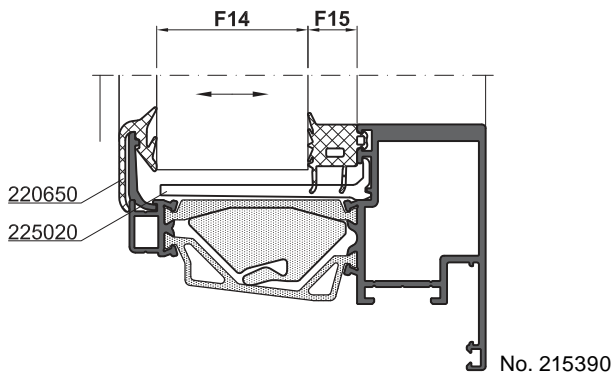


Selection table
Glass gasket
 Sash

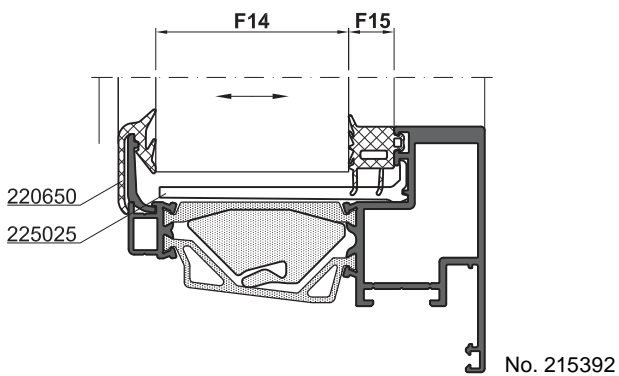
■ **Technical information**

- Beware of actual panel thicknesses and check if necessary.
- **F14** = Panel thickness.
- **F15** = Gap dimension.



Sash no. 215390										
220325	220350	220324	220349	220323	220348	220322	220347	220321	220346	220320
↕ Max. panel thickness										
40 mm	41 mm	42 mm	43 mm	44 mm	45 mm	46 mm	47 mm	48 mm	49 mm	50 mm

Exterior glass gasket
220650



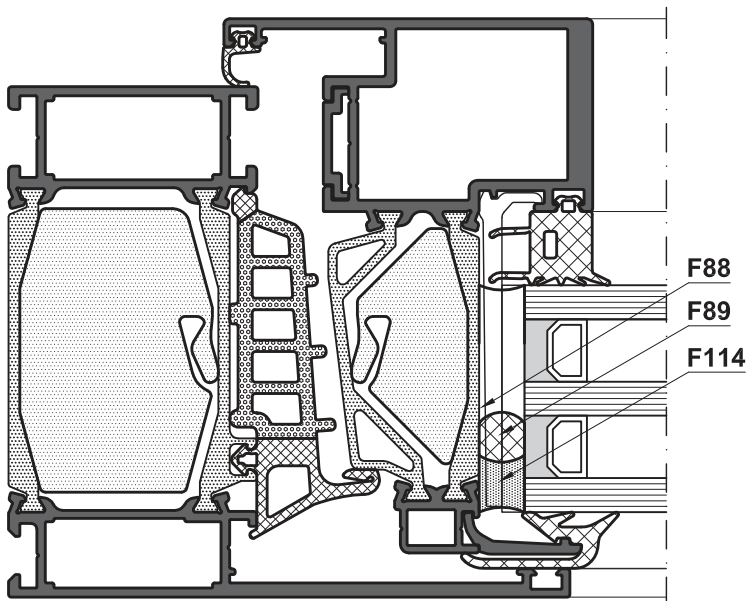
Sash no. 215392									
220350	220324	220349	220323	220348	220322	220347	220321	220346	220320
↕ Max. panel thickness									
51 mm	52 mm	53 mm	54 mm	55 mm	56 mm	57 mm	58 mm	59 mm	60 mm

Exterior glass gasket
220650

■ **Technische Information**

- From a sash width/sash height of 1500 mm the glass pane has to be additionally glued according to the fabrication drawing V90WB-200.
- For the stabilisation of the sash frame a bonding is necessary in the rebate area. It must be carried out using a suitable adhesive (e. g. 2-component adhesive Dow Corning 993) or comparable products.
- Product information and the adhesive manufacturer's instructions for use must be observed. Pre-treat coated profiles with cleaner (e. g. Cosmofen 60) or primer (e. g. Dow Corning 1200-OS) or comparable products.
- A general bonding is necessary in the handle area and also for the force application points of the motors.
- Enquire to the glass manufacturer regarding the compatibility of the adhesive used with the glass edge seal and laminated film of composite safety glass.

- **F88** = Clean gluing surface with a suitable cleaning agent and prime with a suitable primer (e. g. with Dow Corning 1200-OS).
- **F89** = Backfill cord.
- **F114** = Selective gluing according to processing guidelines with an adhesive compatible to the glass edge seal (e. g. 2-component adhesive Dow Corning 993). Enquire to the glass manufacturer regarding the compatibility. Respect hardening time!

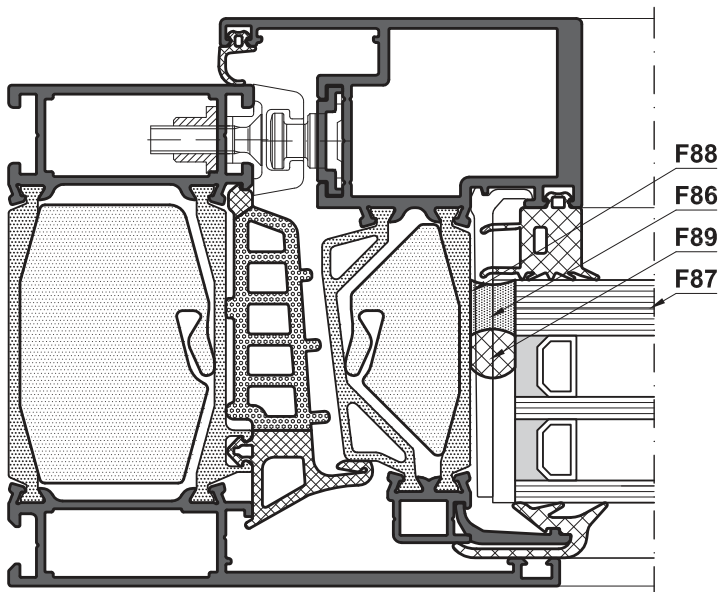


Overview

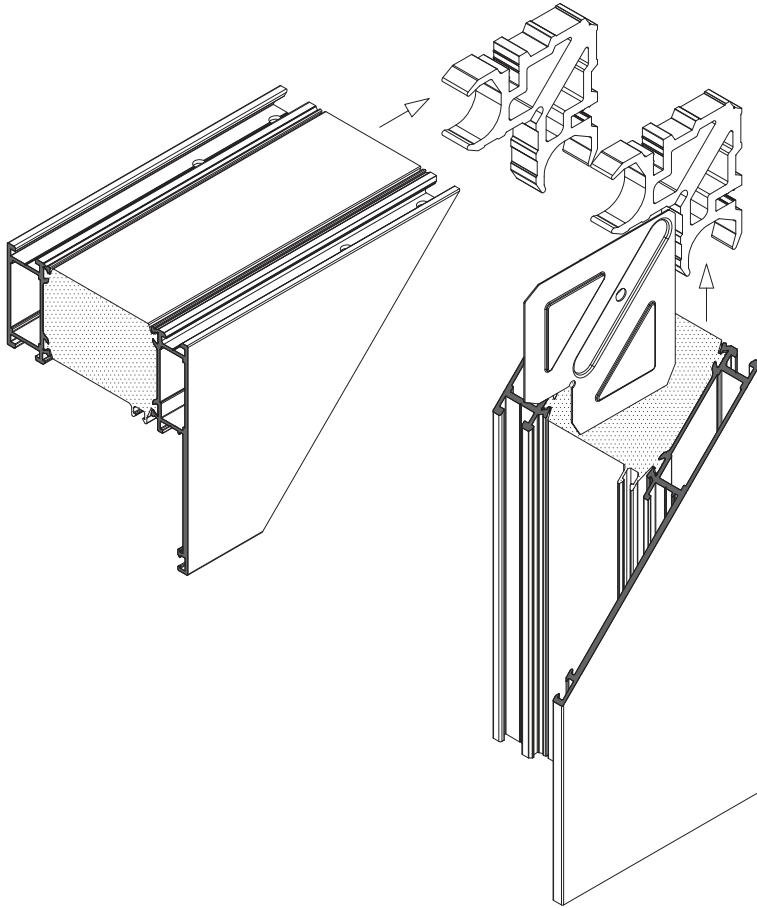
Gluing of glass pane RC2

■ Technical information

- Adhesive contact with the insulating glass edge seal must be avoided absolutely.
- The RC2 fittings installation instructions as well as the installation instructions for RC2 (see processing guidelines) must be followed.
- Gluing all round is necessary for the burglar-resistance of the element. It must be carried out using a suitable adhesive (e. g. 2-component adhesive Dow Corning 993) or comparable products.
- Product information and the adhesive manufacturer's instructions for use must be observed. Pre-treat coated profiles with cleaner (e. g. Cosmofen 60) or primer (e. g. Dow Corning 1200-OS) or comparable products.
- Enquire to the glass manufacturer regarding the compatibility of the adhesive used with the glass edge seal and laminated film of composite safety glass.
- **F86** = Circumferential bonding with edge-seal-compatible 2-component silicone adhesive and sealant; (e.g. with Dow Corning 993 Structural Glazing Sealant, consult the glass manufacturer if necessary). Observe the curing time!
- **F87** = Safety glass pane class P4A, Laminated glass pane optionally on the inside or outside.
- **F88** = Clean gluing surface with a suitable cleaning agent and prime with a suitable primer (e. g. with Dow Corning 1200-OS).
- **F89** = Backfill cord.



Selection table
Corner angles and chevron
Outer frame



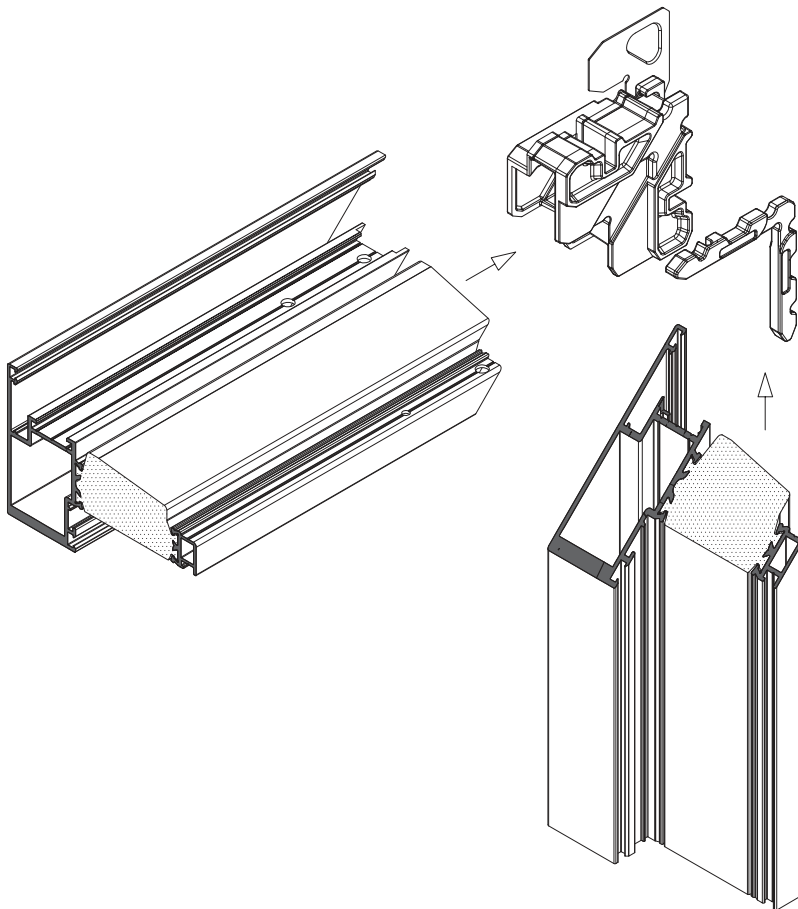
90 WB

Outer frame profile					Additionally, for corner joints using nails
No.	Article	Set of corner angles can be punched or nailed 1 PU = 40 pcs (40 corners)	Set of corner angles can be punched or nailed 1 PU = 4 pcs (4 corners)	Chevron 1 PU = 40 pcs (40 corners)	Aluminium nail 1 PU = 100 pcs (25 corners)
		No.	No.	No.	No.
215352	Outer frame 44/99	224402	224412	223251	5x13.5 mm 230002

Selection table

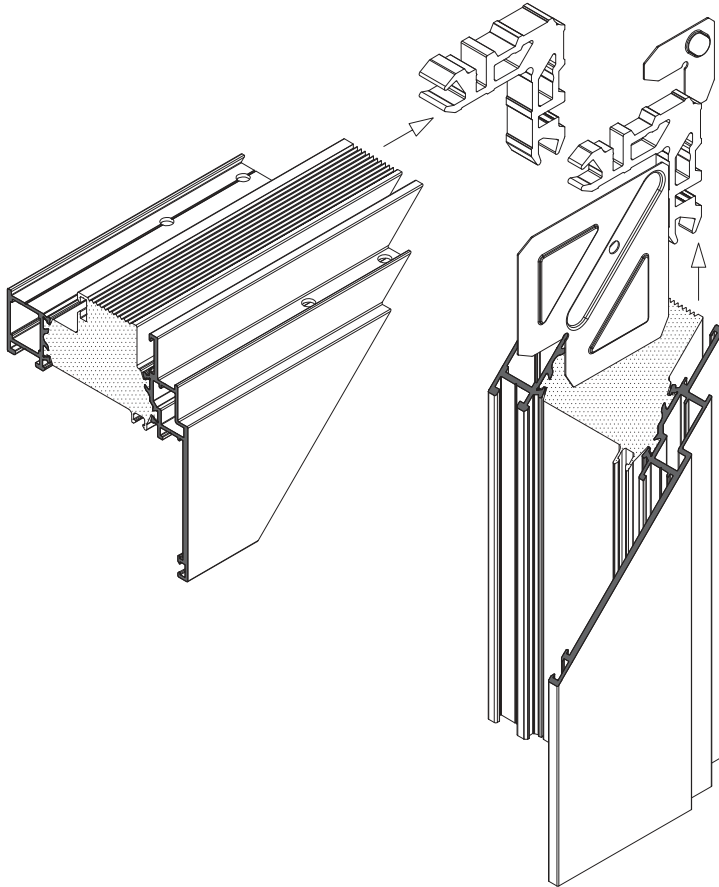
Corner angles and chevron

Casement sash



Sash profile		Additionally, for corner joints using nails				
No.	Article	Set of corner angles can be punched or nailed 1 PU = 40 pcs (40 corners)	Set of corner angles can be punched or nailed 1 PU = 4 pcs (4 corners)	Chevron 1 PU = 40 pcs (40 corners)	Stainless steel nail 1 PU = 100 pcs (50 corners)	Aluminium nail 1 PU = 100 pcs (50 corners)
		No.	No.	No.	No.	No.
215390	Sash profile 65/34	224425	224430	223220	3x8 mm 230600	5x13.5 mm 230002
215392	Sash profile 65/24	224427	224432			

Selection table
Corner angles and chevrons
Integration outer frame



90 WB

Expansion profile						Additionally, for corner joints using nails
No.	Article	Set of corner angles can be punched or nailed 1 PU = 40 pcs (40 corners)	Set of corner angles can be punched or nailed 1 PU = 4 pcs (4 corners)	Chevron 1 PU = 40 pcs (40 corners)	Chevron 1 PU = 40 pcs (40 corners)	Aluminium nail 1 PU = 100 pcs (25 corners)
		No.	No.	No.	No.	No.
215380	Integration outer frame 27/67	224429	224434	223251	223221	5x13.5 mm 230002

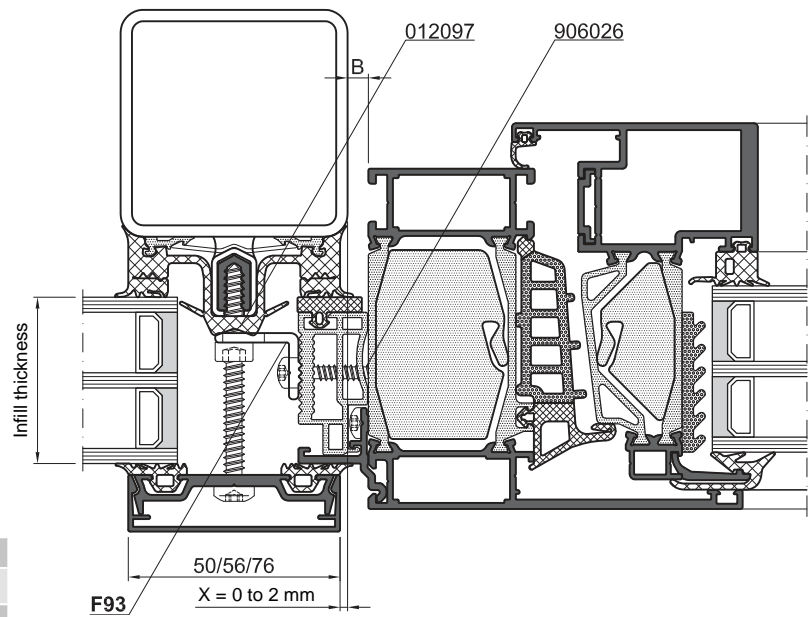
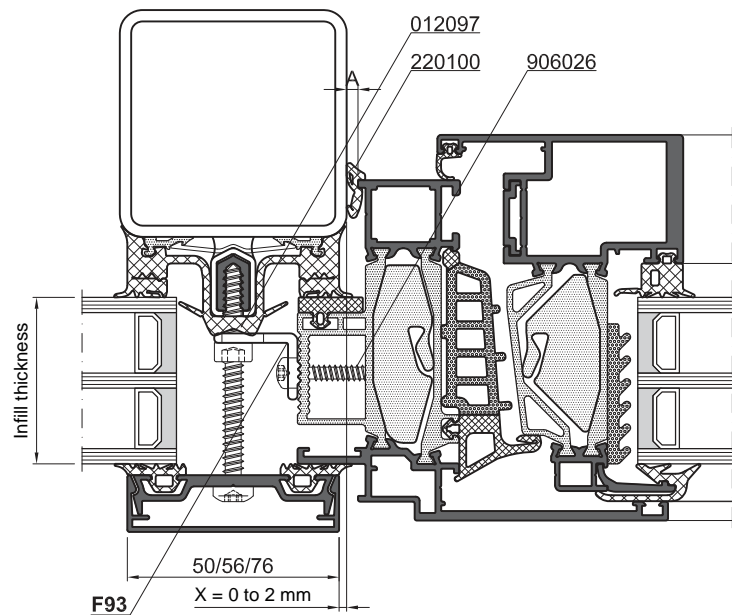
Selection table

Connection profiles

Selection of mounting angles and screws

■ Technical information

- Illustrated in steel, identically for timber and aluminium. Aluminium in the system widths 50 and 56 mm.
- No. 220100: optional for measure A 3 to 4 mm.
- **F93** = For selection of mounting angle see table.



Selection mounting angle		
Infill thickness mm	THERM ⁺ 50/56	THERM ⁺ 76
	No.	No.
40 to 50	166020	166030
51 to 60	166022	166032

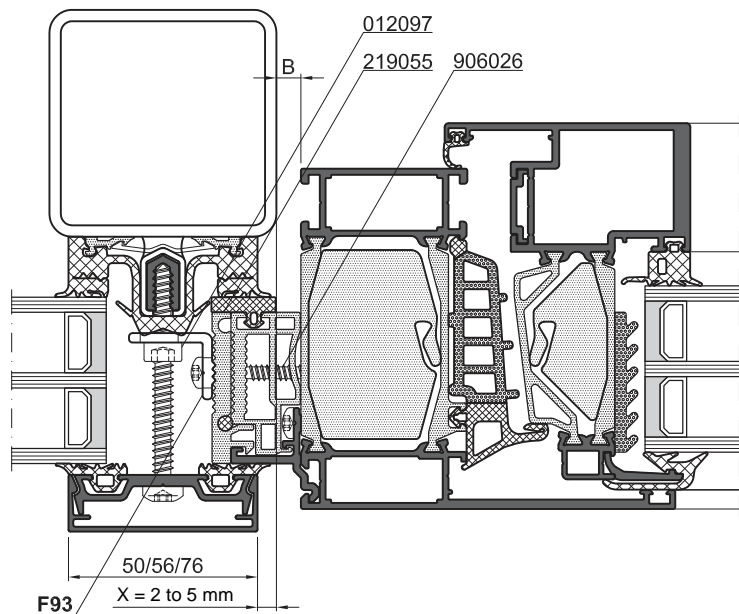
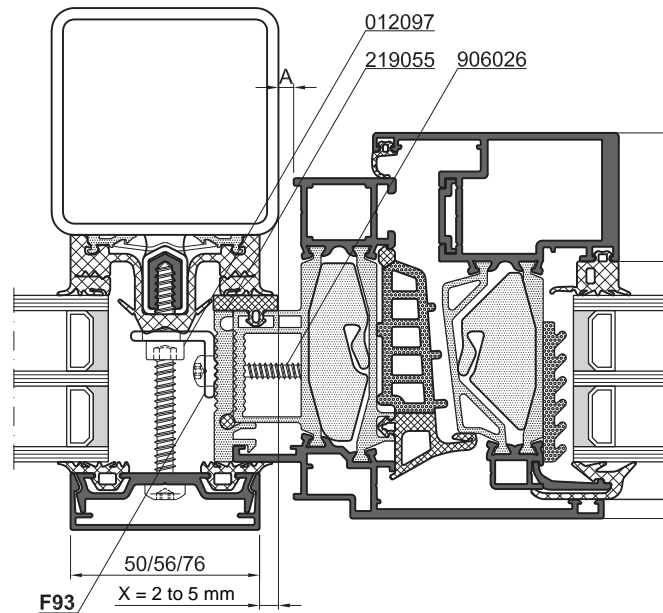
Gap size mm			
Measure	THERM ⁺ 50	THERM ⁺ 56	THERM ⁺ 76
A	4	3	3
B	6.5	5.5	5.5

Selection table
Connection profiles

Selection of enlargement profile, mounting angles and screws

■ **Technical information**

- Illustrated in steel, identically for timber.
- No. 219055: utilisation for measure X 2 to 5 mm.
- **F93** = For selection of mounting angle see table.



Selection mounting angle

Infill thickness mm	THERM ⁺ 50/56	THERM ⁺ 76
	No.	No.
40 to 50	166020	166030
51 to 60	166022	166032

Gap size mm

Measure	THERM ⁺ 50	THERM ⁺ 56	THERM ⁺ 76
A	4	3	3
B	6.5	5.5	5.5

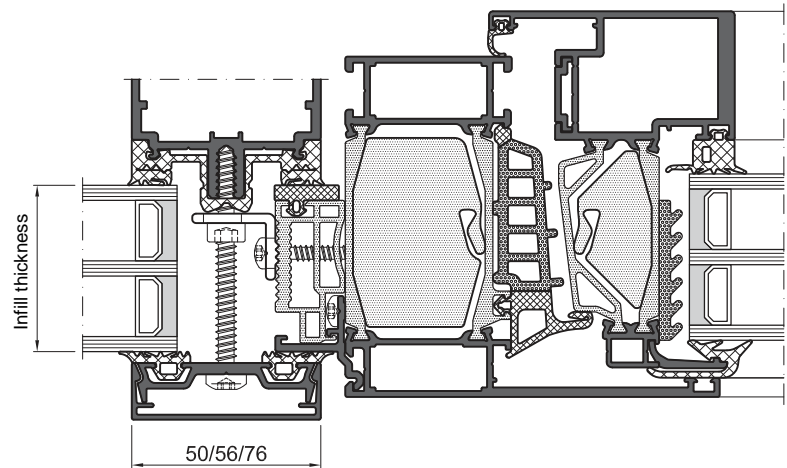
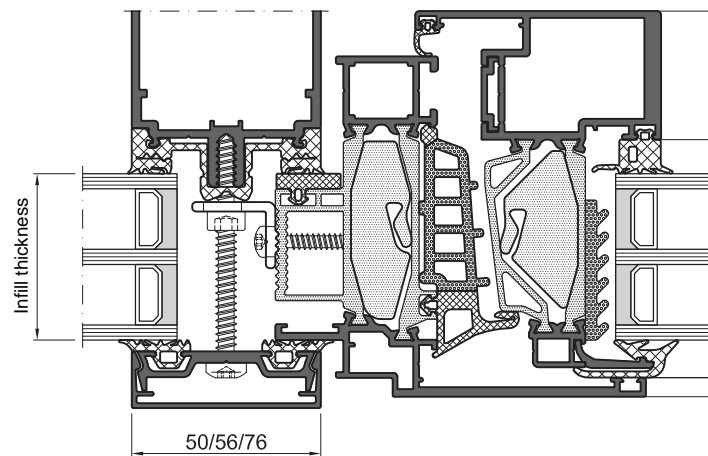
Selection table

Connection profiles


Selection of compensation gasket and compensation profile

■ Technical information

- Illustrated in aluminium, identically for timber and steel. Aluminium in the system widths 50 and 56 mm.



Selection compensation gasket

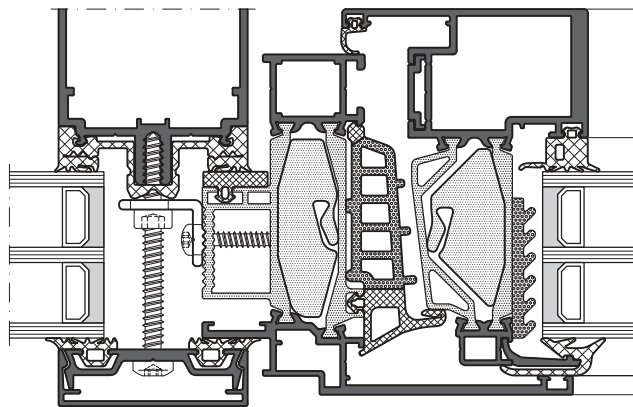
Infill thickness mm	 Compensation gasket	
	Height	No.
40	–	–
41	–	–
42	2 mm	227010
43	3 mm	227032
44	4 mm	227015
45	5 mm	227032
46	6 mm	227020
47	7 mm	227032
48	8 mm	227025
49	9 mm	227032
50	10 mm	227030

Selection compensation gasket and compensation profile

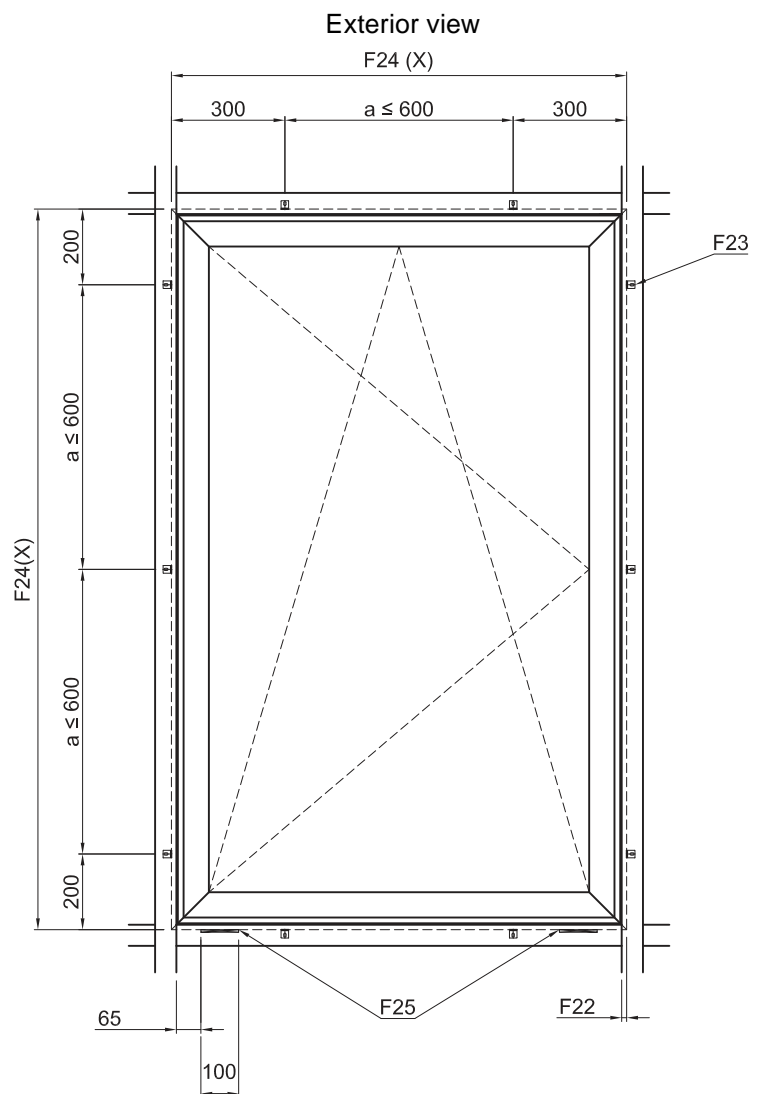
Infill thickness mm	 Compensation gasket		 Compensation profile	
	Height	No.	Height	No.
51	–	–	–	–
52	2 mm	227010	10 mm	227006
53	3 mm	227032	10 mm	227006
54	4 mm	227015	10 mm	227006
55	5 mm	227032	10 mm	227006
56	6 mm	227020	10 mm	227006
57	7 mm	227032	10 mm	227006
58	8 mm	227025	10 mm	227006
59	9 mm	227032	10 mm	227006
60	10 mm	227030	10 mm	227006

■ **Technical information**

- Number of mounting angles:
 $X \leq 1000$ mm: 2 angles
 $X > 1000$ mm: Additional angles $a \leq 600$ mm
- **F22** = Façade overlap.
- **F23** = Mounting angle.
- **F24** = External frame dimension.
- **F25** = Glass carrier.



90 WB

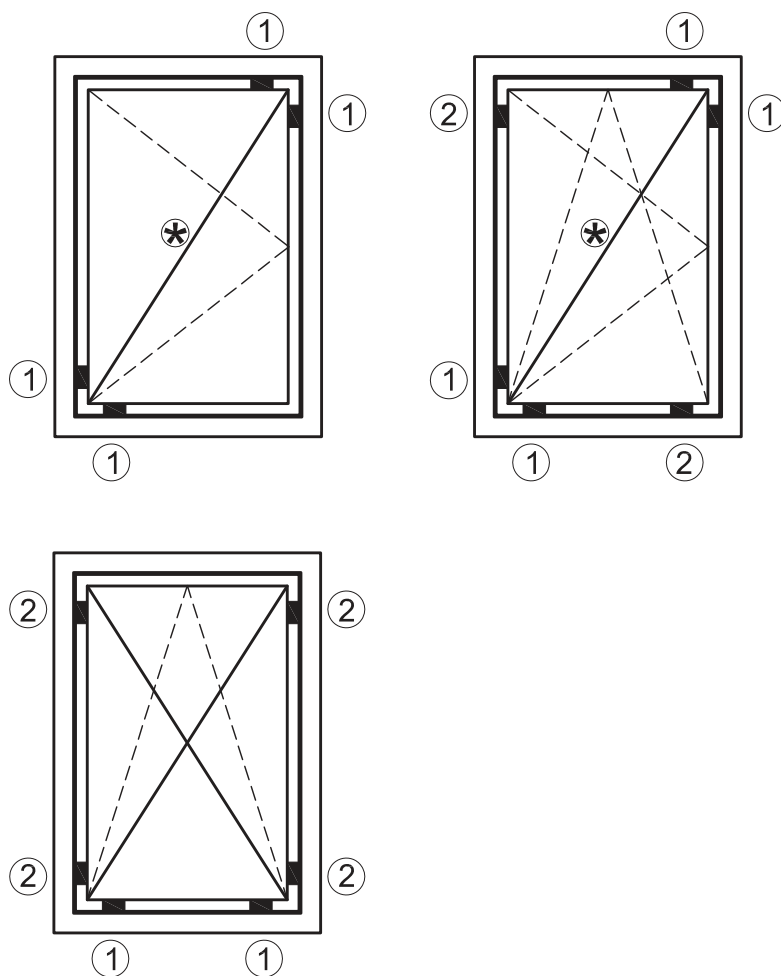


Overview

Shimming guidelines

■ **Technical information**

- The basis for the perfect function and tightness of the windows and doors is the professional shimming of the panes. Guidelines concerning this have been published in the information leaflet no. 3 “Shimming guidelines for even window panes” issued by the Technical Advisory Board of the Federal Association of the Glazier Profession in Hadamar (see picture at bottom). In the case of glazing divided by sash bars, each case must be shimmed individually, depending on the method of opening.



1 = Support shim
 2 = Spacing shim

⊗ Notice:

Shim the glass pane in the sash in such a way that the window opening functions works without adjusting the fitting!

Selection table

Effective area moment of inertia for profiles with thermal break (acc. to DIN EN 14024)
 Preliminary structural calculations

No.	$I_{x \text{ eff cm}^4}$								
	Bearing span L								
	from 1.0 m	from 1.5 m	from 2.0 m	from 2.5 m	from 3.0 m	from 3.5 m	from 4.0 m	from 4.5 m	from 5.0 m
215352	18.124	30.531	41.399	49.927	56.346	61.133	64.724	67.453	69.557
215380	16.550	26.864	35.355	41.690	46.281	49.611	52.058	53.889	55.284

90 WB

