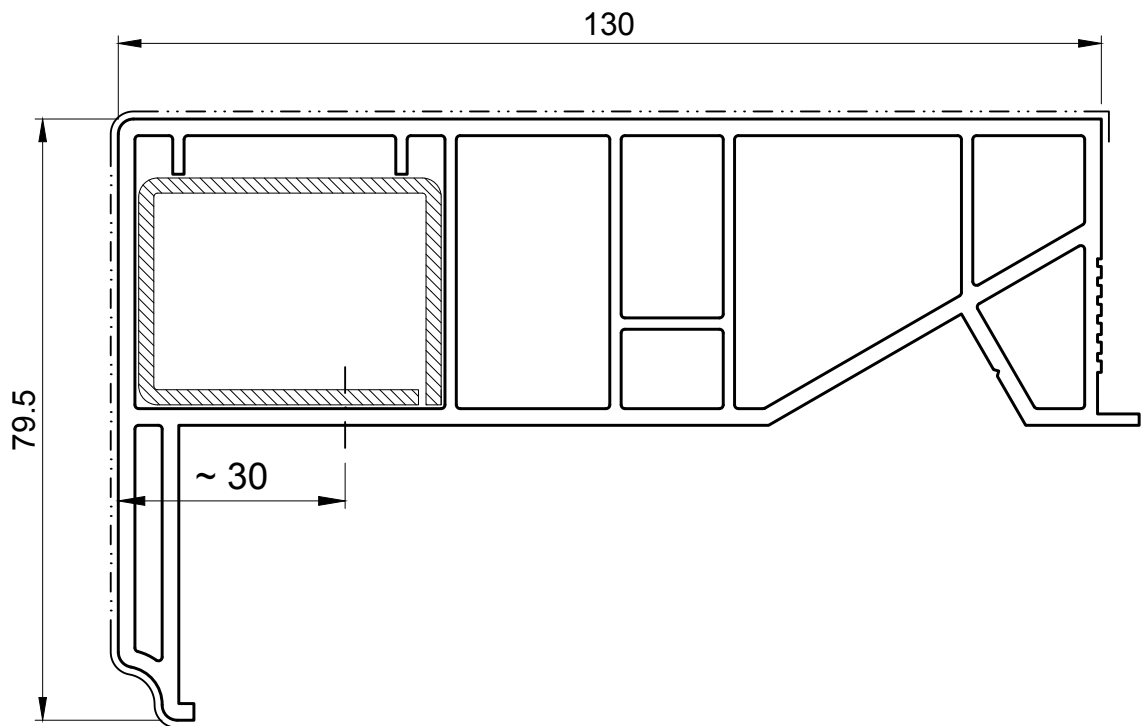
416324



416326

Soffit cladding

**406010, 406020**

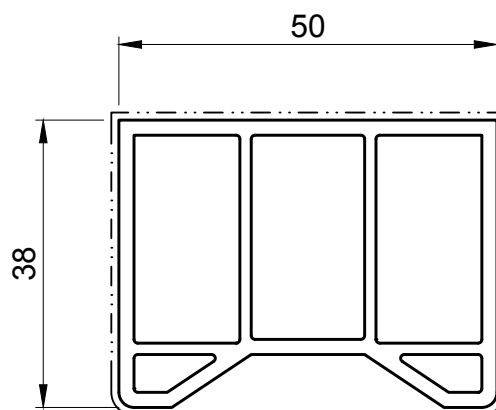


**406010**

**Accessories** (not to scale)

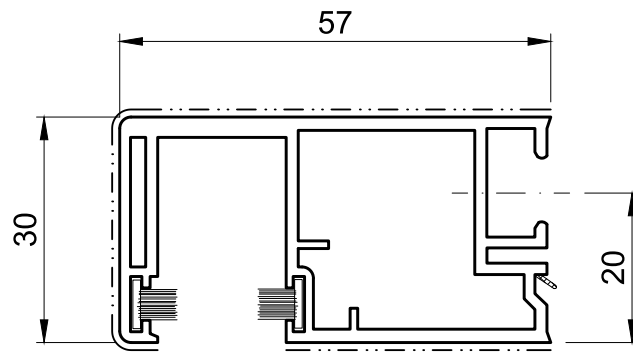
Bracing

405040



**406020**

Tapee  
416386



**Accessories** (not to scale)

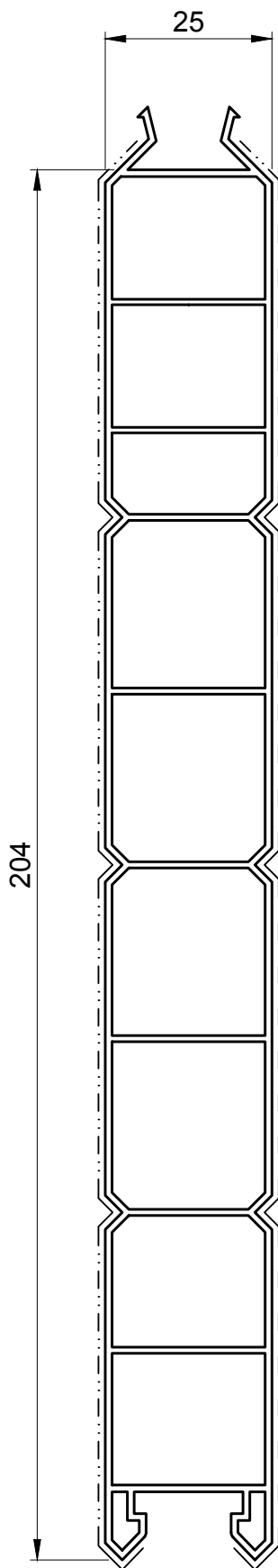
Snap-in head screw

407965

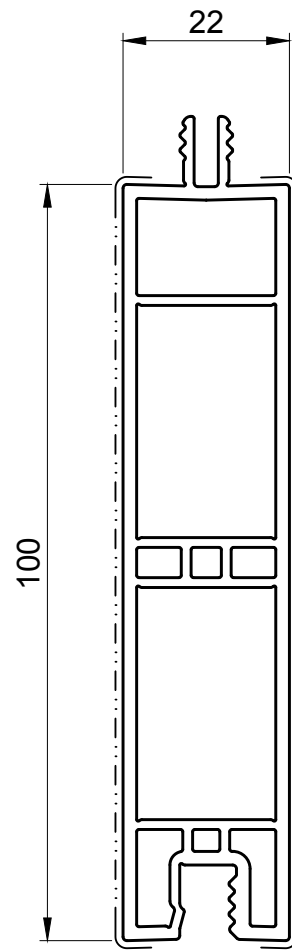


Panel profile  
**406670**

infill panel  
**416274**



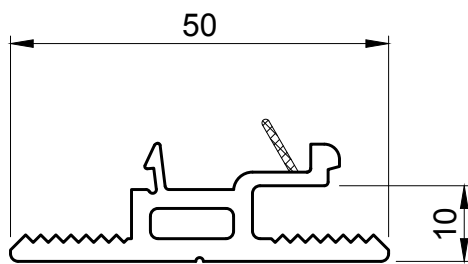
**406670**



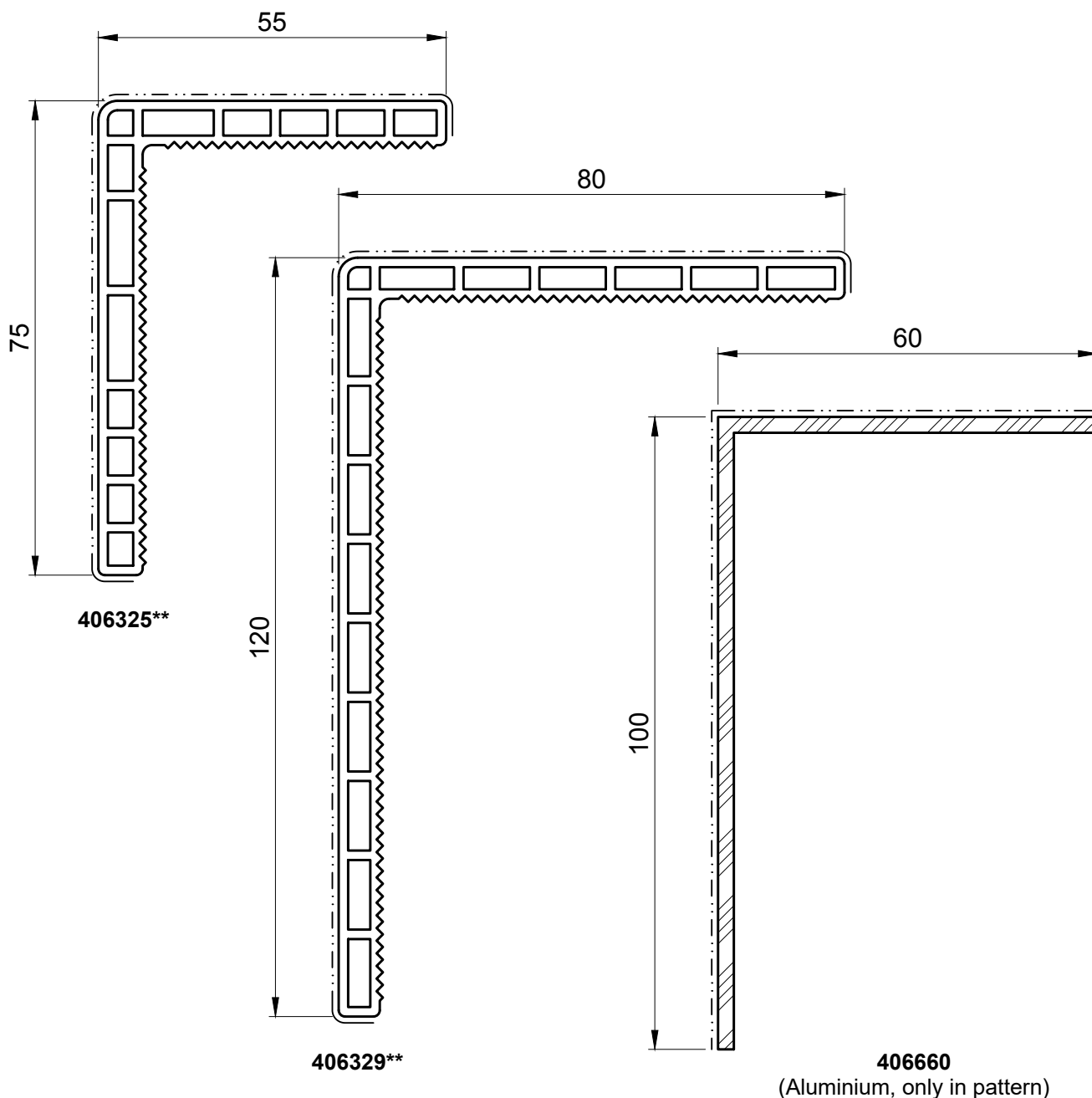
**416274**

Adapter  
416305

Old building angle  
406325, 406329, 406660



416305

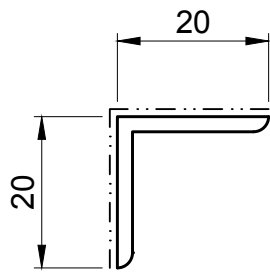


**i** INFO

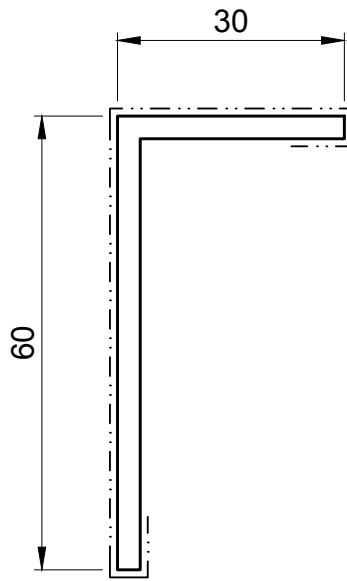
\*\* In décor, use on room side only.

Angle  
406319, 406320, 406321

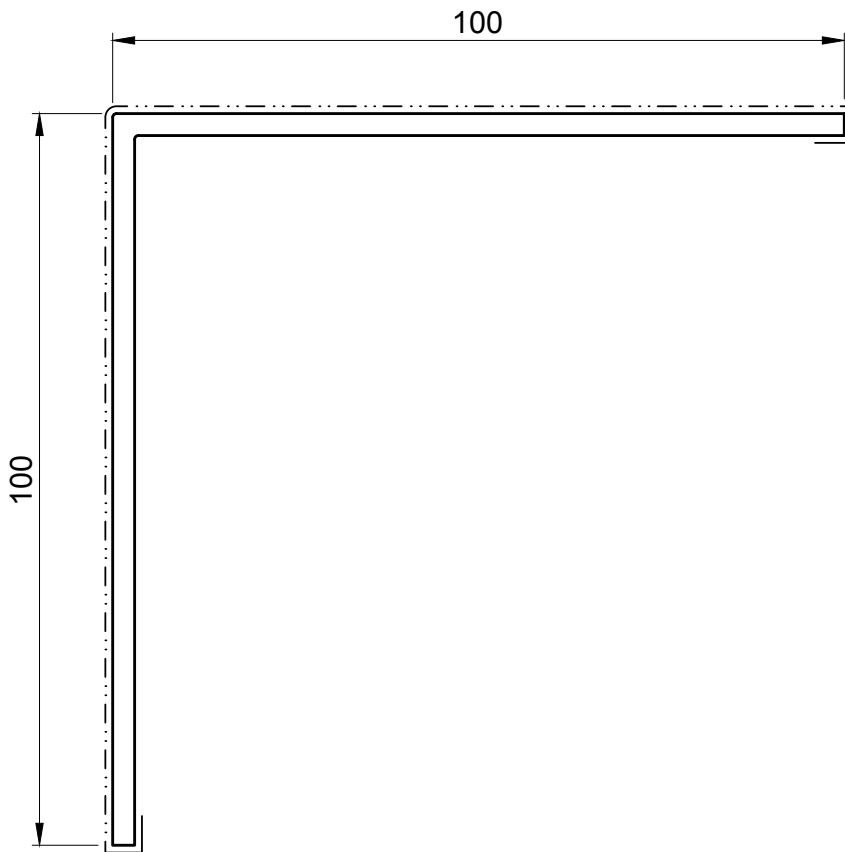
Trim profile  
406316



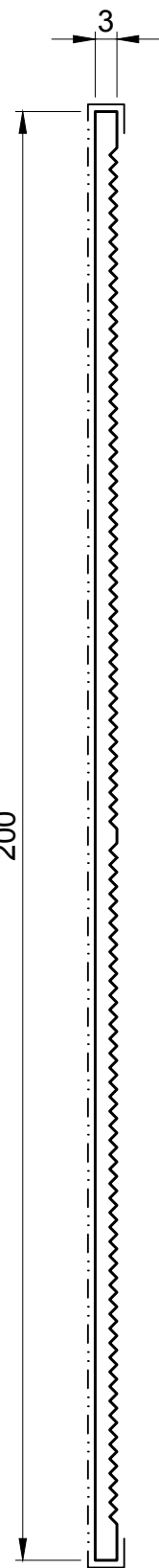
406319



406320

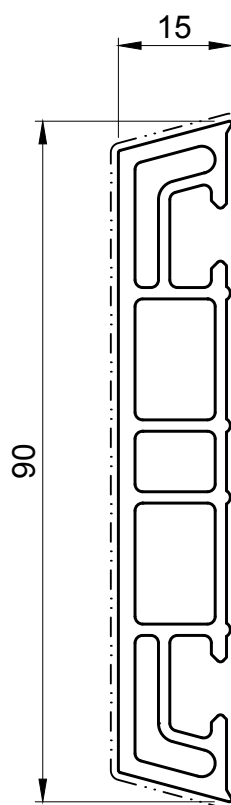


406321



406316

Cover  
406340



**Accessories (not to scale)**

Snap-in head screw

**407900**



Clamping strip PVC

**406335**



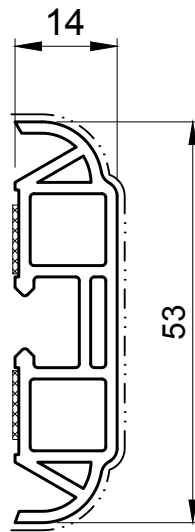
Clamping strip aluminium

**406635**



Trim strip, self-adhesive  
**416312**

Impact strip inside  
**216230**



**416312**

**Accessories** (not to scale)

Snap-in head screw

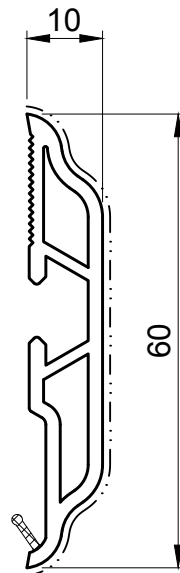
Clamping strip PVC

Clamping strip aluminium

**407900**

**406335**

**406635**



**216230**

**Accessories** (not to scale)

End caps

Snap-in head screw

Clamping strip PVC

Clamping strip aluminium

**217240**

**407900**

**406335**

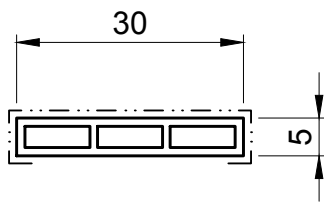
**406635**



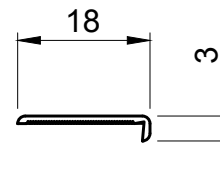
Profile strip  
406310

Profile strip, self-adhesive  
siehe unten

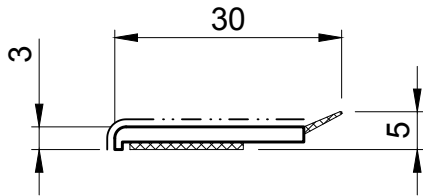
Cover profile  
416327, 416337, 416357



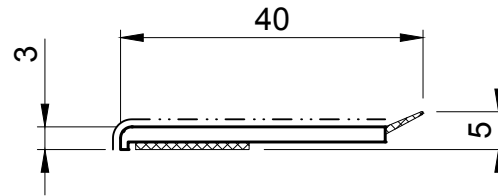
406310\*\*



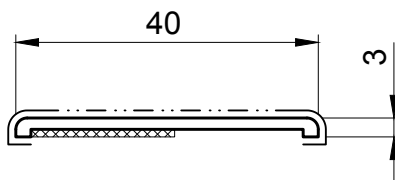
406317\*\*



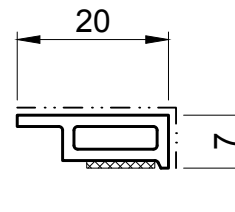
406312\*\*



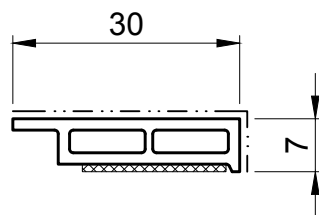
406315\*\*



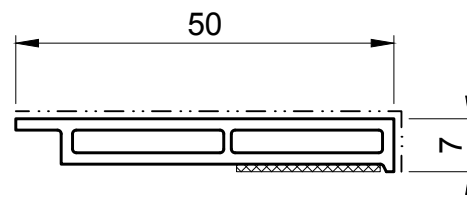
416328\*\*



416327\*\*



416337\*\*



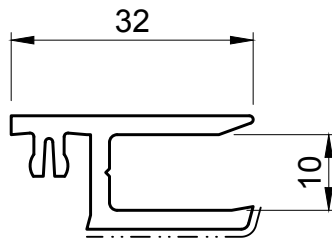
416357\*\*

**i** INFO

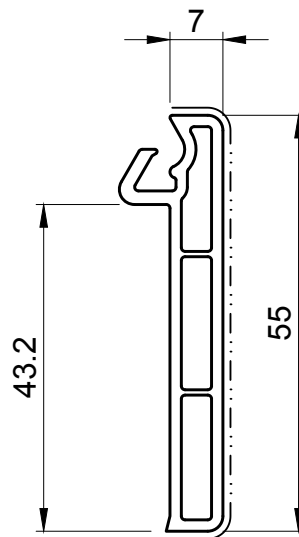
\*\* In pattern, use in room interior only.

Adapter for cladding  
**406307**

Cover profile  
**416182**



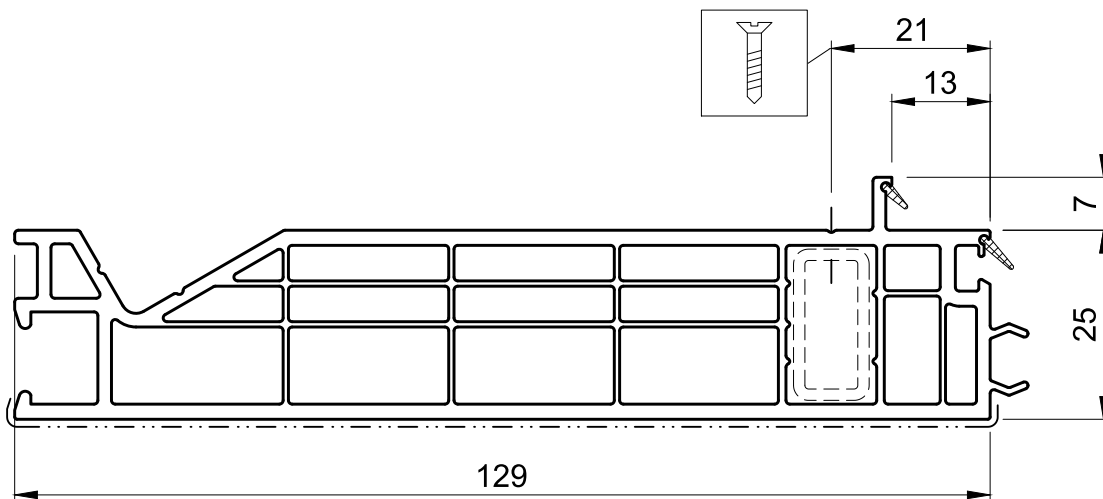
**406307**  
Adapter for cladding



**416182**  
Cover profile

Cladding  
550800, 550801

Panel strip  
553424



550800

**Accessories**

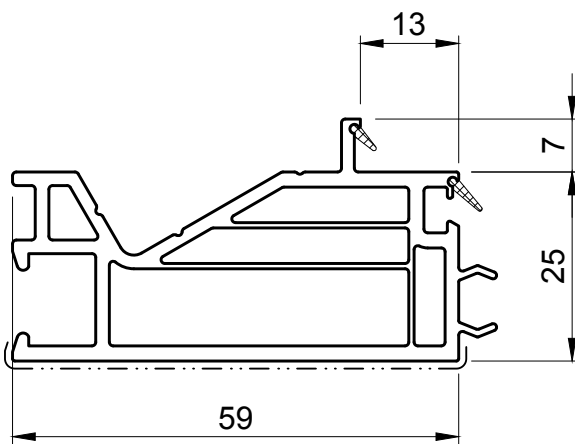
Strengthening

Steel, galvanised

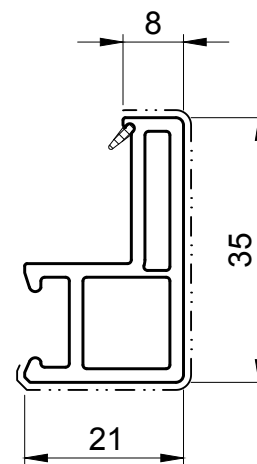
10 x 20 x ... mm.

Thickness according to static guidelines.

Purchase through steel trade.



550801

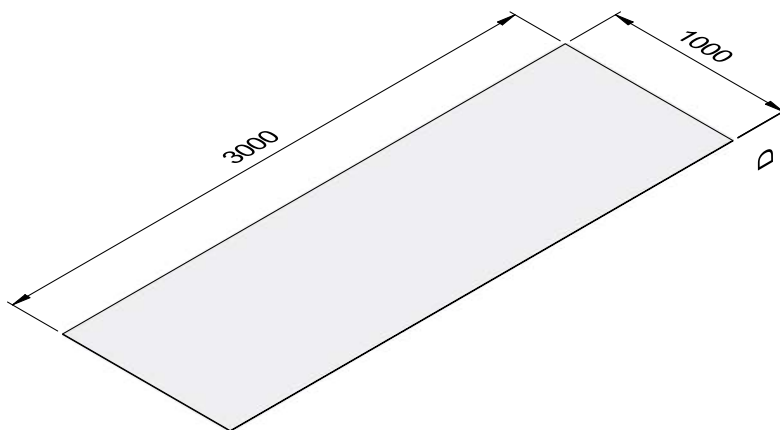


553424

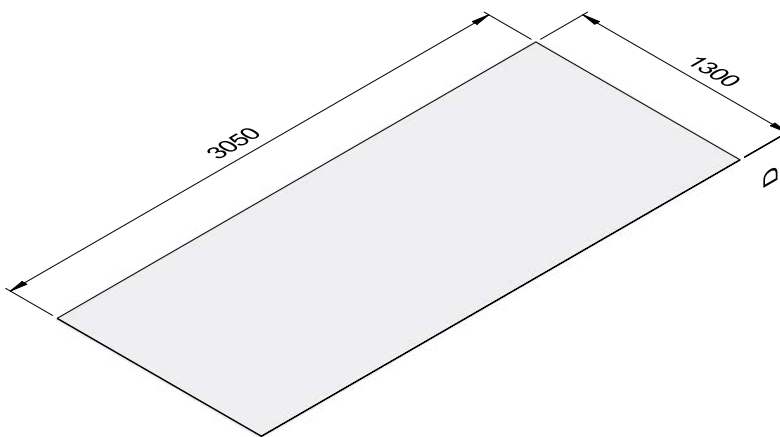
PVC panel  
407912

Laminate panel  
407914

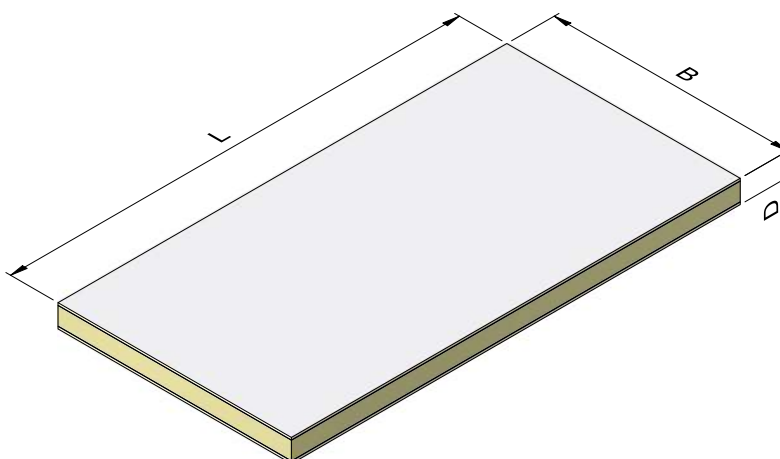
Sandwich panel  
407920



**407912**  
White  
D = 3 mm



**407914**  
Décor  
D = 3 mm



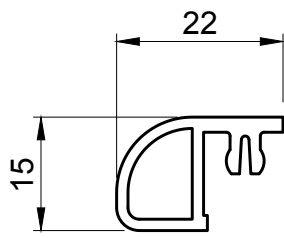
**407920**  
White, L x W: 3000 x 1500 mm  
Decor, L x B: 3050 x 1300 mm  
D = 24 mm  
U-value: 1.348

Roller shutter cross bar

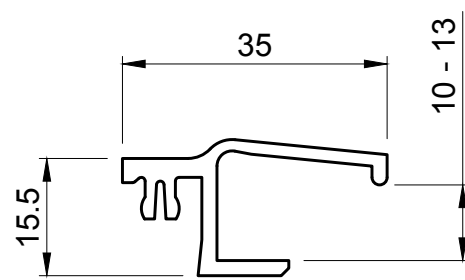
406051

Lid connection

406053



406051

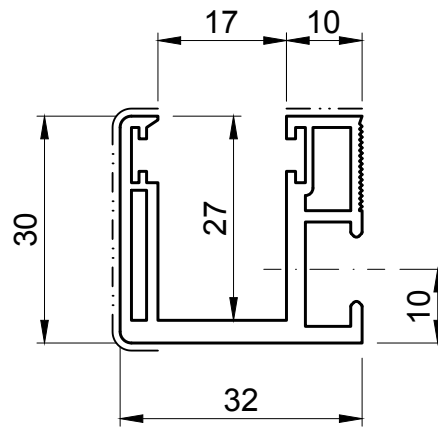


406053

Roller shutter guide  
**406065**

Reinforcement  
**406066**

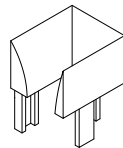
Roll-off profile  
**406050**



**406065**

**Accessories** (not to scale)

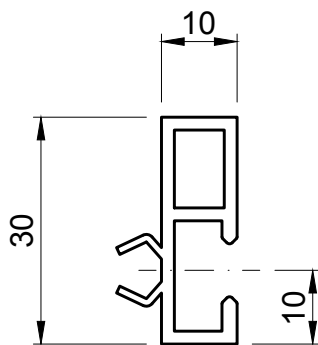
Inlet funnel  
407065



Snap-in head screw  
407965

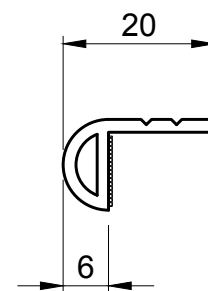


Brush seal  
404930



**406066**

(for 406065)



**406050**

(for 406065)

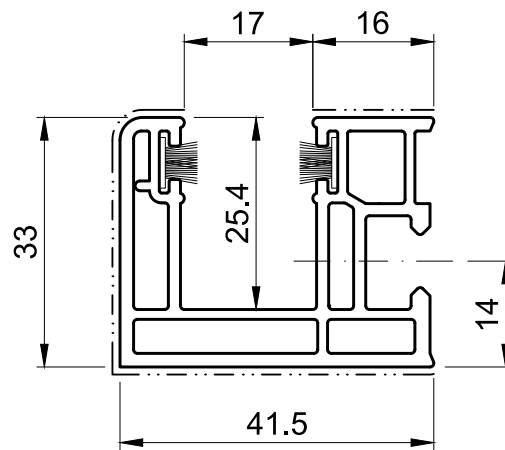
**Accessories** (not to scale)

Snap-in head screw  
407965



Roller shutter guide

406073



Accessories (not to scale)

Inlet funnel

Snap-in head screw

Clamp-strip PVC

Clamp-strip aluminium

Brush seal

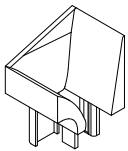
407070

407900

406335

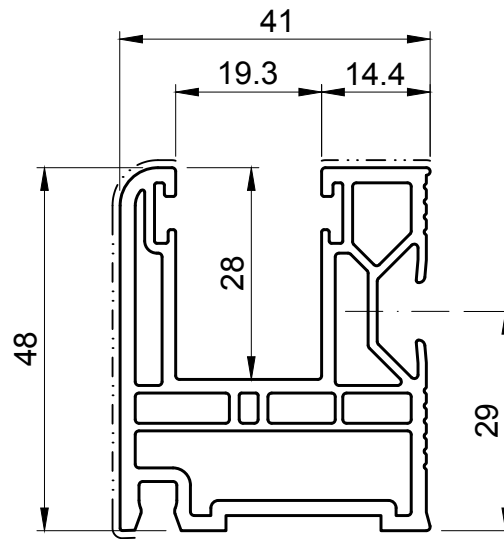
406635

404930



Roller shutter guide  
416086

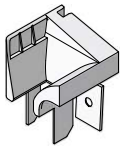
Reinforcement  
406081



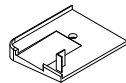
416086

**Accessories** (not to scale)

Inlet funnel  
417082



End cap  
417081



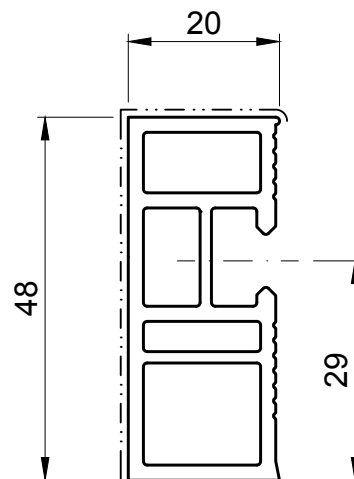
Snap-in head screw  
407900



Clamping strip  
NP1940



Brush seal  
404935



406081

**Accessories** (not to scale)

Snap-in head screw  
407900



Clamping strip PVC  
406335

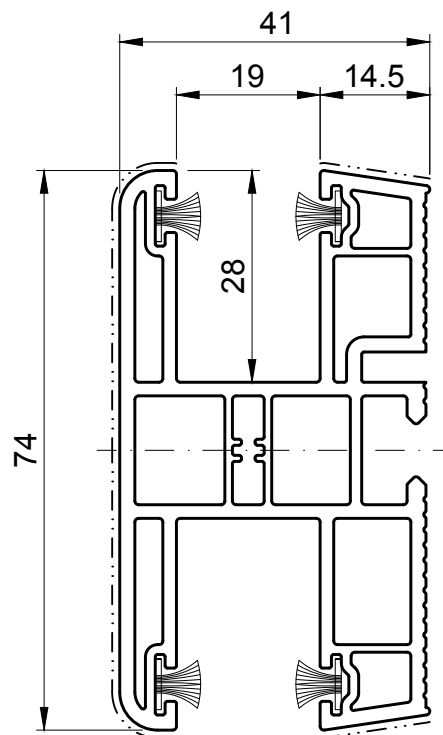


Clamping strip aluminium  
406635



Roller shutter guide

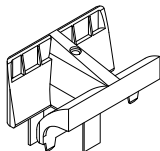
416096



**Accessories (not to scale)**

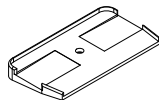
Inlet funnel

417096



End cap

417095



Snap-in head screw

407900



Clamp-strip PVC

406335



Clamp-strip aluminium

406635



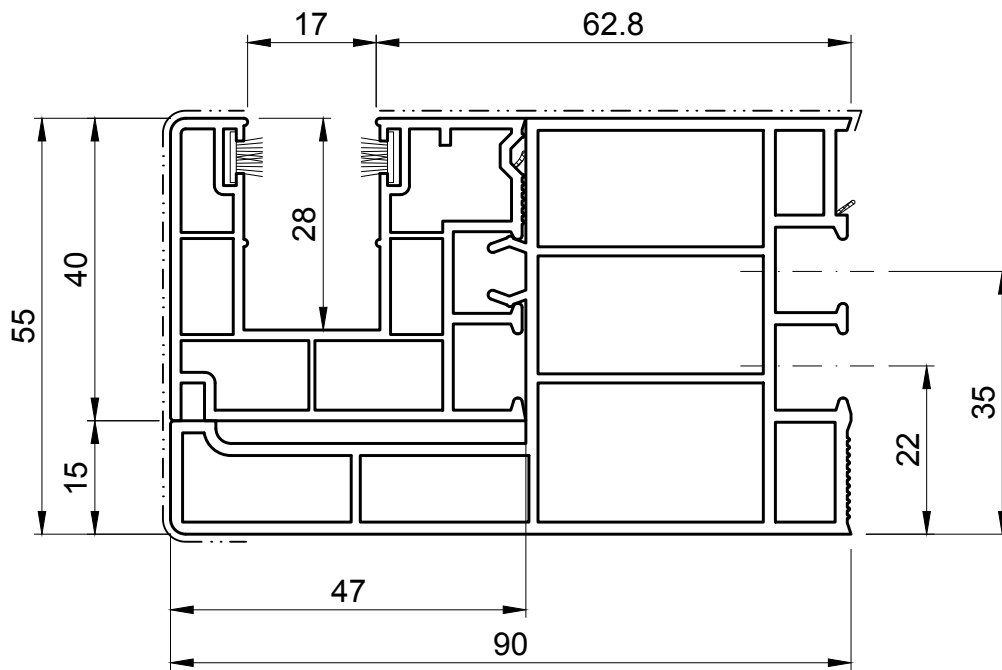
Brush seal

404935



Roller shutter guide  
**556070**

Roll-off profile  
**556075**



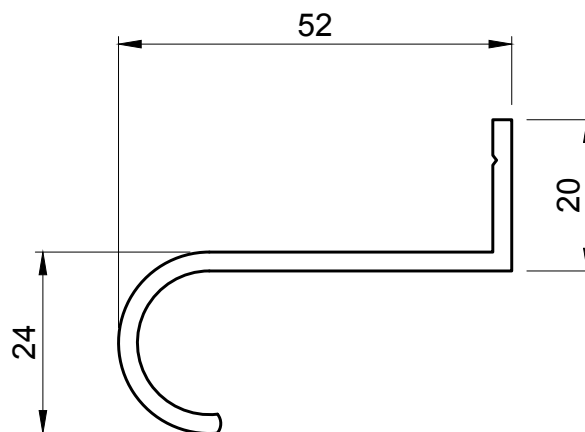
**556070**

**Accessories (not to scale)**

Inlet funnel  
 557170

Snap-in head screw  
 407965

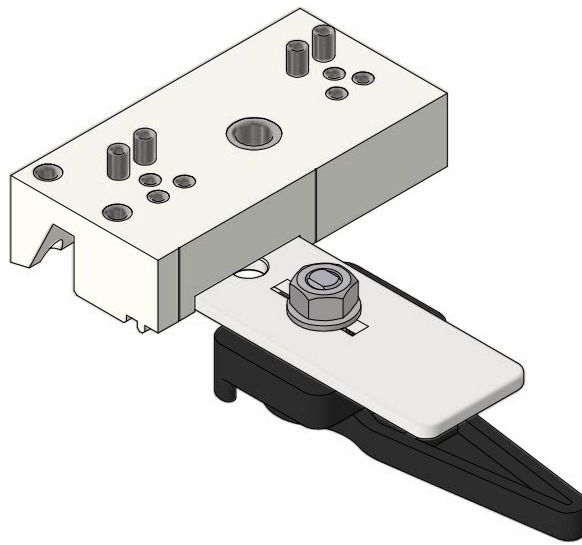
Brush seal  
 404930



**556075**

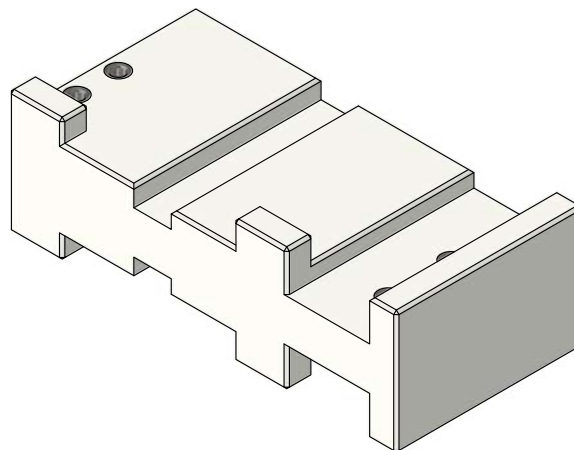
Drilling jigs

467001, 667054



**467001**

Drilling jig, glazing bar / mullion



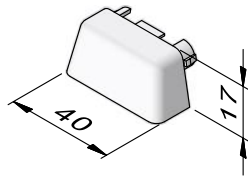
**667054**

Drilling jig, frame

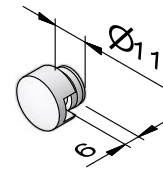
Water slot cap  
**647022, 417025**

Pipe cap  
**407025**

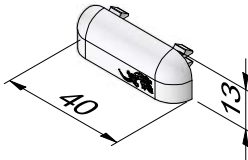
Outer cap round  
**457025**



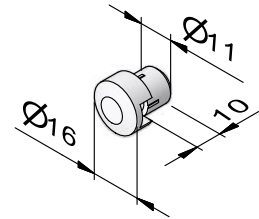
**647022**  
 Water slot cap with check



**407025**  
 Pipe cap



**417025**  
 Water slot cap



**457025**  
 Outer cap round  
 for aluminium clip facing shells



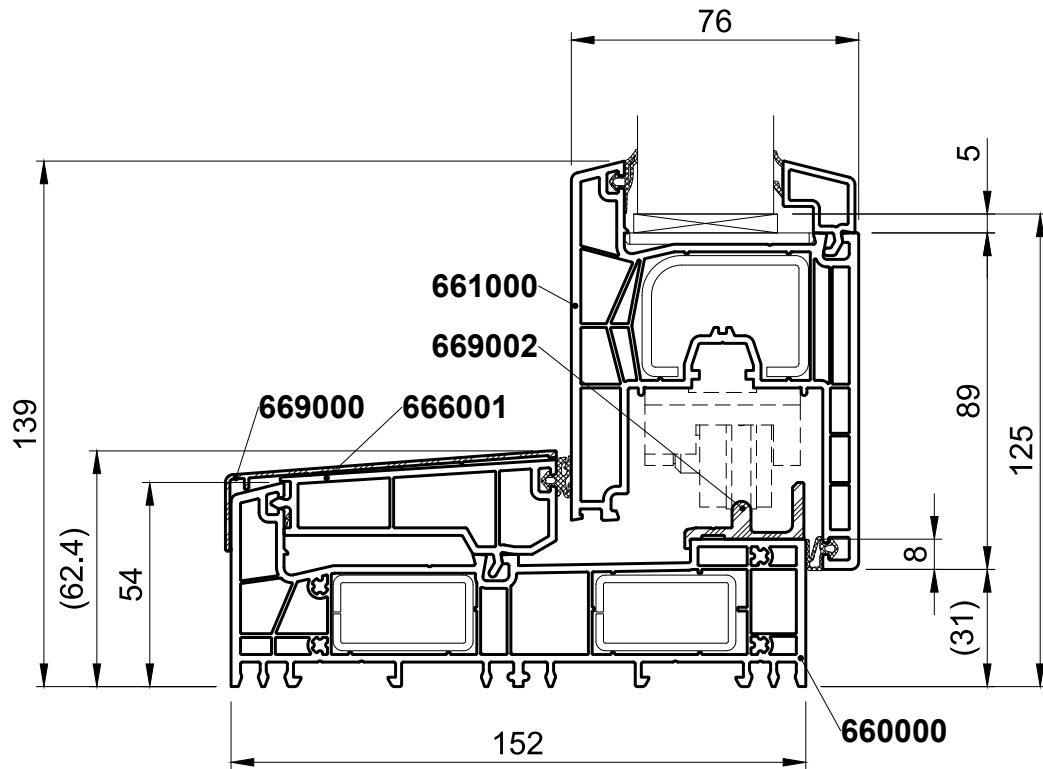
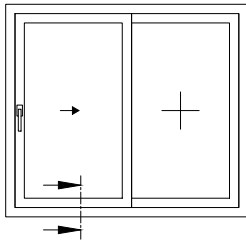
## Chapter 4

**Profile combinations**

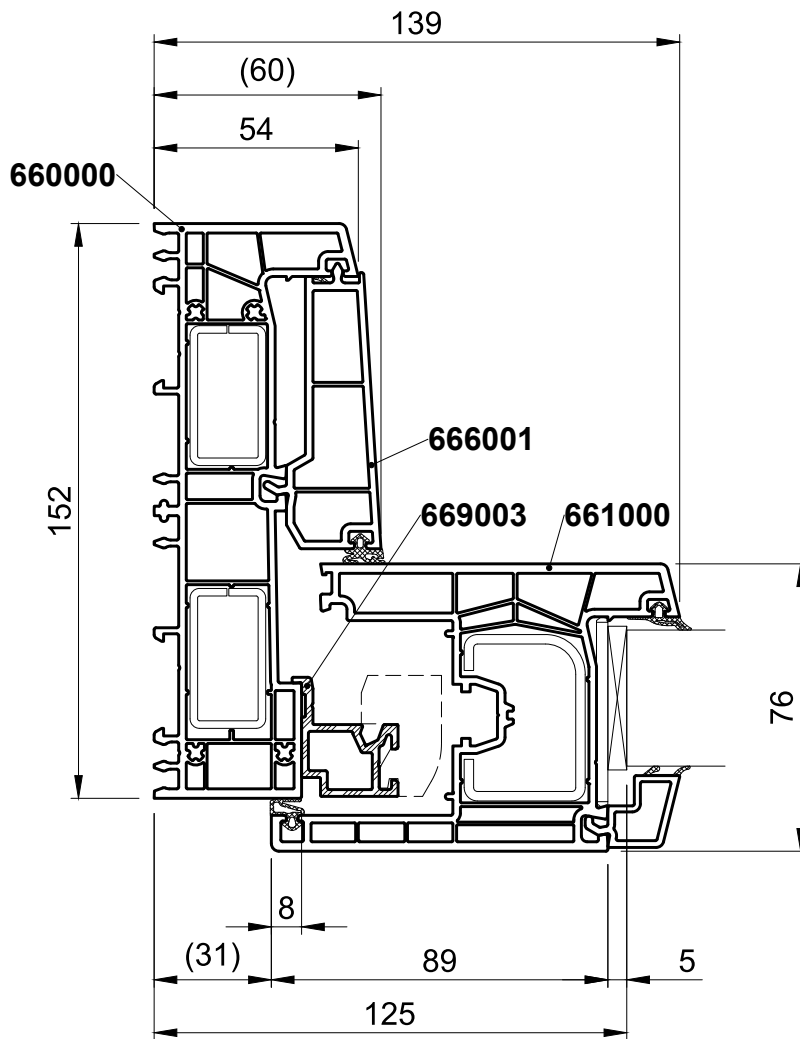
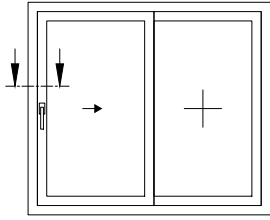
<b>Designation</b>	<b>Page</b>
Sliding sash	1
Fixed part	4
Centre section	7
Forend	8
Scheme A	9
Scheme C	10
Rebate drainage	13
Widenings	14
Sill connections, fixing clip	16
Window sills	25
Couplings	26
Static profiles (pilaster strips)	27
Cladding profiles	28
Roller shutter guides	31



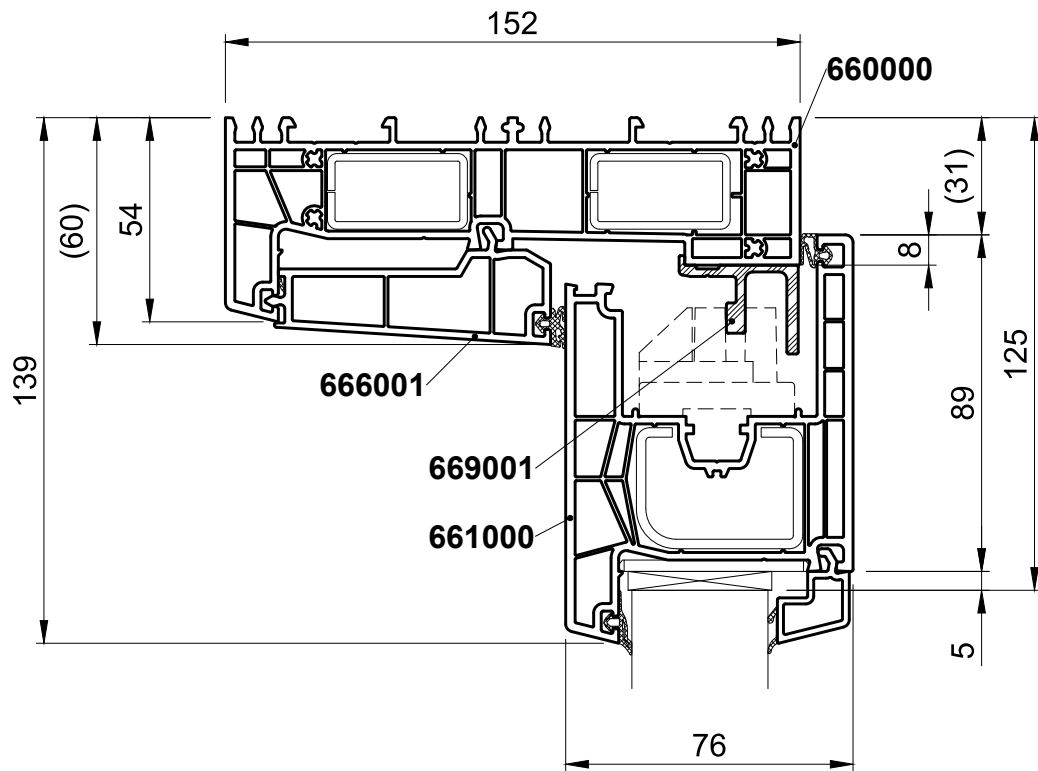
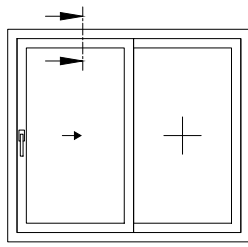
Sliding sash, vertical section bottom



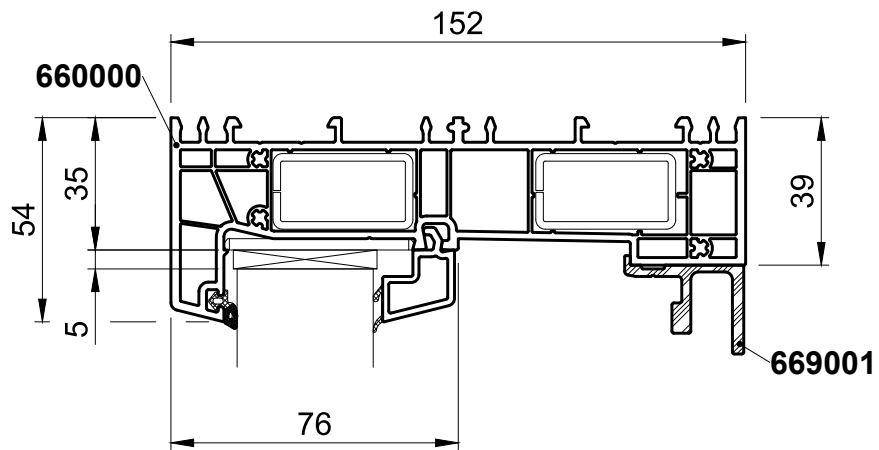
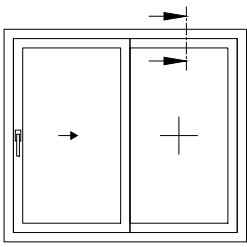
Sliding sash, horizontal section closing side



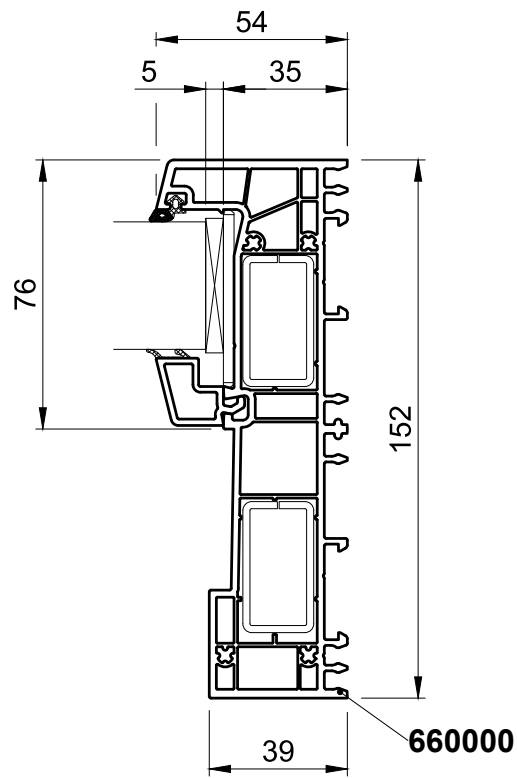
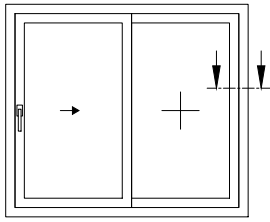
Sliding sash, vertical section top



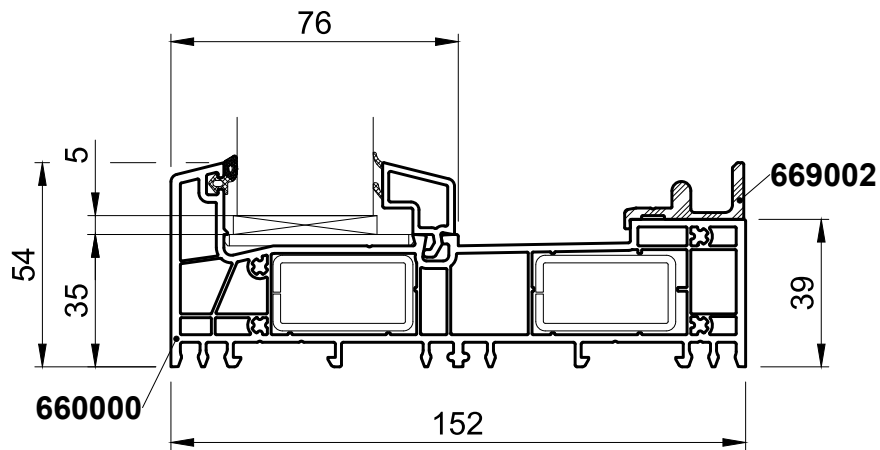
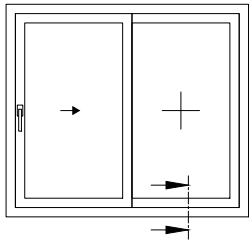
Fixed part, vertical section top



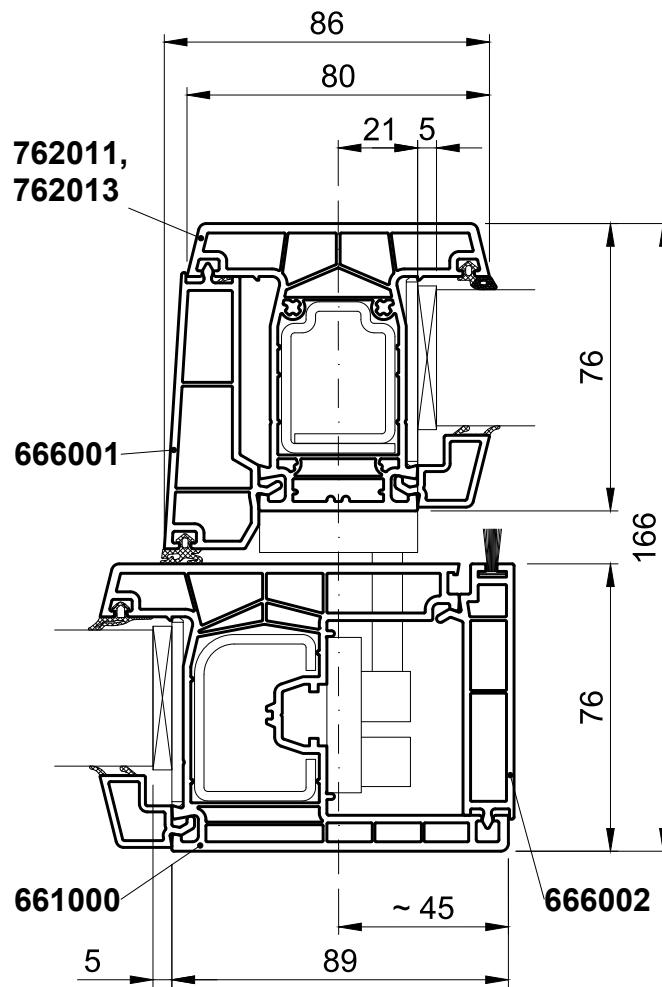
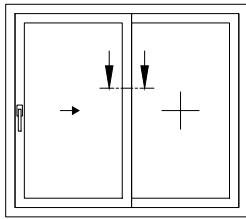
Fixed part, horizontal section side



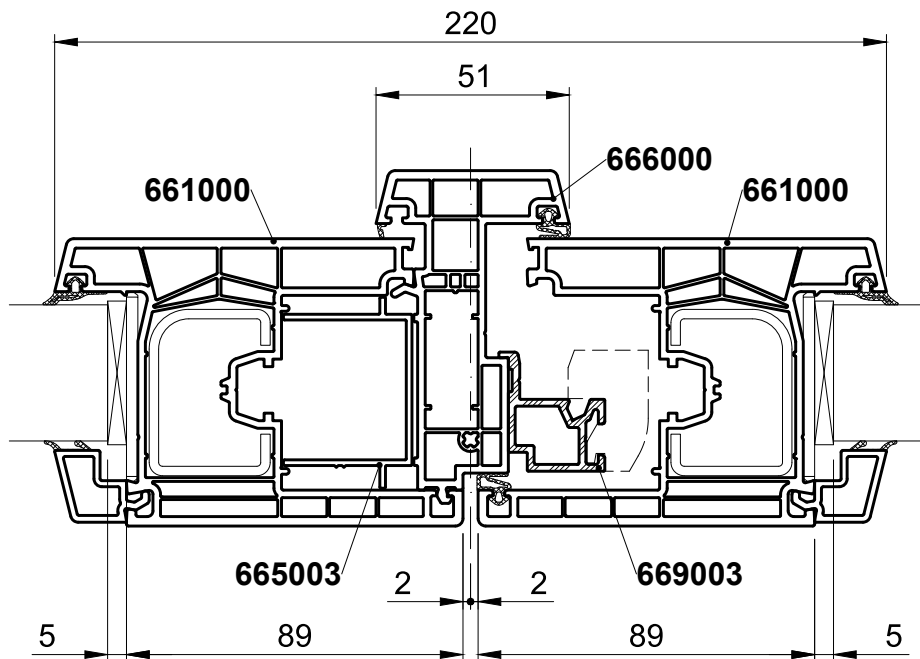
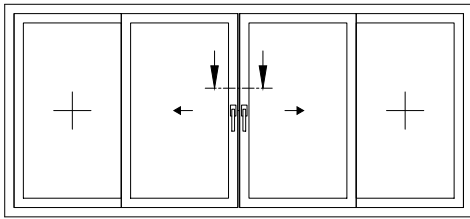
Fixed part, vertical section bottom



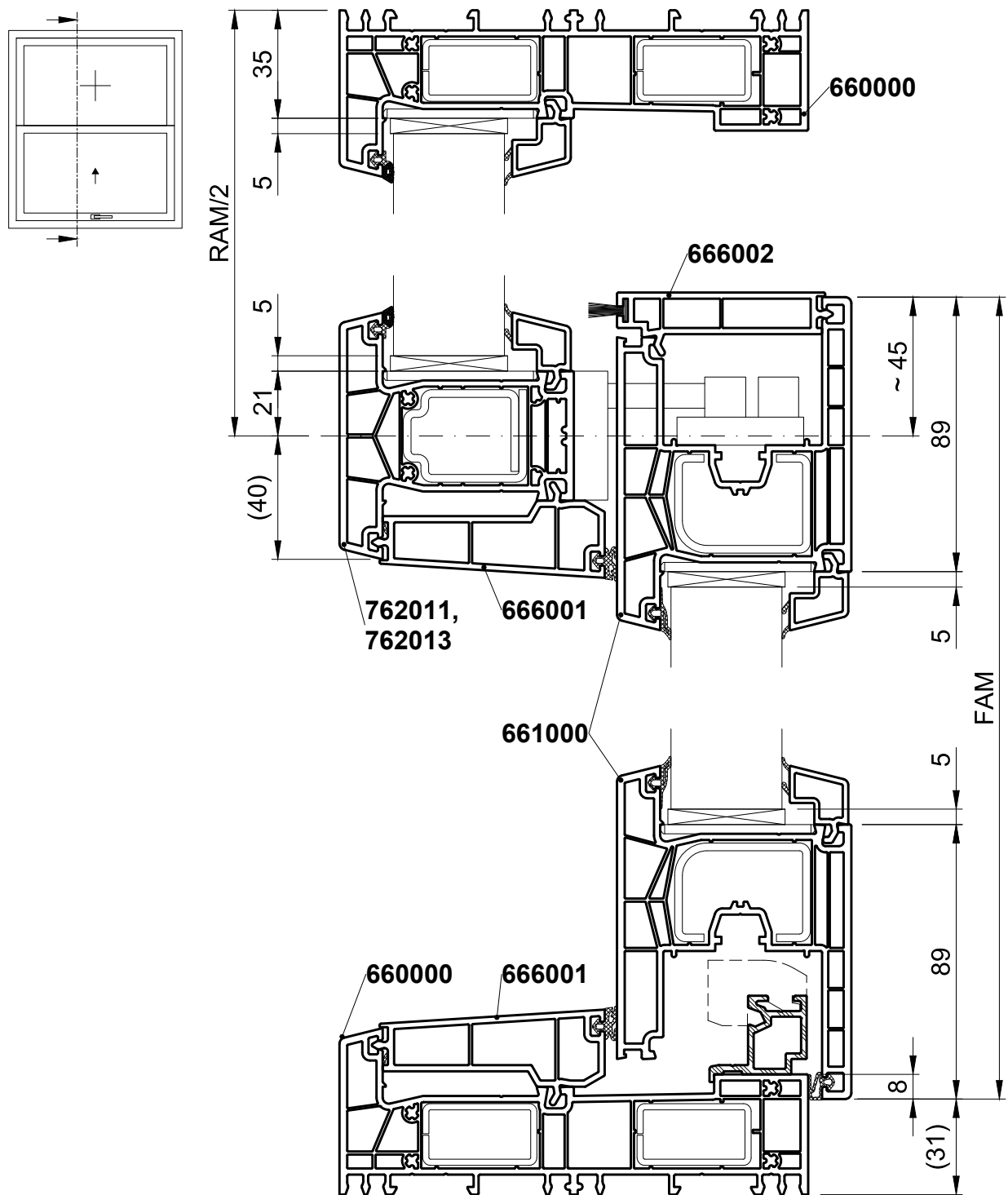
Centre section, horizontal section



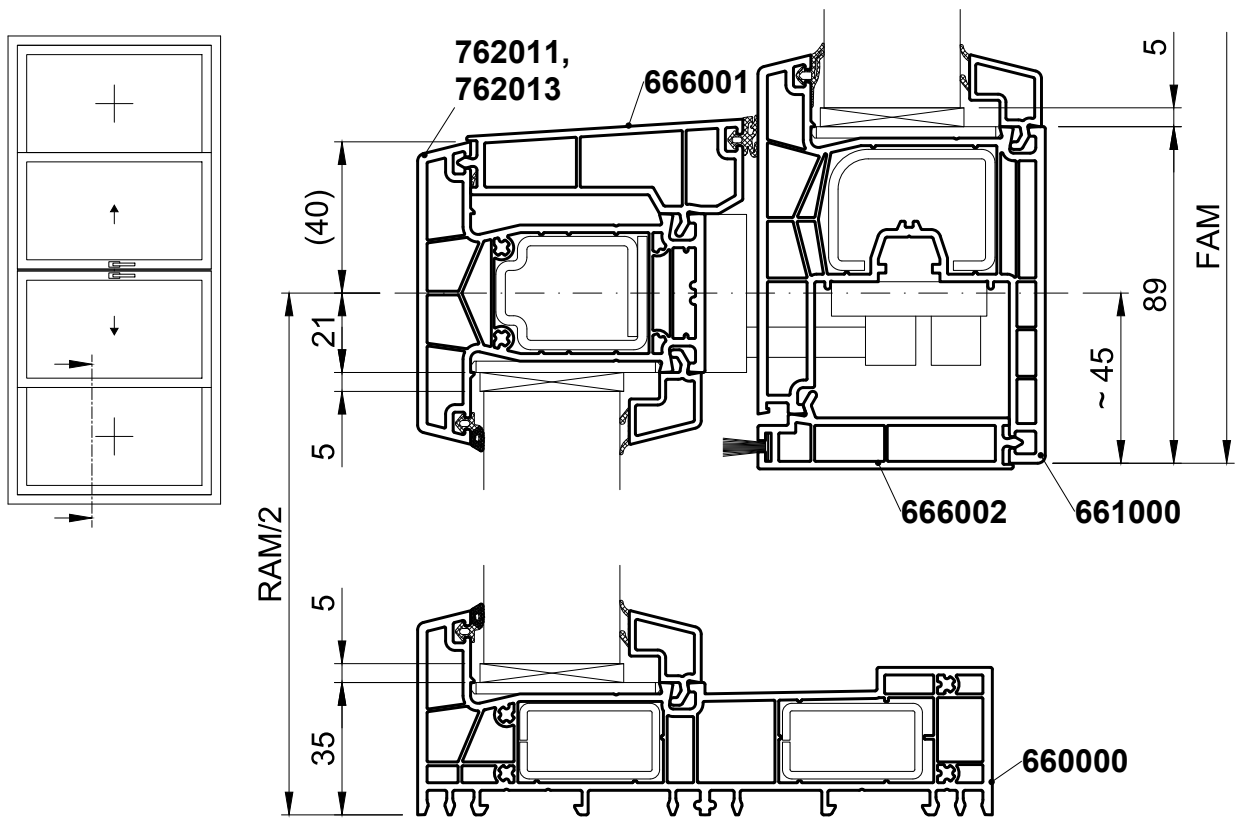
Forend, horizontal section



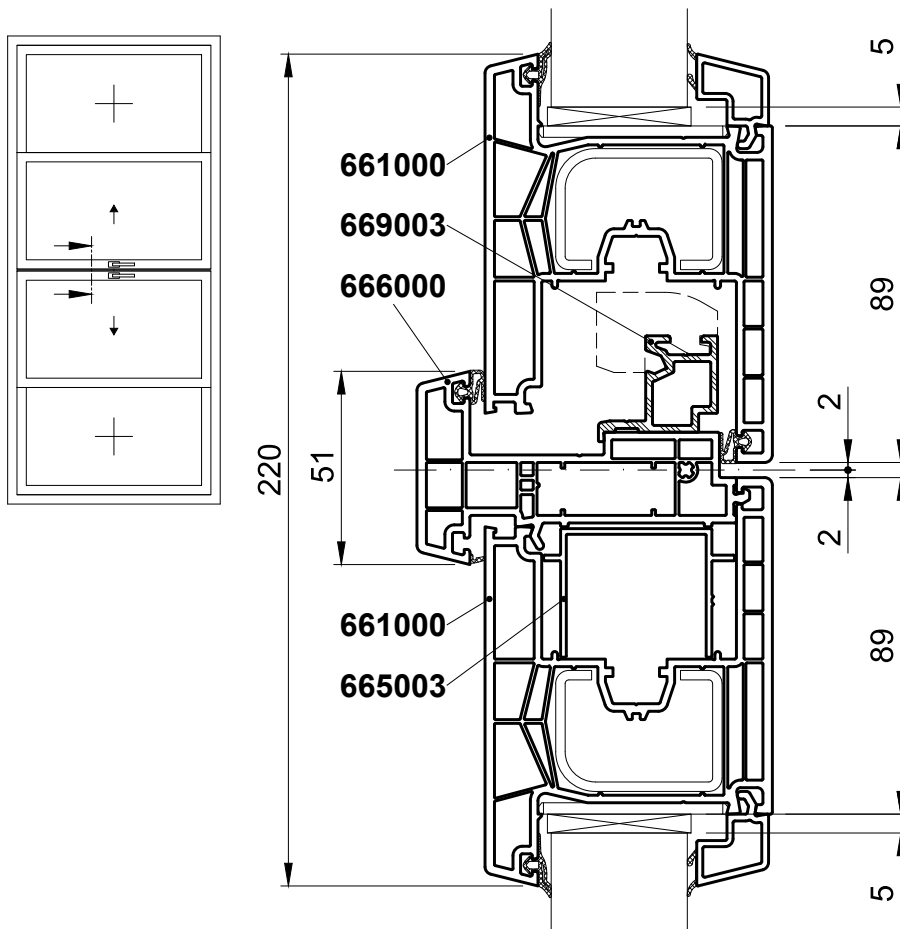
Scheme A, horizontal section



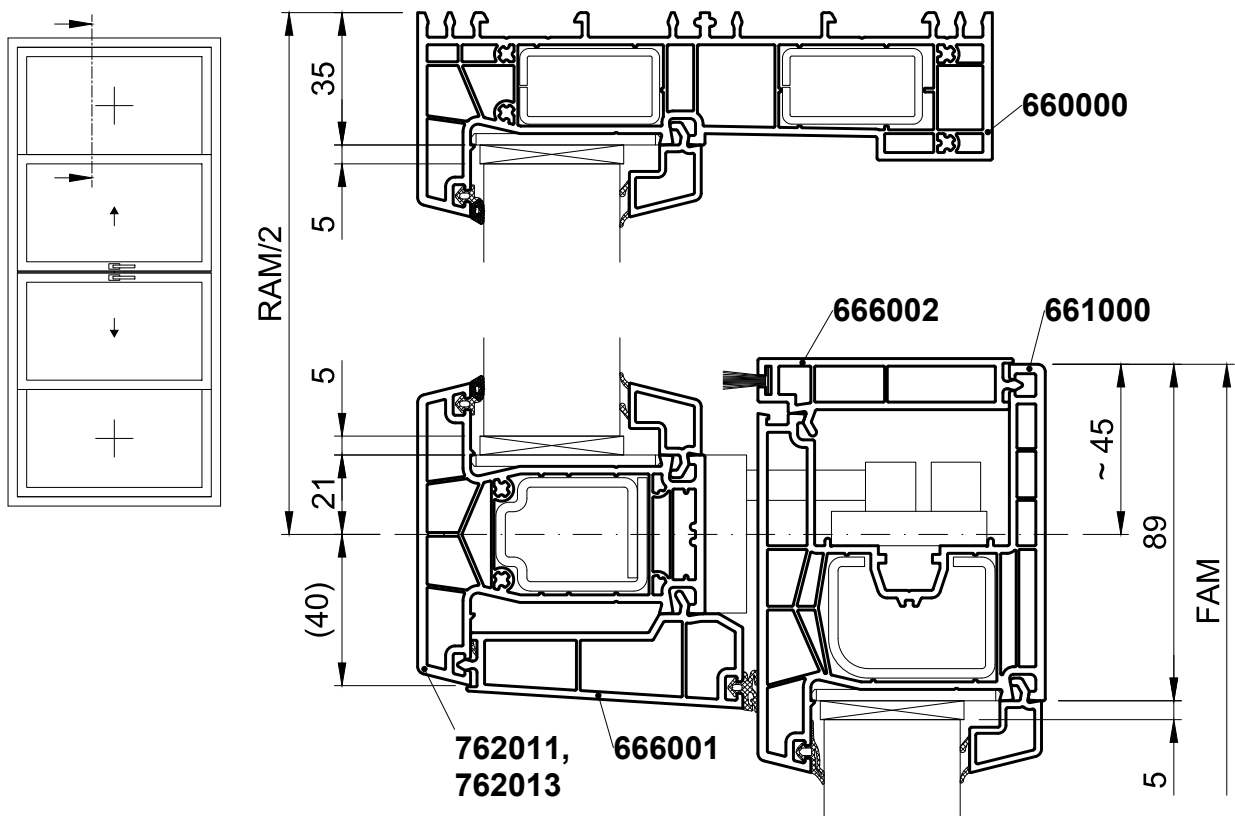
Fixed part left, horizontal section



Forend, horizontal section

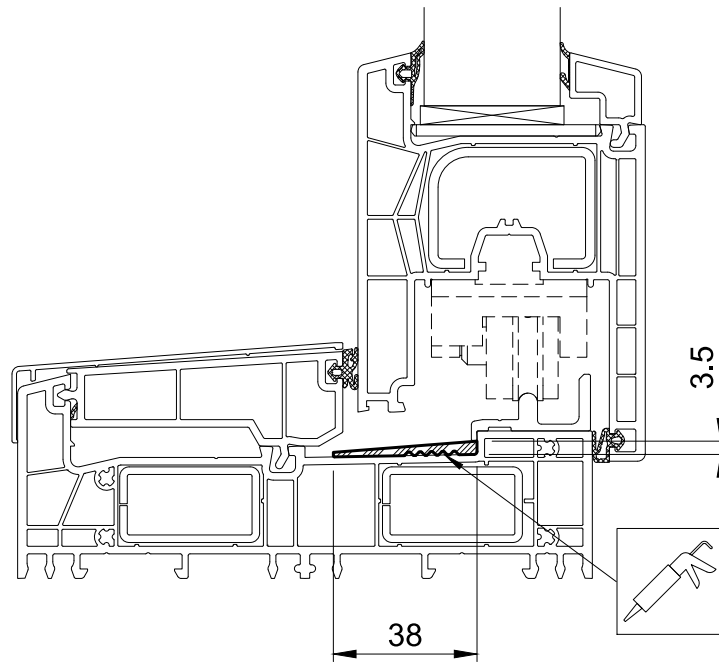


Fixed part right, horizontal section



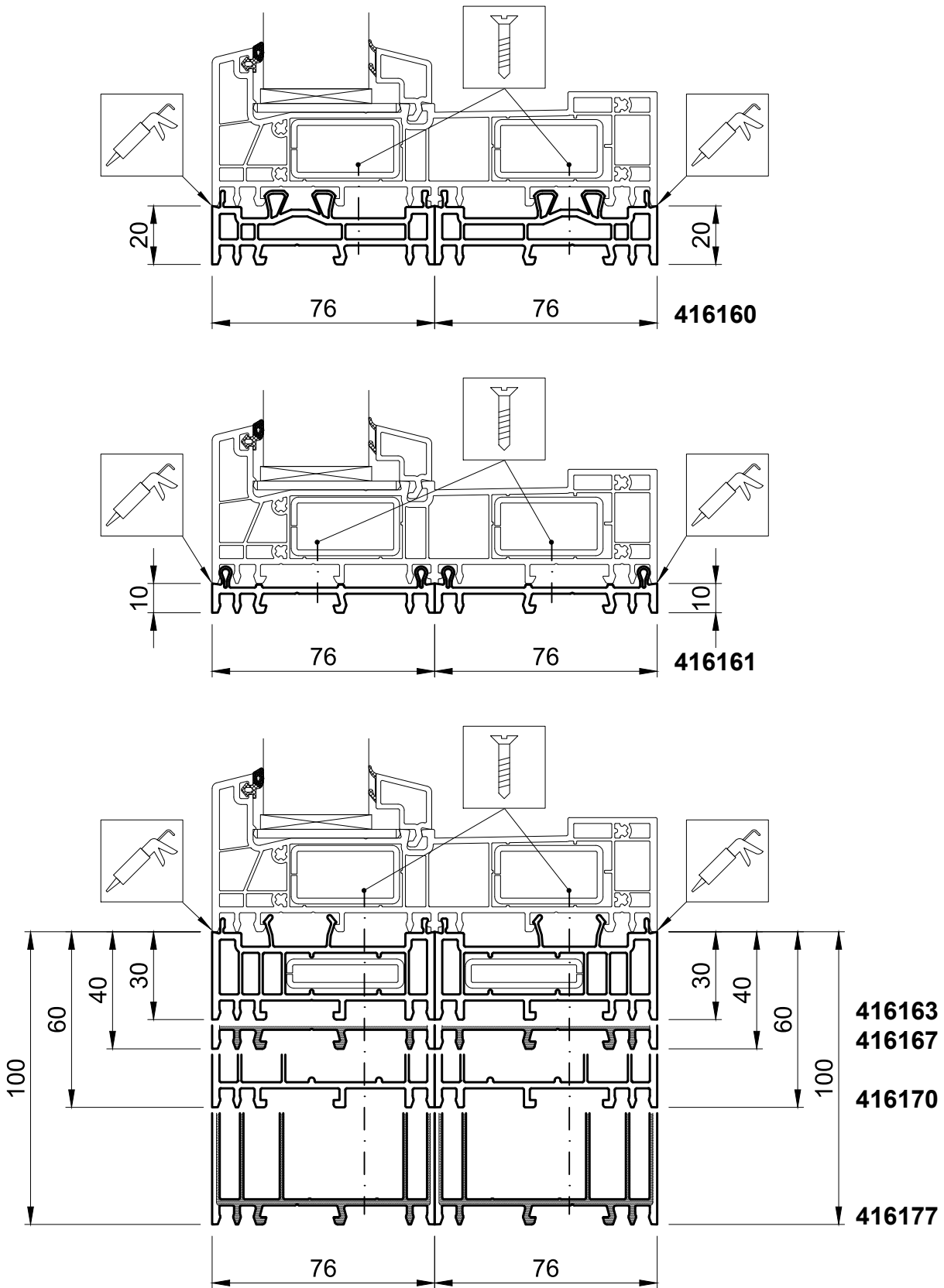
Rebate drainage

**669008**



Widening

416160, 416161, 416163, 416167, 416170, 416177

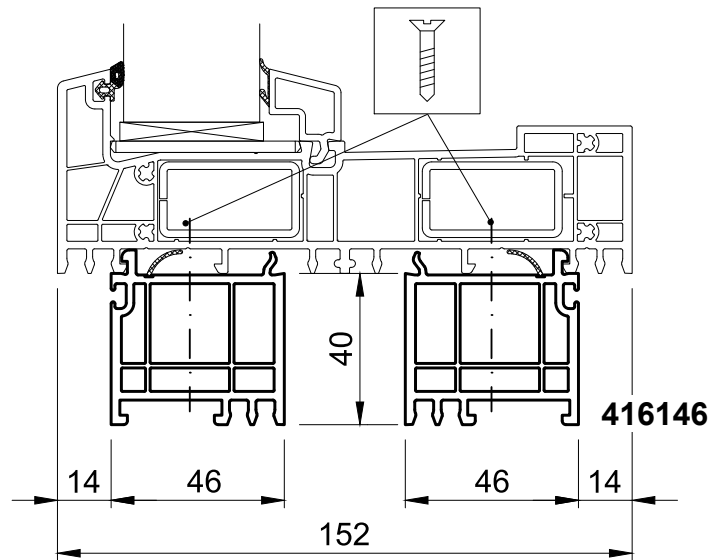
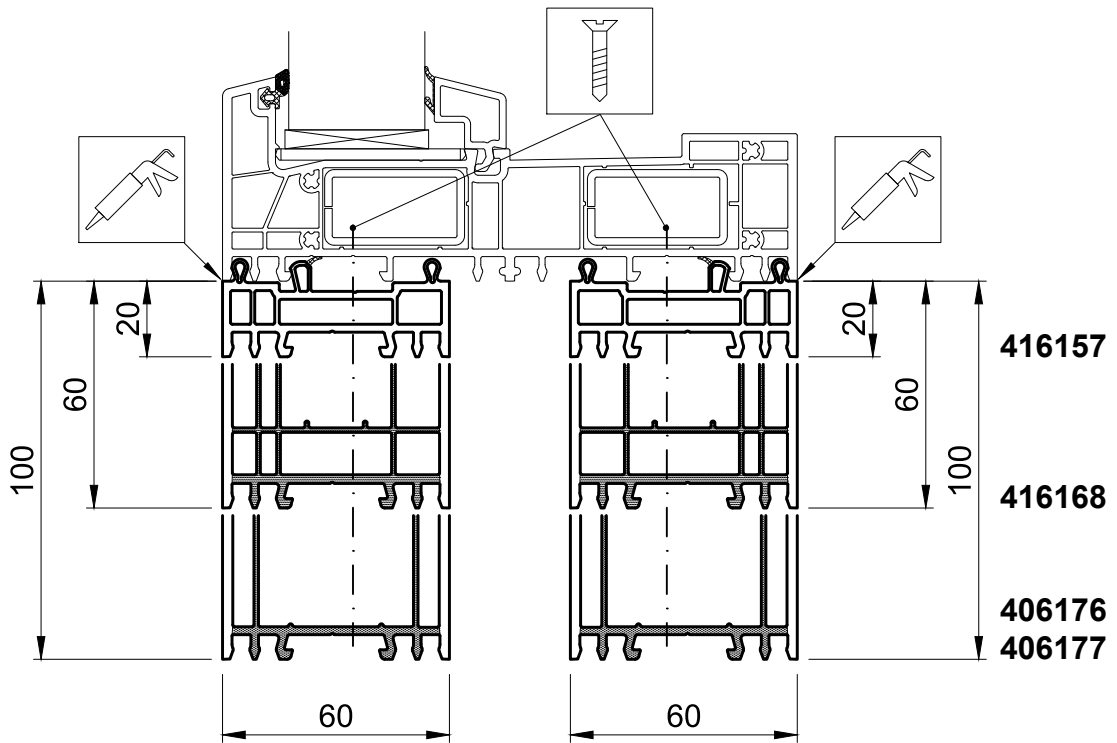


Widenings

Balcony door connection

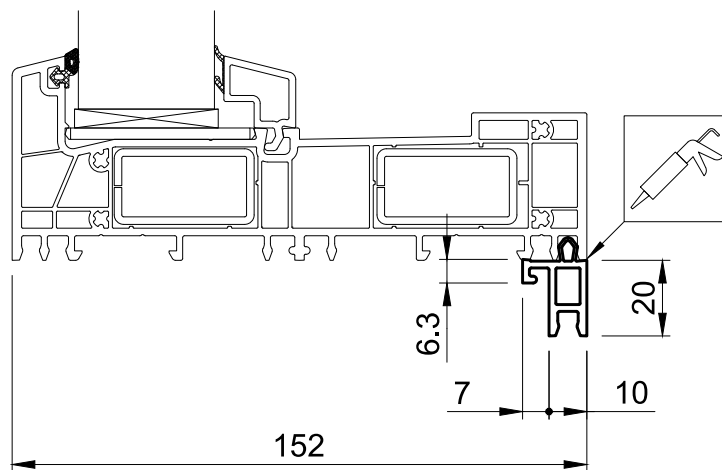
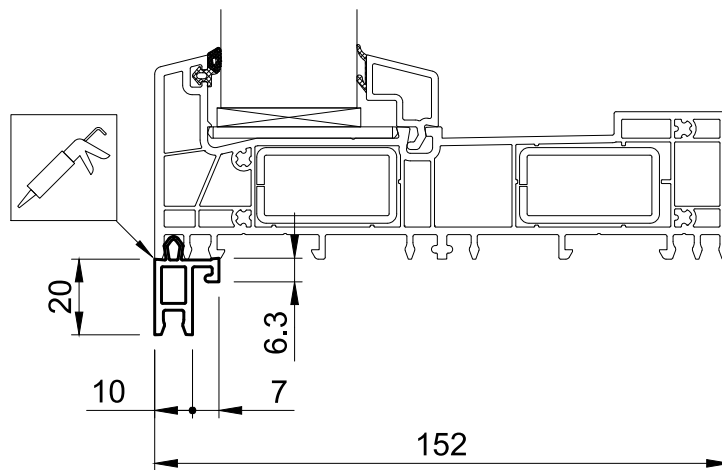
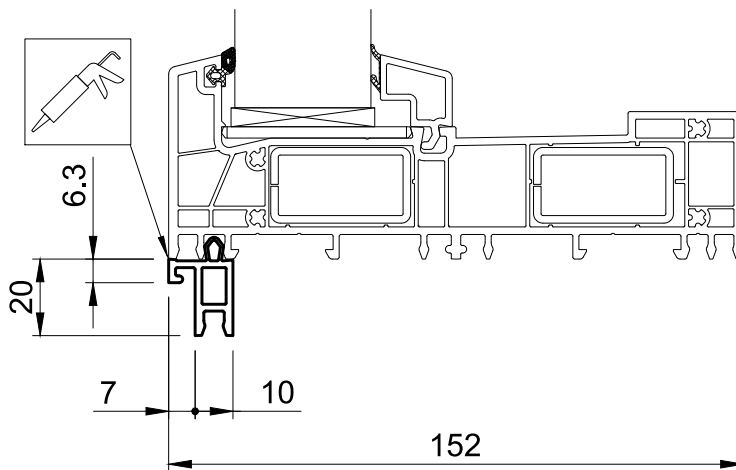
416157, 416168, 406176, 406177

416146



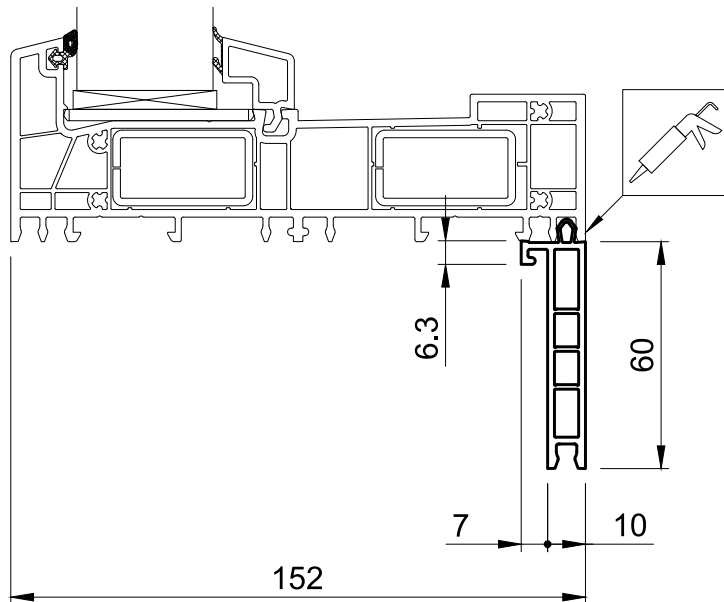
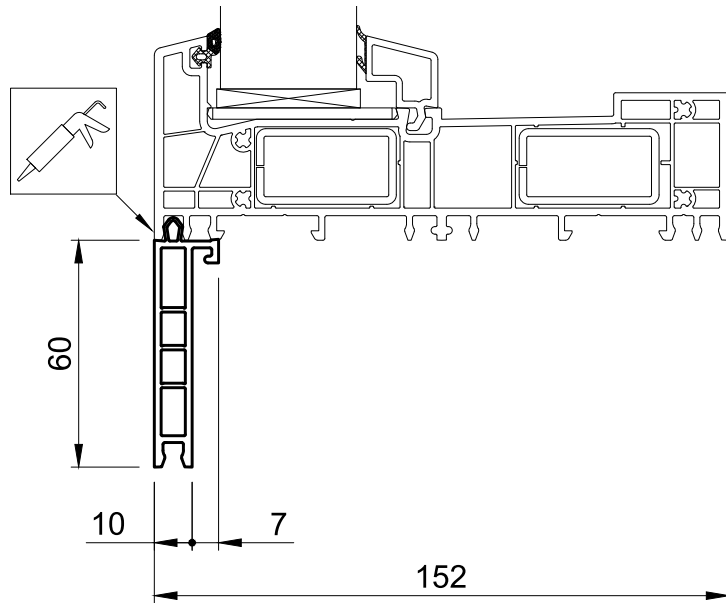
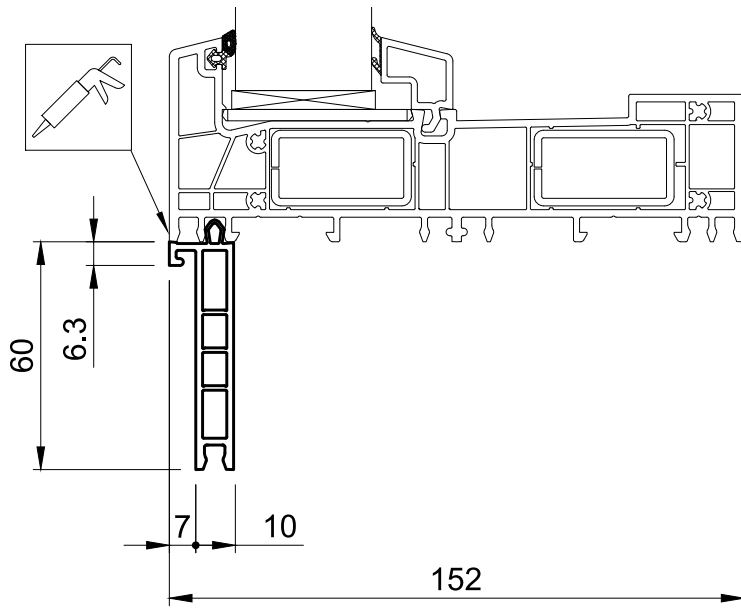
Window sill connection

416148



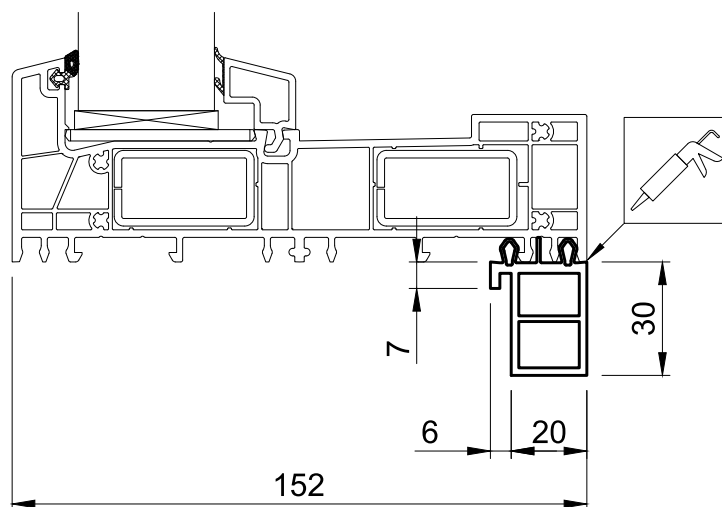
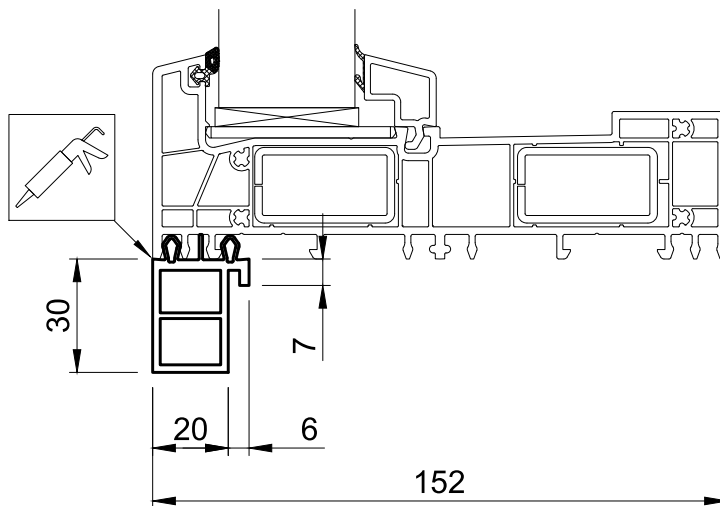
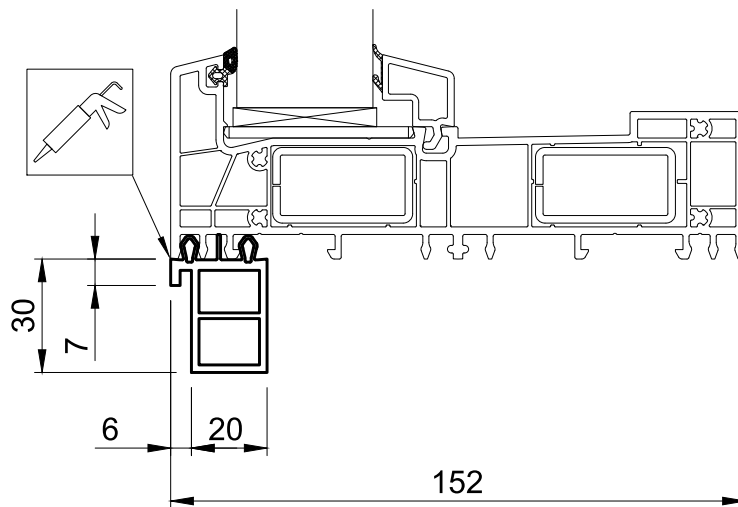
Window sill connection

416147



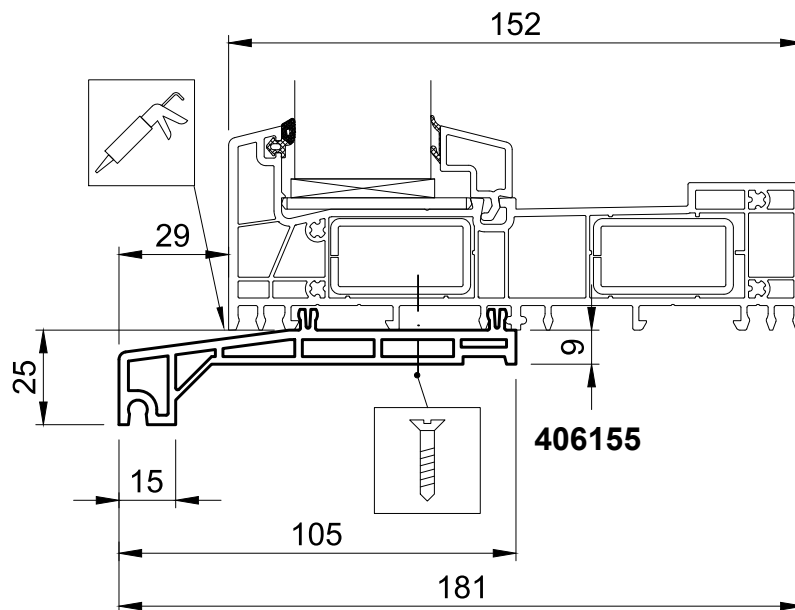
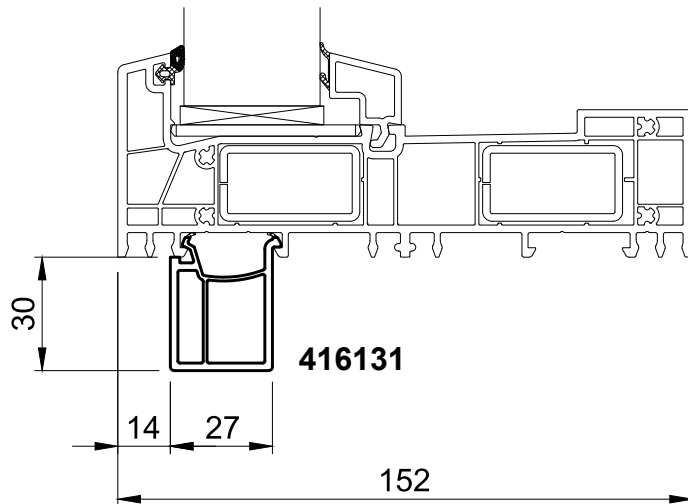
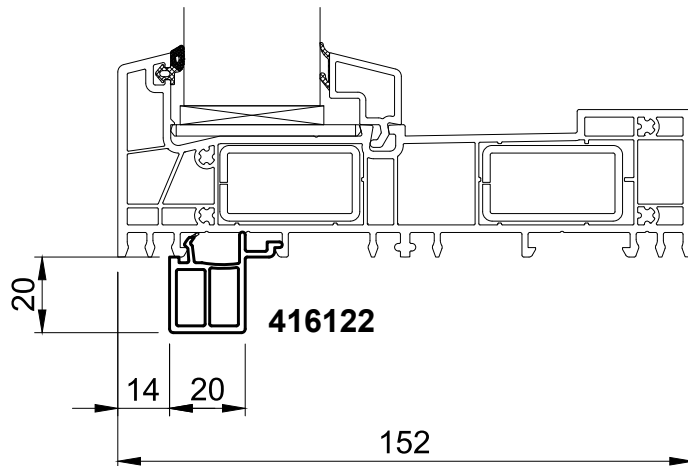
Sill connection

416139



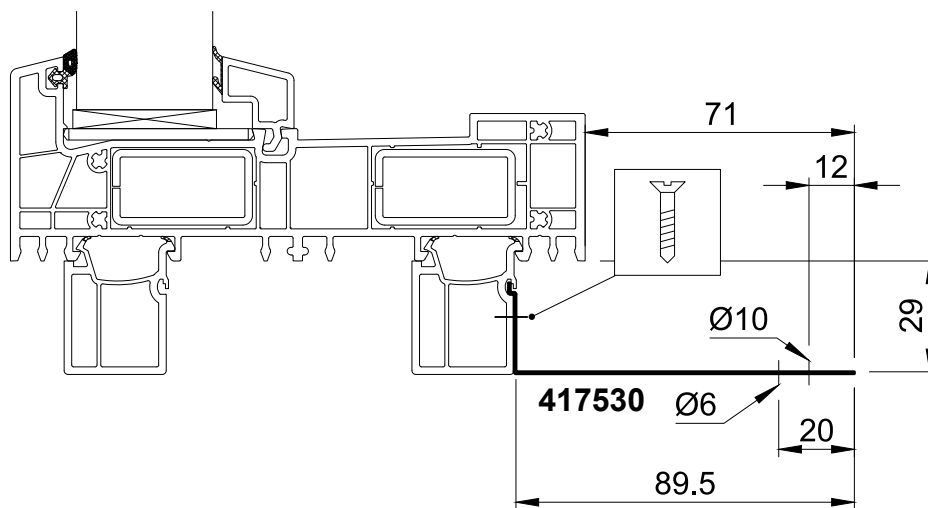
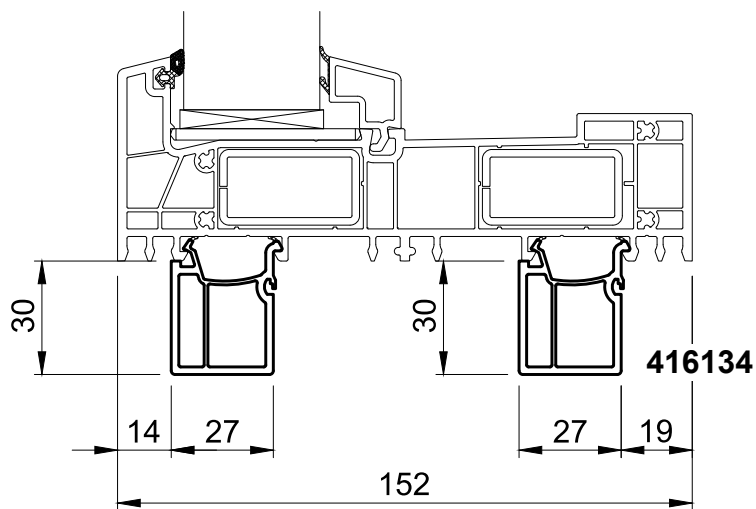
Sill connection  
**416122, 416131**

Window sill connection  
**406155**



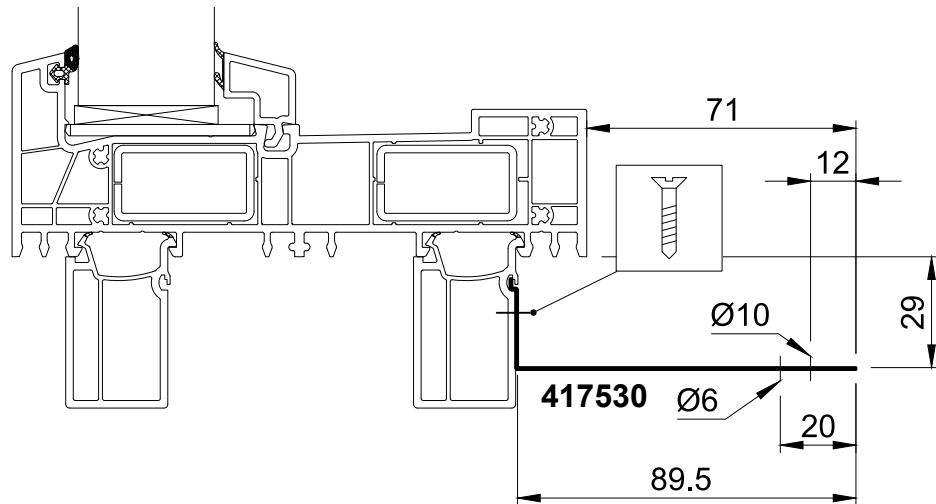
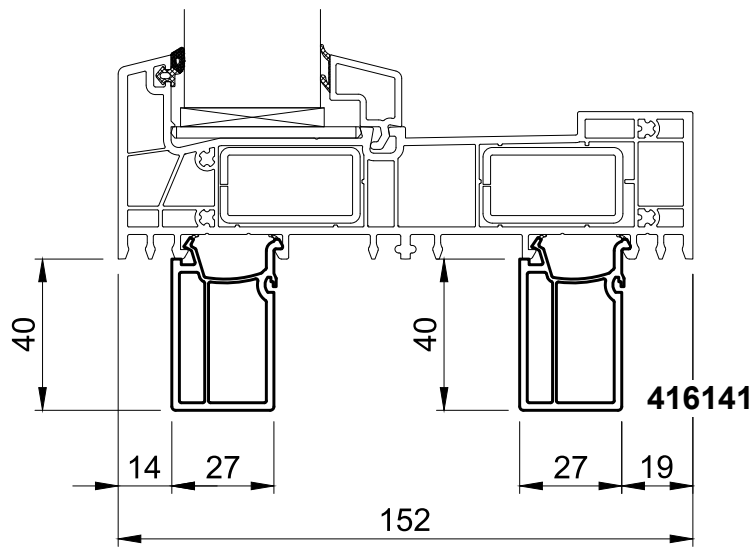
Sill connection  
416134

Fixing clip  
417530



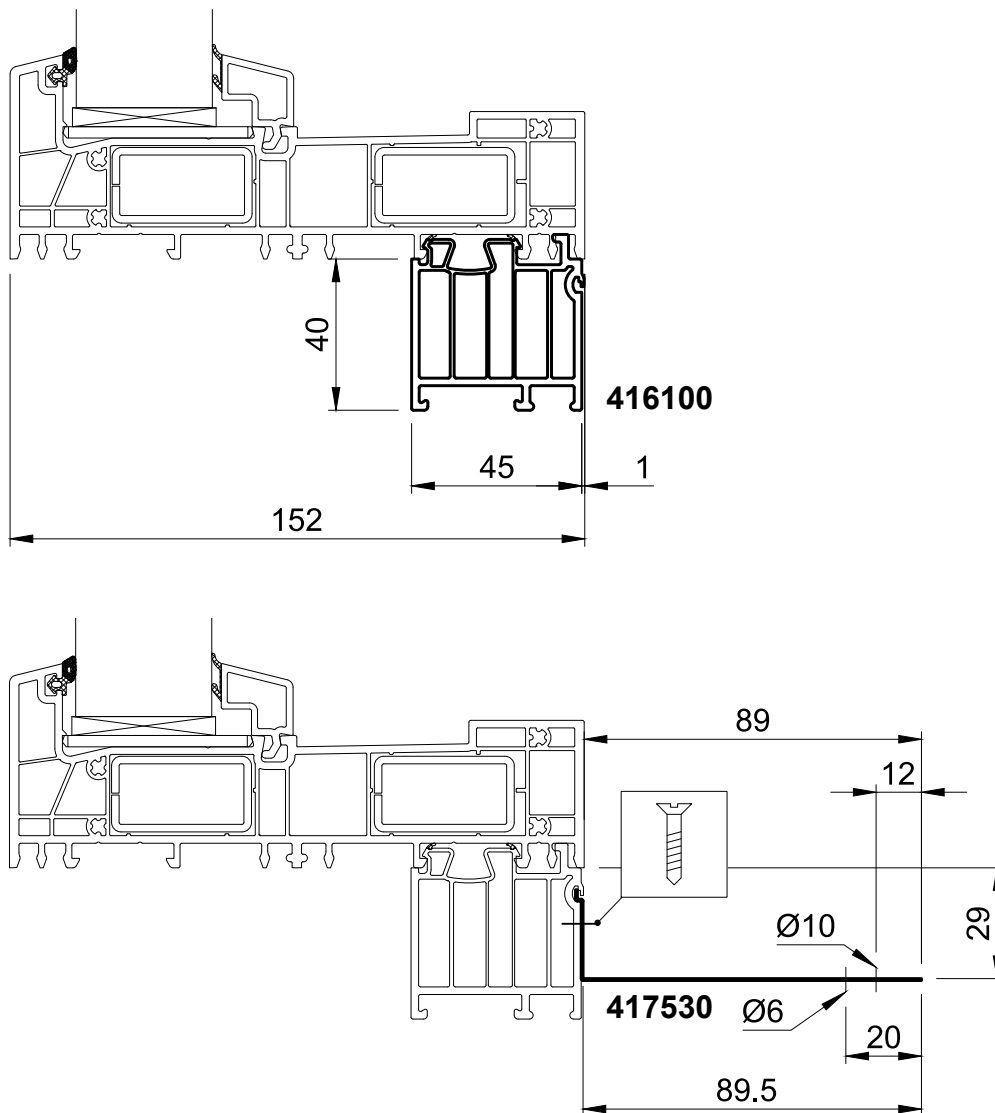
Sill connection  
**416141**

Fixing clip  
**417530**



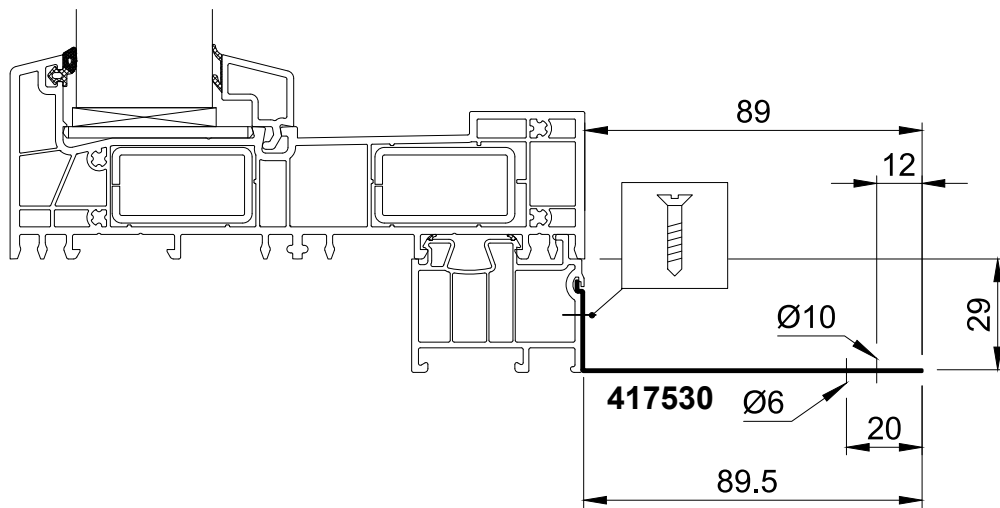
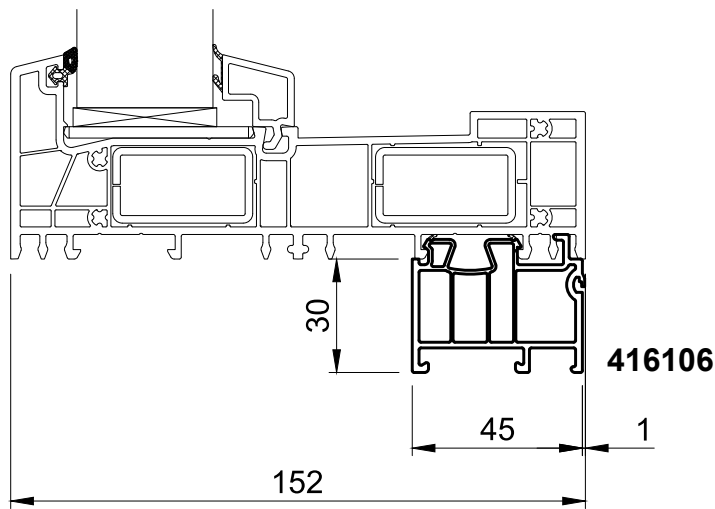
Sill connection  
416100

Fixing clip  
417530



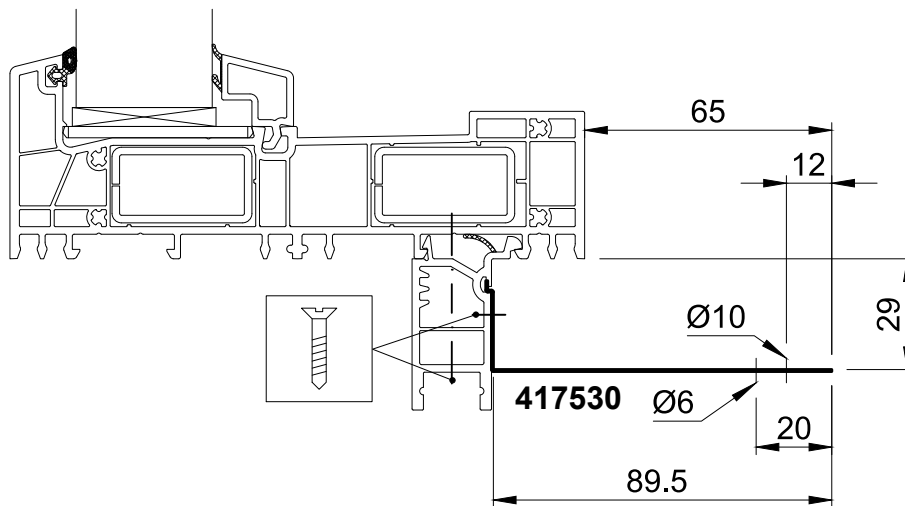
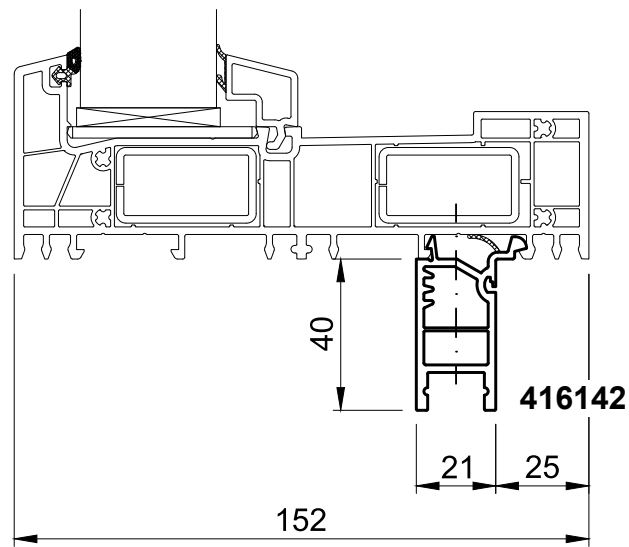
Sill connection  
**416106**

Fixing clip  
**417530**



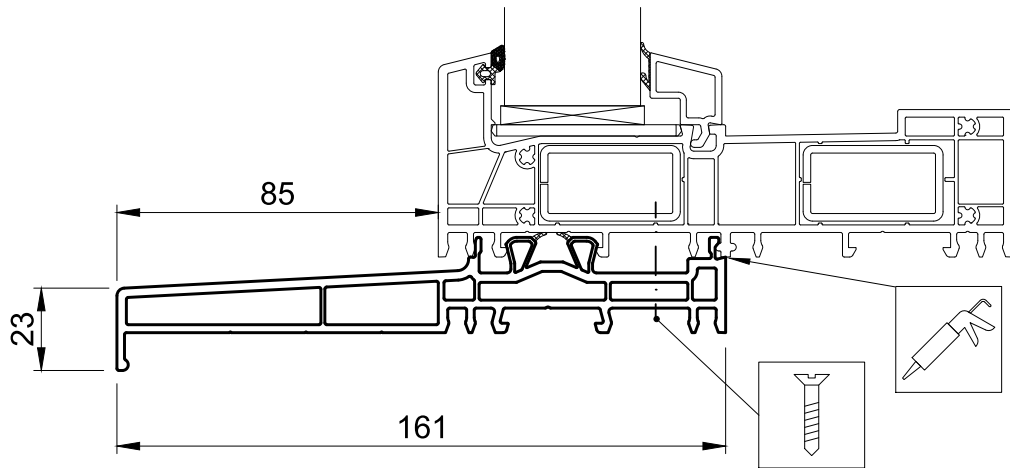
Sill connection  
416142

Fixing clip  
417530



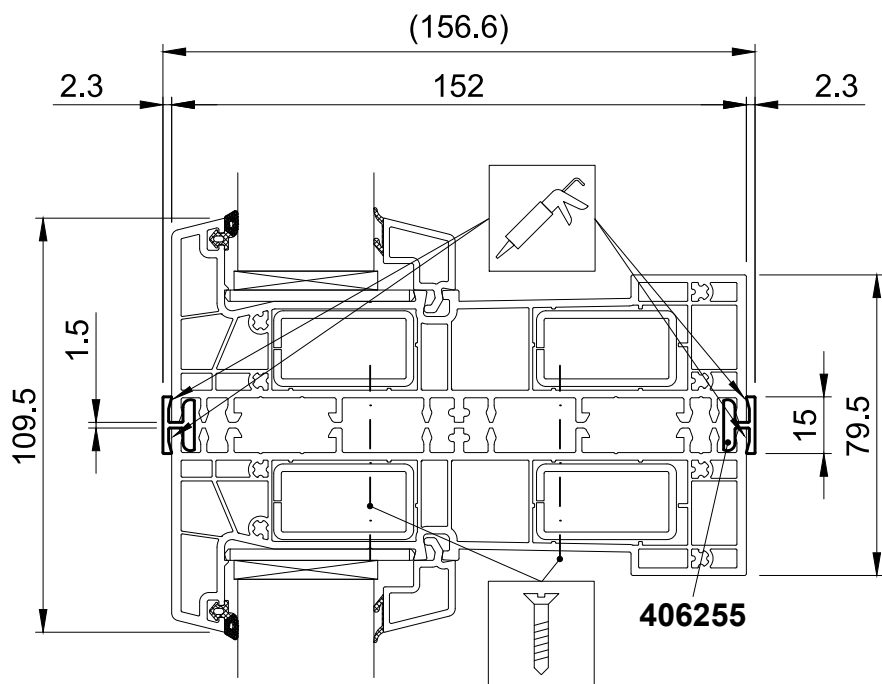
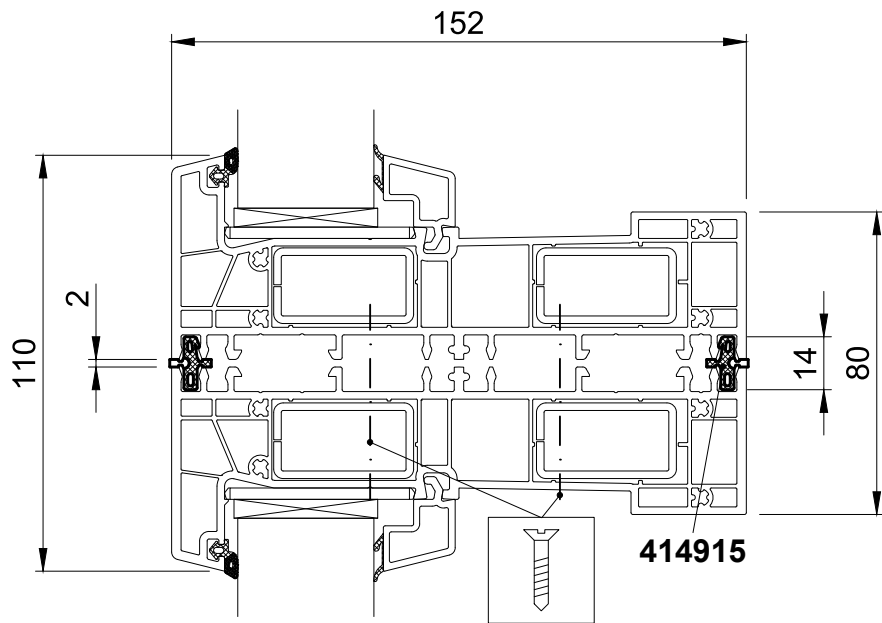
Window sill

416112



Coupling spring  
414915

Coupling profile  
406255



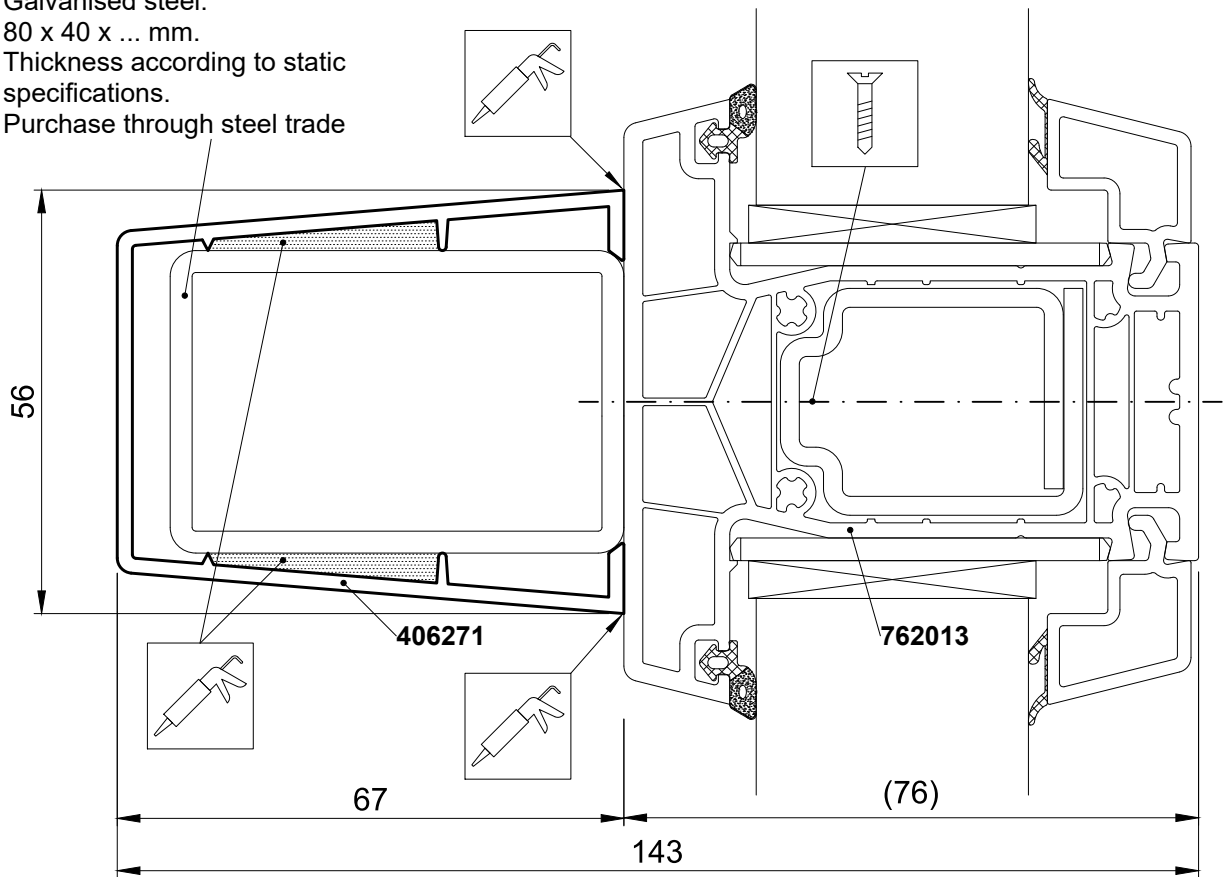
Glazing bar / mullion

Attachment frame

**762013**

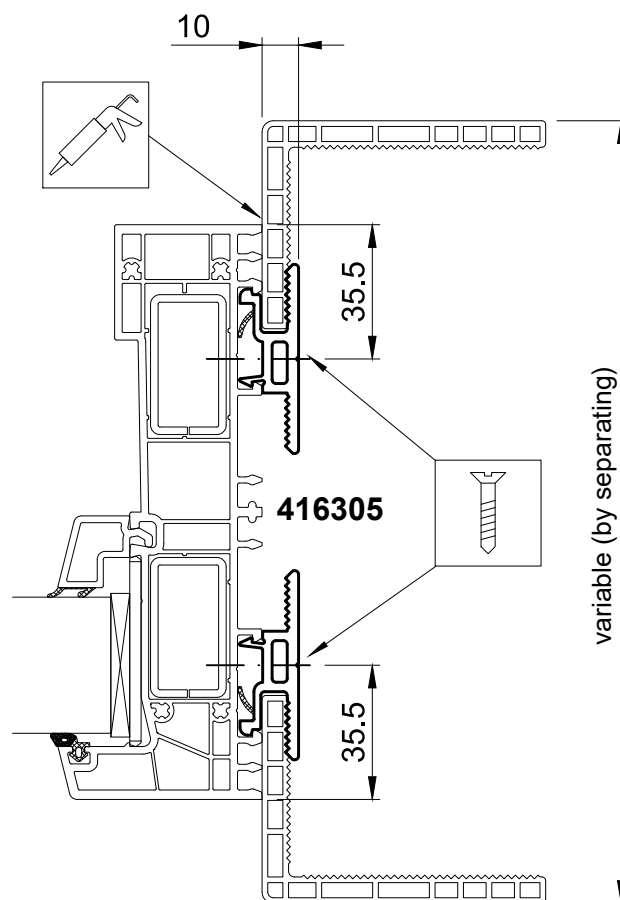
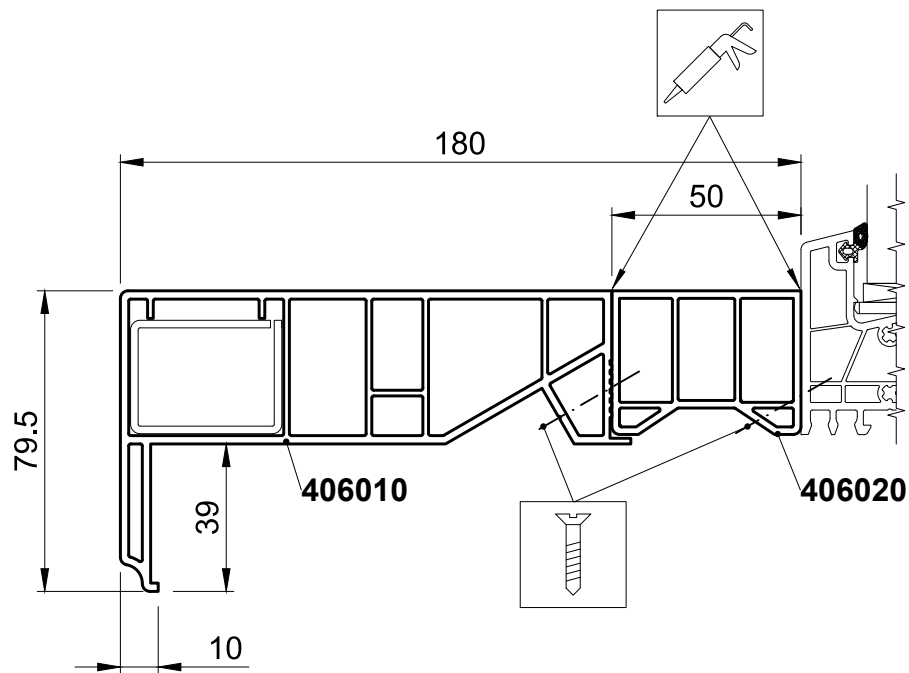
**406271**

Galvanised steel.  
80 x 40 x ... mm.  
Thickness according to static  
specifications.  
Purchase through steel trade

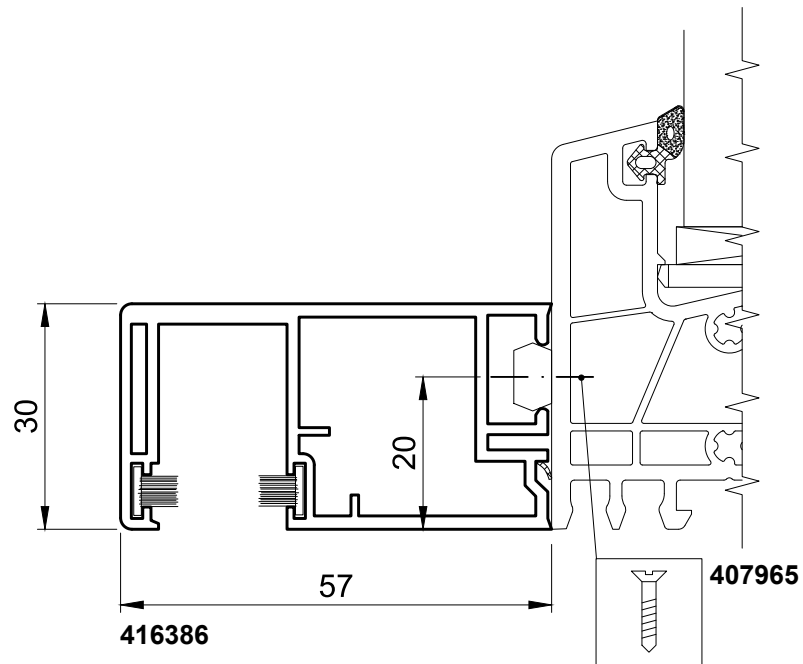


Soffit cladding  
406010, 406020

Adapter  
416305



Tapee  
**416386**

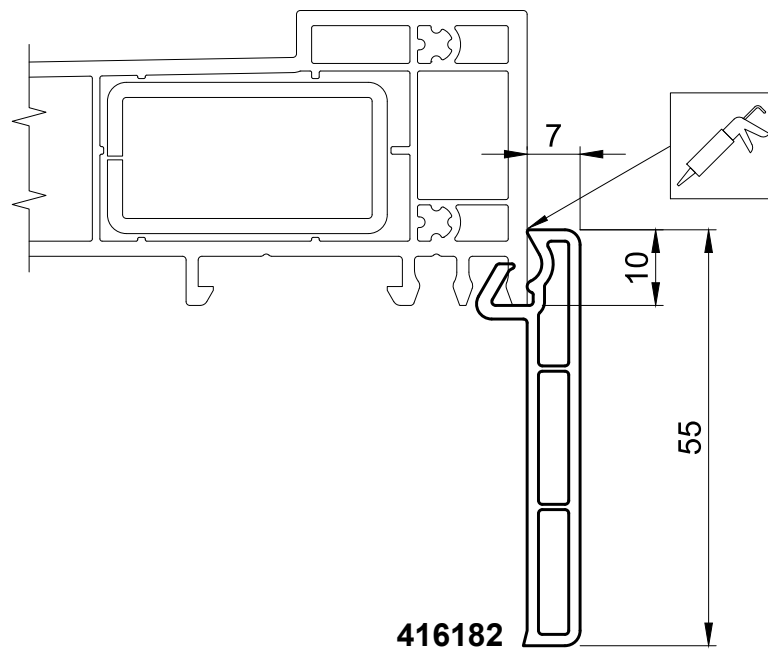
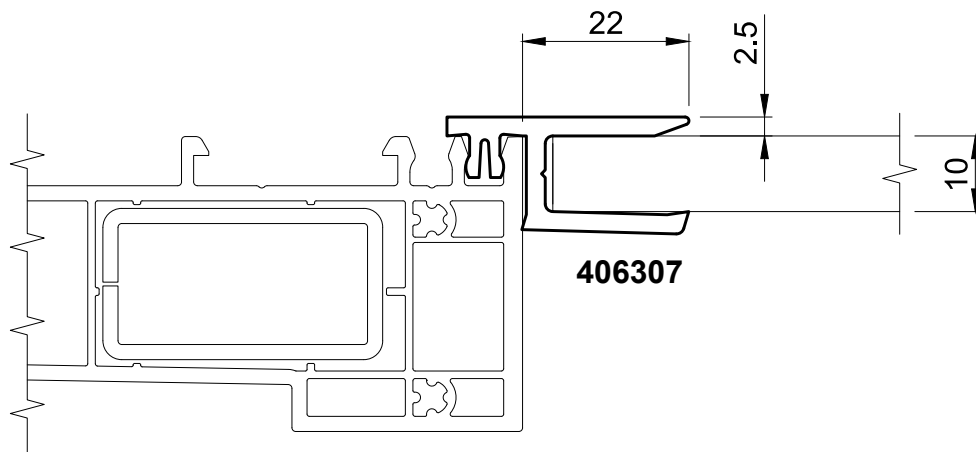


**i** INFO

\* Can be used upside down as roller shutter guide.

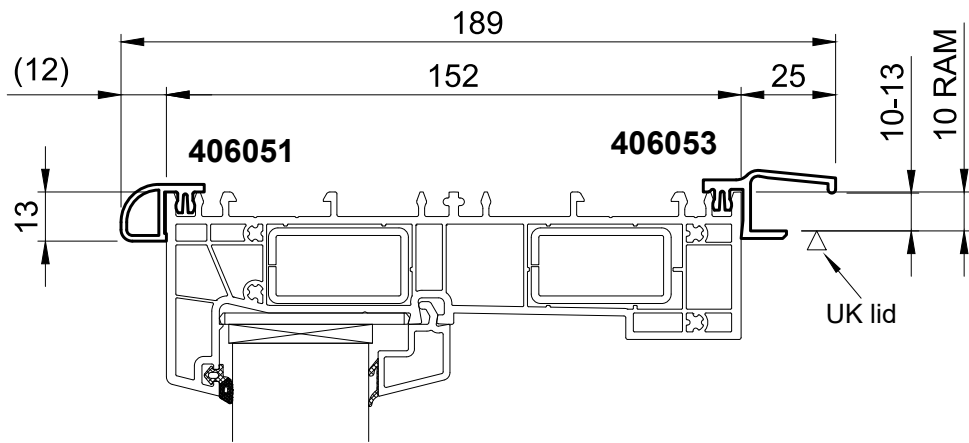
Adapter for cladding  
406307

Cover profile  
416182



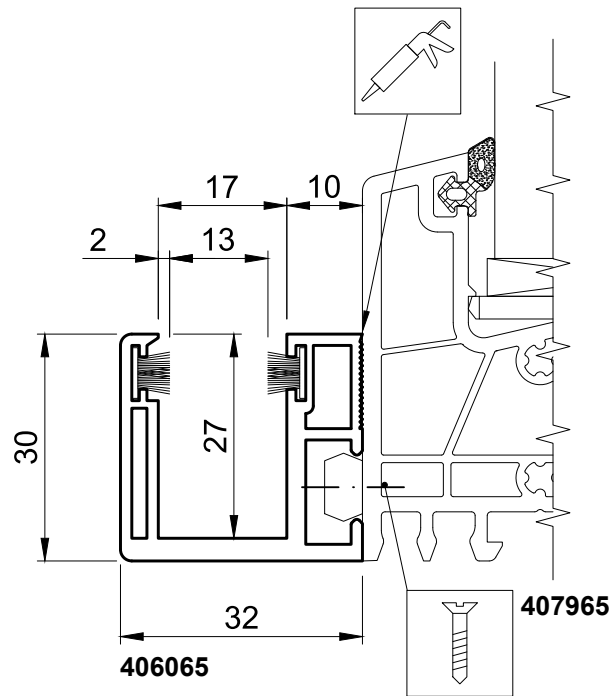
Roller shutter cross bar  
**406051**

Lid connection  
**406053**



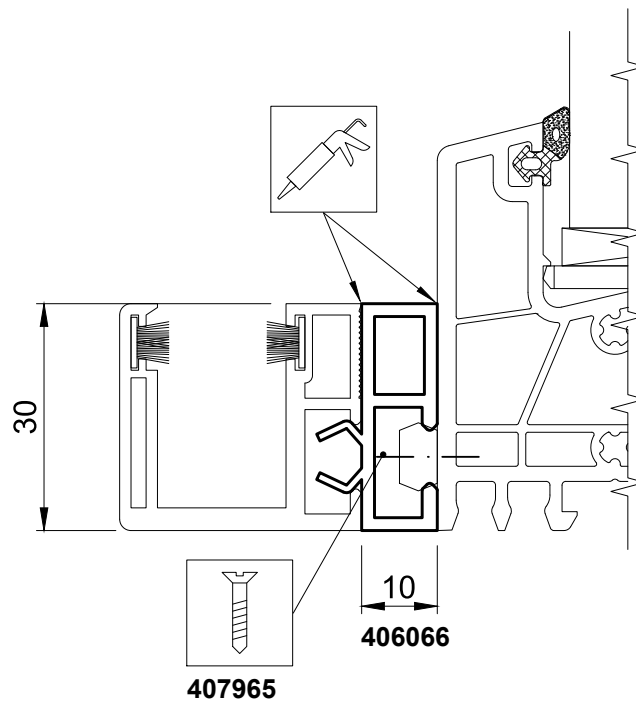
Roller shutter guide  
406065

Reinforcement  
406066



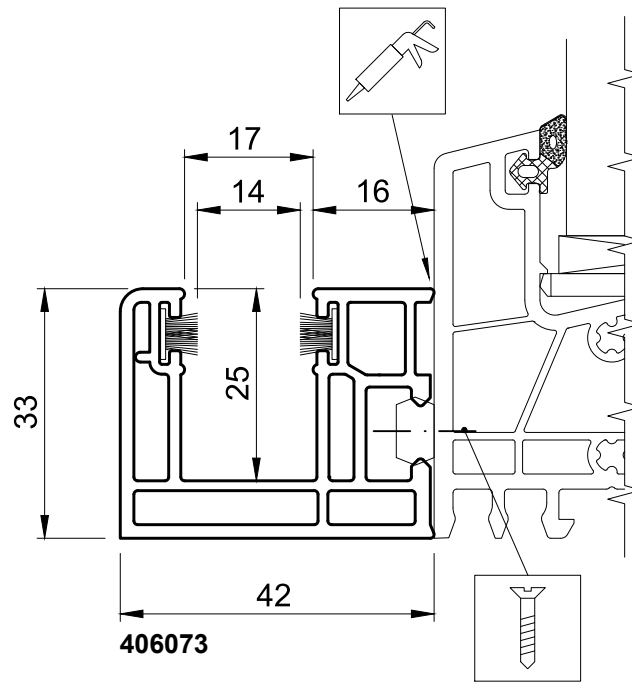
**i** INFO

\* Can be used upside down as tapee.



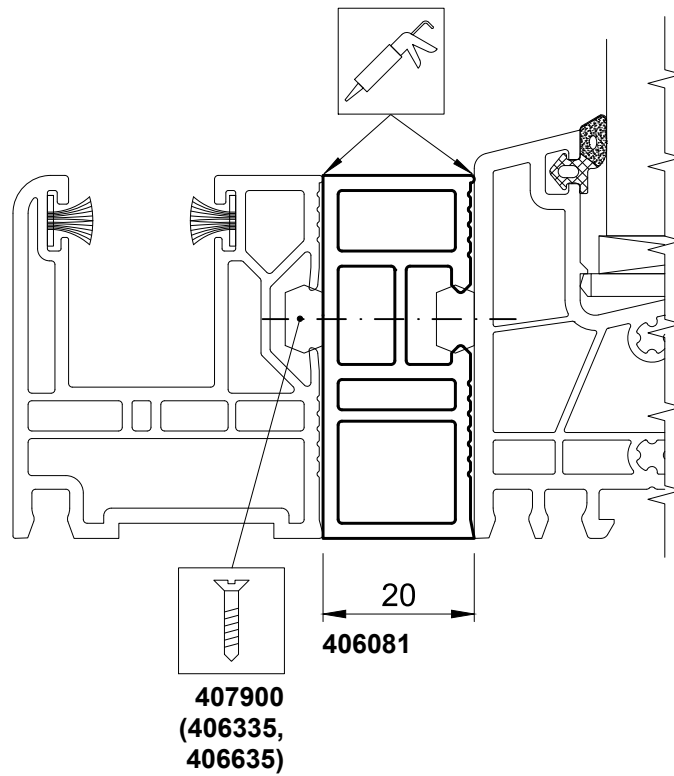
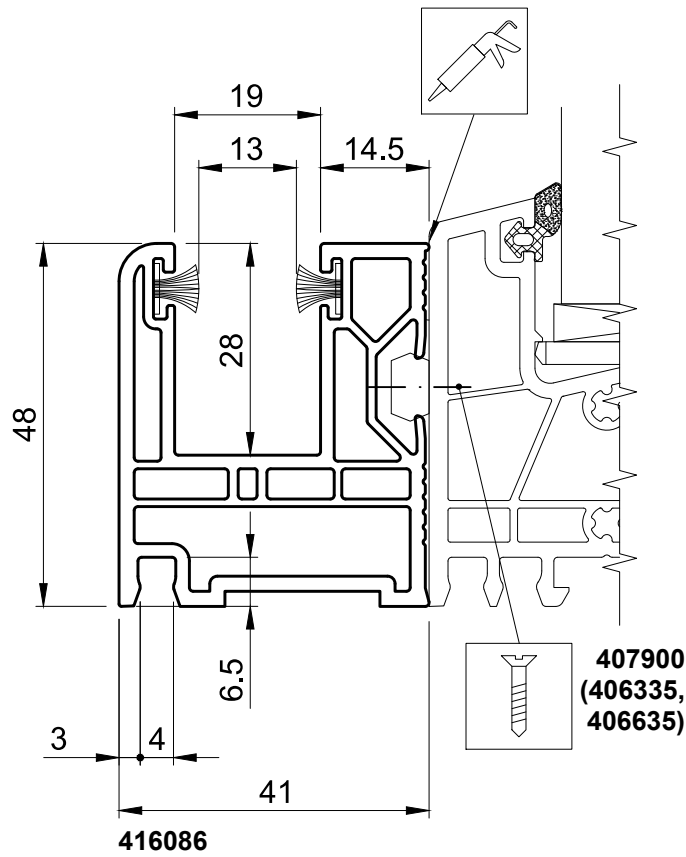
Roller shutter guide

**406073**

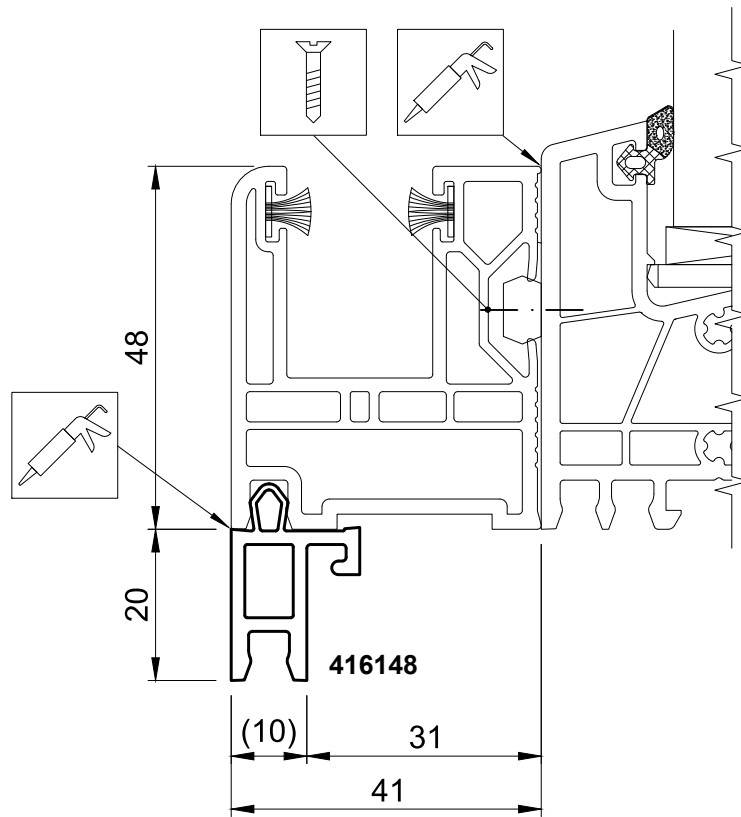


Roller shutter guide  
416086

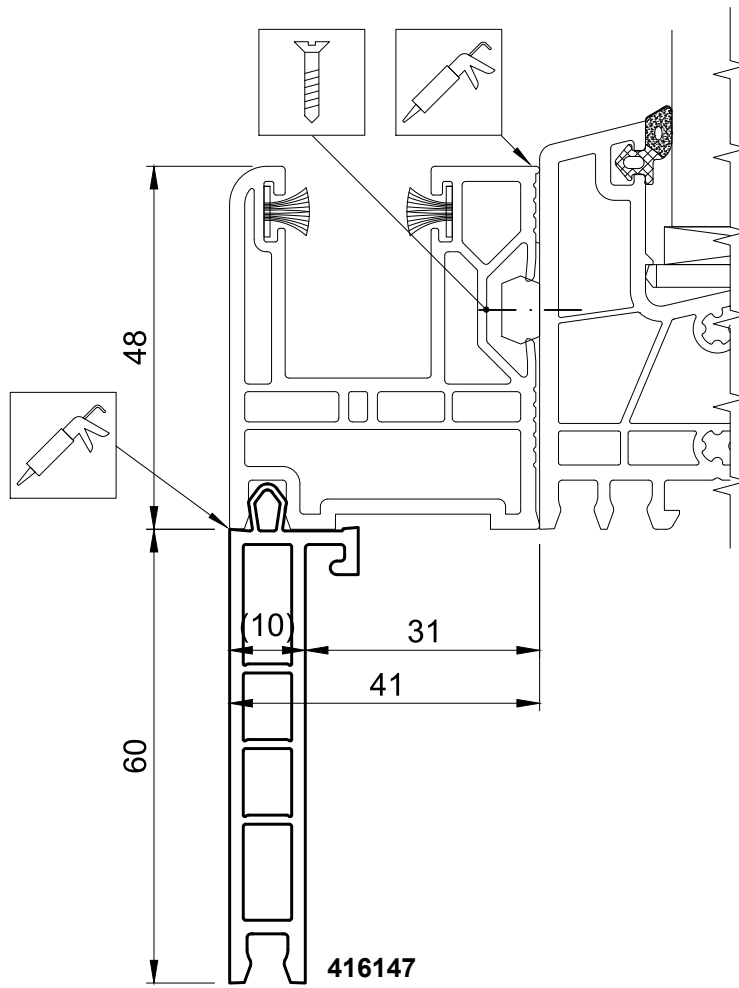
Reinforcement  
406081



Reinforcement  
**416148, 416147**

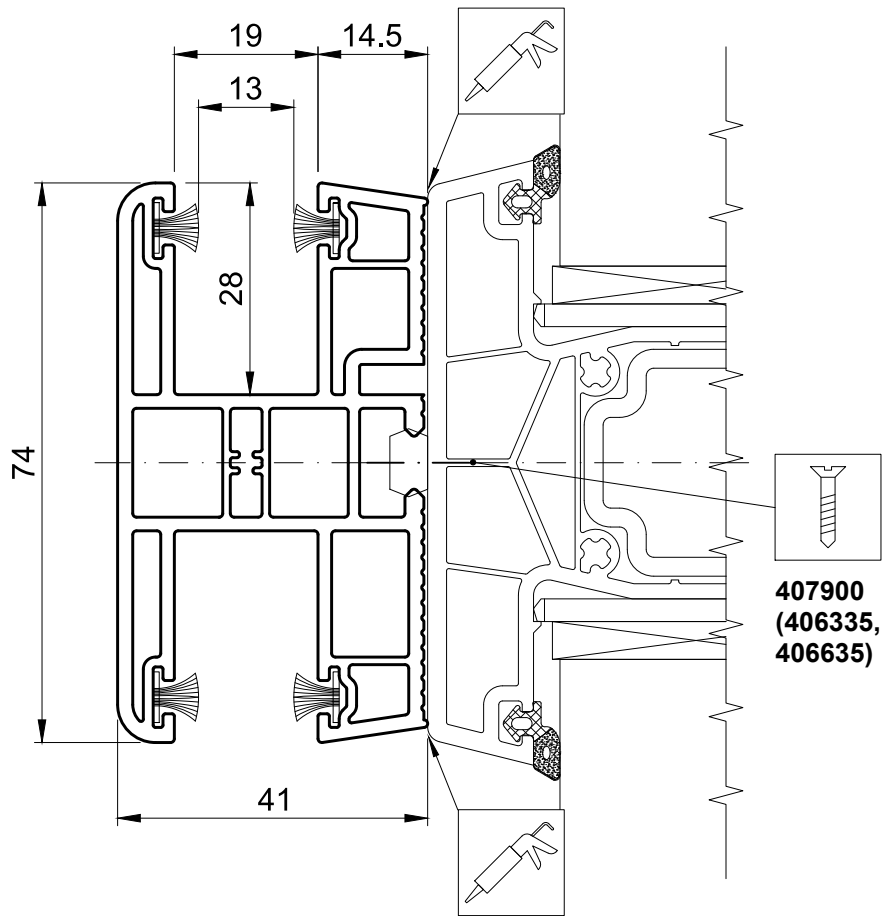


Reinforcement  
416148, 416147



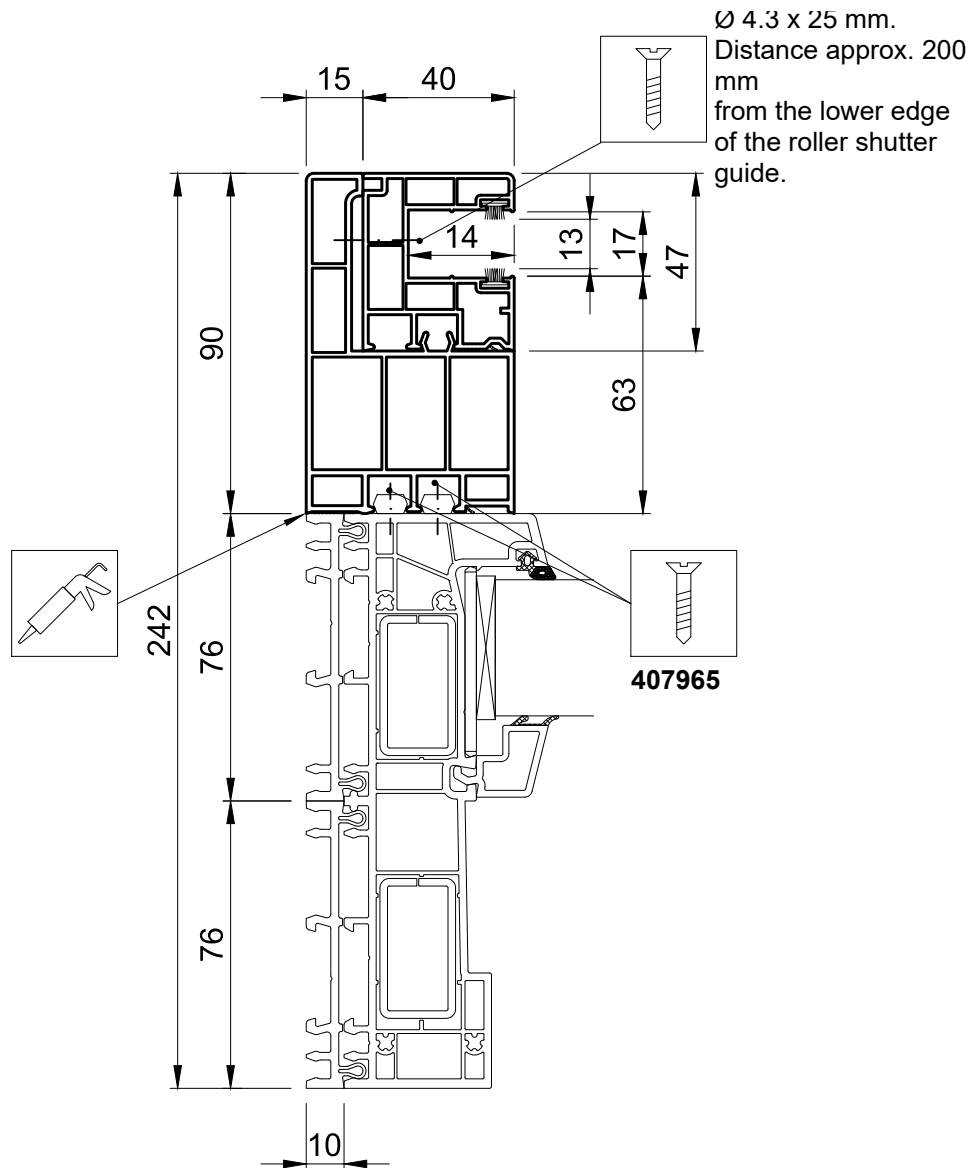
Roller shutter guide

416096



Roller shutter guide

556070



## Chapter 5

**Window statics**

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<b>Designation</b>	<b>Page</b>
Bracing guidelines	1
Maximum frame sizes	2
Minimum element dimensions	3
Sash sizes	4
Wind load	17
Driving rain tightness	23

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**Why brace?**

The bending strength of PVC-U window profiles and PVC-U door profiles is relatively low. Additional bracing profiles made of steel or aluminium must be used in many cases. In this way, elements can be built that function smoothly and permanently.

**Frames**

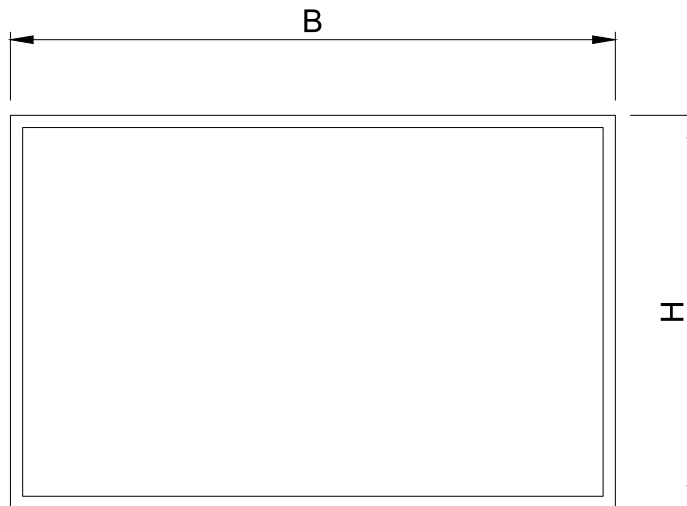
- ▶ Strengthen all frames.

**Sashes and glazing bars / mullions**

- ▶ Strengthen sashes and glazing bars / mullions according to the following size diagrams.

**i** INFO

Glass statics and maximum sash sizes may reduce the maximum frame size.

**Maximum frame size  
without and with pattern****Diagram A**

Welded frame

- Width  $W = 4000$  mm
- Height  $H = 2600$  mm
- Element area  $\leq 9.0$  m<sup>2</sup>

Frame with site connector

- Width  $W = 5500$  mm
- Height  $H = 2600$  mm

**Diagram C**

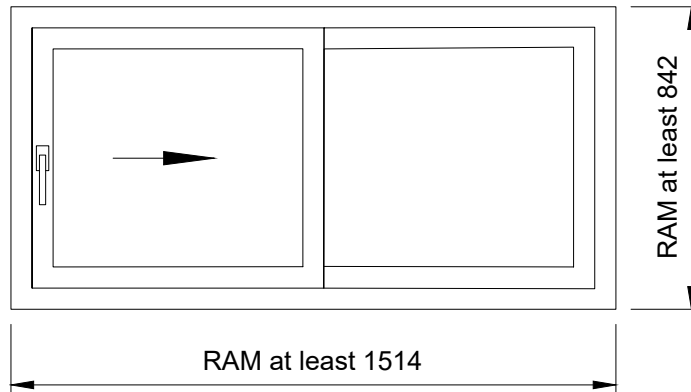
Welded frame

- Width  $W = 4000$  mm
- Height  $H = 2600$  mm
- Element area  $\leq 9.0$  m<sup>2</sup>

Frame with site connector

- Width  $W = 5500$  mm
- Height  $H = 2600$  mm

**Minimum element dimensions**



## Notes on sash sizes

**To the size diagrams**

The following size diagrams show the outer dimensions of the sashes.

The sash size is determined by:

- the static values ( $l_x$ ,  $l_y$ ) of the bracing used
- the total glass thickness and the pane weight
- the acting loads, e.g. wind load and thermal load
- the fittings used and the specifications of the fittings manufacturer.

**Determination of total glass thickness**

- ▶ Add up the glass thicknesses of the individual glass panes.
- ▶ Do not take gasp into account.

**Example:**

- Per pane = 4 mm glass thickness.
- Each gap = 12 mm.
- Structure 4 – 12 – 4 – 12 – 4.

Total glass thickness: **4 + 4 + 4 = 12 mm.**

**Calculation of pane weight**

- ▶ Area (m<sup>2</sup>) x total glass thickness x 2.5

**Example:**

1 m<sup>2</sup> glass weighs 30 kg.

- Density of glass = 2.5 g/cm<sup>3</sup>.
- Mass for flat glass = 2.5 kg per m<sup>2</sup> and mm thickness.

Pane weight: **1 m<sup>2</sup> x 12 x 2.5 = 30 kg.**

**Wind loading**

For French window sashes (sashes with floating mullion), wind loading is according to grades 1 – 5 as per DIN EN 12210, permissible relative frontal deflection: B ( $l/200$ ), shown in the size diagram.

The  $l_y$  value of the steel used determines the resistance to wind loading.

Wind load lines are computed based on a symmetrical element structure and based on the real deflection at the test element and are only used for static pre-dimensioning. This does not replace an object-related static calculation in any case.

The wind zones for Germany are given in the following.

→ **see** [Chapter 5 Page 18](#)

**i INFO**

Different rules may apply for other countries.

- ▶ Check and if necessary apply these rules as a priority.

**Fittings**

Fittings must be suitable for sash size and sash weight.

- ▶ Observe the specifications of the hardware manufacturer.

**Further information**

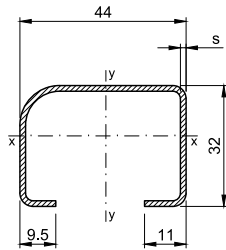
Further information can be found in the introduction to this manual.

→ **see** [Chapter 1 Page 1](#)

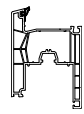
Sliding window, sliding door

**665004-73**

Size diagram for stiffener 665004, 1.5 mm - sash

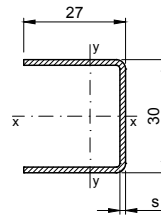


Use for sashes



661001

665004-73  
thickness 1.5 mm  
 $I_x = 2.43 \text{ cm}^4$   
 $I_y = 5.31 \text{ cm}^4$



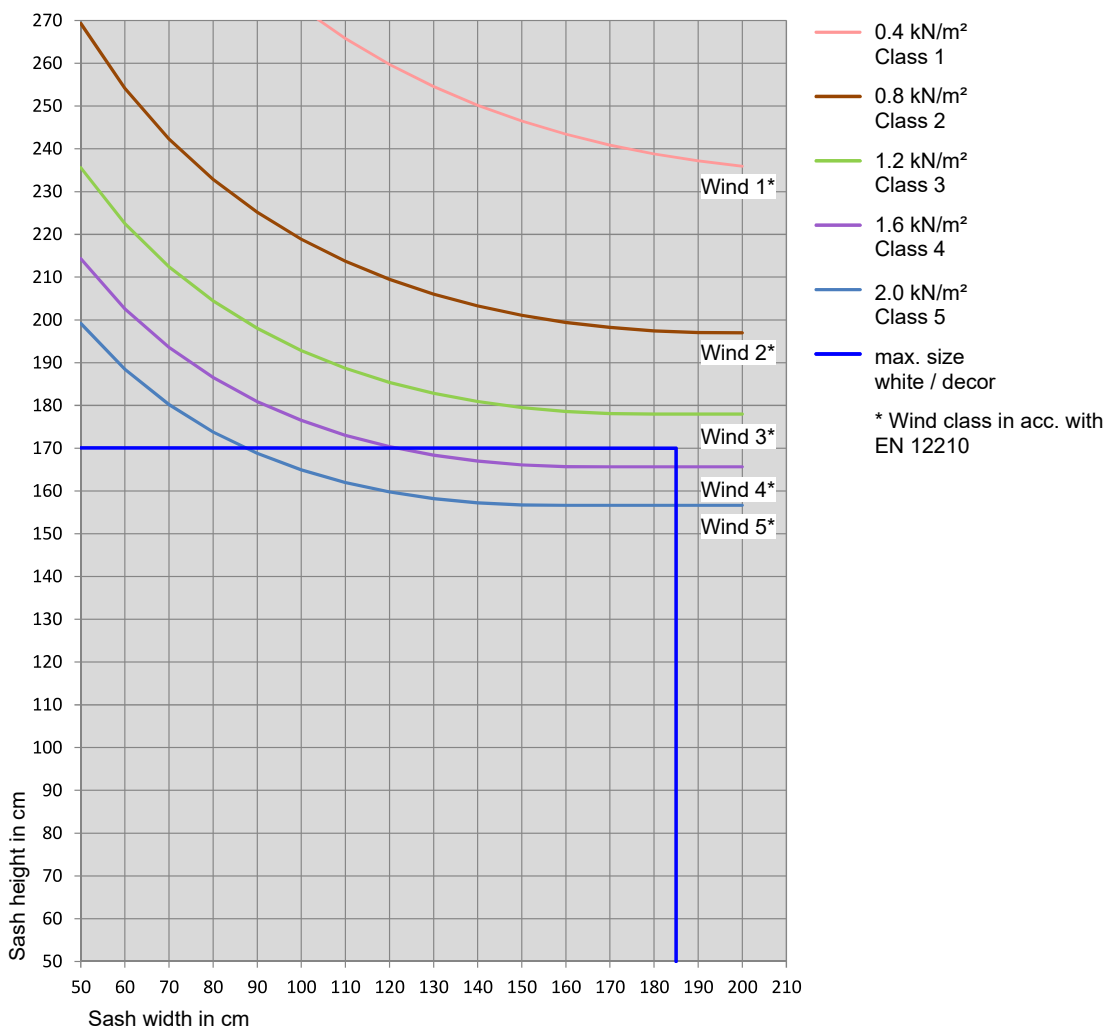
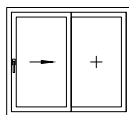
Use with mullion



762011

465001-73  
thickness 1.5 mm  
 $I_x = 1.84 \text{ cm}^4$   
 $I_y = 0.91 \text{ cm}^4$

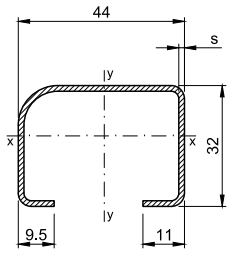
Window type 3.3 Sliding window, sliding door



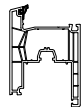
Sliding window, sliding door

665004-73

Size diagram for stiffener 665004, 1.5 mm - sash

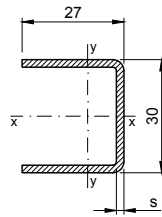


Use for sashes



661001

665004-73  
thickness 1.5 mm  
 $I_x = 2.43 \text{ cm}^4$   
 $I_y = 5.31 \text{ cm}^4$



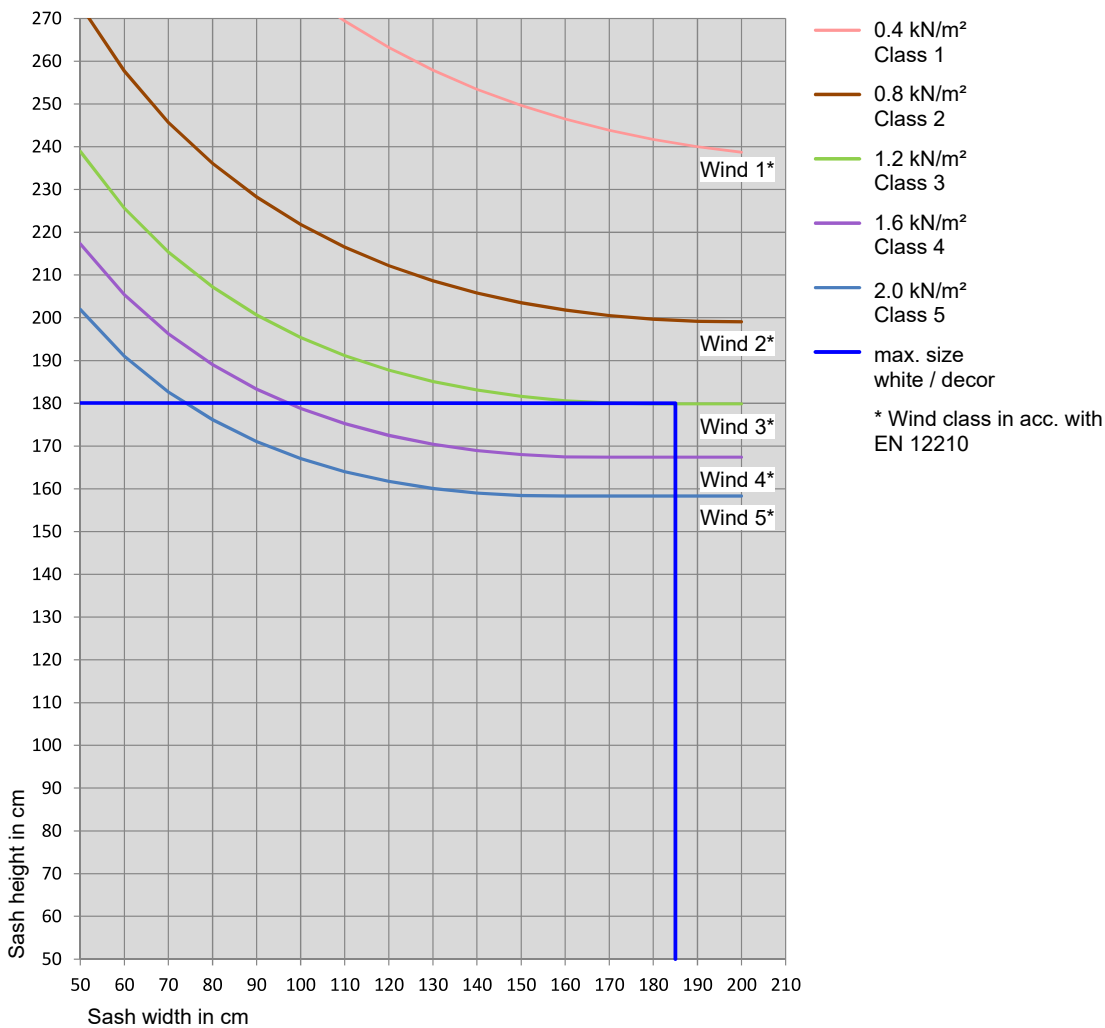
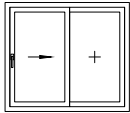
Use with mullion



762011

465001-74  
thickness 2.0 mm  
 $I_x = 2.34 \text{ cm}^4$   
 $I_y = 1.18 \text{ cm}^4$

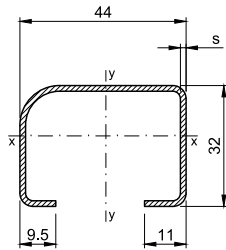
Window type 3.3 Sliding window, sliding door



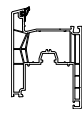
Sliding window, sliding door

**665004-73**

Size diagram for stiffener 665004, 1.5 mm - sash

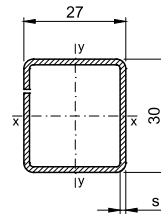


Use for sashes



661001

665004-73  
thickness 1.5 mm  
 $l_x = 2.43 \text{ cm}^4$   
 $l_y = 5.31 \text{ cm}^4$



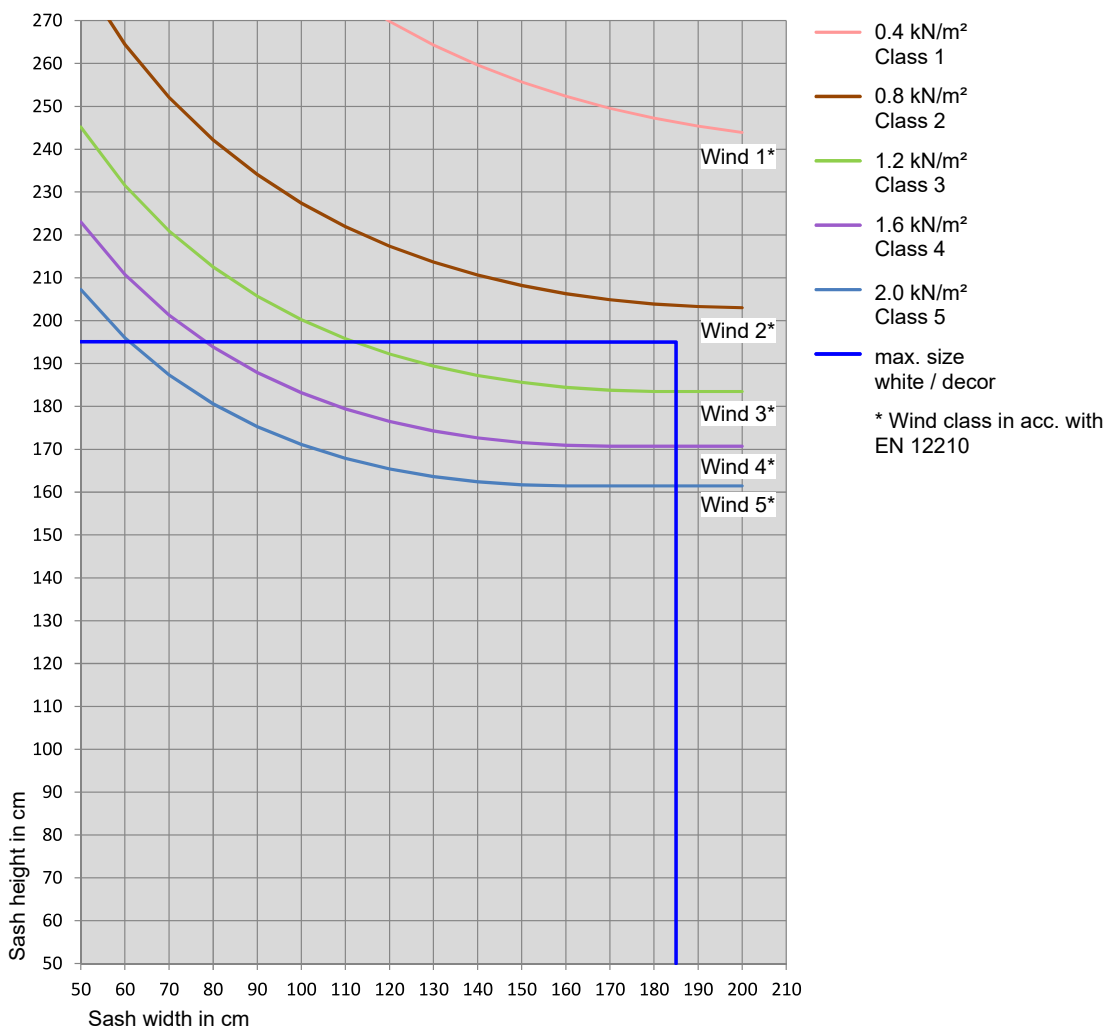
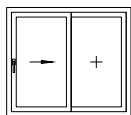
Use with mullion



762011

465002-73  
thickness 1.5 mm  
 $l_x = 2.04 \text{ cm}^4$   
 $l_y = 1.71 \text{ cm}^4$

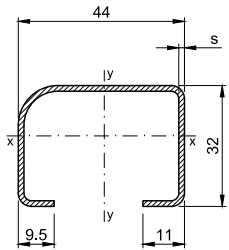
Window type 3.3 Sliding window, sliding door



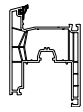
Sliding window, sliding door

665004-73

Size diagram for stiffener 665004, 1.5 mm - sash

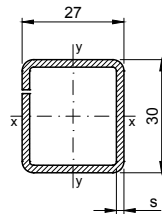


Use for sashes



661001

665004-73  
thickness 1.5 mm  
 $I_x = 2.43 \text{ cm}^4$   
 $I_y = 5.31 \text{ cm}^4$



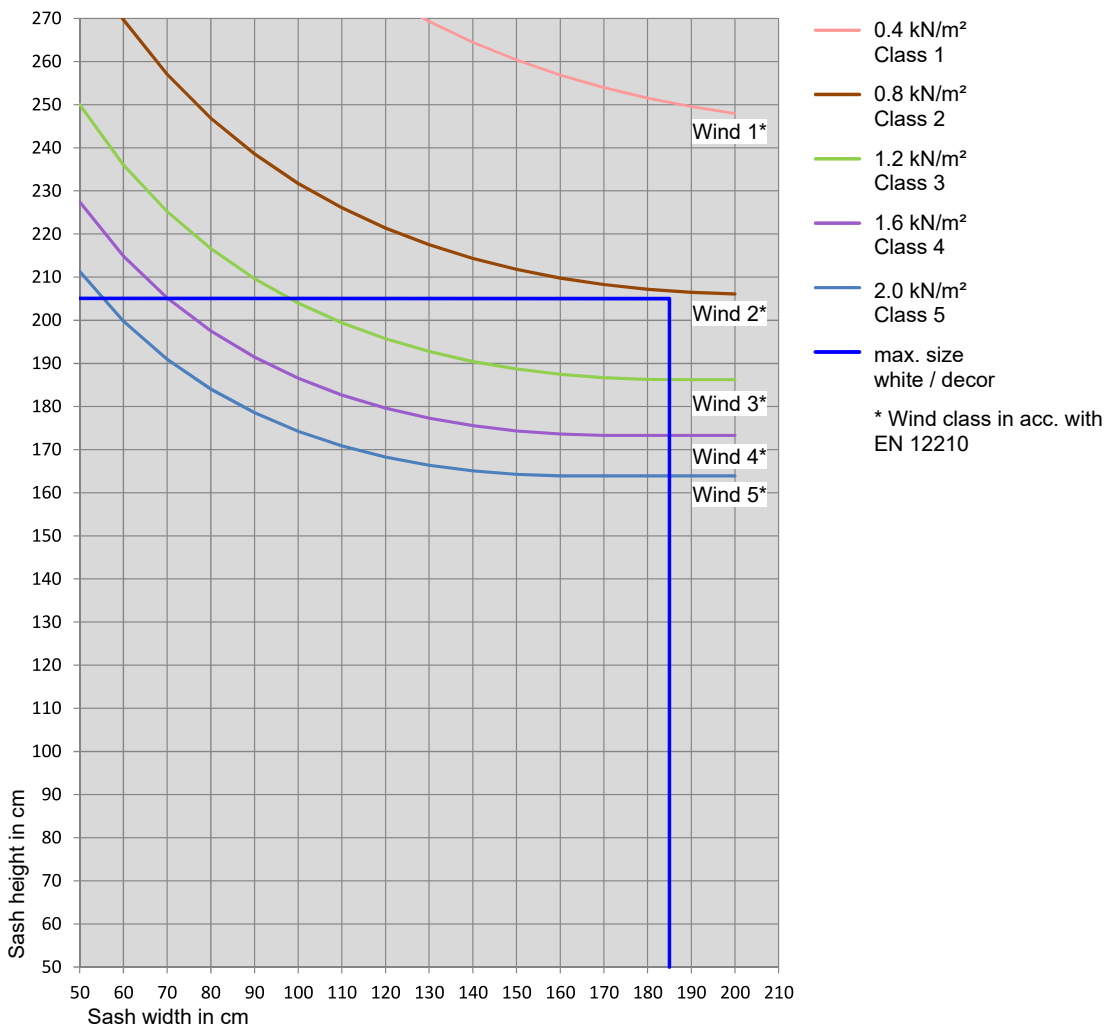
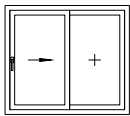
Use with mullion



762011

465002-74  
thickness 2.0 mm  
 $I_x = 2.55 \text{ cm}^4$   
 $I_y = 2.14 \text{ cm}^4$

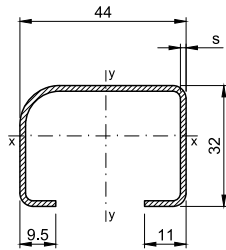
Window type 3.3 Sliding window, sliding door



Sliding window, sliding door

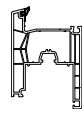
**665004-73**

Size diagram for stiffener 665004, 1.5 mm - sash

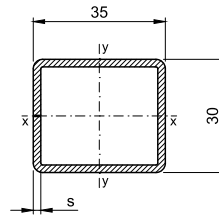


665004-73  
thickness 1.5 mm  
 $I_x = 2.43 \text{ cm}^4$   
 $I_y = 5.31 \text{ cm}^4$

Use for sashes



661001



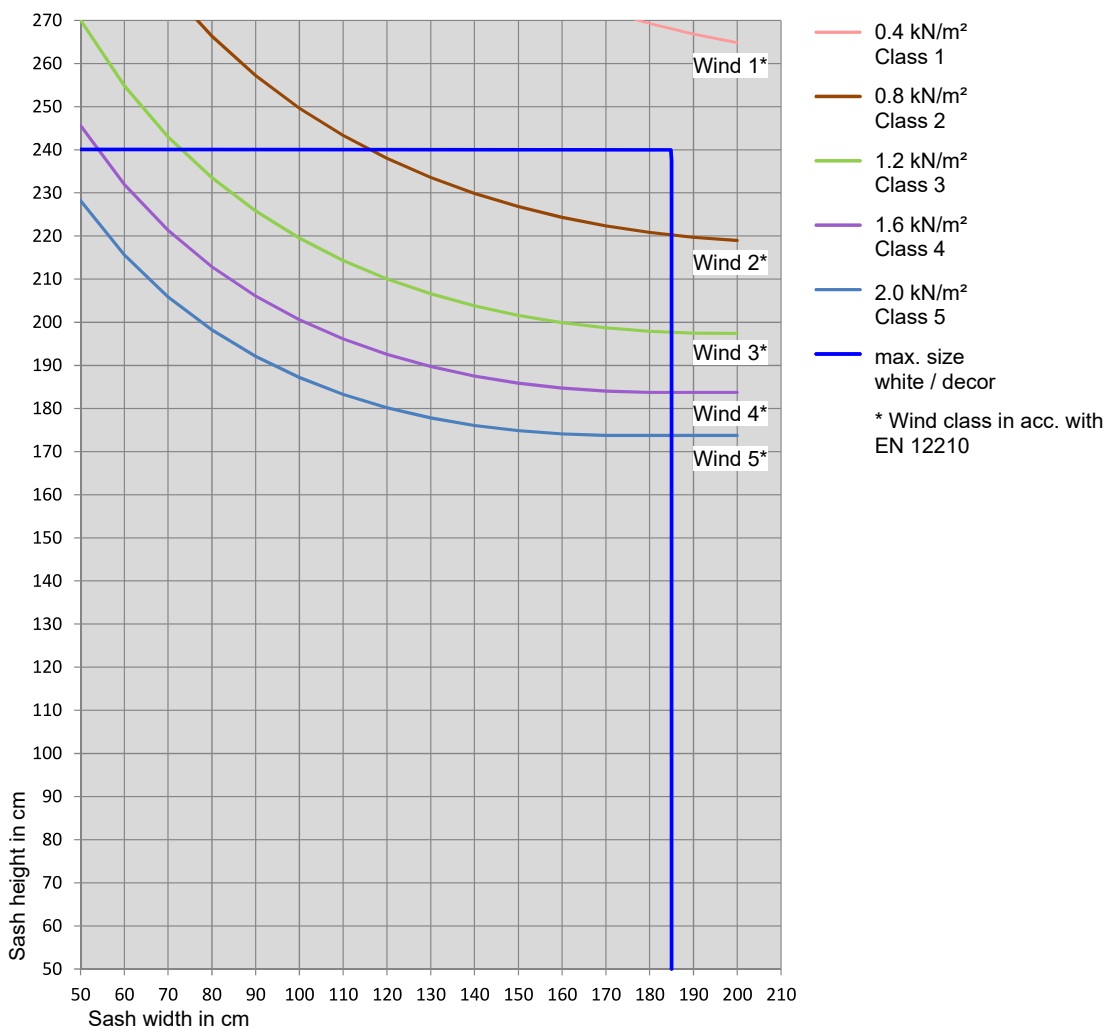
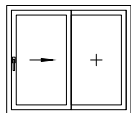
445030-74  
thickness 2.0 mm  
 $I_x = 3.23 \text{ cm}^4$   
 $I_y = 4.10 \text{ cm}^4$

Use with mullion



762013

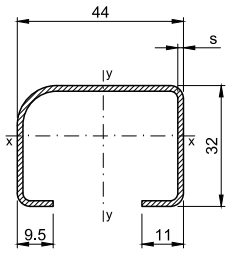
Window type 3.3 Sliding window, sliding door



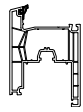
Sliding window, sliding door

665004-73

Size diagram for stiffener 665004, 1.5 mm - sash

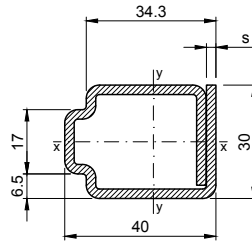


Use for sashes



661001

665004-73  
thickness 1.5 mm  
 $I_x = 2.43 \text{ cm}^4$   
 $I_y = 5.31 \text{ cm}^4$



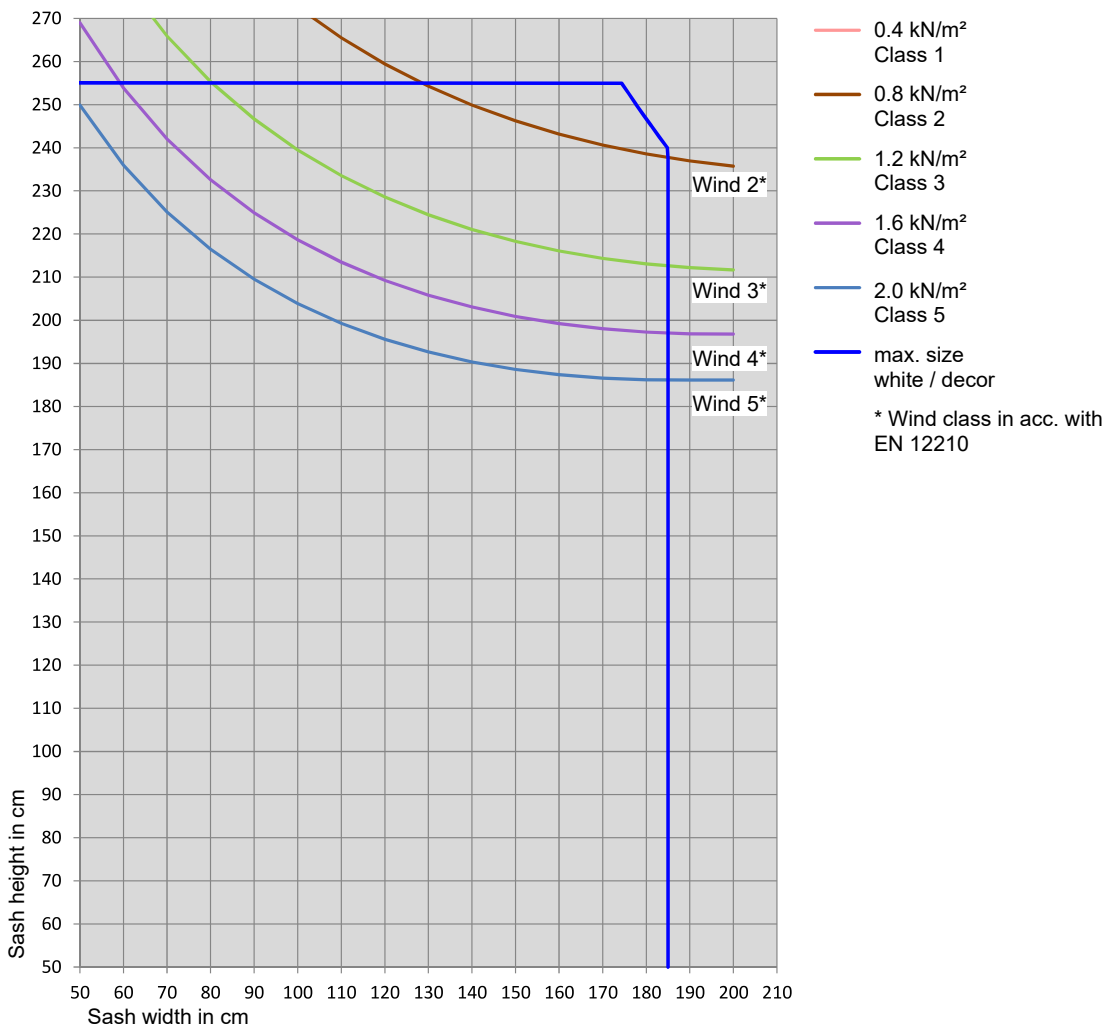
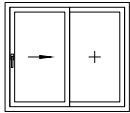
Use with mullion



762013

465007-75  
thickness 2.5 mm  
 $I_x = 4.09 \text{ cm}^4$   
 $I_y = 7.08 \text{ cm}^4$

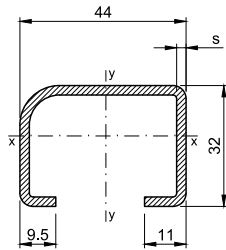
Window type 3.3 Sliding window, sliding door



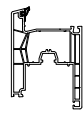
Sliding window, sliding door

**665004-75**

Size diagram for stiffener 665004, 2.5 mm - sash

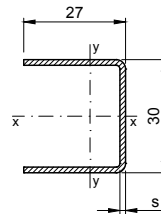


Use for sashes



661001

665004-75  
thickness 2.5 mm  
 $I_x = 3.70 \text{ cm}^4$   
 $I_y = 8.26 \text{ cm}^4$



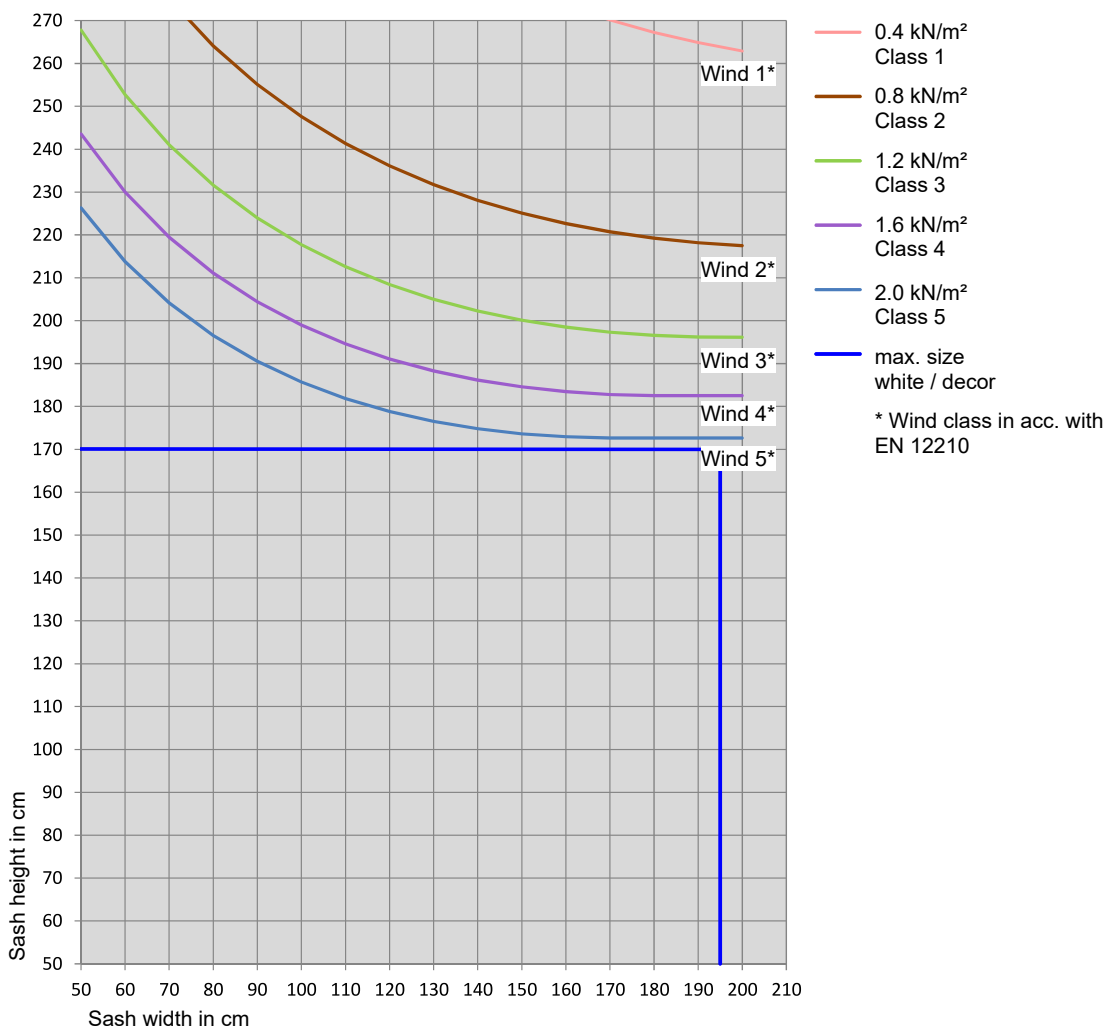
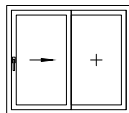
Use with mullion



762011

465001-73  
thickness 1.5 mm  
 $I_x = 1.84 \text{ cm}^4$   
 $I_y = 0.91 \text{ cm}^4$

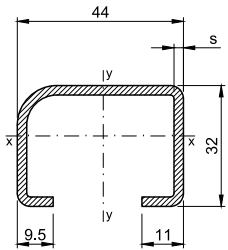
Window type 3.3 Sliding window, sliding door



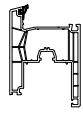
Sliding window, sliding door

665004-75

Size diagram for stiffener 665004, 2.5 mm - sash

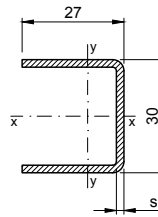


Use for sashes



661001

665004-75  
thickness 2.5 mm  
 $I_x = 3.70 \text{ cm}^4$   
 $I_y = 8.26 \text{ cm}^4$



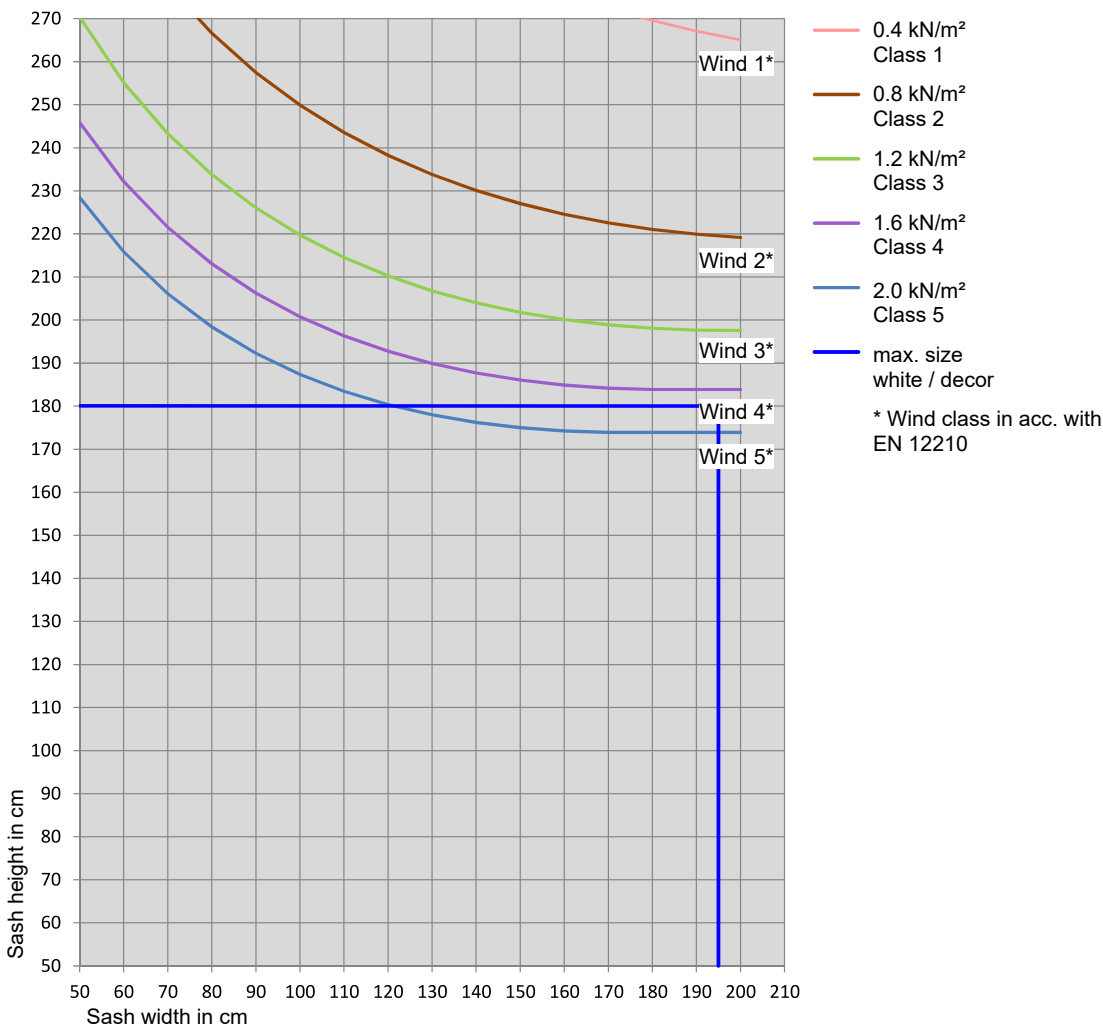
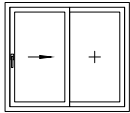
Use with mullion



762011

465001-74  
thickness 2.0 mm  
 $I_x = 2.34 \text{ cm}^4$   
 $I_y = 1.18 \text{ cm}^4$

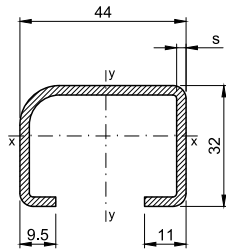
Window type 3.3 Sliding window, sliding door



Sliding window, sliding door

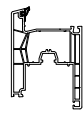
**665004-75**

Size diagram for strengthening 665004, 2.5 mm - sash

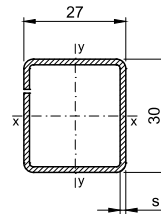


665004-75  
thickness 2.5 mm  
 $I_x = 3.70 \text{ cm}^4$   
 $I_y = 8.26 \text{ cm}^4$

Use for sashes



661001



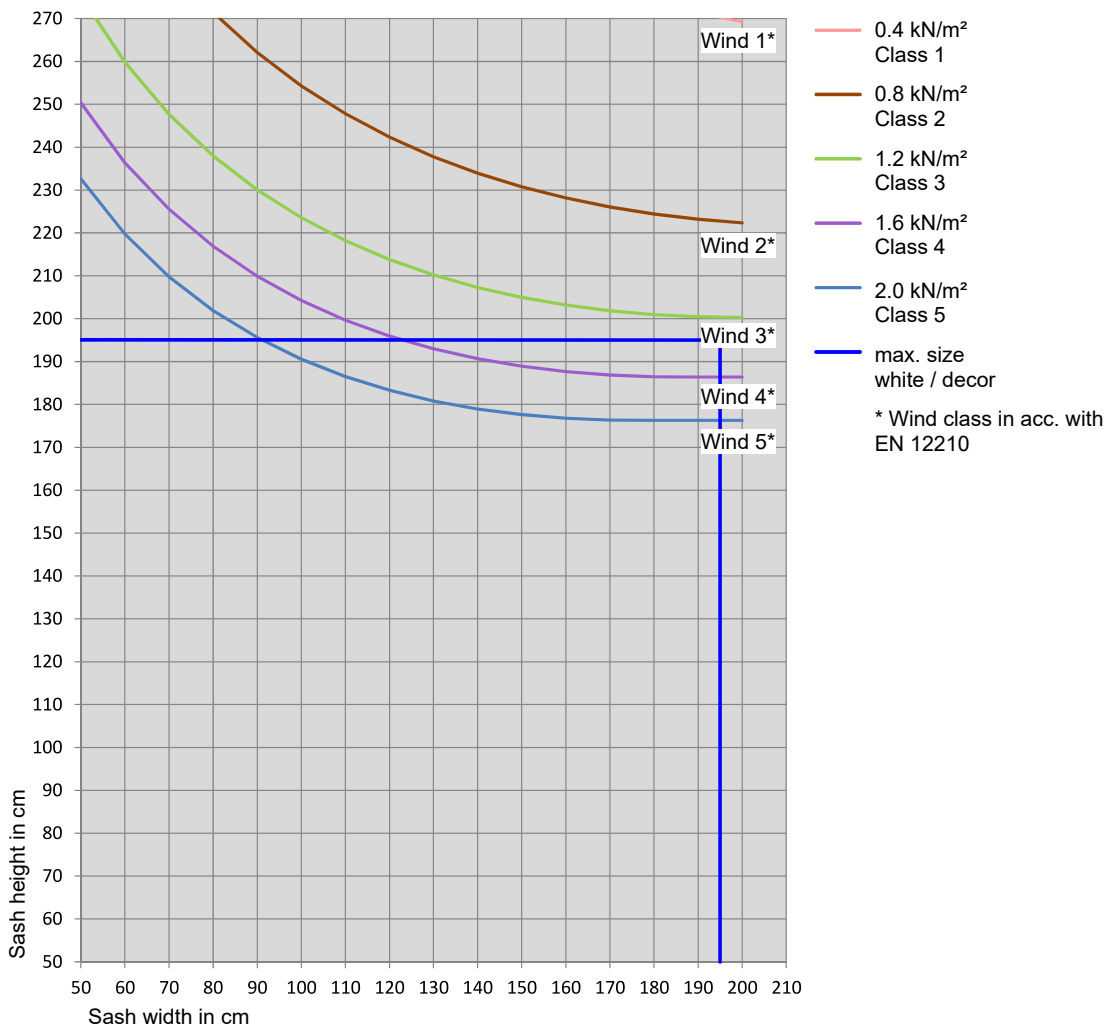
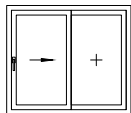
465002-73  
thickness 1.5 mm  
 $I_x = 2.04 \text{ cm}^4$   
 $I_y = 1.71 \text{ cm}^4$

Application with glazing bar / mullion



762011

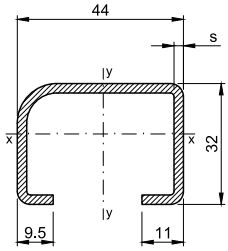
Window type 3.3 Sliding window, sliding door



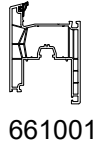
Sliding window, sliding door

665004-75

Size diagram for stiffener 665004, 2.5 mm - sash

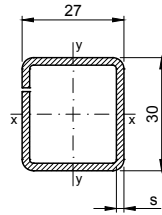


Use for sashes



661001

665004-75  
thickness 2.5 mm  
 $I_x = 3.70 \text{ cm}^4$   
 $I_y = 8.26 \text{ cm}^4$



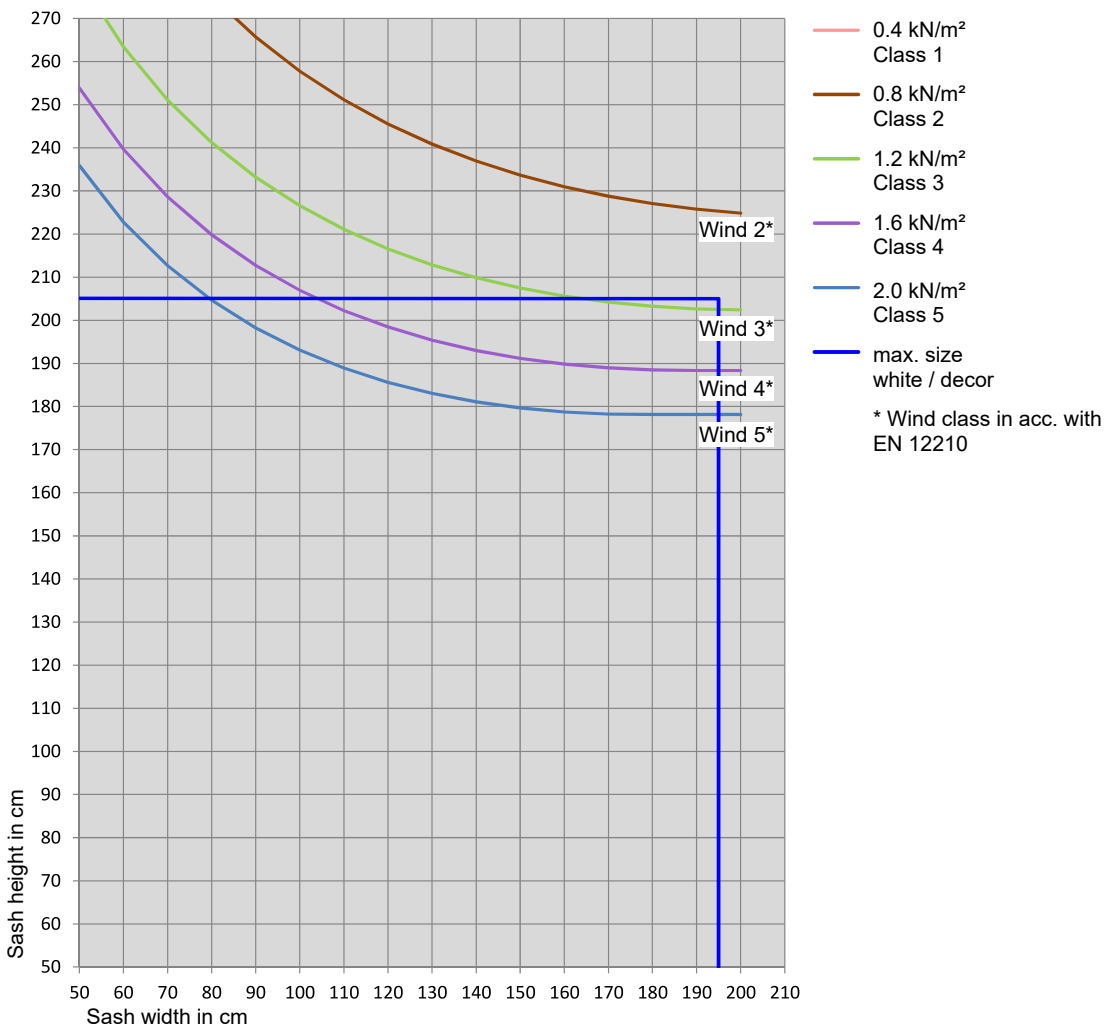
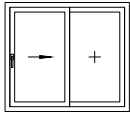
Use with mullion



762011

465002-74  
thickness 2.0 mm  
 $I_x = 2.55 \text{ cm}^4$   
 $I_y = 2.14 \text{ cm}^4$

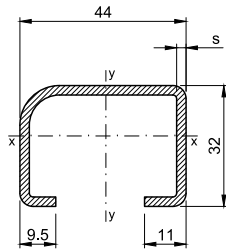
Window type 3.3 Sliding window, sliding door



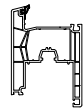
Sliding window, sliding door

**665004-75**

Size diagram for stiffener 665004, 2.5 mm - sash

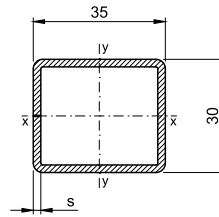


Use for sashes



661001

665004-75  
thickness 2.5 mm  
 $l_x = 3.70 \text{ cm}^4$   
 $l_y = 8.26 \text{ cm}^4$



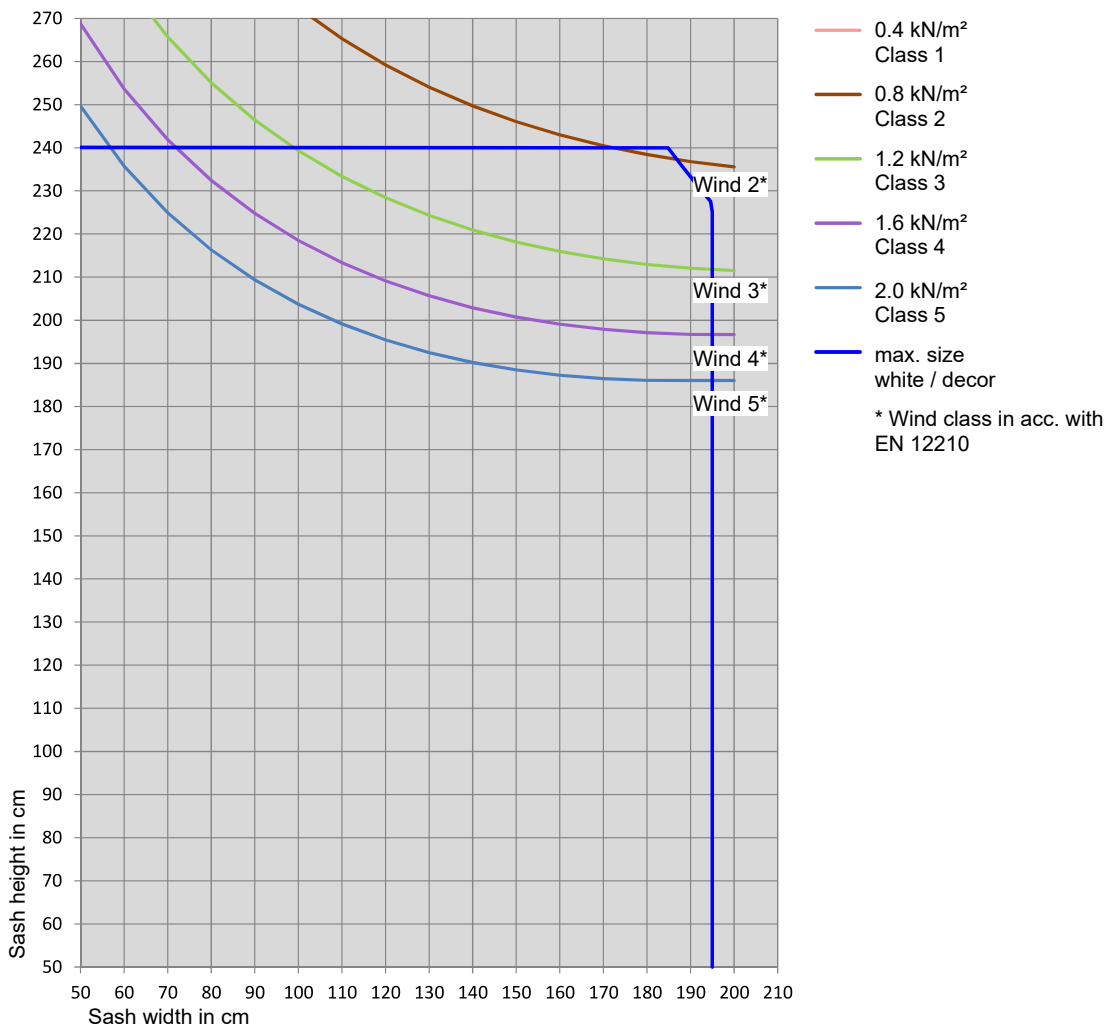
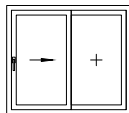
Use with mullion



762013

445030-74  
thickness 2.0 mm  
 $l_x = 3.23 \text{ cm}^4$   
 $l_y = 4.10 \text{ cm}^4$

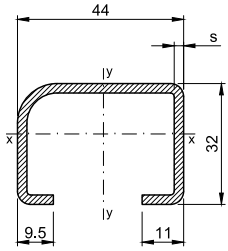
Window type 3.3 Sliding window, sliding door



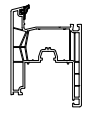
Sliding window, sliding door

665004-75

Size diagram for stiffener 665004, 2.5 mm - sash

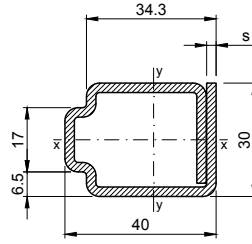


Use for sashes



661001

665004-75  
thickness 2.5 mm  
 $I_x = 3.70 \text{ cm}^4$   
 $I_y = 8.26 \text{ cm}^4$



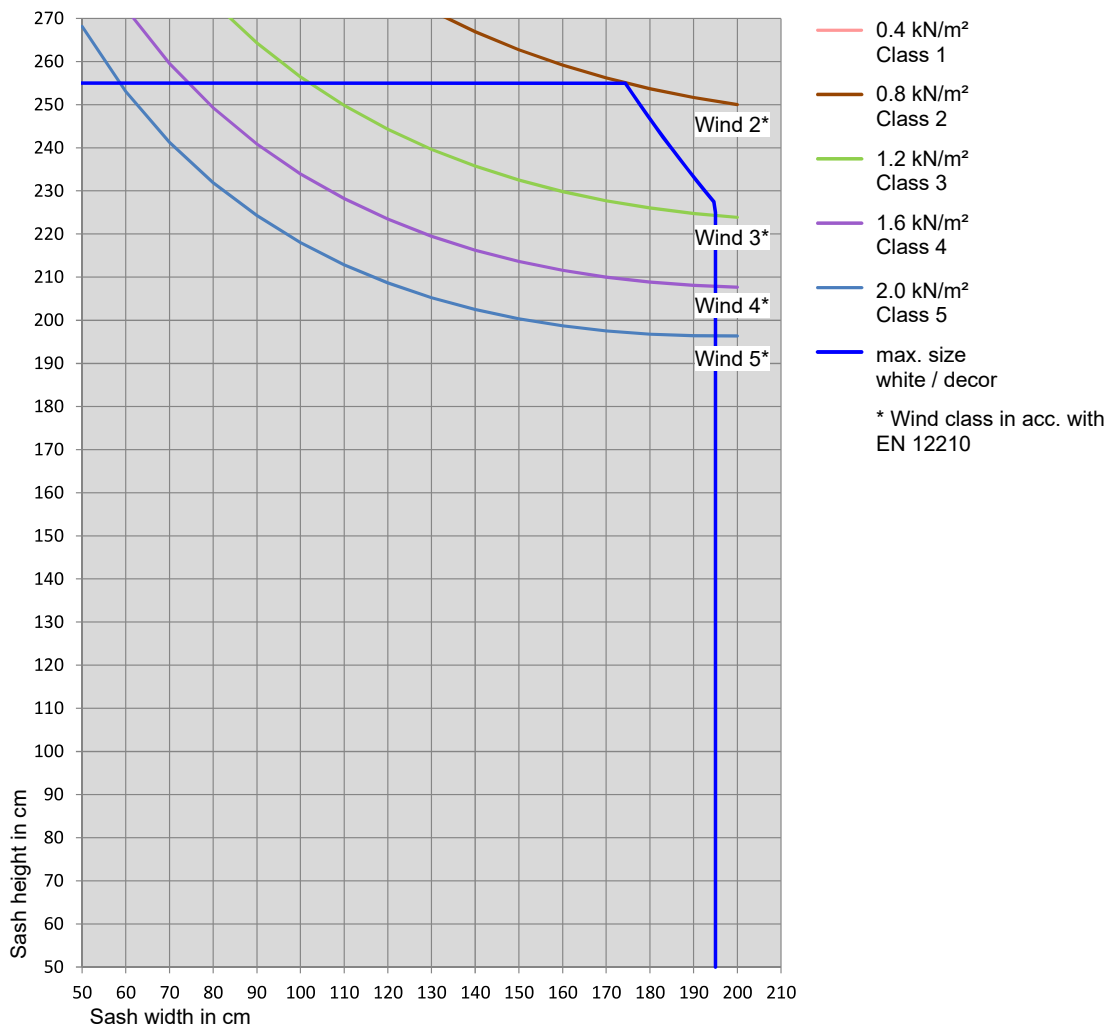
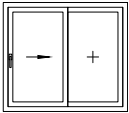
Use with mullion



762013

465007-75  
thickness 2.5 mm  
 $I_x = 4.09 \text{ cm}^4$   
 $I_y = 7.08 \text{ cm}^4$

Window type 3.3 Sliding window, sliding door



Wind load

**Explanation wind load**

Wind acts on the structure through wind pressure. It is measured as wind loads. These wind loads are made up of wind pressure or wind suction and the corresponding surcharge values. The wind loads depend, among other things, on the height of the building, the position of the building and the shape of the building.

Wind loads can be applied according to the simplified procedure for wind loads in accordance with DIN EN 1991-1. They apply to installation heights of up to 25 m.

**Classification**

The classification of resistance to wind is carried out according to DIN EN 12210.

The aim is to guarantee:

- permanently tight glass edge seal of multi-pane insulating glazings
- sufficient tightness of window elements
- functional efficiency of window elements.

This is achieved by limiting the deformation of insulating glass panes (L/200, max. 15 mm).

Class	P1 (in Pa)	P2 * (in Pa)	P3 (in Pa)
0	Not tested		
1	400	200	600
2	800	400	1200
3	1200	600	1800
4	1600	800	2400
5	2000	1000	3000
E xxxx **	xxxx		

\* This pressure must be repeated 50 times.

\*\* Test specimens with stress due to wind tested above class 5, are classified as E xxxx, if xxxx is the actual test pressure P1 (e.g. 2350, etc.).

**Wind speed**

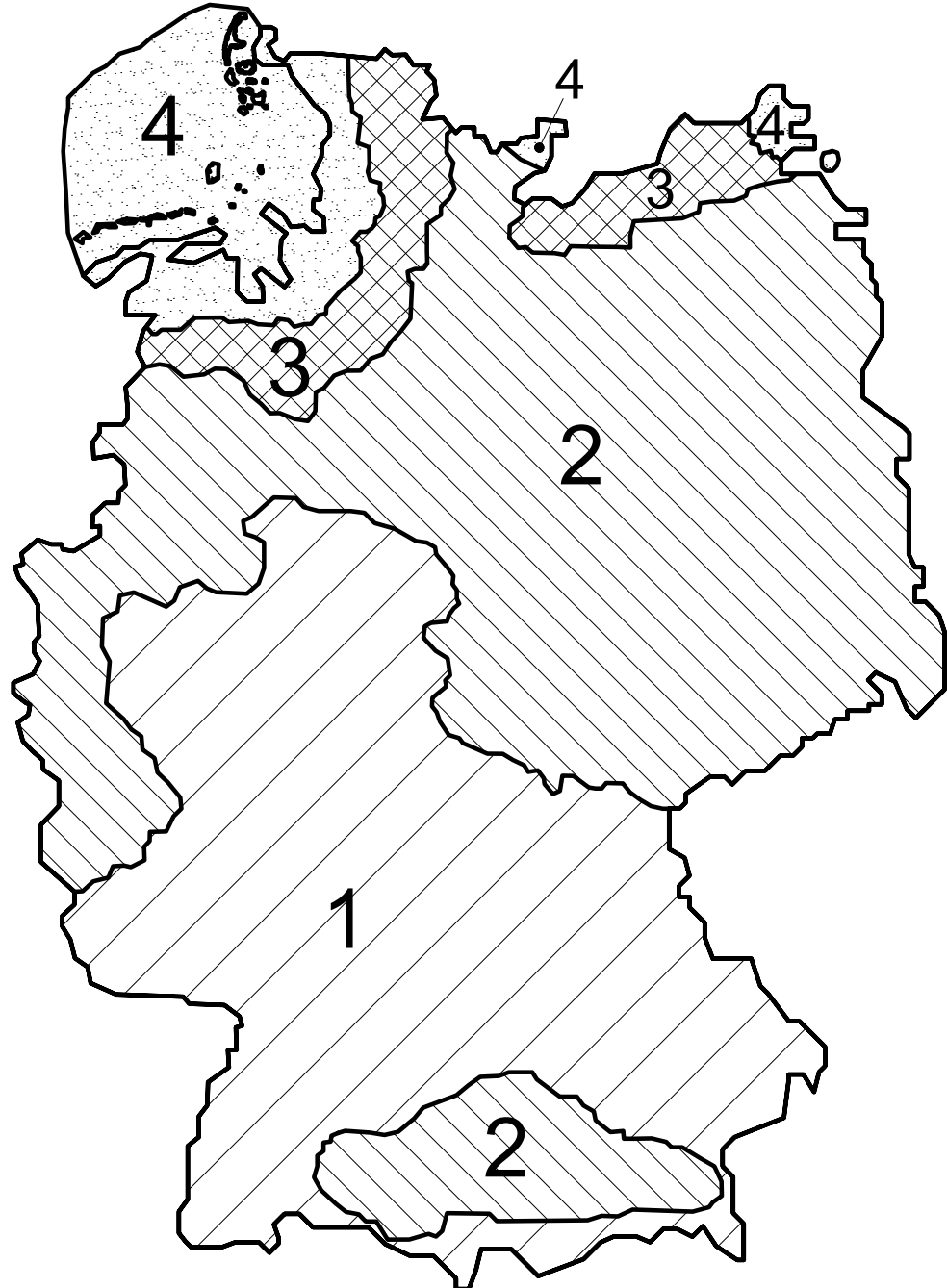
Class	Pa	km/h	Wind strength	Designation
2A	50	33	5	Fresh breeze
3A	100	46	6	Strong wind
4A	150	56.5	7	Stiff wind
5A	200	65	8	Stormy wind
6A	250	72	8	Stormy wind
7A	300	79	9	Storm
8A	450	98	10	Severe storm
9A	600	113	11	Hurricane-like storm
E750	750	127	12	Hurricane

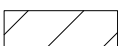
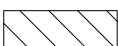


## Wind zones

## Wind zones

Germany is divided into 4 wind zones. Depending on the location, different wind loads result. The wind load is indicated with the value for  $V/REF$ .  $V/REF$  indicates the time-averaged wind speed in m/s with the corresponding speed pressure  $q/REF$  in  $kN/m^2$ .

## Wind zone map Germany



Wind zone	1	2	3	4
$V/REF$ in m / s	22.5	25.0	27.5	30.0
$q/REF$ in $kN / m^2$	0.32	0.39	0.47	0.56
Marking				

Stress classes for windows

In accordance with DIN 18055.

Inland	Wind zone 1						Wind zone 2						Wind zone 3						Wind zone 4					
	0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m	
	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge
Velocity pressure in kN/m <sup>2</sup> according to DIN EN 1991-1	0.50	0.50	0.65	0.65	0.75	0.75	0.65	0.65	0.80	0.80	0.90	0.90	0.80	0.80	0.95	0.95	1.10	1.10	0.95	0.95	1.10	1.10	0.95	0.95
Wind load - wind pressure in kN/m <sup>2</sup> cpe,1 = 1.0/1.0	0.50	0.50	0.65	0.65	0.75	0.75	0.65	0.65	0.80	0.80	0.90	0.90	0.80	0.80	0.95	0.95	1.10	1.10	0.95	0.95	1.10	1.10	0.95	0.95
Wind load - wind suction in kN/m <sup>2</sup> cpe,1 = 1.1/-1.7	0.55	0.85	0.72	1.11	0.83	1.28	0.72	1.11	0.88	1.36	0.99	1.53	0.88	1.36	1.05	1.62	1.21	1.87	1.05	1.62	1.27	1.96	1.43	2.21
Resistance to wind load according to DIN EN 14351-1	B2	B3	B2	B3	B3	B4	B2	B3	B3	B4	B3	B4	B3	B4	B3	B5	B4	B5	B3	B5	B4	B5	B4	E22 10
Water tightness according to DIN EN 14351-1	4A	4A	5A	5A	5A	5A	5A	5A	5A	5A	6A	6A	5A	5A	6A	6A	7A	7A	6A	6A	7A	7A	8A	8A
Air permeability according to DIN EN 14351-1	2	2	2 (3)	2 (3)	2 (3)	3	2	2	2 (3)	3	2 (3)	3	2	2	3	2	3	3	2	3	2	3	3	4
Coast and islands of the Baltic Sea							Wind zone 2						Wind zone 3						Wind zone 4					
	0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m		0 – 10 m		>10 – 18 m		> 18 – 25 m	
	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge
Velocity pressure in kN/m <sup>2</sup> according to DIN EN 1991-1	0.85	0.85	1.00	1.00	1.10	1.10	1.05	1.05	1.20	1.20	1.30	1.30	1.05	1.05	1.20	1.20	1.30	1.30	1.25	1.25	1.40	1.40	1.55	1.55
Wind load - wind pressure in kN/m <sup>2</sup> cpe,1 = 1.0/1.0	0.85	0.85	1.00	1.00	1.10	1.10	1.05	1.05	1.20	1.20	1.30	1.30	1.05	1.05	1.20	1.20	1.30	1.30	1.25	1.25	1.40	1.40	1.55	1.55
Wind load - wind suction in kN/m <sup>2</sup> cpe,1 = 1.1/-1.7	0.94	1.45	1.10	1.70	1.21	1.87	1.16	1.79	1.32	2.04	1.43	2.21	1.38	2.12	1.54	2.38	1.71	2.63	1.38	2.12	1.54	2.38	1.71	2.63

Stress classes for windows

Inland	Wind zone 1						Wind zone 2						Wind zone 3						Wind zone 4					
	0 – 10 m		> 10 – 18 m		> 18 – 25 m		0 – 10 m		> 10 – 18 m		> 18 – 25 m		0 – 10 m		> 10 – 18 m		> 18 – 25 m		0 – 10 m		> 10 – 18 m		> 18 – 25 m	
	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge	Centre	Edge
Resistance to wind load according to DIN EN 14351-1	B3	B4	B3	B5	B4	B5	B3	B5	B4	B5	B3	B5	B4	E20 40	B4	E22 10	B4	E21 25	B4	B4	B4	B4	B5	E26 35
Water tightness according to DIN EN 14351-1	6A	6A	6A	6A	7A	7A	6A	6A	7A	7A	7A	7A	7A	7A	7A	8A	8A	8A	8A	8A	8A	8A	8A	
Air permeability according to DIN EN 14351-1	2	3	2 (3)	3	3	3	2	3	3	3	2	3	3	4	3	4	3	4	3	3	3	4	3	4
Coast of the North Sea	Wind zone 4																							
Velocity pressure in kN/m <sup>2</sup> according to DIN EN 1991-1	1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25	
Wind load - wind pressure in kN/m <sup>2</sup> cpe,1 = 1.0/1.0	1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25		1.25	
Wind load - wind suction in kN/m <sup>2</sup> cpe,1 = 1.1/-1.7	1.38		2.12 5		1.54		2.38		1.71		2.63 5		1.55		1.55		1.55		1.55		1.55		1.55	
Resistance to wind load according to DIN EN 14351-1	B4	E21 25	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	B4	E23 80	B4	E23 80	B4	B4	B4	B4	B4	B4	B4	E26 35
Water tightness according to DIN EN 14351-1	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	8A	
Air permeability according to DIN EN 14351-1	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	3	3	3	3	4	4

Stress classes for windows

Inland	Wind zone 1			Wind zone 2			Wind zone 3			Wind zone 4		
	0 – 10 m	>10 – 18 m	> 18 – 25 m	0 – 10 m	>10 – 18 m	> 18 – 25 m	0 – 10 m	>10 – 18 m	> 18 – 25 m	0 – 10 m	>10 – 18 m	> 18 – 25 m
	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge	Centre Edge
Islands of the North Sea	Wind zone 4											
Velocity pressure in kN/m <sup>2</sup> according to DIN EN 1991-1	0 – 10 m >10 – 18 m > 18 – 25 m											
Wind load - wind pressure in kN/m <sup>2</sup> cpe,1 = 1.0/1.0	1.40 1.40											
Wind load - wind suction in kN/m <sup>2</sup> cpe,1 = 1.1/-1.7	1.54 2.38											
Resistance to wind load according to DIN EN 14351-1	B4 E23 80											
Water tightness according to DIN EN 14351-1	8A 8A											
Air permeability according to DIN EN 14351-1	3 4											
Special calculation required												

NOTE 1 For air permeability, a class is given in brackets if the requirement according to DIN 4108-2 results in a higher class than the calculation (see 4.12).  
 NOTE 2 The pair of values given for cpe,1 refers in each case to the centre of the building or the edge of the building.

Stress classes for exterior doors with thermal insulation requirements

In accordance with DIN 18055.

Building height (m)	Location	Wind load	Driving rain tightness*	Air permeability
0 to 8	Protected installation	B 2	NPD to 4 B	2
	Non-protected installation	B 2	4 A	2

\* In certain structural situations, air permeability class 3 may also be necessary for exterior doors.

**Explanation of driving rain tightness**

Driving rain tightness is the resistance of a window to water penetration into the interior of the building or into areas that cannot be drained to the outside in a controlled manner. The window is closed and locked at a defined wind force, amount of rain and duration of exposure.

The building location, the installation height and the installation situation of the window element are decisive for the classification according to the product standard for windows and doors (DIN EN 14351-1).

**Classification**

Classification DIN EN 12208		Test method DIN EN 1027 ( $\Delta p$ in Pa)
1 A	1 B	0
2 A	2 B	50
3 A	3 B	100
4 A	4 B	150
5 A	5 B	200
6 A	6 B	250
7 A	7 B	300
8 A	-	450
9 A	-	600
E xxx	-	> 600

1 A to 9 A = Suitability for unprotected installation position of windows  
 1 B to 7 B = Suitability for protected installation position of windows  
 0 Pa 15 min.  
 Pressurisation in steps of 5 min. each



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