

# Masttech 22

Complex balcony glazing system

Technical catalogue



# Masttech

Алюминиевые системы нового поколения

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## Complex balcony glazing system

Technical Catalog

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MastTech-22 balcony glazing systems are designed for non-insulated glazing of balconies and loggias in housing construction. MastTech-22 aluminum profile system is suitable for fabrication of translucent enclosing structures both in a swing and sliding design, as well as in a combination of both, using non-opening elements. Diversity of profiles available in the system makes it possible to glaze balconies and loggias both from the balcony parapet and from the ceiling panel using the facade glazing elements included in the MastTech-22 system.

MastTech-22 balcony glazing system was developed on the basis of our long-term experience in development of profile systems. All profiles and joint solutions are specifically designed to facilitate assembly and installation operations.

The system is based on quenched and artificially aged (T1) AD31 alloy aluminum profiles, which comply with modern building regulations and the requirements for balcony structures in new construction and for reconstruction under the residential buildings refurbishment program.

System profiles can be coated with powder paints as per GOST 9.410-88. Coating color is specified by the customer according to the RAL chart.

MastTech-22 balcony system also comprises gaskets, fittings and tools for profile processing.

Gaskets are made of TPE or EPDM as per GOST 30778-2001. Gaskets remain functional at a temperature from -40°C to +40°C. Minimum service life is 10 years.

The components that make up the system are used to assemble the frames and sashes. The materials used to manufacture the fittings comply with the applicable standards. Use of the "euro grooves" in the system profiles makes it possible to use hinges and locking mechanisms from leading European window fitting manufacturers.

The glazing for stained-glass and fixed sash window systems is set on blocks and fastened with glazing beads and gaskets. MastTech-22 system can accommodate glass thickness up to 4–7 mm. If glass of greater thickness (up to 24 mm) is installed, glazing beads of 18 mm height are used.

The corner gaskets are cut at a 45° angle and bonded together using cyanoacrylate-based adhesive.

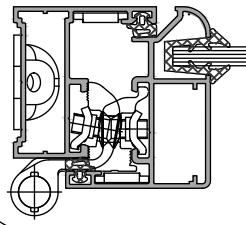
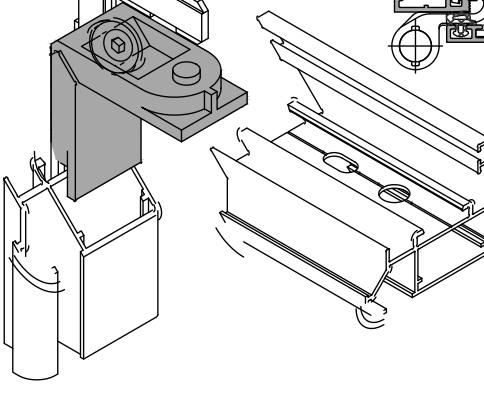
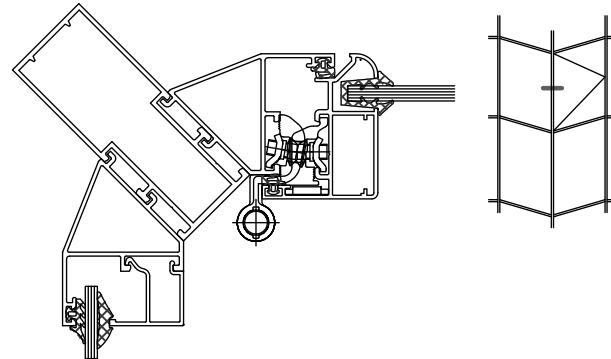
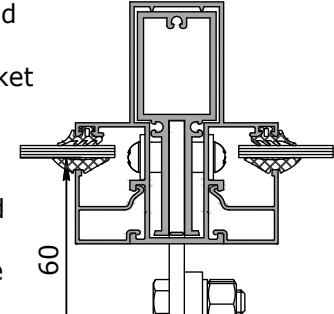
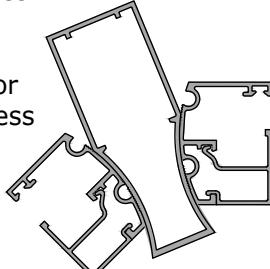
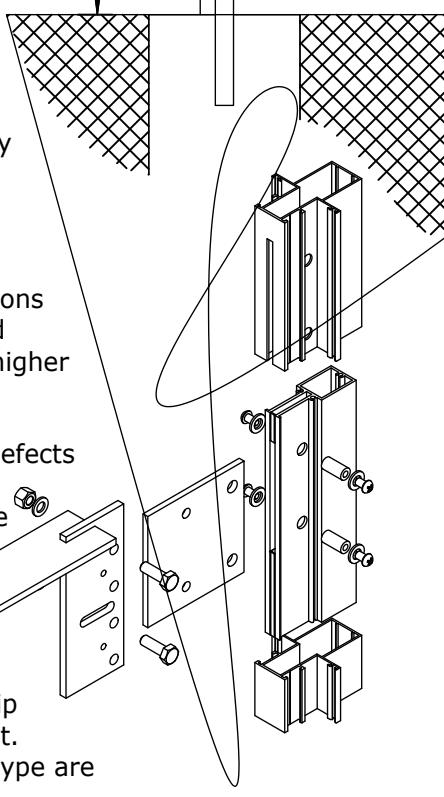
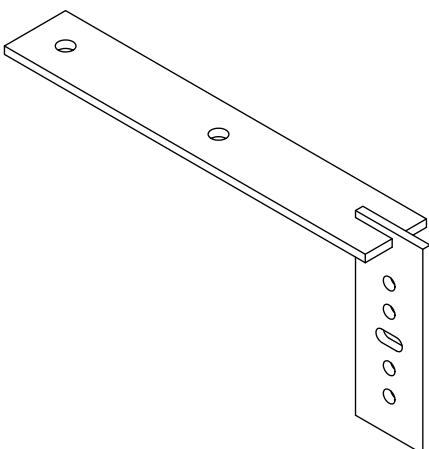
The cut profile lengths given in the catalog are accurate, except for the values marked with footnotes. In some cases, they must be rounded according to the accuracy and specifications of the workshop equipment. For this reason, it is necessary to produce test pieces during the process assimilation phase or in the case of large cutting volumes, in order to check the dimensions.

The manufacturer reserves the right to make modifications to the profile system in order to improve the operational, economic or technological performance of the system.

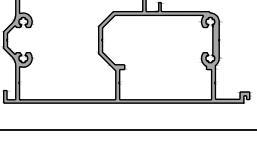
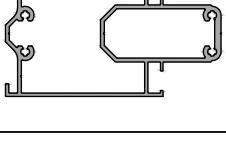
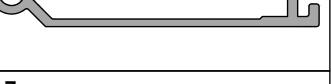
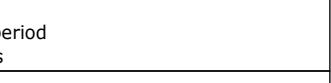
Solutions described in the technical catalog are advisory in nature.

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<b>equipment and tools</b>						



contents	In addition to the classic sash with glazing beads, the system offers a hinged window in which no glazing beads are used.	scope of delivery	- The hinged sashes are cheaper due to smaller quantities of metal being used. - The hinged sashes are less noticeable due to small height of the visible sash section. - Installation of glass into the sash is performed using the standard U-shaped gasket without application of structural adhesive. - The sash is assembled using embedded coupling elements. Prefabricated demountable sash.	contents
profiles				
sections				
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sub-assemblies	Mullions used for transparent and stained-glass glazing are provided with reinforcing elements directed towards the exterior of the building (the "outward" reinforcement). - The distance between the ceiling panel edge and the glass is not large. Smaller load on the bracket (smaller lever effect).		- It is possible to place hinged sashes laterally to the corner mullion, the outward-facing reinforcement does not hinder installation of the hinge and opening of sashes.	
tables				
fittings layout			- A variety of solutions for the rotary mullion joint. Less metal consumption.	
additional solutions	- Regardless of selected mullion (and its depth), the distance between the ceiling panel edge and the glazing plane always remains constant.			
sub-assemblies				
stained glass insulation	- There is a possibility to use mullions of different depths within the same project: smaller-depth ones on lower stories and mullions with greater depth and moment of inertia on higher stories.		Certified L-shaped bracket for installation of overhanging structures. This is a universal bracket for installation of virtually all mullion joint types.	
connections				
equipment and tools	- In case of casting defects of the project's cast-in-place slabs, the variation in distance between the ceiling panel edge and the glazing plane is adjusted by a specially used strip fastened to the bracket. Brackets of the same type are always used.			

contents										contents	
profiles										profiles	
		scope of delivery									
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P00-001 link		P00-016 bar 50x5		P00-032 pipe holder 55 mm							
P00-002 sash-mounted drip molding		P00-017 U-profile 25x25x54		P00-033 round pipe 55x2 mm							
P00-003-2 handrail 25x50		P00-019 U-profile 10x10x1		P00-034 angle piece 30x15x1.5 mm							
P00-004 bar 100x5		P00-023 ventilation grille lamella 30 mm		P00-035 holder							
P00-006 double-T profile 40 mm		P00-026 square pipe 17x23 mm		P00-035 holder							
P00-007 pipe 40 mm		P00-029 holder		P00-041 rectangular pipe 50x30							
P00-008 rectangular pipe 40 mm		P00-029-2 holder		P00-044 holder							
P00-009 rectangular pipe 20x13 mm		P00-030 rabbet profile		P00-045-01 channel housing							
P00-012 double glazing beads cover		P00-030-22 profile for rabbet 22 mm		P00-047 batten holder							
P00-014 drip molding holder		P00-031 felt holder		P00-059 rabbet wing 45 mm							
P00-015 bar 80x5		P00-031-2 felt holder		P00-062 plug							

			contents
	profiles	scope of delivery	
<b>P00-075</b> square pipe 40x40x1.2		<b>P00-501-25</b> glazing beads 3.5 mm harness sealing	 <b>P00-506-2</b> glazing beads 24.5 mm closed profile
<b>P00-079-01</b> screen cover		<b>P00-502</b> glazing beads 6.5 mm	 <b>P00-506-25</b> glazing beads 27.5 mm closed profile
<b>P00-079-011</b> outermost screen housing		<b>P00-502-2</b> glazing beads 6.5 mm harness sealing	 <b>P00-506-3</b> groove glazing beads 24.5 mm
<b>P00-079-012</b> central screen housing		<b>P00-502-25</b> closed profile glazing beads 5.5 mm	 <b>P00-507</b> glazing beads 30.5 mm
<b>P00-079-013</b> outermost screen housing offset 80 mm		<b>P00-503</b> glazing beads 12.5 mm	 <b>P00-507-2</b> closed profile glazing beads 30.5 mm
<b>P00-079-014</b> central screen housing offset 80 mm		<b>P00-503-2</b> closed profile glazing beads 12.5 mm	 <b>P00-510</b> closed profile glazing beads 51.5 mm <small>* delivery period 8-10 weeks</small>
<b>P00-082</b> plug		<b>P00-503-25</b> closed profile glazing beads 15.5 mm	 <b>P00-520</b> glazing beads 18x9x2 mm
<b>P00-082-01</b> hinged adapter <small>* delivery period 8-10 weeks</small>		<b>P00-504</b> glazing beads 18.5 mm	 <b>P00-530</b> outer glazing beads cover
<b>P00-082-02</b> hinged adapter <small>* delivery period 8-10 weeks</small>		<b>P00-504-2</b> glazing beads 18.5 mm closed profile	 <b>P00-606</b> mullion inflection block
<b>P00-084-50</b> cover 50 mm		<b>P00-504-25</b> glazing beads 21.5 mm closed profile	 <b>P00-606-17</b> mullion inflection block <small>* delivery period 8-10 weeks</small>
<b>P00-100-40</b> internal window sill 40 mm		<b>P00-506</b> glazing beads 24.5 mm	 <b>P00-607</b> pipe 52 mm

contents										contents	
profiles										profiles	
		scope of delivery									
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P00-607-2 pipe 50 mm		P00-625 impost block 12 mm		P10-002 insect screen frame							
P00-608 pipe adapter		P00-627 corner block 38 mm for squeezing and fixing by pin 5		P10-002 insect screen impost							
P00-610 rotary impost block		P22-001 front joint adapter									
P00-611 impost block, universal		P00-630-75 block 75 mm		P22-002 rear adapter							
P00-616 corner block 10 mm for squeezing and fixing by pin 5		P00-632 corner block 33 mm for squeezing and fixing by pin 5		P22-003 rabbit wing profile 13 mm							
P00-617 corner block 26.5 mm for squeezing and fixing by pin 5		P00-634 corner block 42 mm for squeezing and fixing by pin 5		P22-009 rotary adapter							
P00-619 corner block 19.7 mm for squeezing and fixing by pin 5		P05-02-604020 rectangular pipe 60x40		P22-013-2 guide for swing frame							
P00-620 corner block 5.2 mm for squeezing		P05-04-0340 bar 3x40		P22-013-PL vertical adapter for Provedal (left)							
		P10-001 insect screen frame		P22-014 corner adapter							
				P22-015 sill for sliding structures							

contents			contents	
profiles			contents	
P22-016 expanding adapter		P22-040 mullion structural reinforcement 111 mm		P22-145 double acting swing door frame 40 mm
P22-016-43 expanding adapter 43 mm (flange 13 mm)		P22-050 insulating material lock profile		P22-201 sliding sash
P22-016-75 expanding adapter 75 mm (flange 13 mm)		P22-101 sliding frame 29 mm		P22-201-16 sliding sash for DGU
P22-017 turning adapter <small>* delivery period 8-10 weeks</small>		P22-102 swing frame 29 mm		P22-202 swing sash without glazing beads
P22-020 guide rail, front		P22-103 angle swing frame		P22-203 sliding sash
P22-021 guide rail, rear		P22-105 window frame wide		P22-203-74 sliding sash, reinforced
P22-022 fixed section outer impost		P22-121 door frame narrow		P22-204 swing sash
P22-023 fixed section inner impost		P22-122 door frame medium		P22-203-16 sliding sash, reinforced <small>* delivery period 8-10 weeks</small>
P22-031 adapter for stained glass, outward opening		P22-141 door frame 40 mm		P22-205 swing sash structured
P22-032 adapter for stained glass, inward opening		P22-143 stained glass door frame		P22-207 swing sash for PVC fittings
P22-034 door frame adapter		P22-144 stained glass door frame		P22-221 door sash outward opening

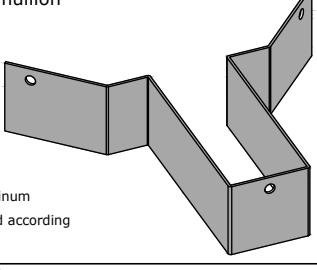
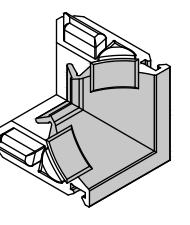
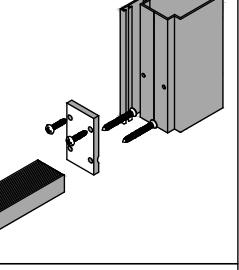
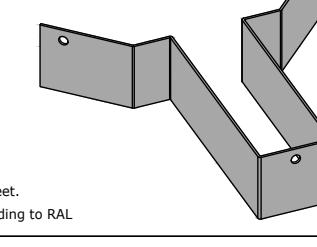
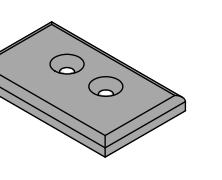
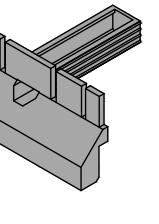
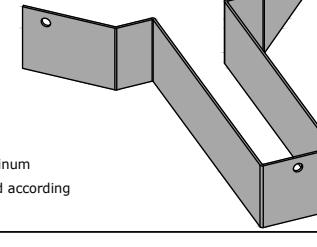
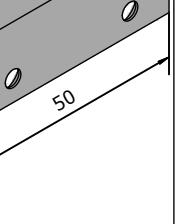
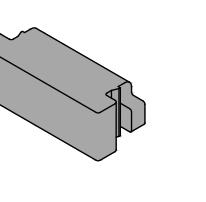
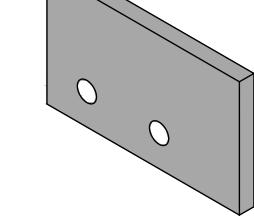
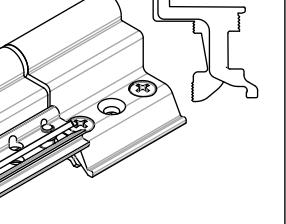
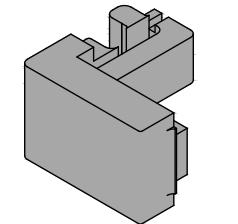
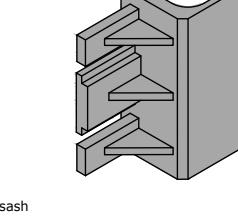
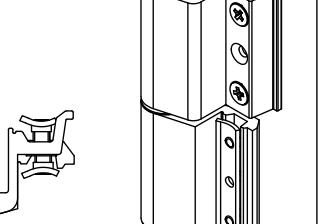
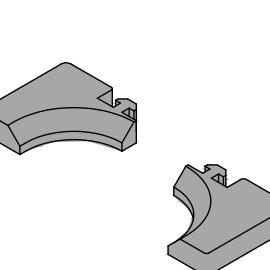
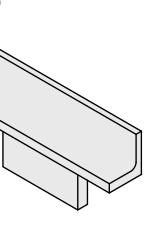
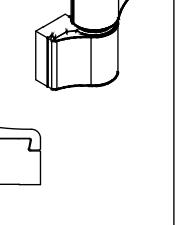
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sections	scope of delivery		P22-242 Z-shaped door leaf	P22-352 inward mullion 115 mm	P22-406 combined impost	
sections	scope of delivery		P22-245 door sash double-acting	P22-353 inward mullion 100 mm symmetrical	P22-407 combined impost with drip molding	
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sub-assemblies	glazing tables		P22-302 mullion 90 mm	P22-354 inward mullion 100 mm	P22-407 combined impost with drip molding	
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stained glass insulation			P30-002 lamella 65x25		P40-601 mullion block 98.5 mm						
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equipment and tools			P30-102 panelless frame		P40-602 mullion block 73.9 mm						

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C101	Corner block, steel					C117-49	Corner block, 48.8x10 mm			C120-53	Corner block, 53x19.7 mm			
							manufactured from profile P00-616				manufactured from profile P00-619			
C108	Aluminum corner block 10.6x19.5 without attachments					C118-10	Corner block 10.5x26.6 mm			C125-37	Corner block 36.4x38 mm			
							manufactured from profile P00-617				manufactured from profile P00-627			
C112	Button block, adjustable, 10x36					C118-30	Corner block, 29.8x26.6 mm			C129-25	corner block 25x42 mm			
							manufactured from profile P00-617				manufactured from profile P00-634			
C114	Corner blocks (4 pcs) based on C108 with attachments (set for each sash)					C118-49	corner block, 48.8x26.6 mm			C507	Impost block, universal, 10x36			
							manufactured from profile P00-617							
C115	Profile corner block with rocking plate, 36x10					C120-13	Corner block, 12.8x19.7 mm			C508	Impost block, universal, 17.5x36			
							manufactured from profile P00-619							
C116	Profile corner block with rocking plate, 25.5x10					C120-37	corner block, 36.6x19.7 mm			C508-16	Impost block, universal, 16x36			
							manufactured from profile P00-619							

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		profiles					profiles						
scope of delivery		profiles (1:1)		sections		glazing tables		sub-assemblies		stained glass insulation		sub-assemblies	scope of delivery
equipment and tools	connections	connections	additional solutions	fittings layout	additional solutions	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	stained glass insulation	sub-assemblies	sub-assemblies	contents
		<b>C508-38</b> Impost block, universal, 38x36				<b>F017-30F</b> Frame holder 30 mm					<b>mullion end caps</b> (aluminum)		
											F020a-22301 – for P22-301		
											F020a-22302 – for P22-302		
											F020a-22303 – for P22-303		
											F020a-22304 – for P22-304		
		<b>C524-22</b> fixed section impost block 22 mm				<b>F020-30</b> Square cap 30x30							
		<b>C602</b> Leveling angle piece 14.3x2.5				<b>F020-3050</b> Rectangular cap 30x50 mm					<b>F020a-5050</b> air conditioner cage end cap		
		<b>C605</b> Leveling angle piece 10x1				<b>F020-3015</b> Rectangular cap 30x15					<b>F022</b> Decorative cap, d=12 mm		
		<b>Support pads</b>				<b>F020-55</b> Round cap 55 mm					<b>F023</b> Sash anti-sag foot plate		
		<b>F001</b> – 22x1 mm <b>F002</b> – 22x2 mm <b>F003</b> – 22x3 mm <b>F004</b> – 22x4 mm <b>F005</b> – 22x5 mm <b>F006</b> – 12x1 mm <b>F007</b> – 12x2 mm <b>F008</b> – 12x3 mm <b>F009</b> – 12x4 mm <b>F010</b> – 12x5 mm											
		<b>F017-18S</b> Mullion holder 18 mm				<b>F020-6040</b> Rectangular cap 60x40 mm					<b>F025</b> Sash caps P22-203-74 (pair)		



contents												contents					
profiles												profiles					
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profiles (1:1)												profiles (1:1)					
sections												sections					
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glazing tables												glazing tables					
sub-assemblies												sub-assemblies					
stained glass insulation												stained glass insulation					
additional solutions												additional solutions					
fittings layout												fittings layout					
sub-assemblies												sub-assemblies					
stained glass insulation												stained glass insulation					
connections												connections					
equipment and tools												equipment and tools					
<b>F048a-75</b>	insert 75 mm for P22-301 mullion	 <p>Made of aluminum sheet. Painted according to RAL</p>	<b>F068-75</b>	Medium gasket corner connector R075E		<b>F085-22-01</b>	sill installation plate	 <p>Used for sill installation on the frame</p>									
<b>F048a-90</b>	insert 90 mm for P22-303 mullion	 <p>Made of aluminum sheet. Painted according to RAL</p>	<b>F075</b>	screen holder cap		<b>F090-22</b>	drainage plate for mullion joint										
<b>F048a-110</b>	insert 110 mm for P22-304 mullion	 <p>Made of aluminum sheet. Painted according to RAL</p>	<b>F075a-80-5</b>	aluminum screen holder plug for 80 mm offset		<b>F22-050</b>	insulating material retainer	 <p>manufactured from profile P22-050</p>									
<b>F053</b>	cap of internal (fitting) groove		<b>F075a-40-24</b>	aluminum cap 40x24 mm		<b>F108</b>	Turn hinge for oriel window structures										
<b>F053-22</b>	cap of Masttech-22 external groove		<b>F080</b>	passive sash cap	 <p>Installed in the passive sash profiles P67-251 and P67-252</p>	<b>F109</b>	Groove door hinge										
<b>F067-22</b>	Impost weather strip (pair)		<b>F080-5</b>	passive sash cap	 <p>Installed in the passive sash profiles P22-241 and P22-242</p>	<b>F161-2</b>	2-section surface-mounted hinge, center-to-center distance 67 mm (for anchor/screw fastening)	 <p>67</p>									

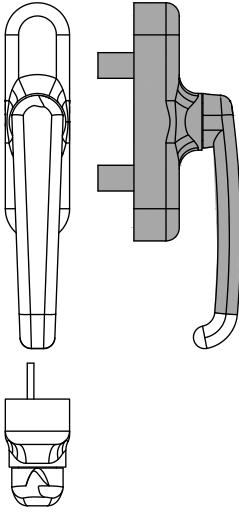
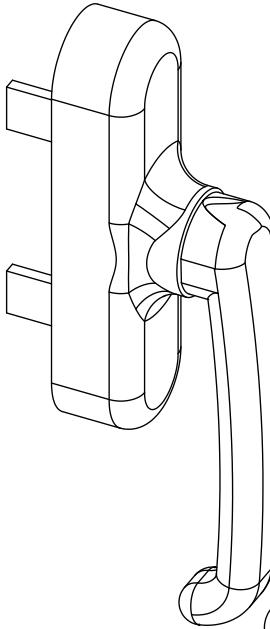
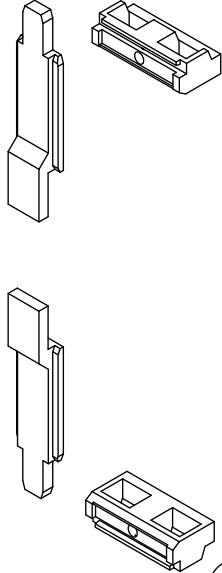
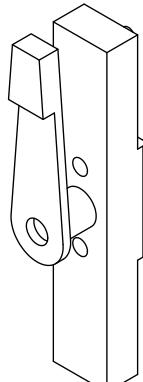
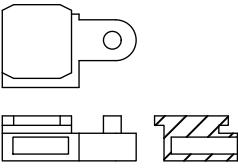
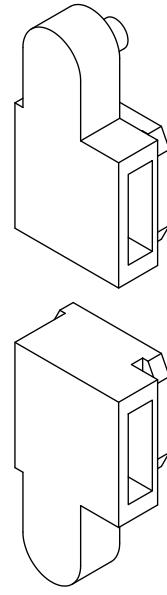
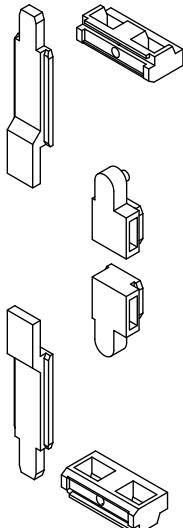
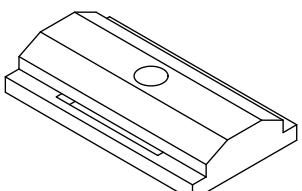
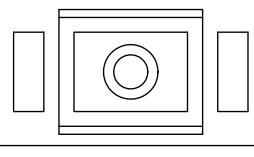
contents		profiles		scope of delivery		profiles (1:1)		sections		scope of delivery		contents		
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sub-assemblies	glazing tables	sub-assemblies	glazing tables	sub-assemblies	glazing tables	
<b>F101</b> Turn hinge						<b>F206</b> Pull handle (300 mm) set				<b>F504</b> Mating plate of pin				
<b>F201</b> Handle for turn sash (narrow)						<b>F208</b> Single-lock surface-mounted handle				<b>F505</b> Locking point from the hinge side				
<b>F202</b> Turn window handle coupling						<b>F209</b> Lever handle twin set with center-to-center distance of 85 mm				<b>F506</b> Micro ventilation				
<b>F203</b> Handle for turn sash (wide)						<b>F401</b> Lever opening restrictor (pair)				<b>F507</b> balcony latch				
<b>F204</b> Fanlight latch						<b>F501</b> Pull lug				<b>F508</b> Groove door catch, 220 mm				
<b>F205</b> Lever door handle (pair)						<b>F502</b> Window catch retainer				<b>F508k</b> Groove catch, short				

contents		profiling		scope of delivery		profiling		sections		profiling (1:1)		contents	
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	glazing tables	sub-assemblies	glazing tables	sub-assemblies	glazing tables	sub-assemblies	glazing tables
<b>F509</b> Floor seat for catch, d=9						<b>F514</b> Universal eccentric pin (on a screw)				<b>F706</b> Block attachment – guide			
<b>F511</b> Lever lock D=30						<b>F517</b> Roller lock with mating plate D=30				<b>F707</b> Block attachment – damper			
<b>F512</b> Profile lock cylinder, 68 – 26x32						<b>F521</b> Set of turn window fittings				<b>F708</b> Block attachment – roller			
<b>F512-40-40</b> Profile lock cylinder, 80 – 40x40						<b>F601</b> Three-position window handle				<b>F712</b> Arched handle without lock			
<b>F522-30-30</b> Profile lock cylinder, 60 mm (30-30)						<b>F602</b> Three-position handle coupling				<b>F715</b> Engagement plate			
<b>F513</b> Cylinder plate						<b>F701P</b> Plastic dust protection element				<b>F718-24</b> Engagement plate 45 mm			

contents												contents		
		profiles										profiles		
scope of delivery		profiles (1:1)										scope of delivery		
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sub-assemblies		glazing tables										sub-assemblies		
stained glass insulation												stained glass insulation		
equipment and tools		connections										equipment and tools		
<b>F718-40</b>	Engagement plate 40 mm		<b>F803</b>	Bottom corner piece of sliding screen		<b>FF-0540Bi</b>	Dual-position	window handle						
<b>F718-35</b>	Engagement plate 35 mm		<b>F804</b>	Top corner piece of sliding screen		<b>FF-1456</b>	Opening restrictor with open position locking							
<b>F721S</b>	Snail lock (steel) with engagement plate 45 mm consists of:	<b>F720A</b> — snail lock without engagement plate	<b>F724</b> — engagement plate 45 mm		<b>F805</b>	Lower bracket of insect screen		<b>FF-2041</b>	Lever door handle for 40–55 mm doors (pair)					
<b>F721P</b>	Plastic snail lock with engagement plate 35 mm consists of: <b>F720P</b> — plastic snail lock without engagement plate	<b>F718-35</b> — engagement plate 35 mm		<b>F806</b>	Upper bracket of insect screen		<b>FF-2501BA</b>	lever lock with drop-out latch, D30, clamping						
<b>F801</b>	Insect screen corner piece		<b>F807</b>	Insect screen handle		<b>FF-2501FA</b>	roller lock with drop-out latch, D30, clamping							
<b>F802</b>	Insect screen connection to impost		<b>FF-0530Bi</b>	Three-position window handle		<b>FF-2620A</b>	adjustable universal mating plate, clamping							

contents		contents		contents		contents		contents		contents		contents	
equipment and tools		connections		stained glass insulation		sub-assemblies		additional solutions		fittings layout		scope of delivery	
scope of delivery	profiles	scope of delivery	profiles	scope of delivery	profiles	scope of delivery	profiles	scope of delivery	profiles	scope of delivery	profiles	scope of delivery	profiles
FF-3722A Door catch 140 mm		FF-6624 set of embedded elements		FF-DG1030 nylon brush h=25, L=2000									contents
FF-3734 floor catch bolt mating plate		FDor-7461A-1 upper double-acting frame hinge		FF-DF500Ai lateral brush holder, L=2000									contents
FF-5410 Groove catch, lever type		FDor-7461A-2 upper double-acting sash hinge (46020048)		Frame part 7461 A — Order No. 46020050									contents
FF-5413D catch seat		FDor-8064 upper support pad		Door part 7461 A — Order No. 46020048									contents
FF-5681 double-section groove hinge		FDor-7421 DORMA supporting hinge for doors up to 300 kg		Plate 8064 — Order No. 46020044									contents
FF-5690 anti-burglar pin for hinges		FDor-BTS80 DORMA floor closer		A pin is installed in the hinge instead of one screw									contents

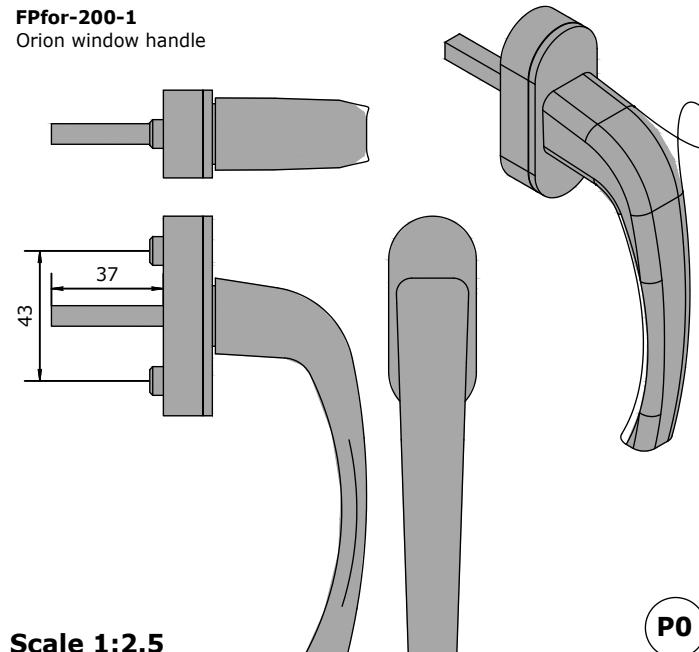
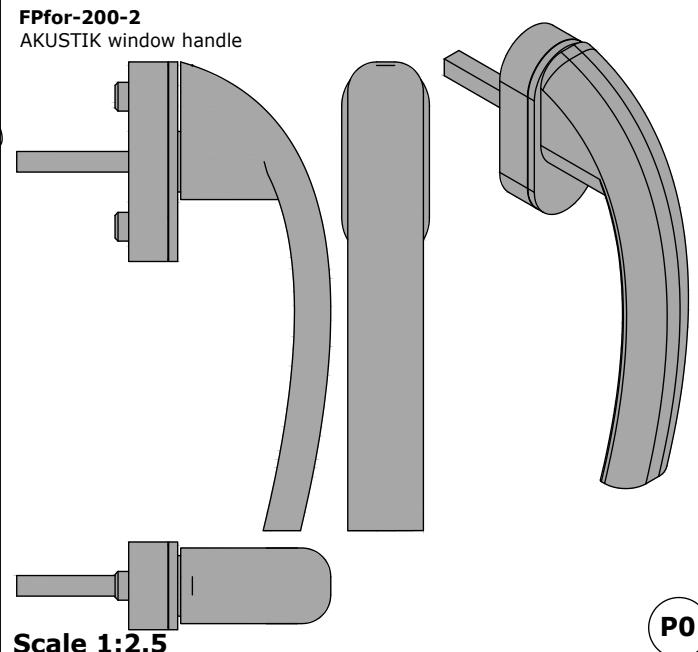
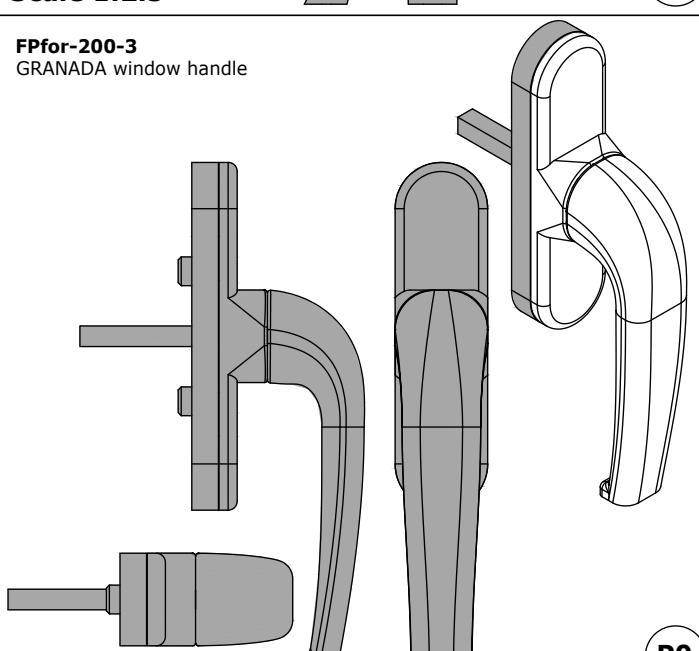
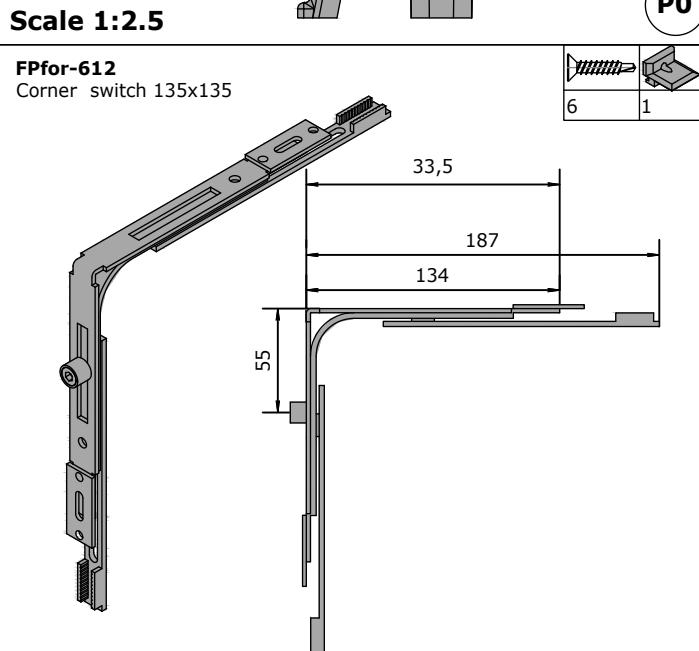
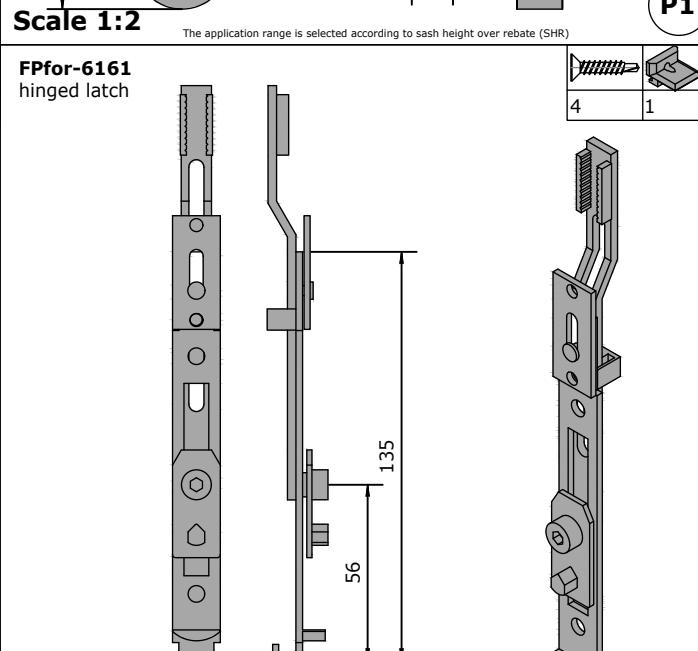
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents	contents
S001													
Self-tapping screw 3.5x9.5 with round head													
S002													
Self-tapping screw 3.5x13 with round head													
S003													
Self-tapping screw 3.5x32 with round head													
<b>SD005-48-70</b>													
Self-drilling tapping screw 4.8x70 with round head													
<b>S006-13</b> Self-tapping screw 3.9x13 with countersunk head													
S007													
Self-tapping screw 4.8x19 with countersunk head, DIN7982													
<b>S007-48-13</b>													
Self-tapping screw 4.8x13 with countersunk head, DIN7982													
<b>S007-48-32</b>													
self-tapping screw 4.8x32 with countersunk head, DIN7982													
<b>S008</b>													
Self-tapping screw 3.9x32 with countersunk head, DIN7982													
<b>Sd001</b>													
Self-drilling tapping screw 3.9x32 with countersunk head													
<b>Sd003</b>													
Self-drilling tapping screw 3.9x19 with countersunk head													
<b>S015</b>													
Self-tapping screw 5.5x45 with countersunk head, DIN7982													
<b>S402</b>													
round pin d5x15													
<b>S403</b>													
round pin d5x10													
<b>S801-0615</b>													
screw M6x15 with slotted countersunk head													
<b>S202</b> Screw M6x14 with countersunk head													
<b>S330-06</b> screw rivet M6													

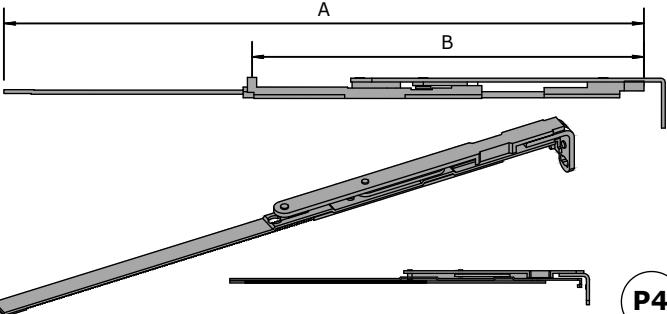
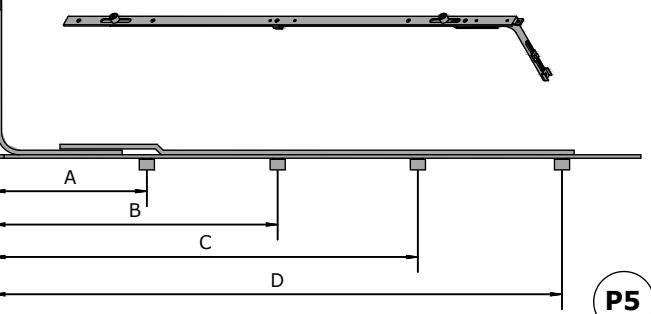
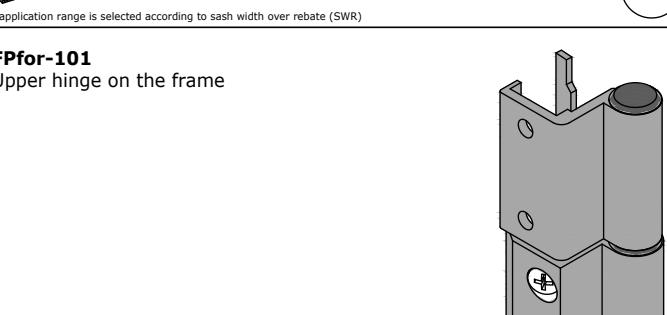
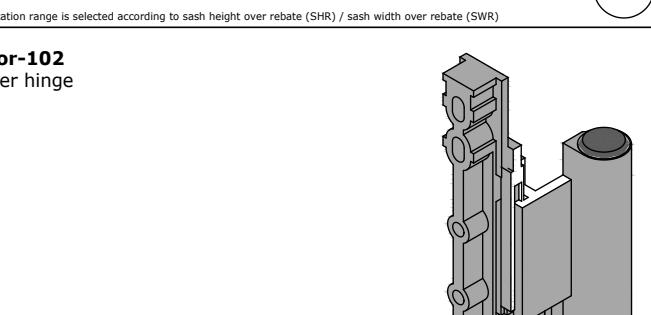
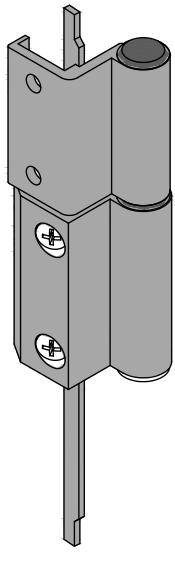
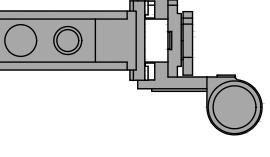
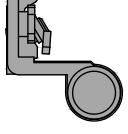
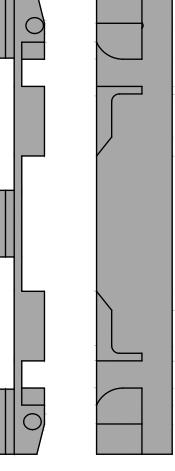
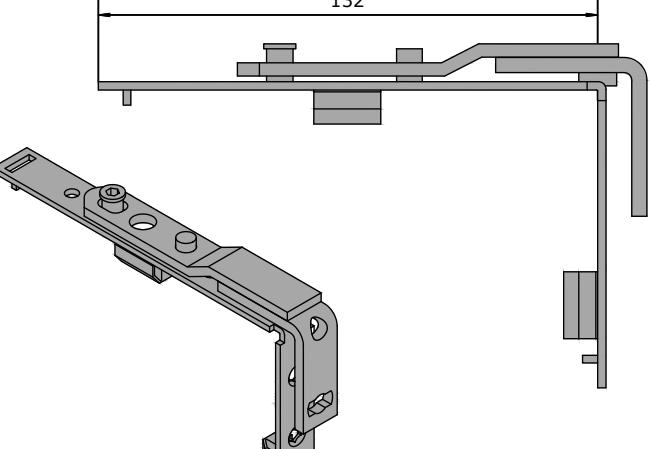
contents											
		profiles									
scope of delivery		profiles (1:1)		sections		glazing tables		sub-assemblies		additional solutions	
<b>Ffor-203</b> 2-position handle					A0						
Scale 1:4											
<b>Ffor-406</b> forend system catches					A2						
sub-assemblies											
stained glass insulation											
connections											
equipment and tools											
<b>Ffor-405</b> Forend system handle					A4						
Scale 1:2											
<b>Ffor-202</b> 2-position handle couplings (metal)							A1				
Scale 1:2											
<b>Ffor-521</b> turn window catch set					A3						
sub-assemblies											
glazing tables											
sub-assemblies											
stained glass insulation											
connections											
equipment and tools											
<b>Ffor-023</b> sash lifter											
Scale 1:1											
<b>A5</b>											

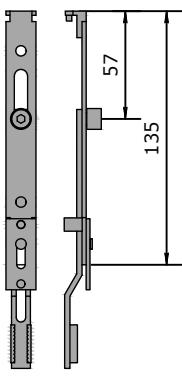
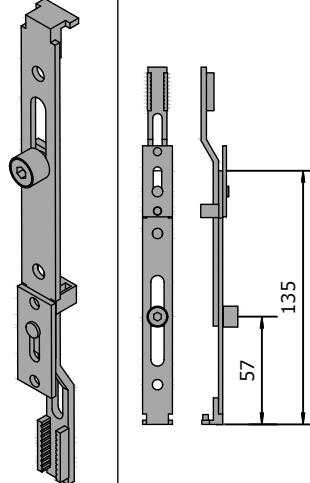
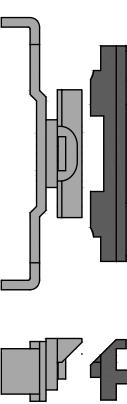
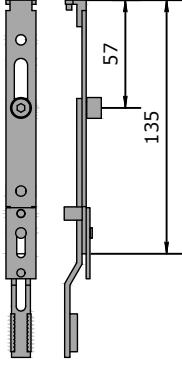
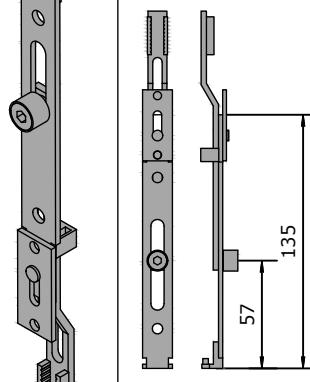
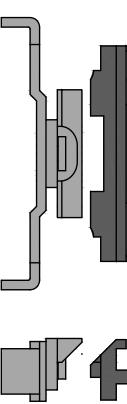
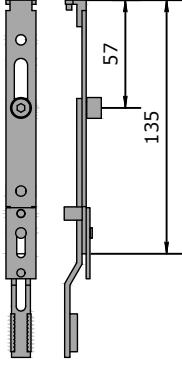
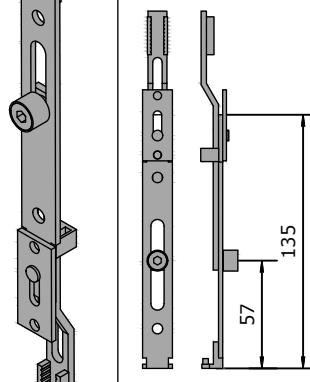
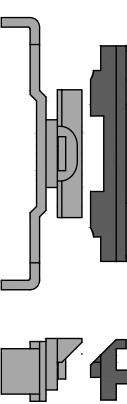
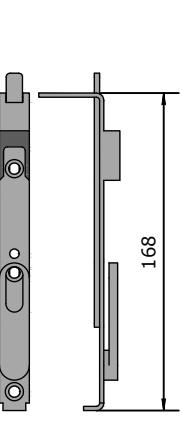
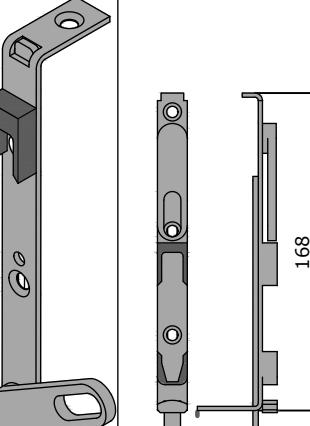
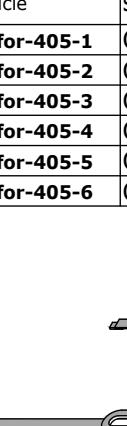
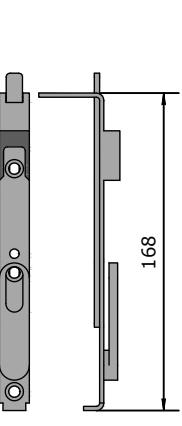
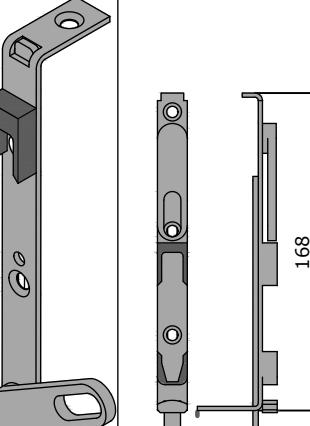
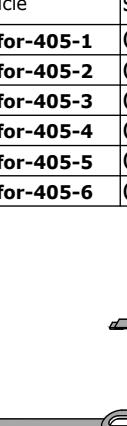
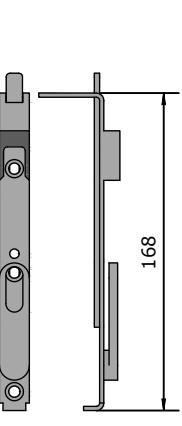
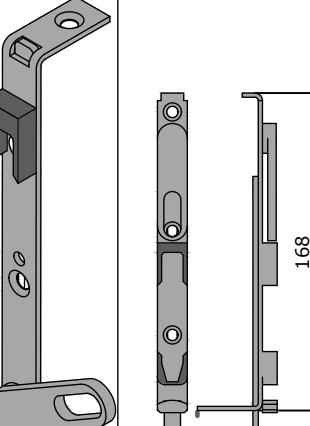
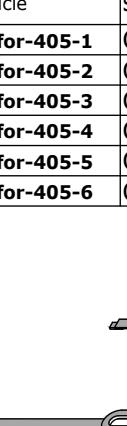
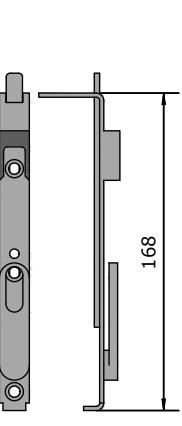
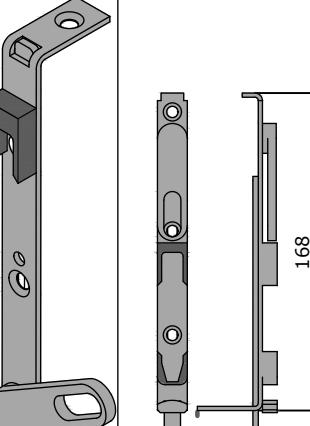
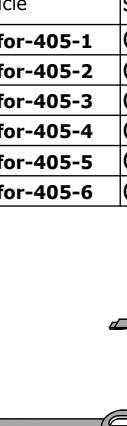
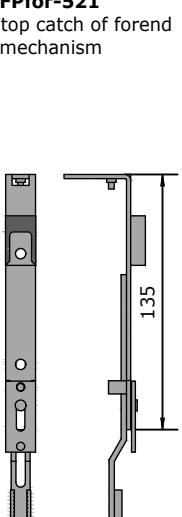
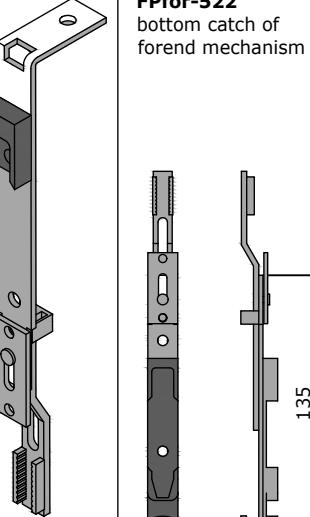
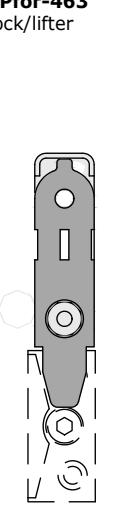
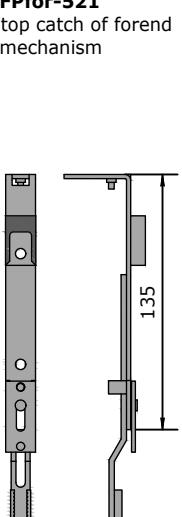
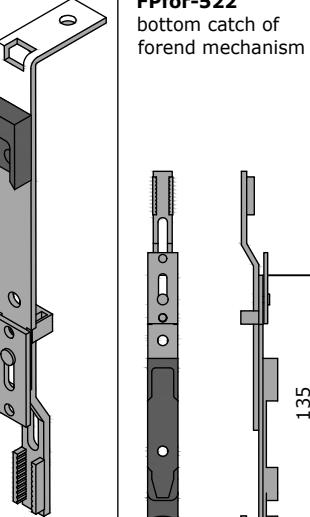
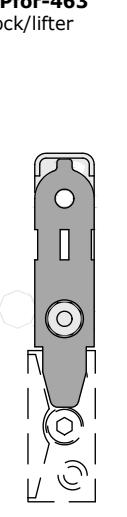
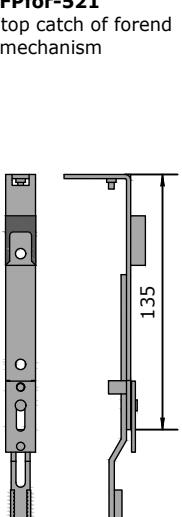
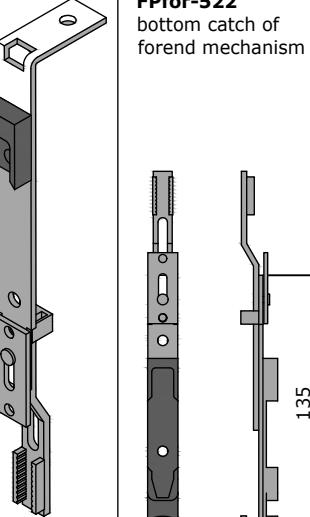
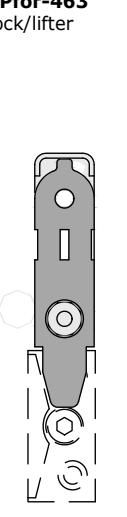
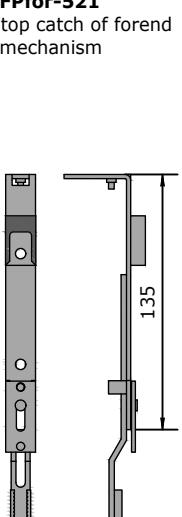
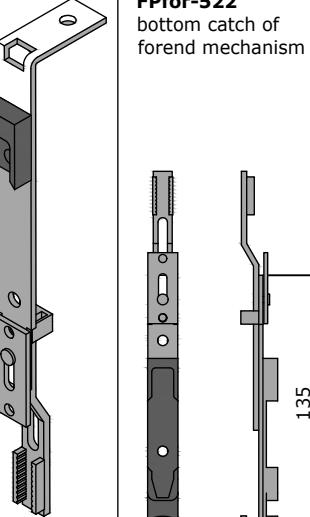
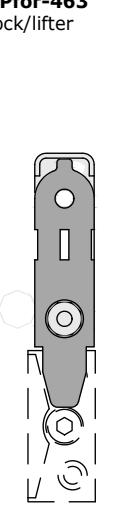
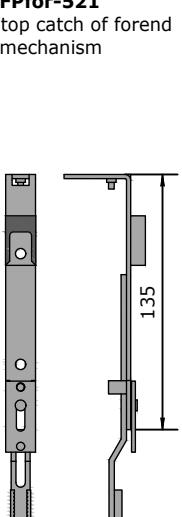
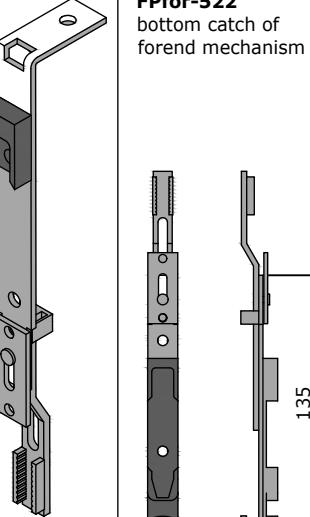
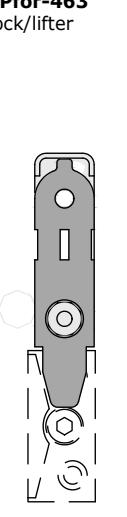
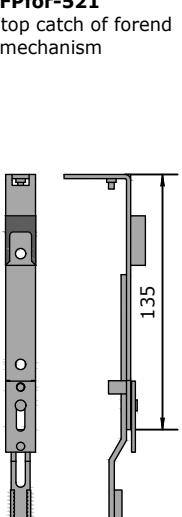
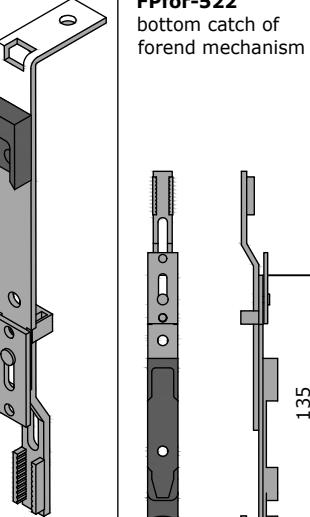
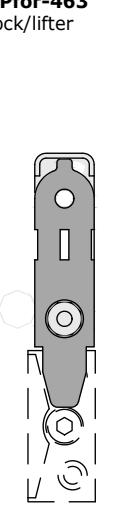
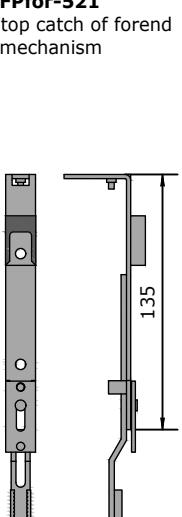
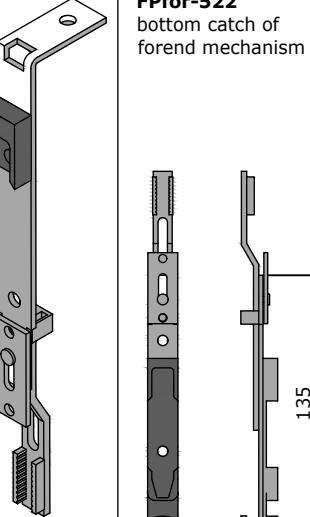
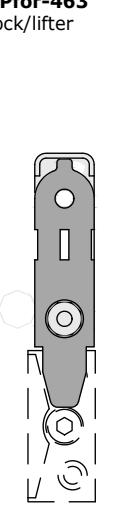
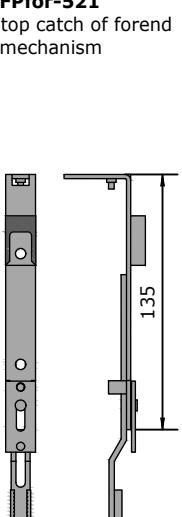
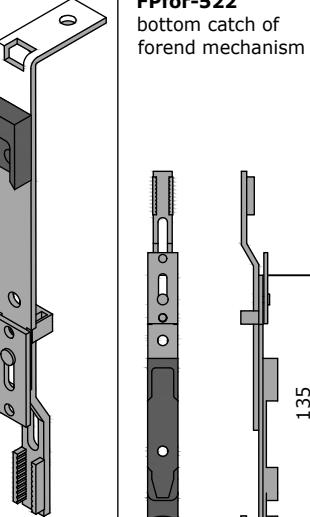
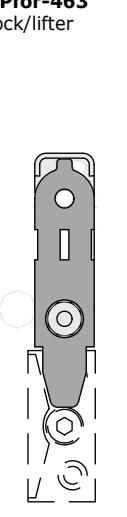
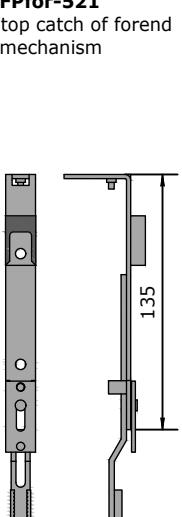
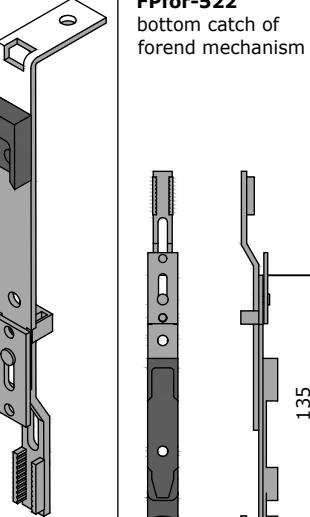
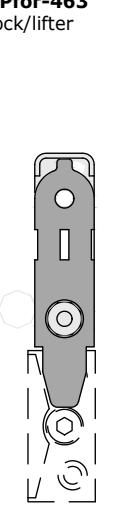
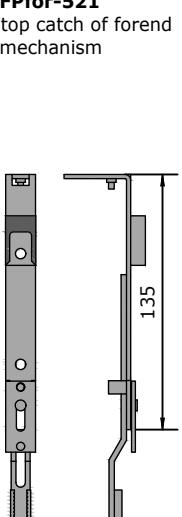
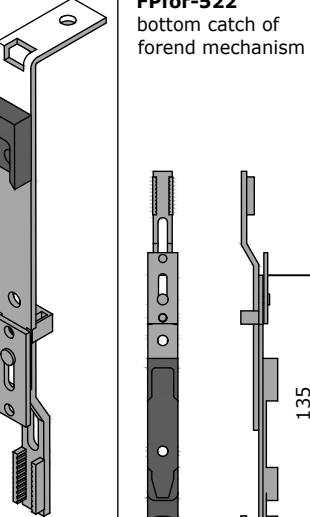
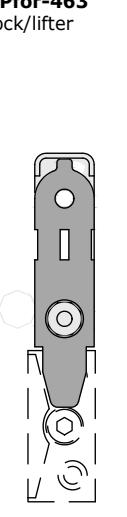
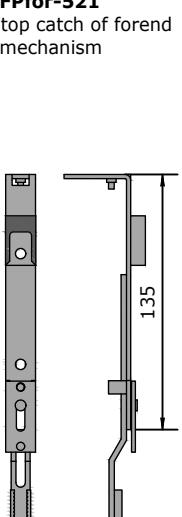
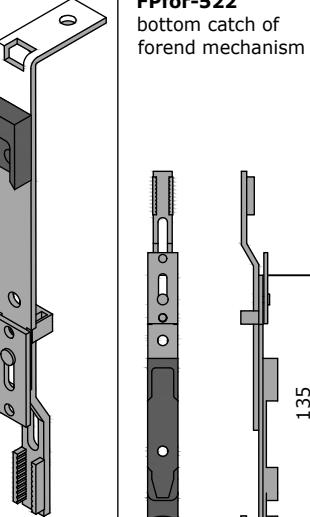
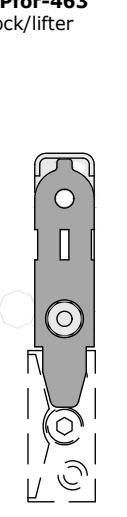
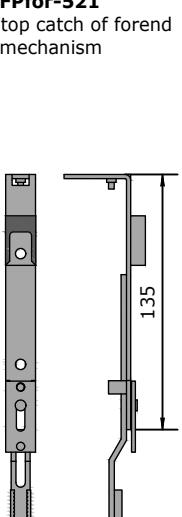
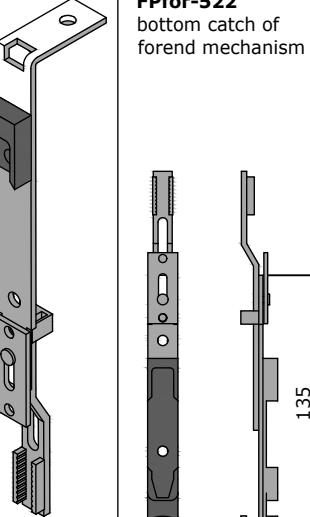
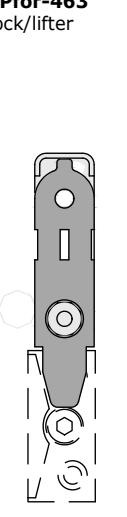
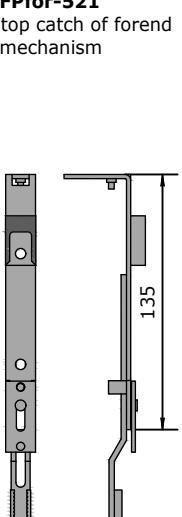
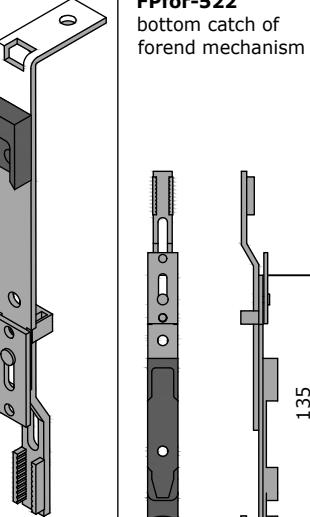
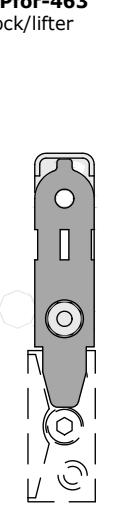
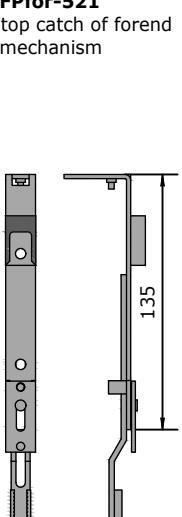
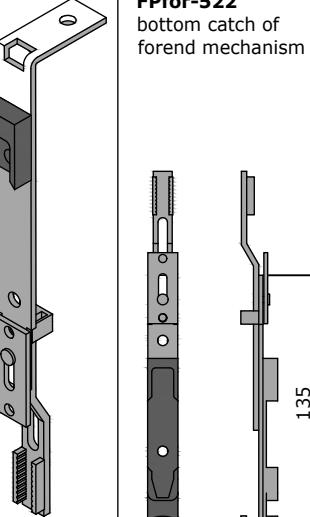
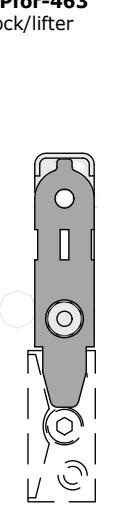
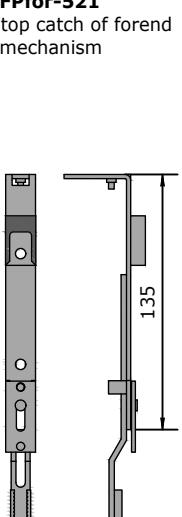
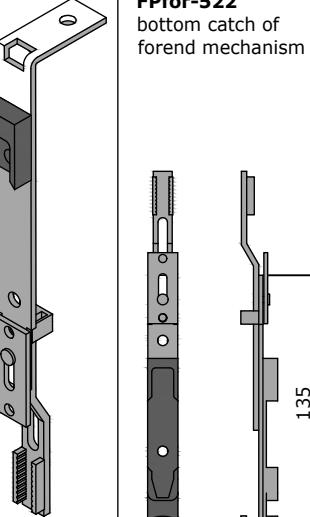
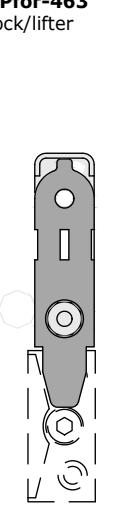
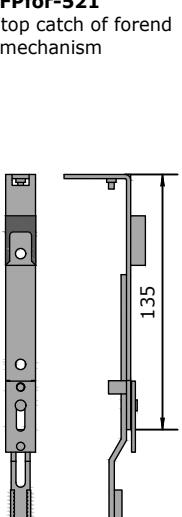
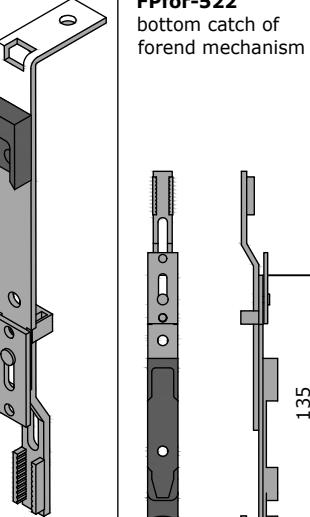
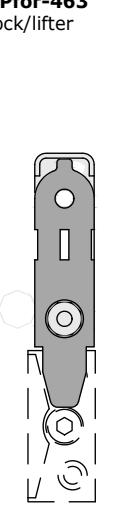
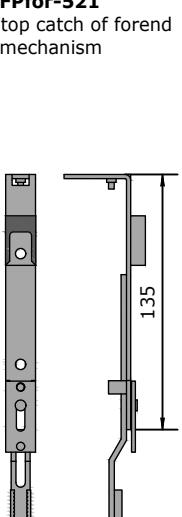
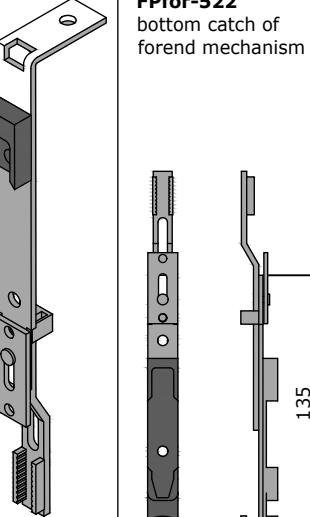
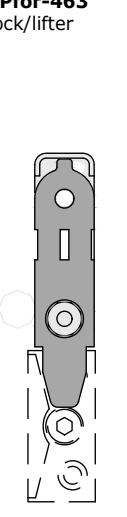
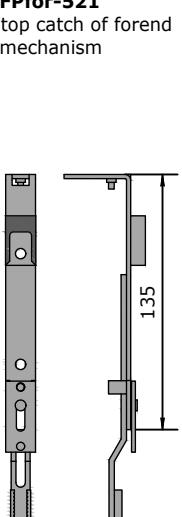
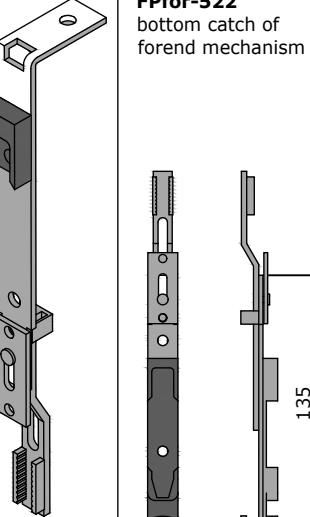
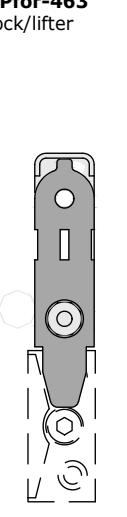
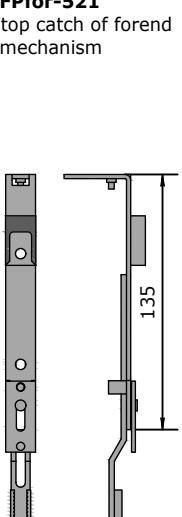
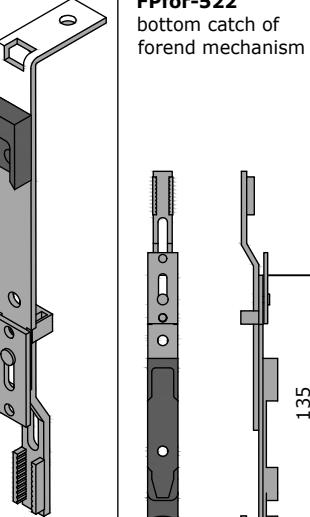
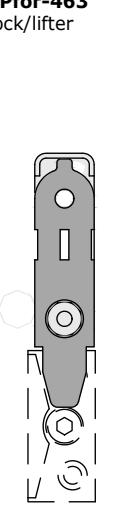
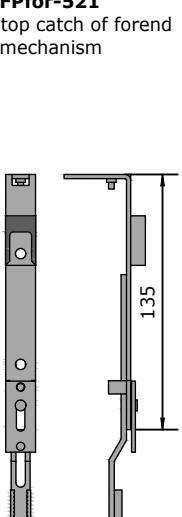
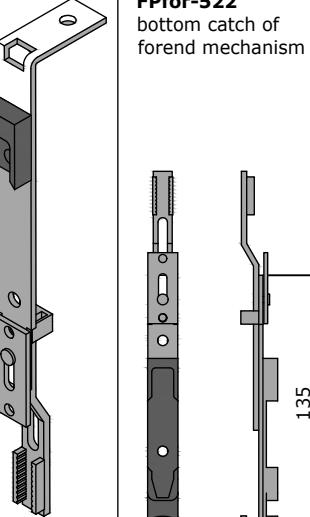
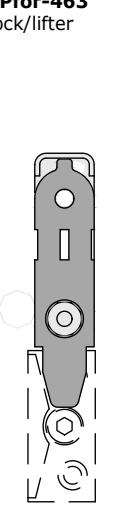
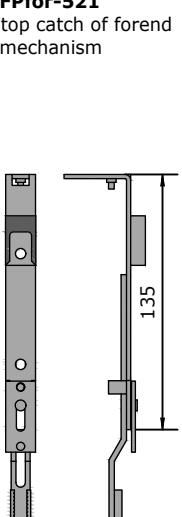
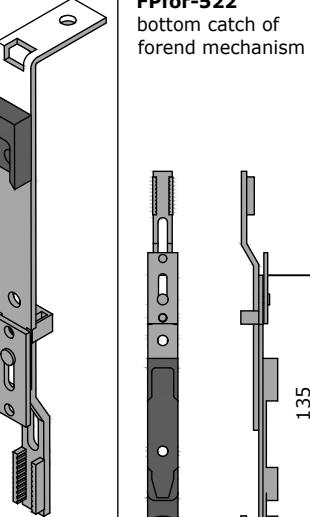
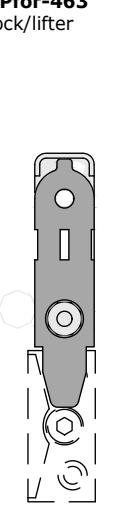
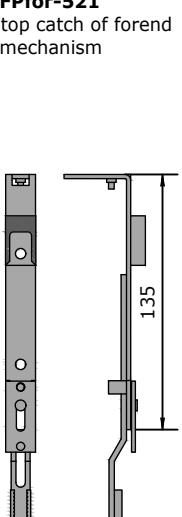
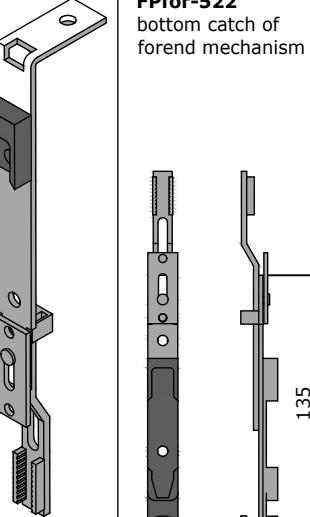
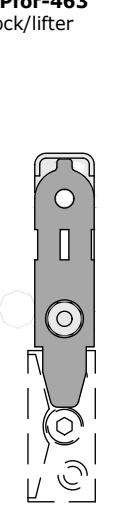
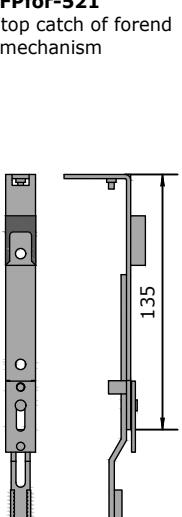
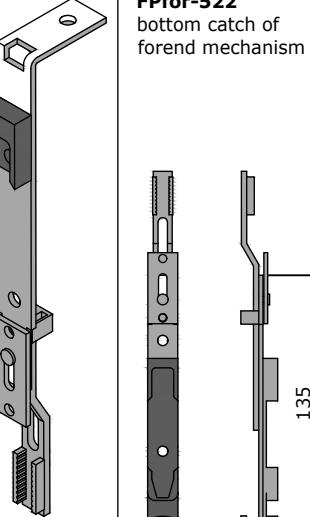
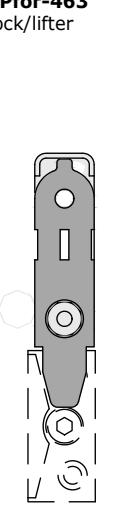
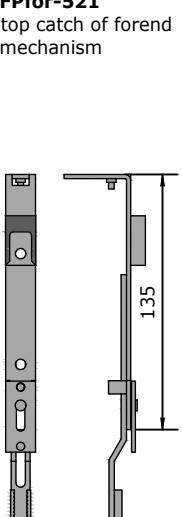
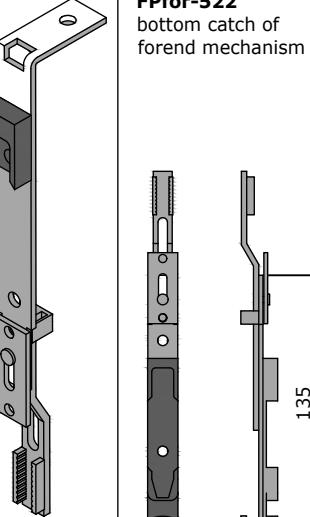
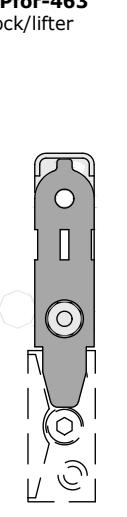
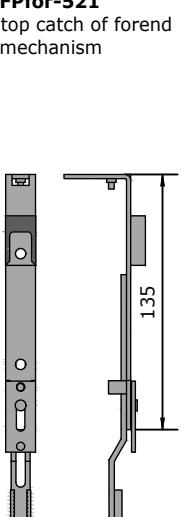
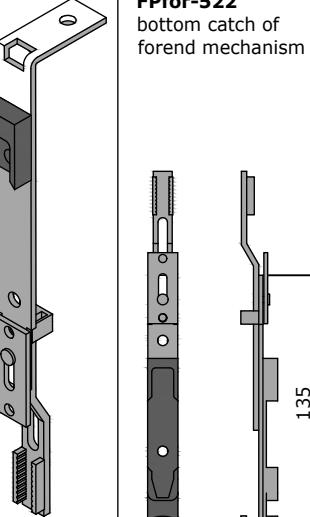
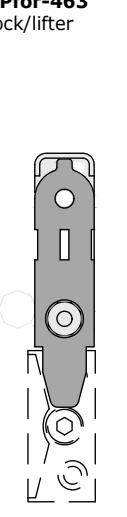
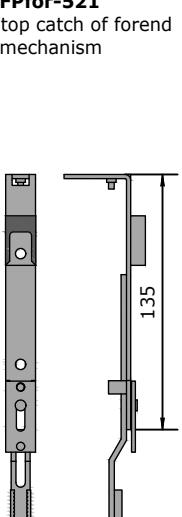
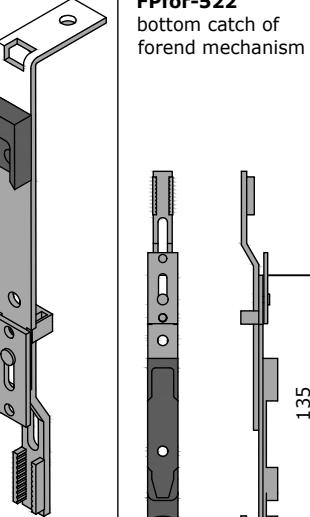
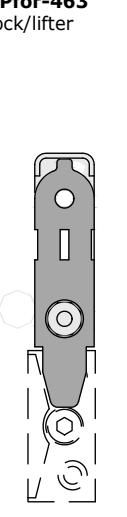
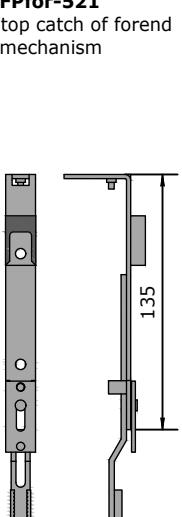
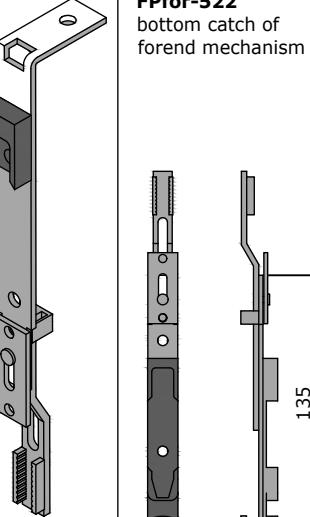
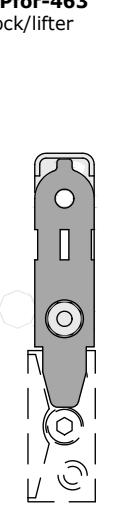
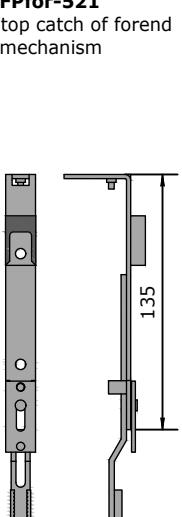
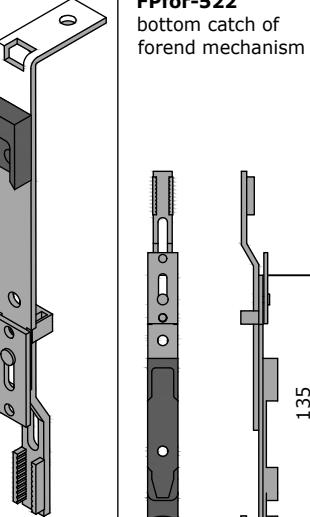
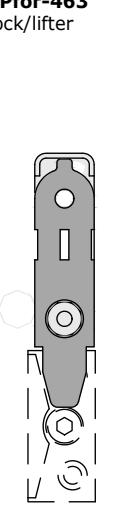
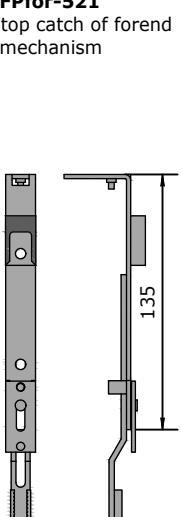
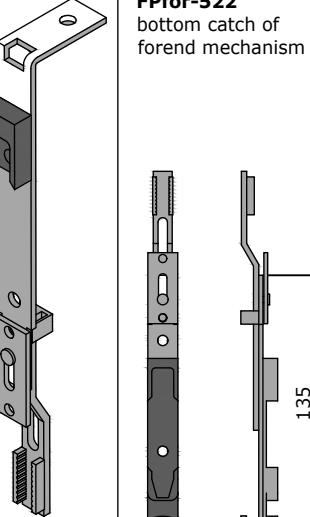
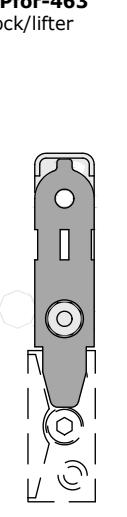
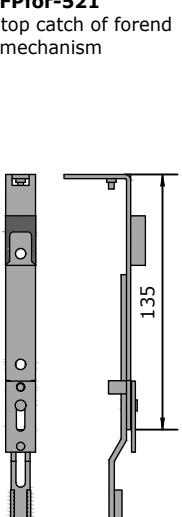
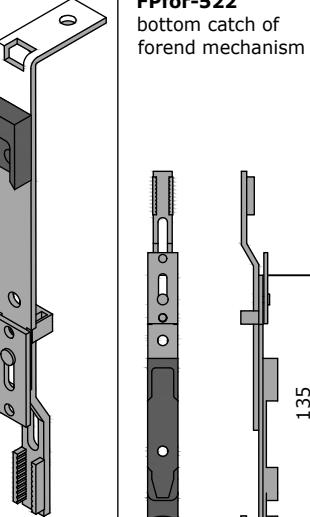
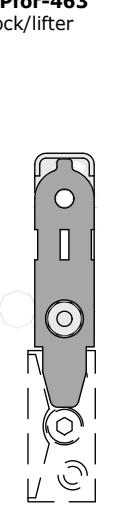
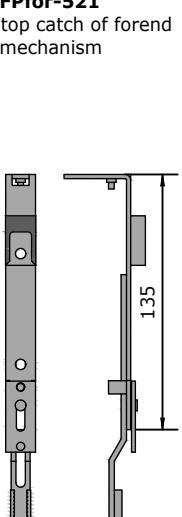
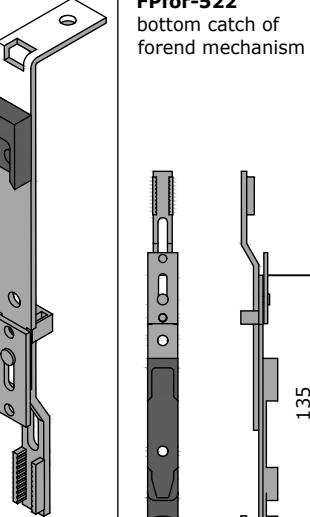
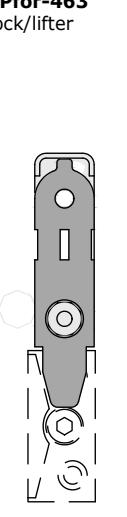
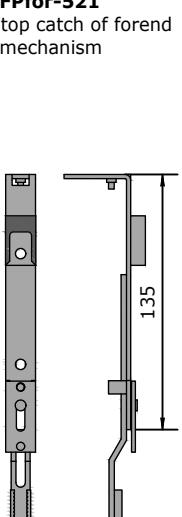
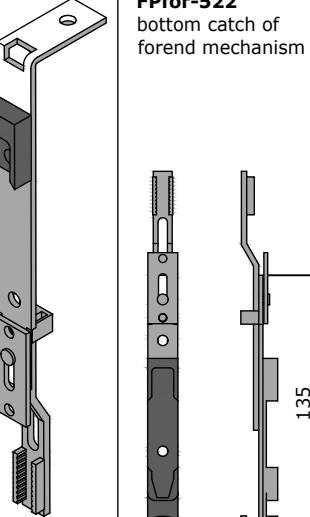
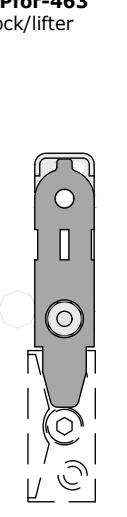
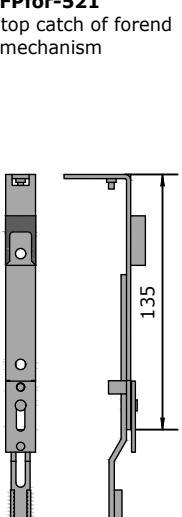
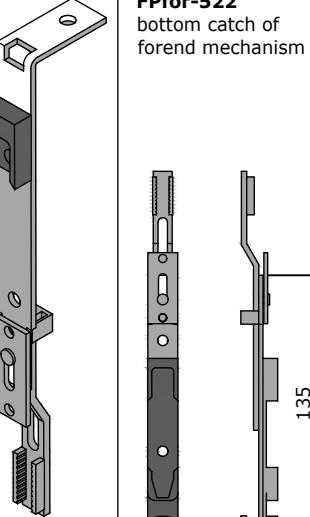
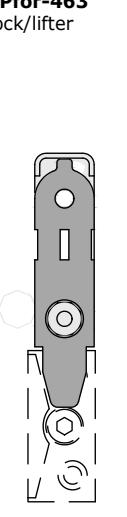
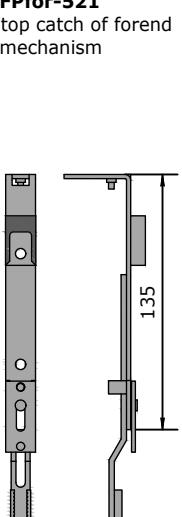
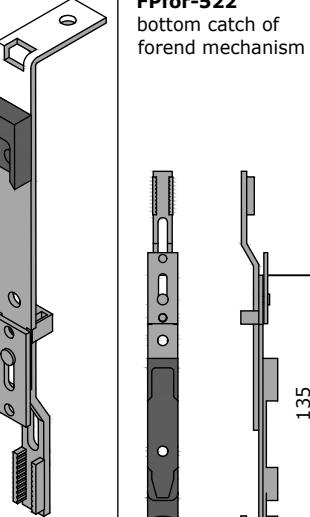
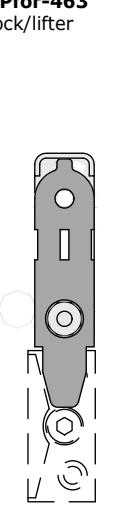
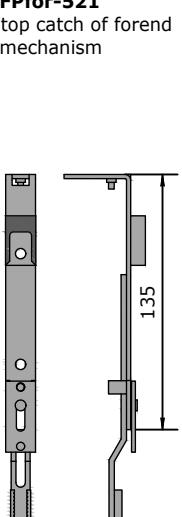
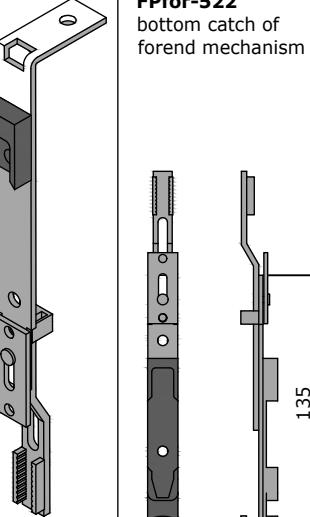
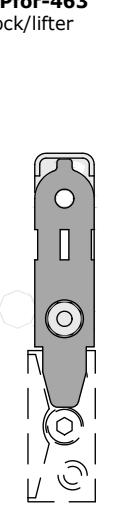
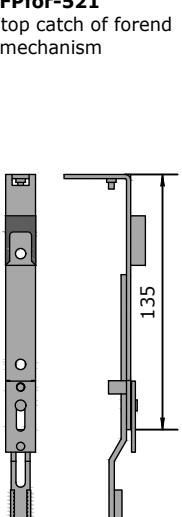
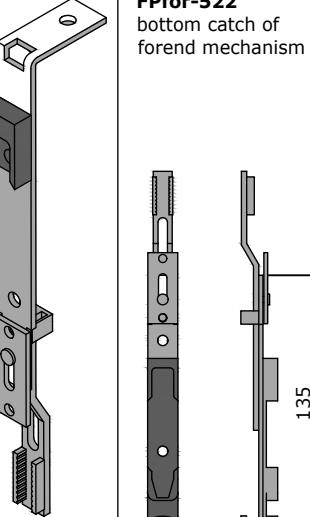
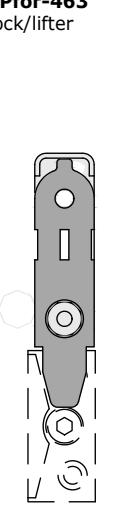
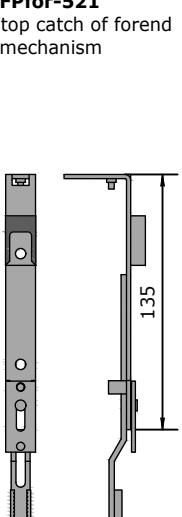
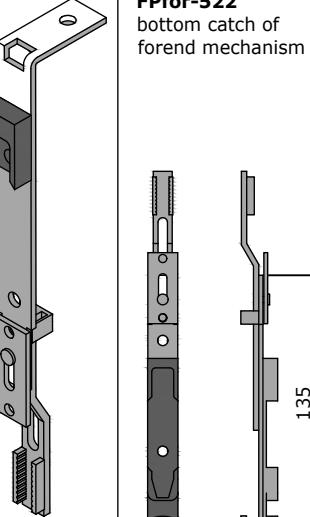
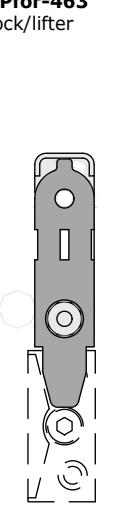
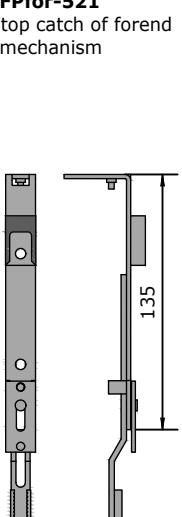
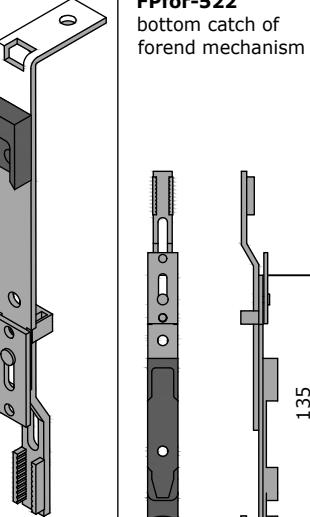
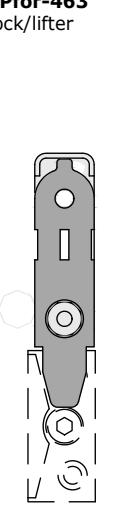
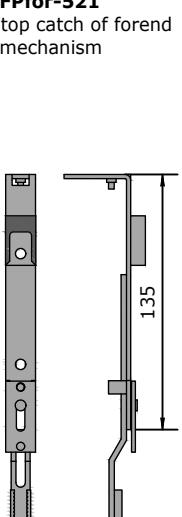
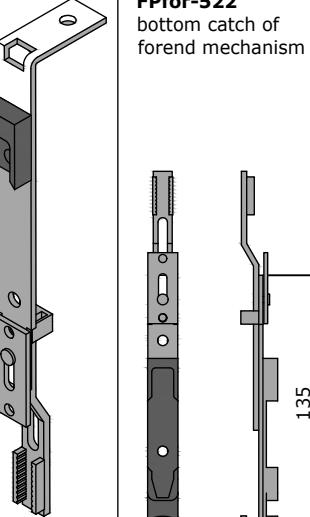
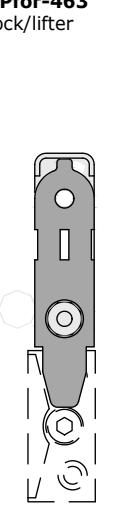
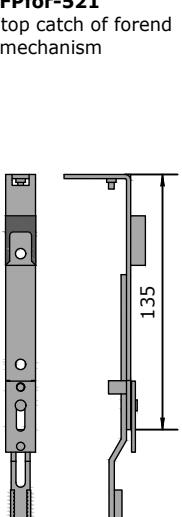
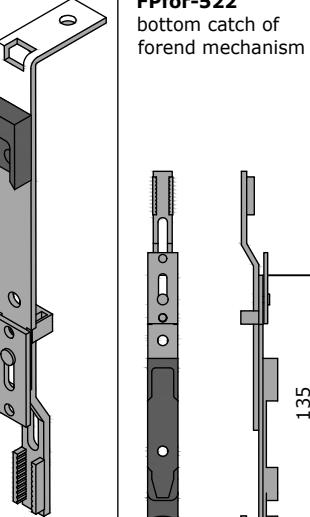
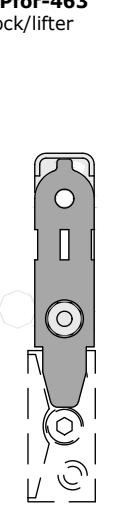
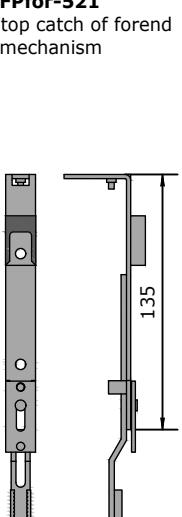
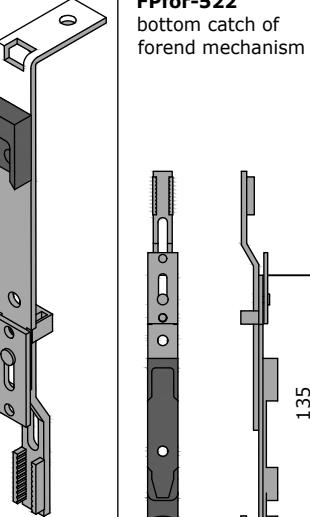
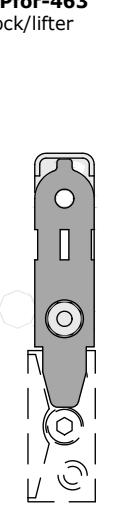
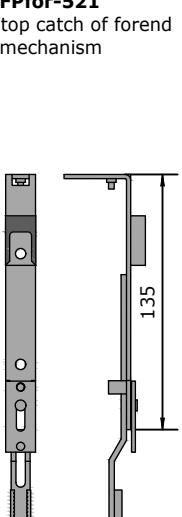
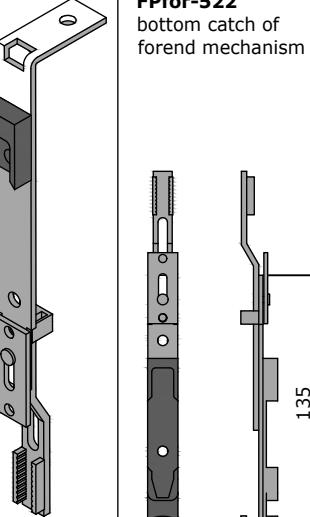
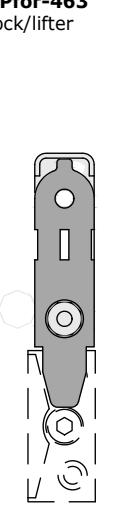
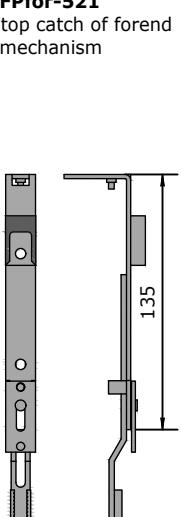
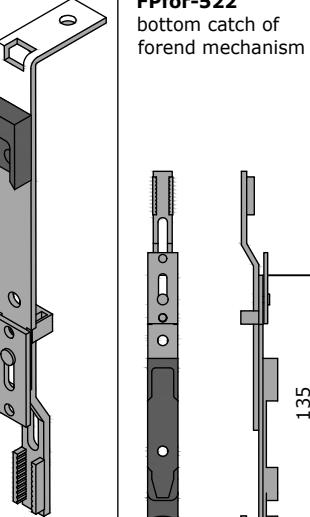
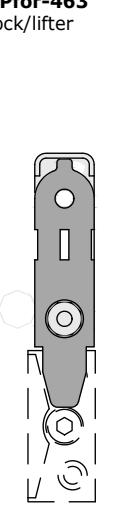
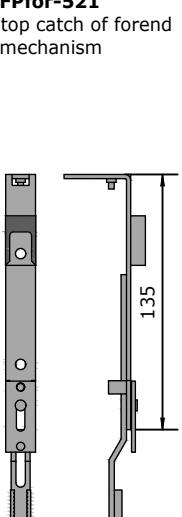
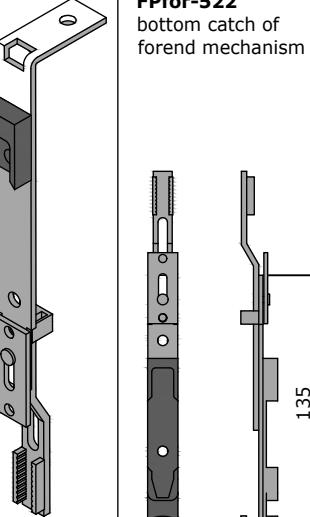
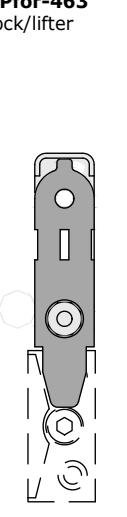
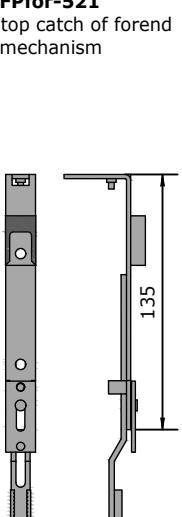
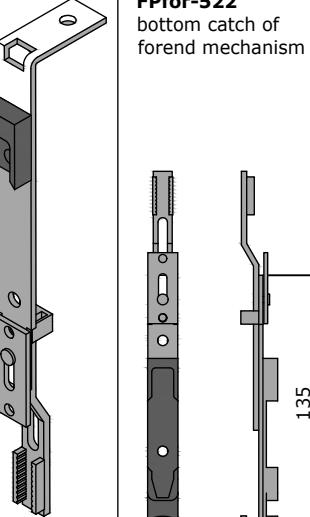
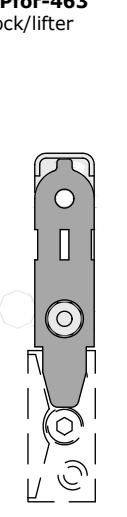
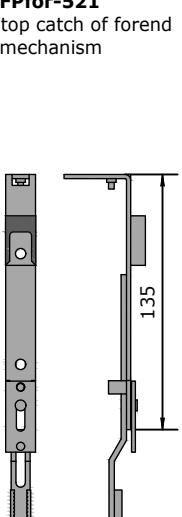
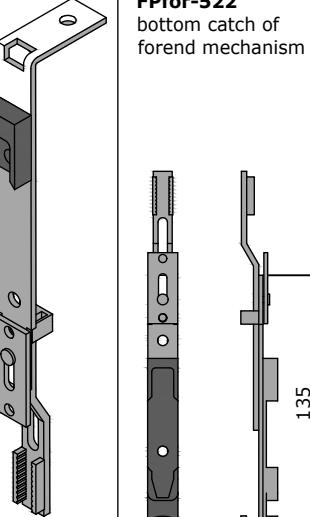
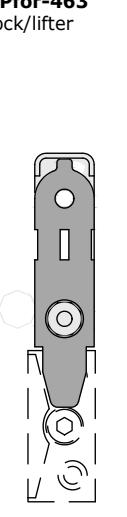
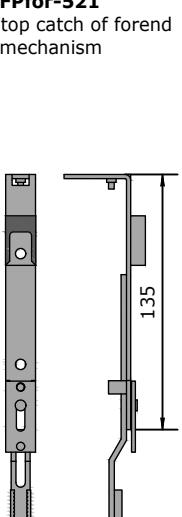
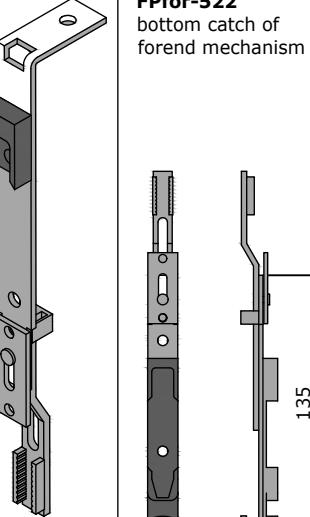
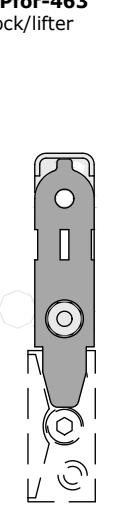
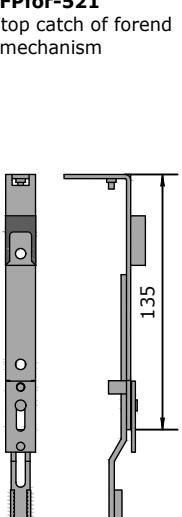
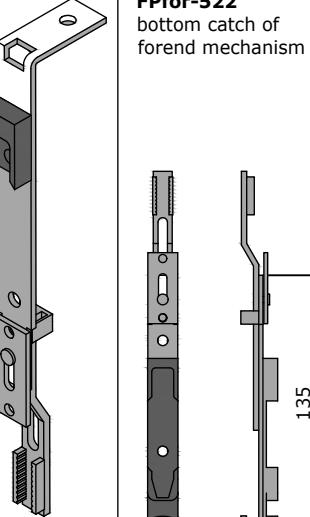
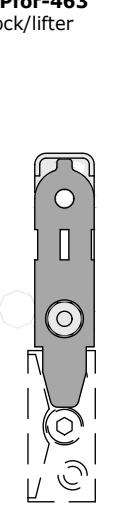
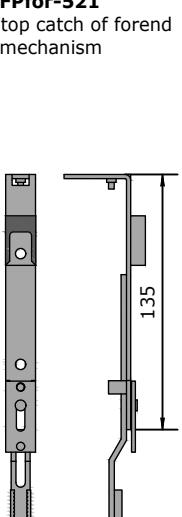
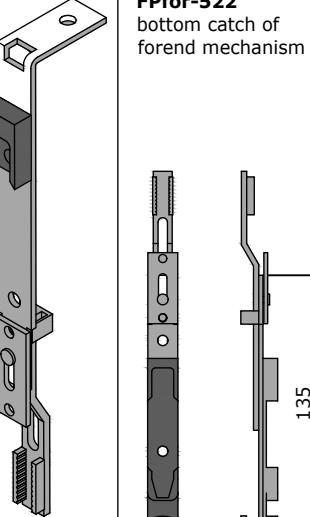
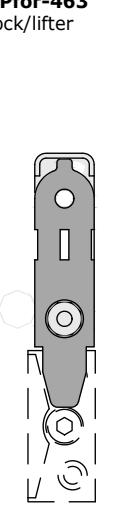
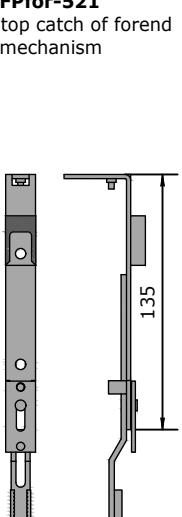
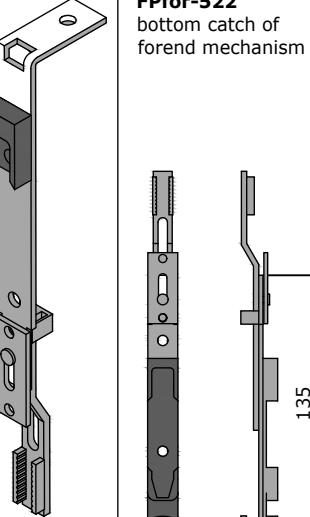
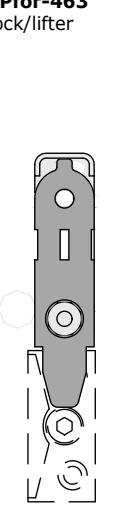
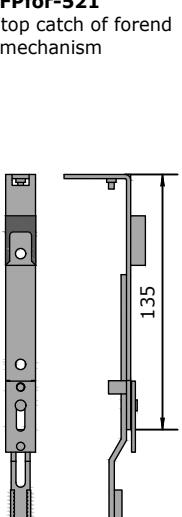
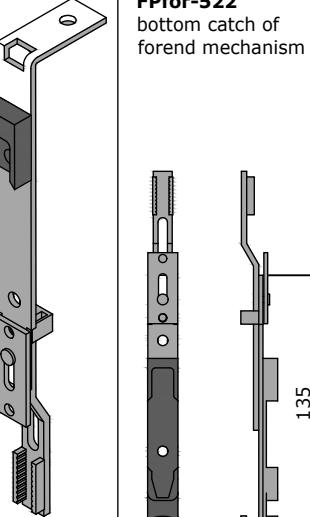
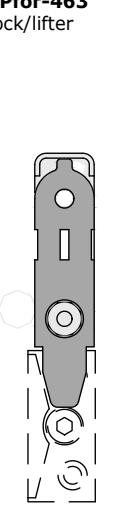
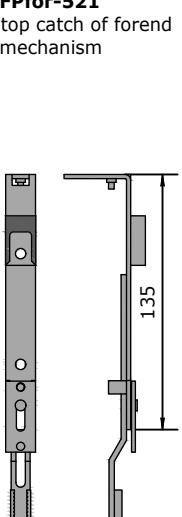
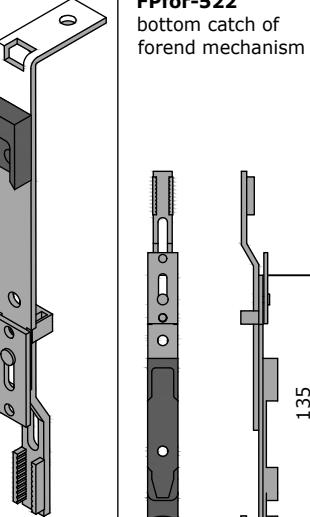
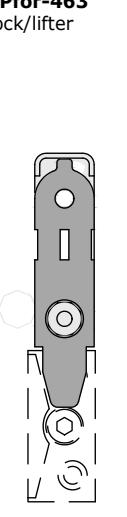
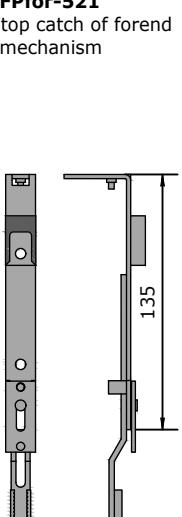
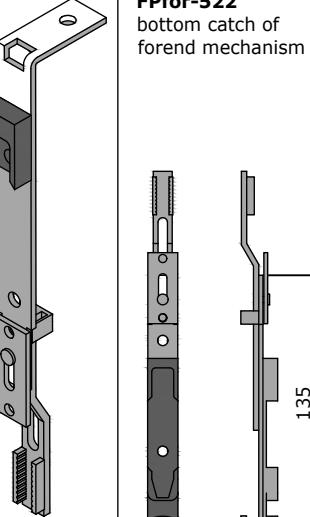
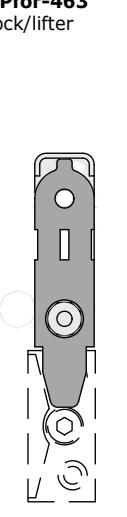
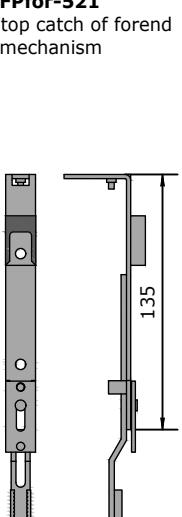
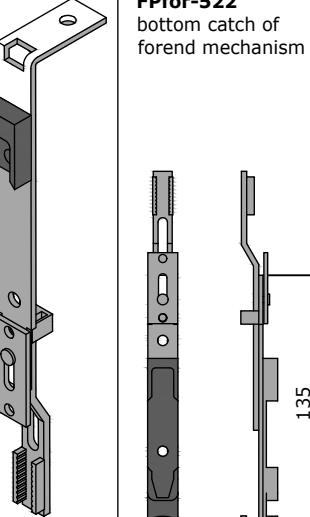
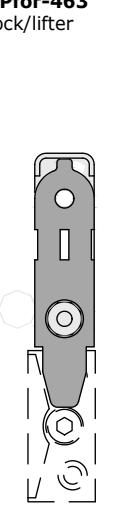
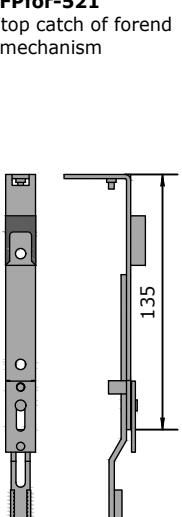
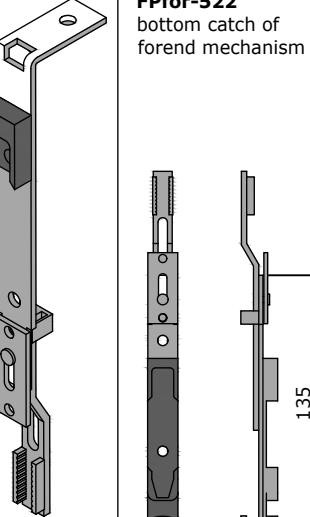
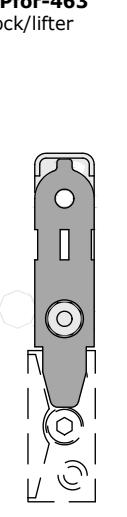
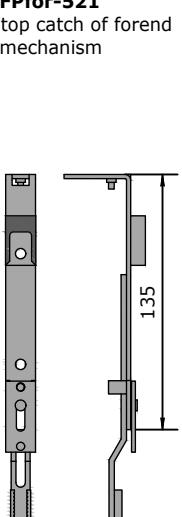
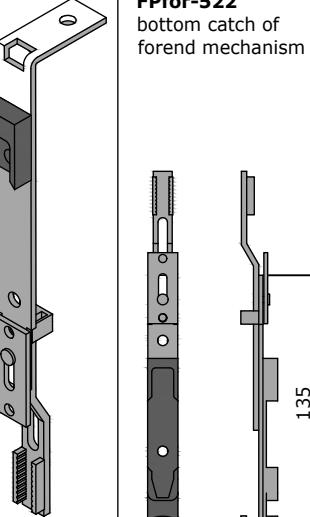
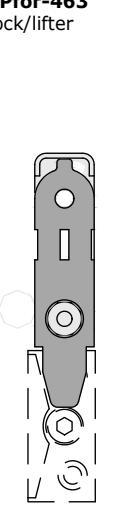
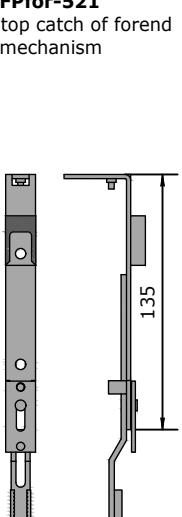
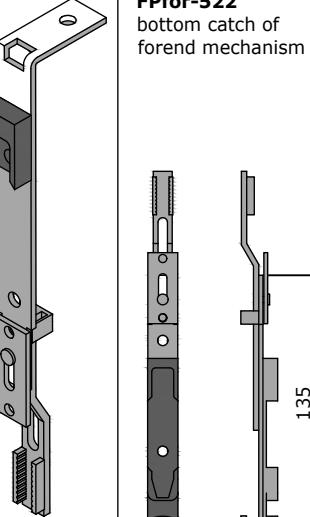
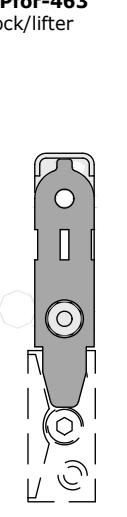
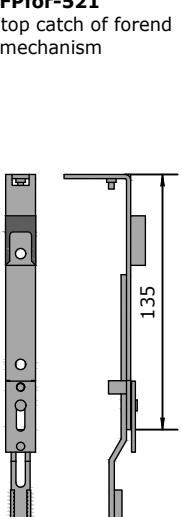
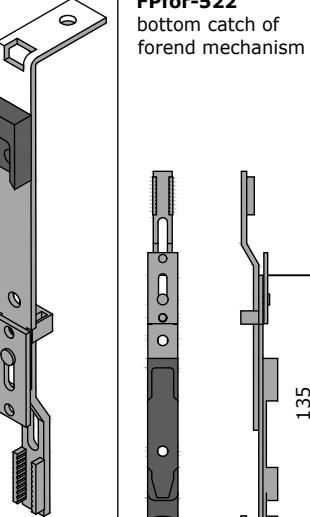
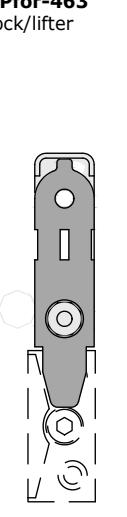
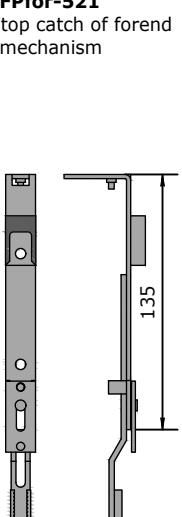
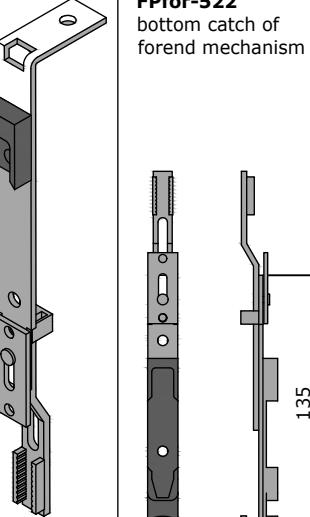
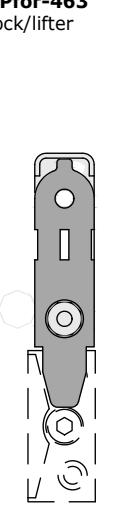
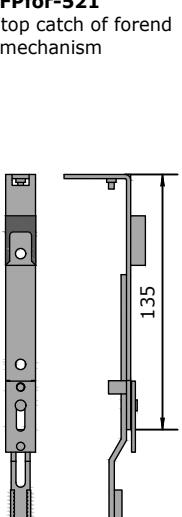
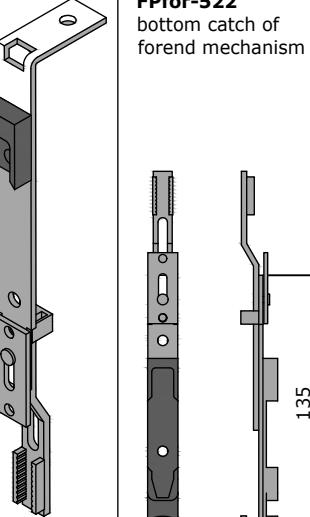
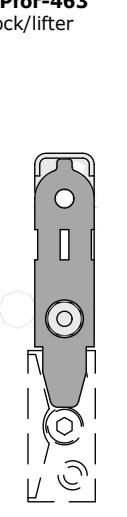
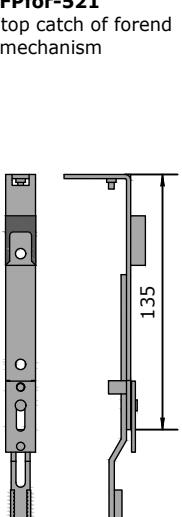
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sections													
glazing tables													
sub-assemblies													
tables													
additional solutions		fitting layout											
stained glass insulation													
sub-assemblies													
connections													
equipment and tools													
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<b>Ffor-600</b> faulty opening lock (for 3-position handle)			<b>A16</b>	<b>Ffor-615</b> scissor stay GR:02 narrow — 675–1200 mm			<b>A17</b>
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scale							
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<b>Scale 1:2</b>							



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Scale 1:2.5	P0										
FPfor-200-2 AKUSTIK window handle											
											
Scale 1:2.5	P0										
FPfor-200-3 GRANADA window handle											
											
Scale 1:2.5	P0										
Tilt and turn variation mechanism											
article	size	sash height over rebate (SHR)	A	B	C						
FPfor-602-0	GR 0-1	480-700	628	-	-	0	0				
FPfor-602-1-1	GR 1	685-1100	830	120	-	2	1				
FPfor-602-2	GR 2	885-1300	1030	120	-	4	1				
FPfor-602-2-2	GR 2-2	985-1400	1130	120	275	4	2				
FPfor-602-3	GR 3	1185-1600	1330	120	300	6	2				
FPfor-602-4	GR 4	1385-1800	1530	272	272	8	2				
FPfor-602-5	GR 5	1585-2000	1730	322	322	8	2				
FPfor-602-6	GR 6	1985-2400	2130	372	372	10	2				
			A								
				B	C		15,8				
			43								
				25							
					Ø10,9						
						12					
Scale 1:2	P1										
The application range is selected according to sash height over rebate (SHR)											
FPfor-612 Corner switch 135x135											
											
Scale 1:4	P2										
FPfor-6161 hinged latch											
											
Scale 1:2.5	P3										
stained glass insulation											
sub-assemblies											
connections											
equipment and tools											

contents	Tilt & turn scissor stay for window							Medium latch							contents							
profiles	article	size	sash width over rebate (SWR)	A	B	C	D	article	size	sash height over rebate (SHR) / sash width over rebate (SWR)	A	B	C	D	article	size	sash height over rebate (SHR) / sash width over rebate (SWR)	A	B	C	D	profiles
scope of delivery	<b>FPfor-615-1</b>	GR 1	395-600	465	-	3	0	<b>FPfor-611-0</b>	GR 0-1	500-800	391	-	-	-	3	1	scope of delivery					
	<b>FPfor-615-1-1</b>	GR 1-1	400-650	515	-	-	-	<b>FPfor-611-1-1</b>	GR 1	700-1150	542	460	-	-	4	2						
	<b>FPfor-615-2-1</b>	GR 2-1	595-800	665	392	5	1	<b>FPfor-611-2</b>	GR 2	1150-1350	742	660	-	-	5	2						
	<b>FPfor-615-3</b>	GR 3	795-1000	865	542	7	1	<b>FPfor-611-2-1</b>	GR 2-1	1350-1600	992	460	910	-	5	3						
	<b>FPfor-615-4</b>	GR 4	995-1200	1065	542	8	1	<b>FPfor-611-3</b>	GR 3	1600-1850	1242	460	1160	-	7	3						
	<b>FPfor-615-5</b>	GR 5	1195-1400	1265	781	9	1	<b>FPfor-611-4</b>	GR 4	1850-2100	1486	674	1404	-	8	3						
sections	<b>FPfor-615-6</b>	GR 6	1395-1600	1465	865	11	1	<b>FPfor-611-5</b>	GR 5	2100-2400	1785	460	1060	1703	10	4	sections					
															The application range is selected according to sash width over rebate (SWR)		sections					
															The application range is selected according to sash height over rebate (SHR) / sash width over rebate (SWR)							
	<b>FPfor-101</b>	Upper hinge on the frame							<b>FPfor-102</b>	Lower hinge							sections					
																						
	<b>Scale 1:2</b>							<b>Scale 1:2</b>														
sub-assemblies	<b>FPfor-6162</b>	mating plate (vertical) for hinged latch							<b>FPfor-111</b>	top hinge on the sash (for turn windows)							sub-assemblies					
																						
	<b>Scale 1:2</b>							<b>Scale 1:2</b>														
																						
	<b>Scale 1:2</b>							<b>Scale 1:2</b>														
																						

contents	<b>FPfor-501-1</b> end latch, upper (for turn windows)	<b>FPfor-501-2</b> end latch, lower (for turn windows)	<b>FPfor-453</b> additional clamp (hinge side)	contents
profiles				profiles
scope of delivery				scope of delivery
profiles (1:1)				profiles (1:1)
sections	<b>Scale 1:4</b>	<b>P10-1</b>	<b>Scale 1:4</b>	<b>P10-2</b>
glazing tables	<b>FPfor-511</b> upper forend catch	<b>FPfor-512</b> lower forend catch	Forend mechanism	<b>P11</b>
sub-assemblies				glazing tables
fittings layout				fittings layout
sub-assemblies	<b>Scale 1:4</b>	<b>P12-1</b>	<b>Scale 1:4</b>	<b>P12-2</b>
additional solutions				sub-assemblies
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
equipment and tools	<b>Scale 1:4</b>	<b>P13-1</b>	<b>Scale 1:4</b>	<b>P13-2</b>
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions	<b>Scale 1:4</b>	<b>P13-1</b>	<b>Scale 1:4</b>	<b>P13-2</b>
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions				additional solutions
stained glass insulation				stained glass insulation
connections				connections
sub-assemblies				sub-assemblies
additional solutions		<img alt="Technical drawing of FPfor-5		





contents	<b>R001</b> glass gasket 4-5 mm	5	<b>R009</b> crescent-shaped gasket 1 mm	1,8	<b>R022</b> rabbet gasket inclined	7		contents
profiles	<b>R001-4</b> glass gasket 4 mm	4,9	14,1	14				
scope of delivery	<b>R001-5</b> glass gasket 5 mm	4	14,5	16	4,5	10	5,1	profiles
profiles (1:1)	<b>R001-6</b> glass gasket 6 mm	5,5	14,5	15,8	3,7	12,8	6	scope of delivery
sections	<b>R001-8</b> glass gasket 8 mm	8,7	11	11,3	3,5	8,7	6	sections
sub-assemblies	<b>R002</b> glass gasket 6-7 mm	6	15,4	11		5,8	14,4	glazing tables
glazing tables	<b>R004/R004E</b> internal glass gasket 4-5 mm	16	7,1	14,6	6,8	13,7	11	sub-assemblies
sub-assemblies	<b>R005</b> rabbet gasket	3	7,1	10	1,8	5,4	11,7	tables
additional solutions	<b>R006</b> felt gasket 5x5	9,8	7,8	13,1	2,2	6,3	7	fittings layout
stained glass insulation	<b>R007</b> gasket for insect screen	5	5	15,4	2,3	9	14,4	additional solutions
connections	<b>R008</b> thermal joint gasket/cap	1,5	15,2	5	8	5	5	stained glass insulation
equipment and tools	<b>R009</b> crescent-shaped gasket 1 mm	4,9	14	1,8				connections
	<b>R010</b> crescent-shaped gasket 2 mm	4	16	6				equipment and tools
	<b>R011</b> crescent-shaped gasket 5-6 mm	5,5	14,5	8,4	0,8	25,8		contents
	<b>R015/R015E</b> external glass gasket 1 mm	6	14	11,3	3,5			
	<b>R015-2</b> external rabbet gasket 1 mm	8,7	11	1				
	<b>R015-3E</b> external rabbet gasket 3 mm	6	15,4	1				
	<b>R017</b> Microclean gasket 10 mm	16	7,1	14,6	6,8			
	<b>R018</b> Microclean gasket 13 mm	9,8	7,8	10	1,8			
	<b>R019</b> Microclean gasket 15 mm	5	5	13,1	2,2			
	<b>R021</b> felt gasket 5x8 mm	5	5	15,4	2,3			
	<b>R021-2</b> rabbet gasket	1,5	15,2	5	8			
	<b>R022-2</b> external rabbet gasket	4	10	1,8				
	<b>R026</b> gasket/cap for joint of guides	10	4	25,8				
	<b>R035</b> rabbet gasket 4 mm	14,5	11	8,7				
	<b>R036</b> gasket/cap for groove 14 mm	12,8	6	5,8				
	<b>R039</b> gasket 7 mm	11	11	13,7				
	<b>R040</b> external glass gasket 2 mm	11,7	5,4	11,7				
	<b>R046</b> rabbet gasket	11,7	5,4	6,3				
	<b>R048</b> joining gasket 14 mm	14,4	9	9				
	<b>R052</b> sealing harness 3 mm	14,4	9	14,4				
	<b>R054</b> external gasket 5 mm	15,2	5	5				

contents	<b>R055/R055E</b> external gasket 3.5 mm EPDM	<b>R301</b> facade gasket 1.5 mm	<b>R323</b> facade gasket 23.5 mm 23,5	contents
profiles	<b>R056</b> rabbet gasket 7 mm	<b>R303</b> facade gasket 3.5 mm	<b>PP-024</b> facade spacer 24x20 mm 20	profiles
scope of delivery	<b>R057</b> groove gasket/cap 19.5 mm 19,5	<b>R305</b> facade gasket 5.5 mm	<b>PP-032</b> facade spacer 32x20 mm 20	scope of delivery
profiles (1:1)	<b>R058</b> Glass mating gasket 5-7 mm	<b>R307</b> facade gasket 7.5 mm	<b>PP-101-01</b> universal underlaying profile 49 29	profiles (1:1)
sections	<b>R064-2</b> wedged gasket 4 mm	<b>R309</b> facade gasket 9.5 mm	<b>RV-40-10</b> Vilatherm 40/10 mm	sections
glazing tables	<b>R065-2/R065-2E</b> wedged gasket 5 mm EPDM	<b>R311</b> facade gasket 11.5 mm	<b>RP104</b> foamed gasket 44x5 mm	glazing tables
sub-assemblies	<b>R066-2</b> wedged gasket 6 mm	<b>R313</b> facade gasket 13.5 mm	<b>RP107-2</b> foamed gasket 27,4	sub-assemblies
tables	<b>R068-10</b> wedged gasket 10 mm	<b>R315</b> facade gasket 15.5 mm	<b>RP110-2</b> foamed gasket 39	tables
fitting layout	<b>R072</b> rabbet gasket 2 mm	<b>R317</b> facade gasket 17.5 mm	<b>RV-40-17</b> Vilatherm 40/17 mm 1:2	fitting layout
additional solutions	<b>R075E</b> medium gasket for rabbet EPDM	<b>R319</b> facade gasket 19.5 mm	<b>Ø40</b> Ø17	additional solutions
stained glass insulation	<b>R300</b> facade gasket for grooves	<b>R321</b> facade gasket 21.5 mm		stained glass insulation
connections				connections
equipment and tools				equipment and tools

◆ — delivery period 8–10 weeks

	contents	scope of delivery	profiles	profiles
equipment and tools				
stained glass insulation	P24-104	33	P22-015 31,4	P22-001 10,1
sub-assemblies	18,4	14,6	15	10,4
additional solutions	26,5	36,5	38	17,8
sub-assemblies	40	10,4		7
sub-assemblies				16,7
sub-assemblies				24,6
sub-assemblies				24,8
sub-assemblies				
glazing tables	P22-201	13,2	P22-201-16◊	34,4
glazing tables	45,2	20,3	45,2	10,1
glazing tables	10,9	11	13,2	13,2
glazing tables	22,5			11
glazing tables				22,5
glazing tables				
sub-assemblies	P22-013-2	39,5	P22-203	P24-402
sub-assemblies	19,5	26,5	45,2	50
sub-assemblies	16,8		10,1	10
sub-assemblies	2,5		13,2	14
sub-assemblies	23			
sub-assemblies				
sub-assemblies	P00-026			
sub-assemblies				
sub-assemblies	P22-020	40	P22-203-74	52,3
sub-assemblies			45,2	10,1
sub-assemblies			20,3	12,9
sub-assemblies			11	11
sub-assemblies				52,3
sub-assemblies				
sub-assemblies	P22-021	27,7	P22-203-16◊	P22-022
sub-assemblies	18,2		45,2	46,3
sub-assemblies			20,3	12,9
sub-assemblies			11	11
sub-assemblies				52,3
sub-assemblies				
sub-assemblies	P22-013-PL	41,2	P22-023	
sub-assemblies		14,2	17	
sub-assemblies				
sub-assemblies	P22-013-PR			
sub-assemblies		26,2		
sub-assemblies				
sub-assemblies	P00-001	19,6	P00-002	P22-023
sub-assemblies	4,5		43,5	10,8
sub-assemblies				46,3
sub-assemblies				

◊ – delivery period 8-10 weeks

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
P22-202												
P22-204												
P40-208-2◊												
P22-102												
P22-205												
P22-103												
P40-206												
P22-017◊												
P22-207												

◊ — delivery period 8-10 weeks

75,5

P22-202

18,2

10

10,4

26

35,7

48

P22-204

53

36,5

10,5

40

13

48

48

P40-208-2◊

40,4

45,6

14

12,2

16,2

51,2

P22-102

32,8

10,4

19,8

13

40

P22-205

39,5

10,6

26

3,8

47,8

34,7

P22-103

75,5

40

13

17,5

22,5

37,6

40

P40-206

78

36,6

10,6

17,5

P22-017◊

6,2

40

32,2

P22-207

56

53,6

20,2

59,3

3,8

47,8

34,7

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies tables	contents
P22-401	40	36,5	10,4	22,4	13	48,4	profiles (1:1)	scope of delivery	profiles	contents
P22-403	40	36,5	18	30	13	56	profiles (1:1)	scope of delivery	profiles	contents
P22-406	40	13	18			56,8	profiles (1:1)	scope of delivery	profiles	contents
P22-407-2	71	111	13	18		57,1	sections	glazing tables	sub-assemblies tables	contents
P22-408	90	130	13	18		57,1	sections	glazing tables	sub-assemblies tables	contents
P22-414◊	110	150	13	18		71,4	sections	glazing tables	sub-assemblies tables	contents

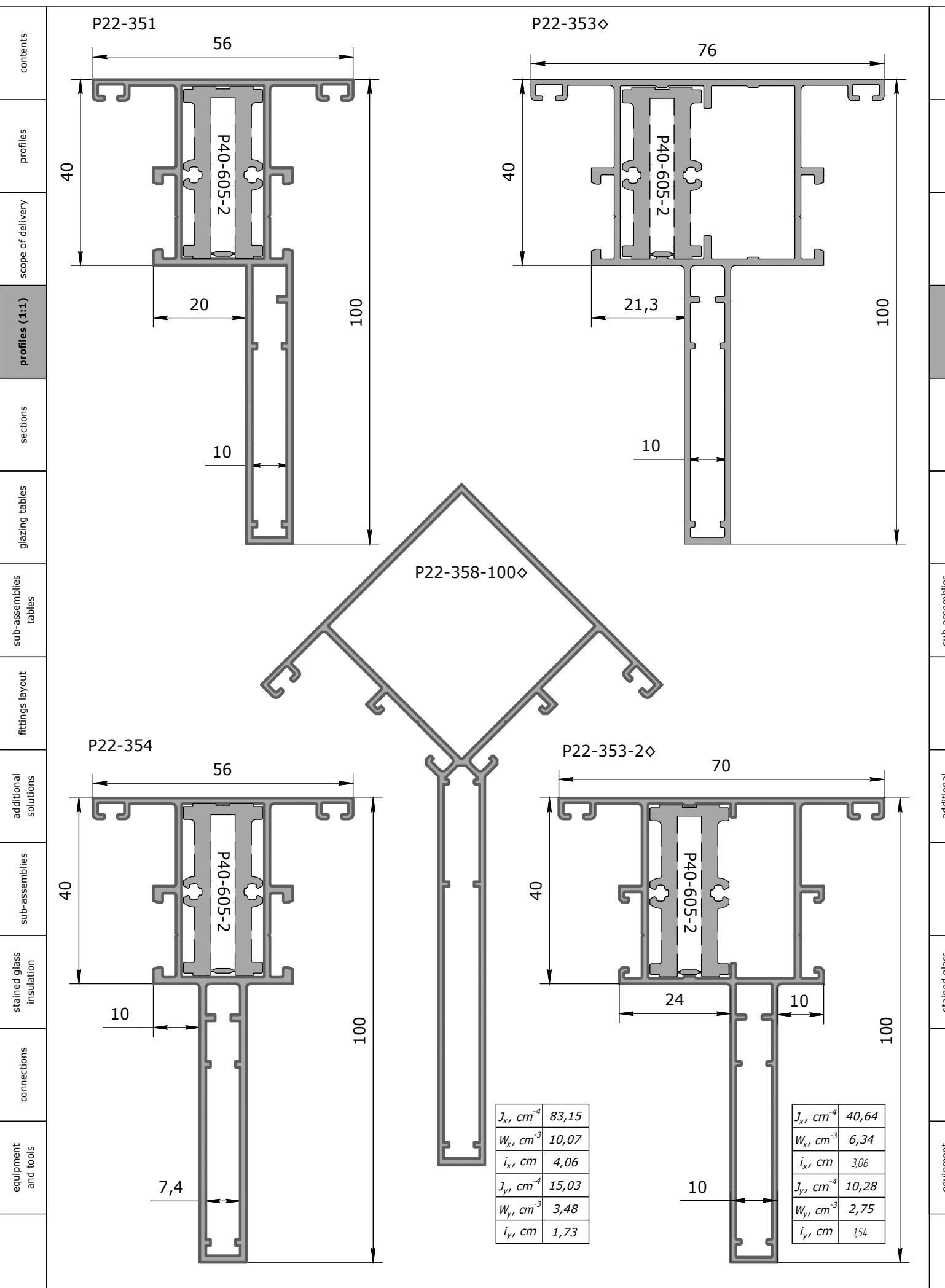
◊ — delivery period 8-10 weeks

The diagram illustrates six window profile types (P22-401, P22-403, P22-406, P22-407-2, P22-408, P22-414) with their respective dimensions and cross-sections. The profiles are shown in a top-down view with various dimensions labeled: height, width, and internal features like glazing tracks and mullions. A note indicates a delivery period of 8-10 weeks for profiles P22-407-2, P22-408, and P22-414.

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
P22-302	40	50	30	36,9	90	4,5							
P22-302-50◊	40	50	30	36,9	90	4,5							
P22-009	43	22,9	13	44,1	48,1	14							
P22-301	40	75	30	36,9	115	4,5							
P22-303	40	90	30	61,8	130	4,5							
P22-601													
P40-602													
P40-601													

◊ — delivery period 8–10 weeks

contents	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	scope of delivery	profiles (1:1)	profiles
P22-304											
150											
110											
61,8											
P22-014	44,5										
40											
13											
P22-016	23										
40											
P22-016-43	42,9										
75											
P22-016-75											
P22-304-20						10					
170											
110											
20											
P40-602											
73,9											
38											
17											
15											
P40-601											
98,5											
38											
17											
15											





	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	additional solutions	connections	stained glass insulation	sub-assemblies	additional solutions	connections	stained glass insulation	sub-assemblies	additional solutions	connections	stained glass insulation	sub-assemblies	additional solutions	contents
P22-355 56																							
150																							
100,4																							
5,4																							
6,6																							
P22-350-90 56																							
90																							
P40-602																							
$J_x, \text{cm}^{-4}$ 40,40																							
$W_x, \text{cm}^{-3}$ 8,11																							
$i_x, \text{cm}$ 3,18																							
$J_y, \text{cm}^{-4}$ 7,35																							
$W_y, \text{cm}^{-3}$ 2,62																							
$i_y, \text{cm}$ 1,35																							
P22-350-115 56																							
115																							
P40-601-110																							
$J_x, \text{cm}^{-4}$ 77,87																							
$W_x, \text{cm}^{-3}$ 12,5																							
$i_x, \text{cm}$ 4,04																							
$J_y, \text{cm}^{-4}$ 8,76																							
$W_y, \text{cm}^{-3}$ 3,13																							
$i_y, \text{cm}$ 1,36																							
P22-357◊ 76																							
110																							
P40-605-2																							
$J_x, \text{cm}^{-4}$ 170,37																							
$W_x, \text{cm}^{-3}$ 19,32																							
$i_x, \text{cm}$ 4,77																							
$J_y, \text{cm}^{-4}$ 13,84																							
$W_y, \text{cm}^{-3}$ 3,64																							
$i_y, \text{cm}$ 1,36																							

profiles (1:1)	scope of delivery	contents	profiles	scope of delivery	contents	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	stained glass insulation	sub-assemblies	contents
P22-121	19,5	24,2	10,4	49,4	52	10,4	24,2	42,4	19,5	24,2	10,4	24,2	10,4
P22-122	19,5	24,2	27	49,4	52	27	59	59	19,5	24,2	27	59	27
P22-221	52	13	80	49,4	27	27	42,8	19,5	24,2	52	13	80	27
P22-222	52	13	80	49,4	27	24,2	67	19,5	24,2	52	13	80	24,2
P22-031	19,5	38,7	28,1	40	40	28,1	38,7	19,5	25,7	40	15,1	25,7	19,5
P22-032	13	15,1	25,7	40	40	25,7	15,1	13	16,5	29	18	16,5	13
P40-015	36,4	11,5	11,5	36,4	36,4	36,4	11,5	36,4	14,8	27,5	14,8	27,5	14,8
P40-006	14,8	27,5	14,8	27,5	27,5	14,8	27,5	14,8	14,8	14,8	14,8	14,8	14,8
P22-034	16,5	29	13	18	29	13	18	29	16,5	29	13	18	16,5

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sub-assemblies	sections	profiles (1:1)	scope of delivery	profiles	contents
P22-141										42,5			
										42,5			
										25,4			
										65,9			
											40		
P22-105										64,5			
										51,5			
											40		
P22-143										42,5			
										25,4			
										65,9			
											40		
P22-144										42,5			
										25,4			
										65,9			
											40		
P22-241										78,9			
										42,5			
										25,4			
										42,5			
											40		
P22-242										78,9			
										65,9			
										25,4			
										42,5			
											40		
P22-145										58			
										20,2			
										20,2			
										37			
											40		
P22-245										71			
										20,2			
										20,2			
										37			
											40		

◊ — delivery period 8-10 weeks

contents										contents			
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sections	glazing tables	sub-assemblies	fitting layout	profiles (1:1)	scope of delivery	profiles	contents
P00-009													
P00-019													
P10-001													
P10-002													
P10-003													
P00-0505-3													
P00-520													
P00-012													
P00-029													
P00-029-2													
P00-035													
P00-044													
P00-031-2													
P00-607													
P00-607-2													
P00-807													
P24-303													
P24-302													
P24-304													
P00-006													
P00-608													





	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	sections	glazing tables	scope of delivery	profiles	contents
	P00-506-3										P00-501-25	
	P22-500										P00-501-25	
	P22-501										P00-502-25	
	P22-501-2										P00-502-25	
	P22-502										P00-502-25	
	P22-503										P00-503-2	
	P22-504										P00-503-2	
	P00-504-25										P00-504-25	
	P00-506-2										P00-506-2	
	P00-506-25										P00-506-25	
	P00-507-2										P00-507-2	

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sub-assemblies	sections	profiles (1:1)	scope of delivery	contents
									P24-012 23,9		
									P00-023 30		
									P30-001 28,5		
									P30-002 25		
									P30-101 21,6		
									P30-102 17,2		
									P30-301 35		
									P30-401 21		
									P30-601 13,5		
									P40-002 19		
									P22-003 13		
									P00-100-40 24		
									P00-530 10,2		
									P05-04-0340 40		
									P00-084-50 8,5		
										contents	

◊ - delivery period  
8-10 weeks

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
P00-606-17◊													
P00-606													
P00-016													
P00-015													
P00-004													
P40-605													
P40-605-2													
P00-625													
P00-611													
P40-601													
P40-602													
P00-645													

100

130,5

27

50

80

100

111

4

16,9

26

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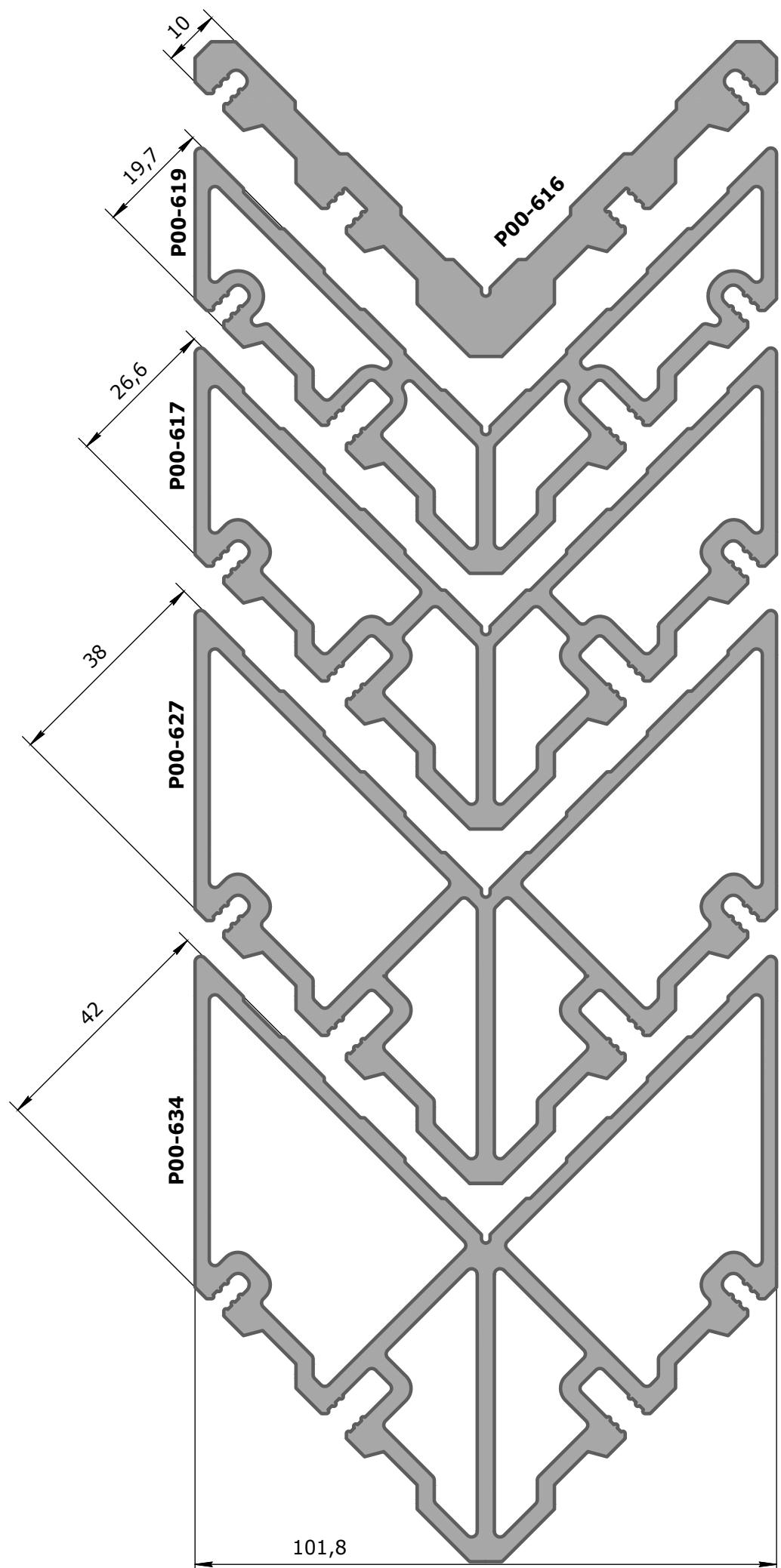
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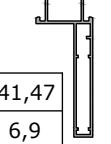
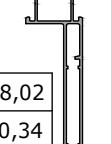
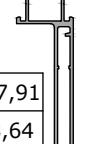
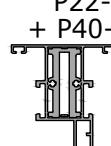
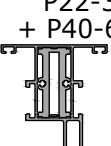
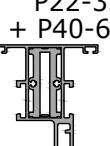
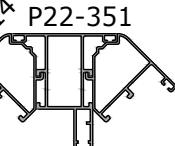
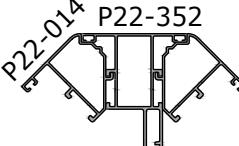
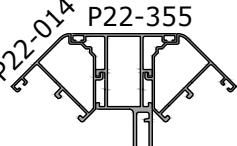
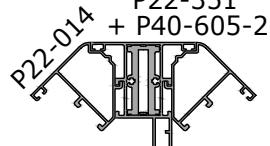
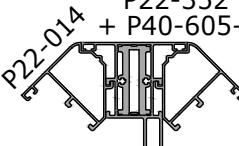
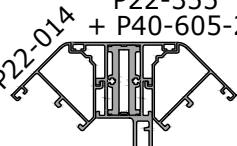
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	<table border="1"><tr><td><math>J_{x'} \text{ cm}^{-4}</math></td><td>50,69</td></tr><tr><td><math>W_{x'} \text{ cm}^{-3}</math></td><td>8,49</td></tr><tr><td><math>i_{x'} \text{ cm}</math></td><td>2,59</td></tr><tr><td><math>J_{y'} \text{ cm}^{-4}</math></td><td>48,66</td></tr><tr><td><math>W_{y'} \text{ cm}^{-3}</math></td><td>8,17</td></tr><tr><td><math>i_{y'} \text{ cm}</math></td><td>2,54</td></tr></table>	$J_{x'} \text{ cm}^{-4}$	50,69	$W_{x'} \text{ cm}^{-3}$	8,49	$i_{x'} \text{ cm}$	2,59	$J_{y'} \text{ cm}^{-4}$	48,66	$W_{y'} \text{ cm}^{-3}$	8,17	$i_{y'} \text{ cm}$	2,54	<table border="1"><tr><td><math>J_{x'} \text{ cm}^{-4}</math></td><td>94,86</td></tr><tr><td><math>W_{x'} \text{ cm}^{-3}</math></td><td>12,11</td></tr><tr><td><math>i_{x'} \text{ cm}</math></td><td>3,36</td></tr><tr><td><math>J_{y'} \text{ cm}^{-4}</math></td><td>50,25</td></tr><tr><td><math>W_{y'} \text{ cm}^{-3}</math></td><td>8,44</td></tr><tr><td><math>i_{y'} \text{ cm}</math></td><td>2,44</td></tr></table>	$J_{x'} \text{ cm}^{-4}$	94,86	$W_{x'} \text{ cm}^{-3}$	12,11	$i_{x'} \text{ cm}$	3,36	$J_{y'} \text{ cm}^{-4}$	50,25	$W_{y'} \text{ cm}^{-3}$	8,44	$i_{y'} \text{ cm}$	2,44	<table border="1"><tr><td><math>J_{x'} \text{ cm}^{-4}</math></td><td>132,35</td></tr><tr><td><math>W_{x'} \text{ cm}^{-3}</math></td><td>14,91</td></tr><tr><td><math>i_{x'} \text{ cm}</math></td><td>3,88</td></tr><tr><td><math>J_{y'} \text{ cm}^{-4}</math></td><td>51,05</td></tr><tr><td><math>W_{y'} \text{ cm}^{-3}</math></td><td>8,57</td></tr><tr><td><math>i_{y'} \text{ cm}</math></td><td>2,41</td></tr></table>	$J_{x'} \text{ cm}^{-4}$	132,35	$W_{x'} \text{ cm}^{-3}$	14,91	$i_{x'} \text{ cm}$	3,88	$J_{y'} \text{ cm}^{-4}$	51,05	$W_{y'} \text{ cm}^{-3}$	8,57	$i_{y'} \text{ cm}$	2,41	<table border="1"><tr><td><math>J_{x'} \text{ cm}^{-4}</math></td><td>199,84</td></tr><tr><td><math>W_{x'} \text{ cm}^{-3}</math></td><td>19,57</td></tr><tr><td><math>i_{x'} \text{ cm}</math></td><td>4,6</td></tr><tr><td><math>J_{y'} \text{ cm}^{-4}</math></td><td>52,42</td></tr><tr><td><math>W_{y'} \text{ cm}^{-3}</math></td><td>8,8</td></tr><tr><td><math>i_{y'} \text{ cm}</math></td><td>2,35</td></tr></table>	$J_{x'} \text{ cm}^{-4}$	199,84	$W_{x'} \text{ cm}^{-3}$	19,57	$i_{x'} \text{ cm}$	4,6	$J_{y'} \text{ cm}^{-4}$	52,42	$W_{y'} \text{ cm}^{-3}$	8,8	$i_{y'} \text{ cm}$	2,35
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<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>41,47</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>6,9</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>3,14</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>5,72</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>1,78</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>1,17</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	41,47	$W_{x'}$ , cm <sup>-3</sup>	6,9	$i_{x'}$ , cm	3,14	$J_{y'}$ , cm <sup>-4</sup>	5,72	$W_{y'}$ , cm <sup>-3</sup>	1,78	$i_{y'}$ , cm	1,17	<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>68,02</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>10,34</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>3,69</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>6,05</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>1,83</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>1,1</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	68,02	$W_{x'}$ , cm <sup>-3</sup>	10,34	$i_{x'}$ , cm	3,69	$J_{y'}$ , cm <sup>-4</sup>	6,05	$W_{y'}$ , cm <sup>-3</sup>	1,83	$i_{y'}$ , cm	1,1	<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>157,91</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>18,64</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>4,8</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>6,91</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>2,03</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>1,0</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	157,91	$W_{x'}$ , cm <sup>-3</sup>	18,64	$i_{x'}$ , cm	4,8	$J_{y'}$ , cm <sup>-4</sup>	6,91	$W_{y'}$ , cm <sup>-3</sup>	2,03	$i_{y'}$ , cm	1,0	
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P22-351 + P40-605-2	P22-352 + P40-605-2	P22-355 + P40-605-2																																					
																																							
<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>52,99</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>7,71</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>2,7</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>6,74</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>2,22</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>0,96</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	52,99	$W_{x'}$ , cm <sup>-3</sup>	7,71	$i_{x'}$ , cm	2,7	$J_{y'}$ , cm <sup>-4</sup>	6,74	$W_{y'}$ , cm <sup>-3</sup>	2,22	$i_{y'}$ , cm	0,96	<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>89,02</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>11,54</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>3,32</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>7,27</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>2,33</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>0,95</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	89,02	$W_{x'}$ , cm <sup>-3</sup>	11,54	$i_{x'}$ , cm	3,32	$J_{y'}$ , cm <sup>-4</sup>	7,27	$W_{y'}$ , cm <sup>-3</sup>	2,33	$i_{y'}$ , cm	0,95	<table border="1"> <tr><td><math>J_{x'}</math>, cm<sup>-4</sup></td><td>206,7</td></tr> <tr><td><math>W_{x'}</math>, cm<sup>-3</sup></td><td>20,9</td></tr> <tr><td><math>i_{x'}</math>, cm</td><td>4,56</td></tr> <tr><td><math>J_{y'}</math>, cm<sup>-4</sup></td><td>8,43</td></tr> <tr><td><math>W_{y'}</math>, cm<sup>-3</sup></td><td>2,62</td></tr> <tr><td><math>i_{y'}</math>, cm</td><td>0,92</td></tr> </table>	$J_{x'}$ , cm <sup>-4</sup>	206,7	$W_{x'}$ , cm <sup>-3</sup>	20,9	$i_{x'}$ , cm	4,56	$J_{y'}$ , cm <sup>-4</sup>	8,43	$W_{y'}$ , cm <sup>-3</sup>	2,62	$i_{y'}$ , cm	0,92	
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P22-014 P22-351	P22-014 P22-352	P22-014 P22-355																																					
																																							
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equipment and tools		connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents



This technical drawing illustrates the cross-sections and 3D views of a window assembly, likely a double-glazed unit. The top part shows a cross-sectional view with dimensions: overall height 75,5, top frame height 75,5, bottom frame height 40, total width 48, and side frame widths 17 and 35,7. Key components labeled include P22-103, R022-2, R001-5, R046, R040, R004, P40-605, and P22-202. The bottom part shows another cross-section with dimensions: overall height 32,8, top frame height 27,8, bottom frame height 21,1, and side frame widths 21,1 and 14,6. It includes labels for P22-102, S002 (pitch 300), P00-608, P00-007, P22-201, R001-5, P24-104, and 10. A circular dimension of Ø40 is also indicated. Two 3D perspective views are shown on the right, one at 90° and one at 103-180°, both featuring double-glazed panes with internal shading patterns.



The figure consists of several technical drawings of window profiles, primarily focusing on the P22 series. The drawings are arranged in a grid-like structure with some overlap.

- Top Left:** A small diagram labeled "fix" with an arrow pointing into a rectangular frame.
- Top Right:** Two detailed cross-sections of the P22-020 profile. The left section shows a central channel with labels S002 (pitch 300), R006, R006, R001-5, and R001-5. Dimensions include 19,8, 11,1, 45,2, and 19,8. The right section is similar but includes additional parts labeled R015, R018, P22-021, R006, R006, R001-5, and R001-5. Dimensions are identical: 19,8, 11,1, 45,2, and 19,8.
- Middle Left:** A cross-section of the P22-020 profile with dimensions 14,2, 22,1, 1,6, 19,8, 11,1, and 45,2. It also shows a P22-102 profile and a S002 (pitch 300) component.
- Middle Right:** Two cross-sections of the P22-021 profile. The left one shows a central channel with labels S002 (pitch 300), R006, R006, R001-5, and R001-5. Dimensions are 19,8, 11,1, 45,2, and 19,8. The right one is similar but includes additional parts labeled R015, R018, P22-021, R006, R006, R001-5, and R001-5. Dimensions are identical: 19,8, 11,1, 45,2, and 19,8.
- Bottom Left:** A cross-section of the P22-022 profile. It features two S001 (pitch 300) components and an F720p engagement plate. Dimensions include 20,6, 3,1, 5, 46,3, and 20,6.
- Bottom Right:** A cross-section of the P22-102 profile. It shows a central channel with labels S002 (pitch 300), R015, R018, R006, R006, and R001-5. Dimensions are 19,5 and 19,8.

On the far left and far right edges of the figure, there are vertical columns of text representing table headers and content rows, typical of a PDF table structure.

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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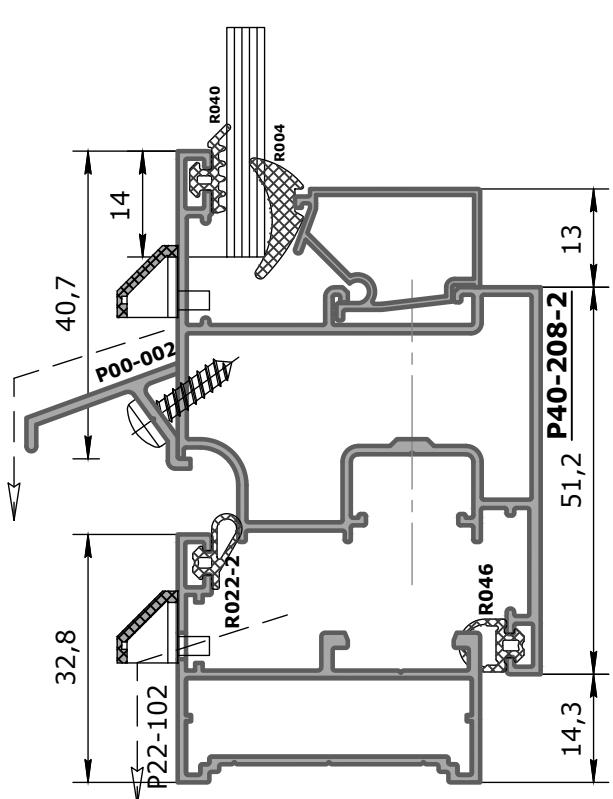
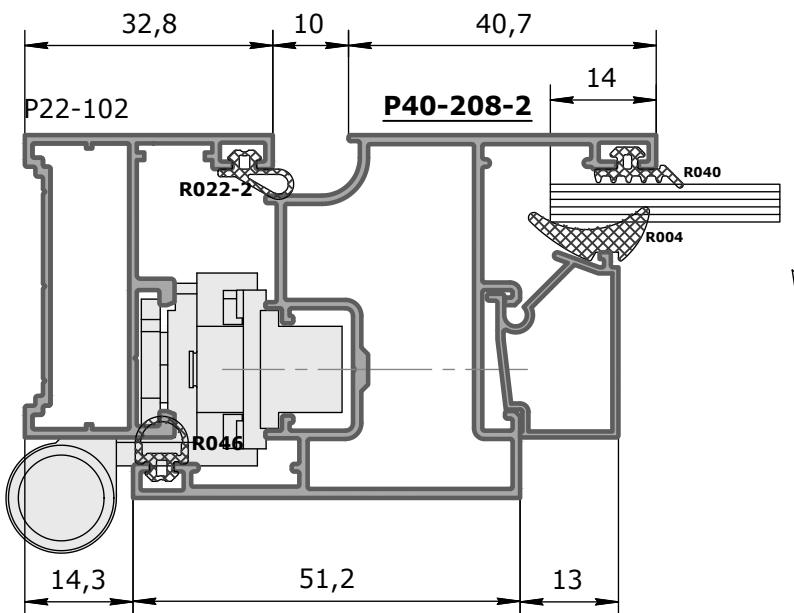
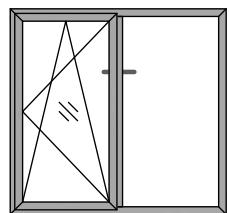
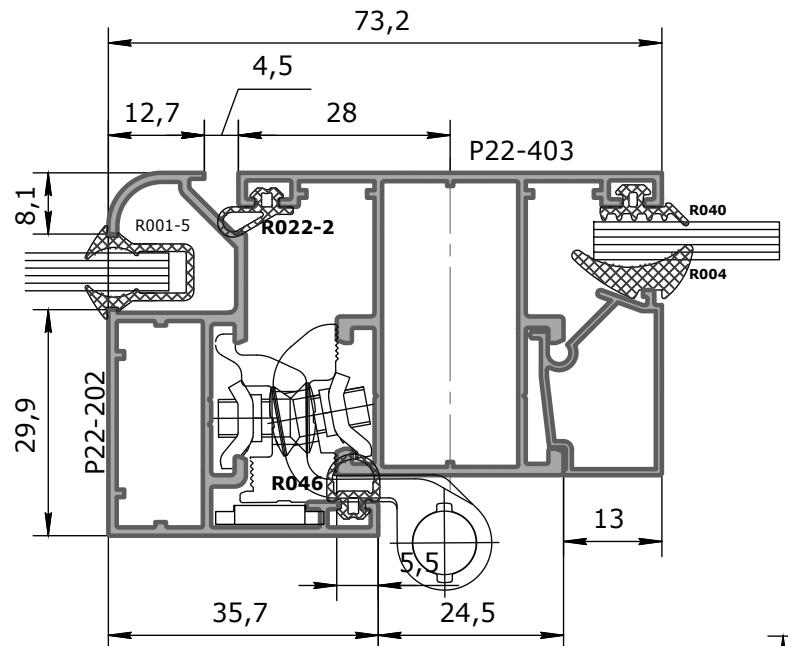
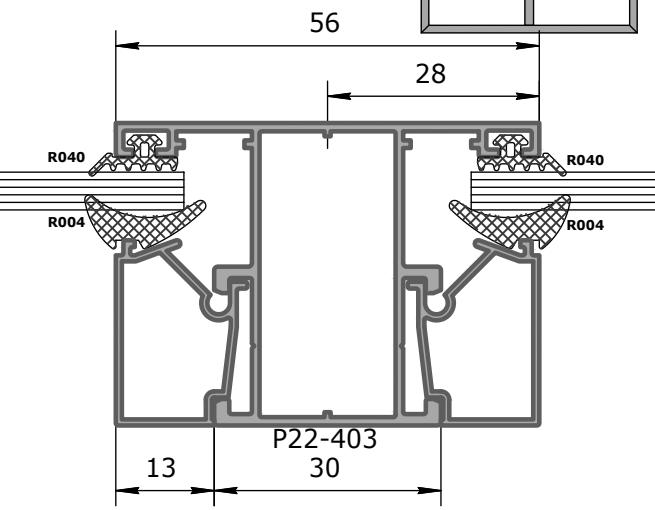
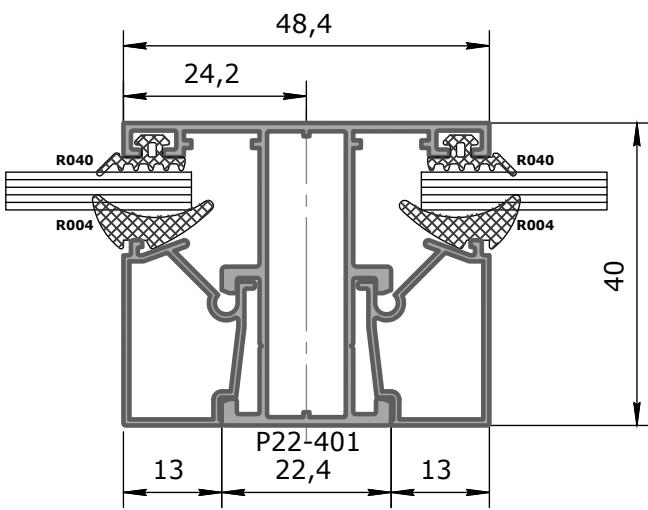
	equipment	connections	stained glass	sub-assemblies	additional	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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The figure contains five detailed technical cross-sections of window profiles, each labeled with its model number:

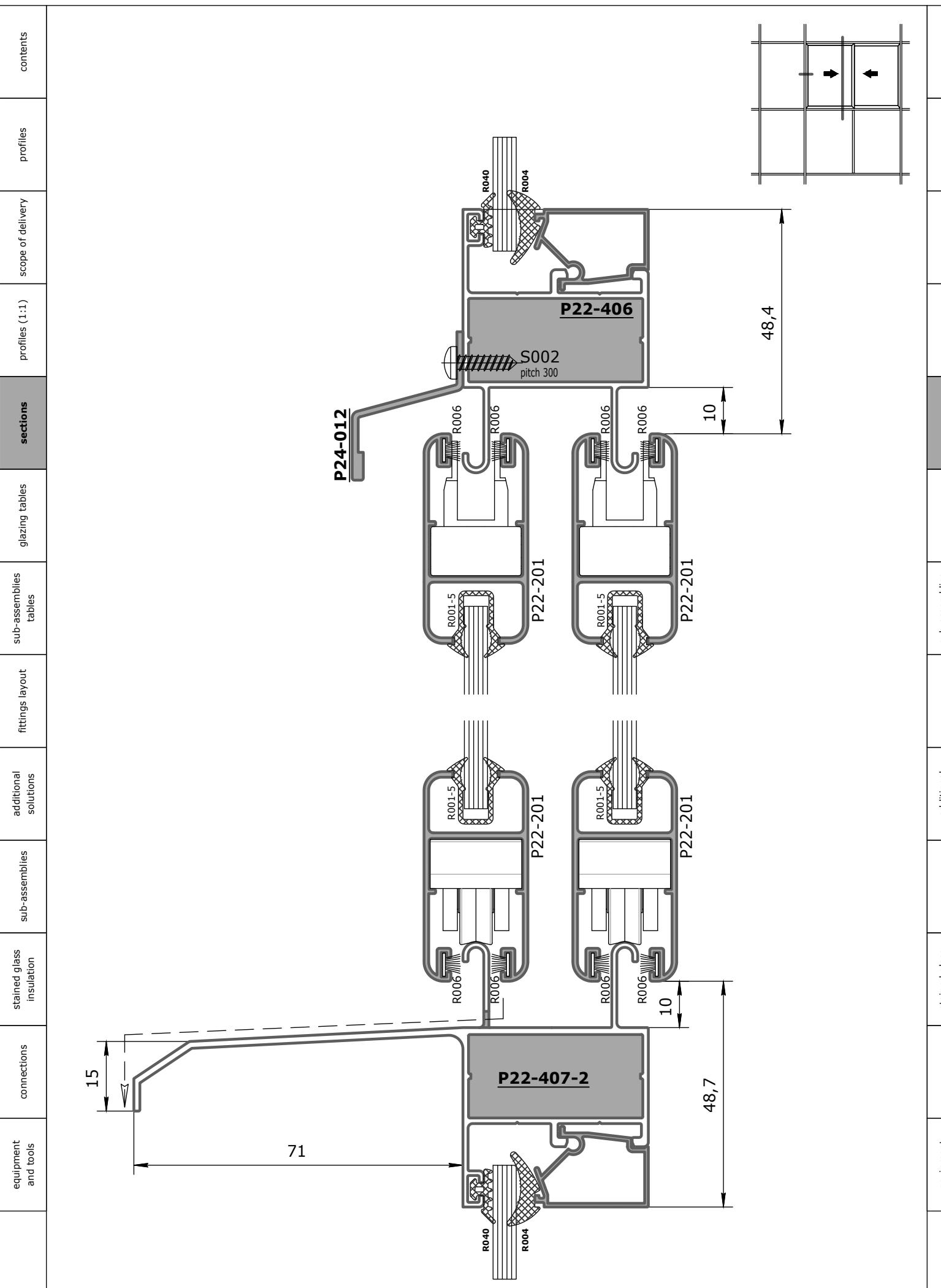
- P22-102:** Top left, shows a single-unit profile with dimensions 48 (width), 34,7 (height), 40 (inner width), 8 (inner height), and 5,5 (inner depth). It includes labels R001-5, R022-2, R046, and R040.
- P22-202:** Top right, shows a double-unit profile with dimensions 32,8, 4,5, 12,7, 40, 8, 14,3, 34,7. It includes labels P22-102, R022-2, R001-5, R046, and R040.
- P22-204:** Middle right, shows a double-unit profile with dimensions 32,8, 4,5, 30, 40, 8, 14,3, 40. It includes labels P22-102, R022-2, R046, R040, and R004.
- P22-205:** Bottom right, shows a double-unit profile with dimensions 32,8, 16,2, 14,2, 14,2, 30,5, 2, 34,7, 49. It includes labels P22-102, R035, R046, and R040.
- P22-2002:** Middle left, shows a double-unit profile with dimensions 40, 40, 12, 5,5, 14,3. It includes labels P22-102, R022-2, R046, R040, and R004.

**tempered glass 6-8 mm** is indicated in the bottom profile (P22-205) as being glued in place with **structural adhesive or mounting tape\***. The tape is applied to the glass and the profile's inner cavity. A **sealant** is also shown sealing the glass to the profile.

contents								contents
profiles								profiles
scope of delivery								scope of delivery
profiles (1:1)								profiles (1:1)
sections							sections	
stained glass insulation								stained glass insulation
connections								connections
sub-assemblies								sub-assemblies
additional solutions								additional solutions
fitting layout								fitting layout
sub-assemblies								sub-assemblies
glazing tables								glazing tables
equipment and tools								equipment and tools
contents								contents









		contents
profiles	scope of delivery	
profiles (1:1)	sections	
glazing tables	sub-assemblies	
sub-assemblies tables	sub-assemblies	
fittings layout	sub-assemblies	
additional solutions	sub-assemblies	
stained glass insulation	sub-assemblies	
connections	connections	
equipment and tools	equipment and tools	

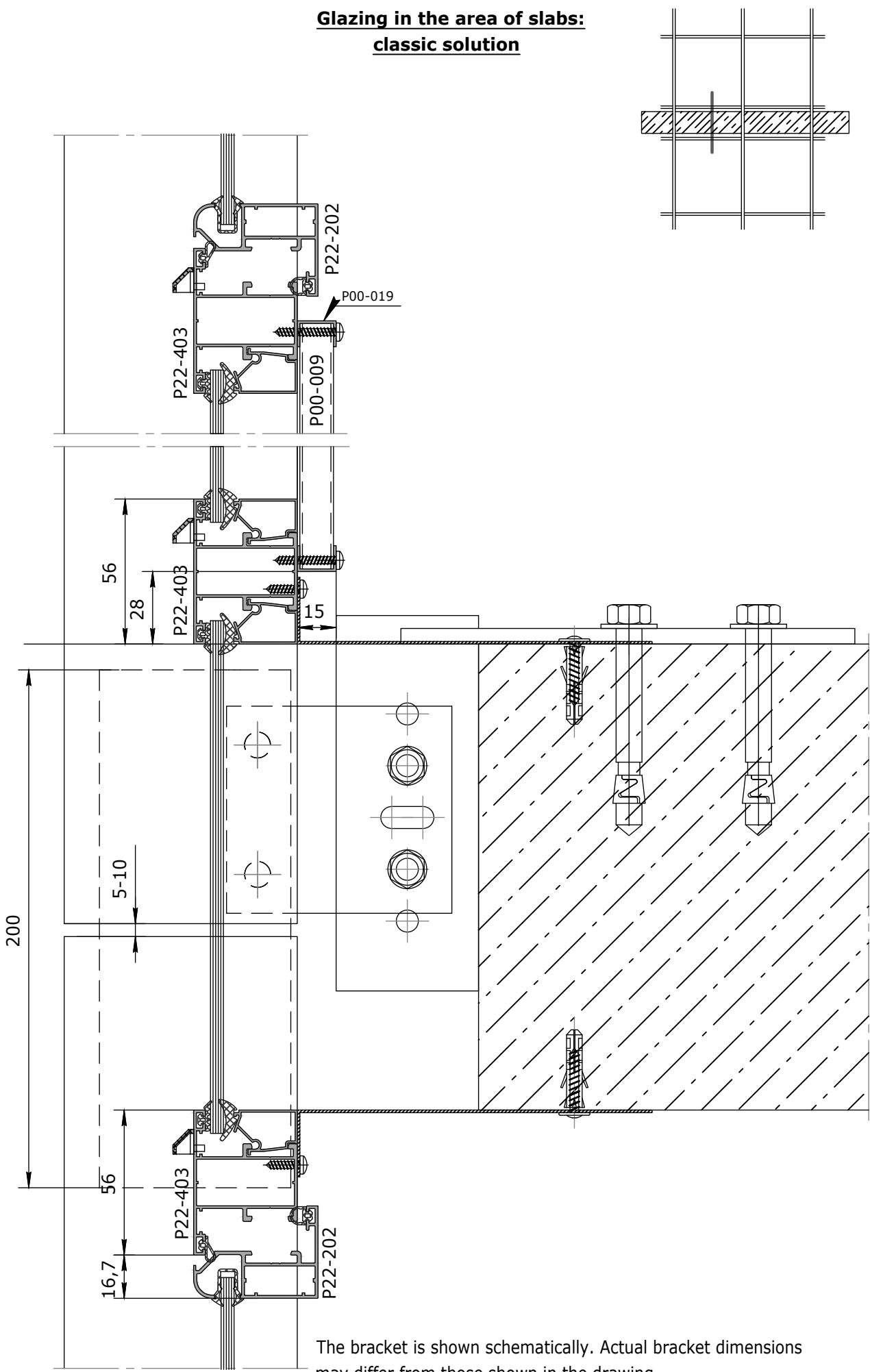
The technical drawing illustrates the assembly of a window frame. It includes:

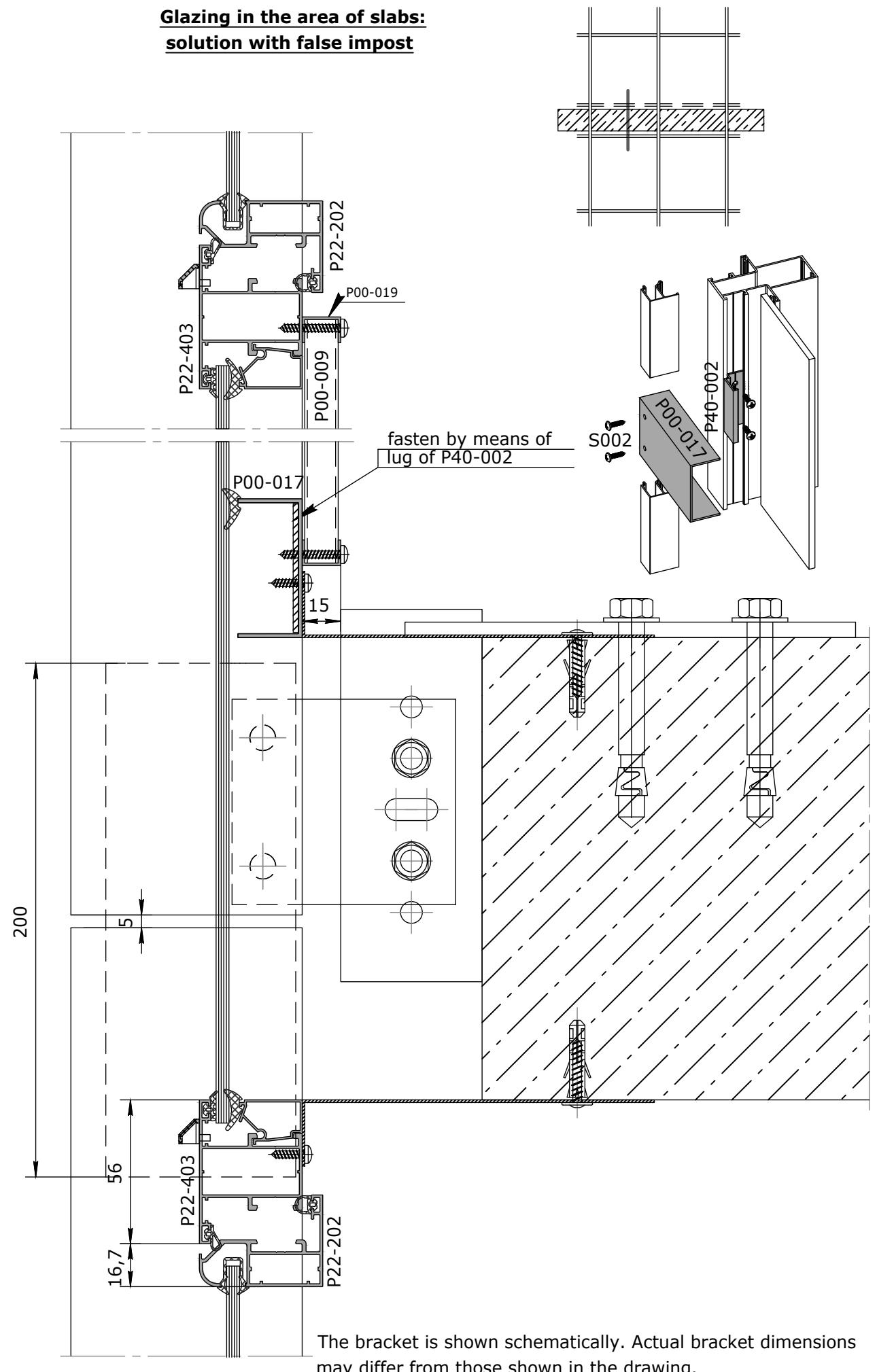
- Profiles:** P22-302, P22-201, P22-020, P22-021, P22-022, P22-023, F720p, and P3850-541.
- Fixings:** S002 pitch 300, R006, R015, R018, R040, R004, R056E, R073E, rivet 4x10, and P00-082.
- Dimensions:** 14,2, 22,1, 1,6, 15, 11,1, 45,2, 20,6, 46,3, 19,5, and 15.
- Labels:** "fix" is labeled multiple times in the diagram.



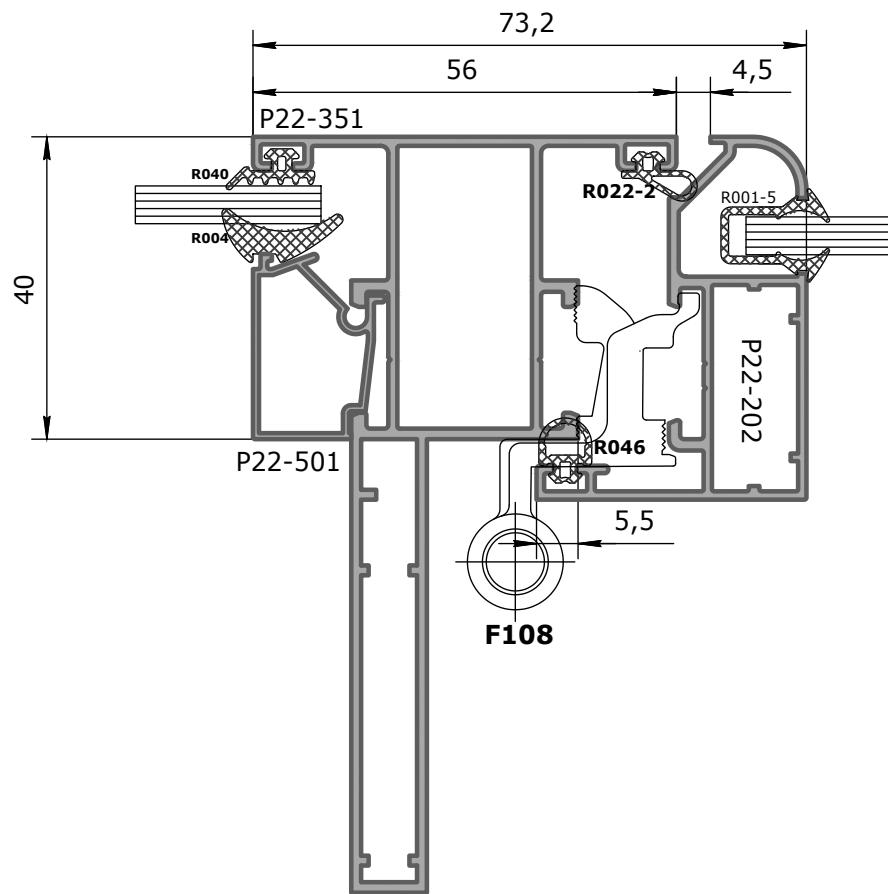
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	P22-302	sections	profiles (1:1)	scope of delivery	profiles	contents						
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	P22-302	sections	profiles (1:1)	scope of delivery	profiles	contents						
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	P22-302	sections	profiles (1:1)	scope of delivery	profiles	contents						





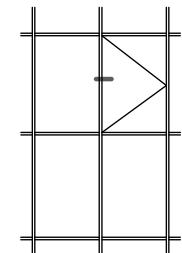


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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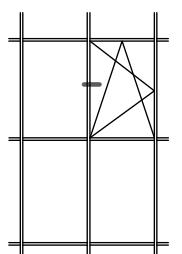
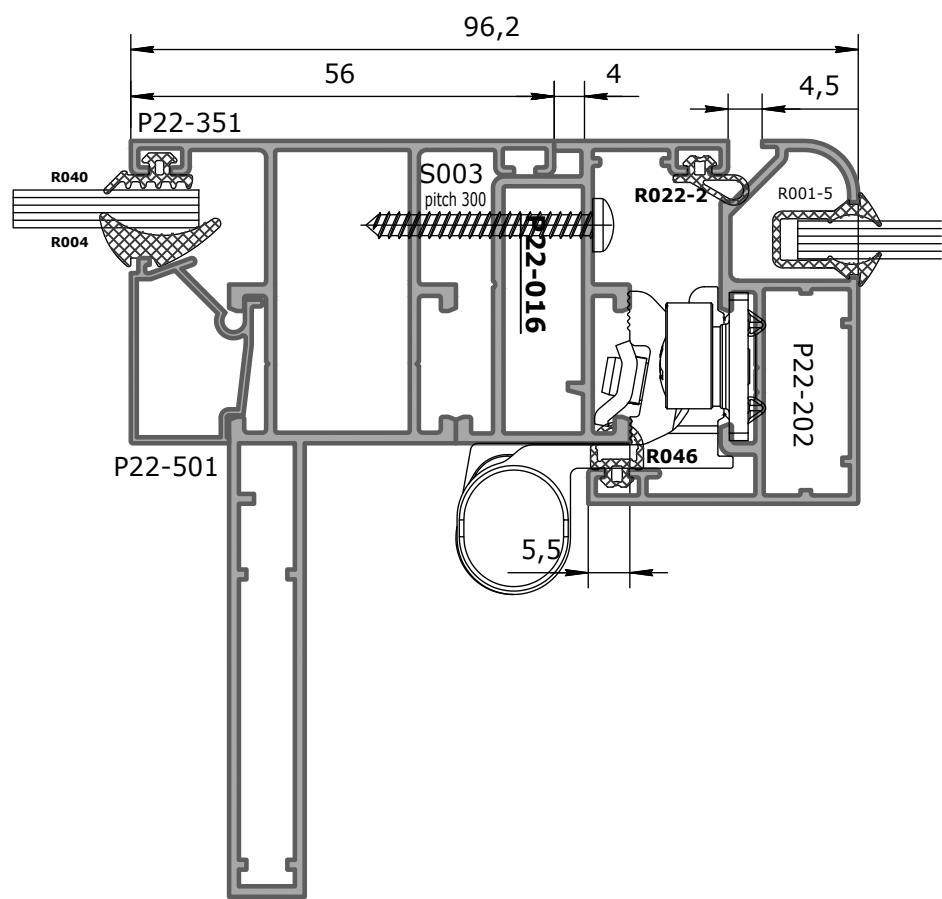
**IMPORTANT**

**F108** "oriel window" hinges must be used for installation of hinged sashes on a mullion with inward reinforcement.

Installation of extension profile **P22-016** on the mullion from the hinge side is required in case a tilt and turn window must be installed.



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
equipment and tools													
stained glass insulation													
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	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents

**Top View Diagram:**

Dimensions shown: 56, 100, 10, 40, 17, 2, 4, 5, 12, 7, 28, 35, 7, 72, 7, 13, 15, 9, 5, 5, 5, 5, 73, 2, 56, 100.

**Bottom Left Diagram:**

Dimensions shown: 4, 5, 12, 7, 28, 35, 7, 72, 7, 13, 15, 9, 5, 5, 5, 5.

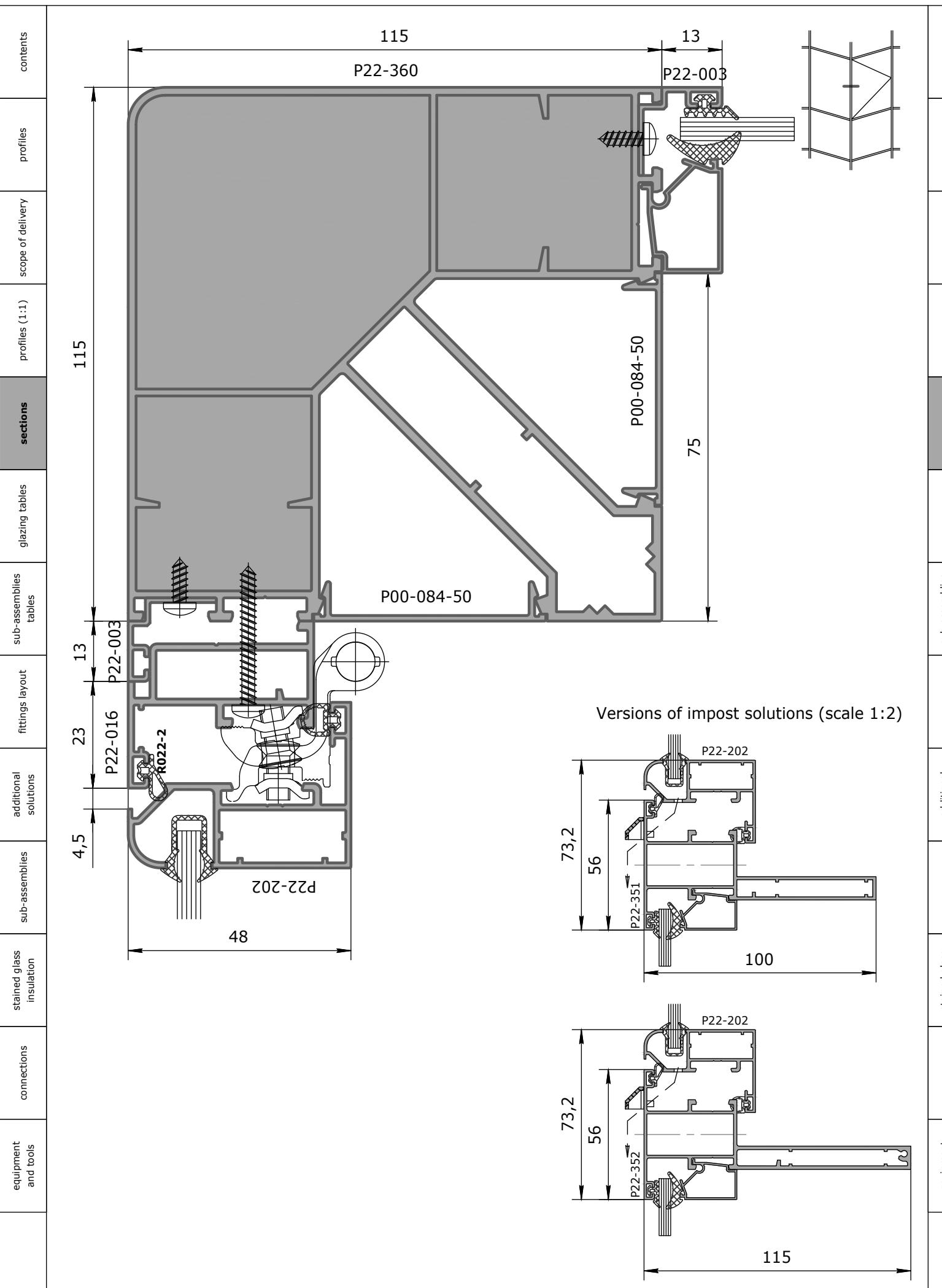
**Bottom Right Diagram:**

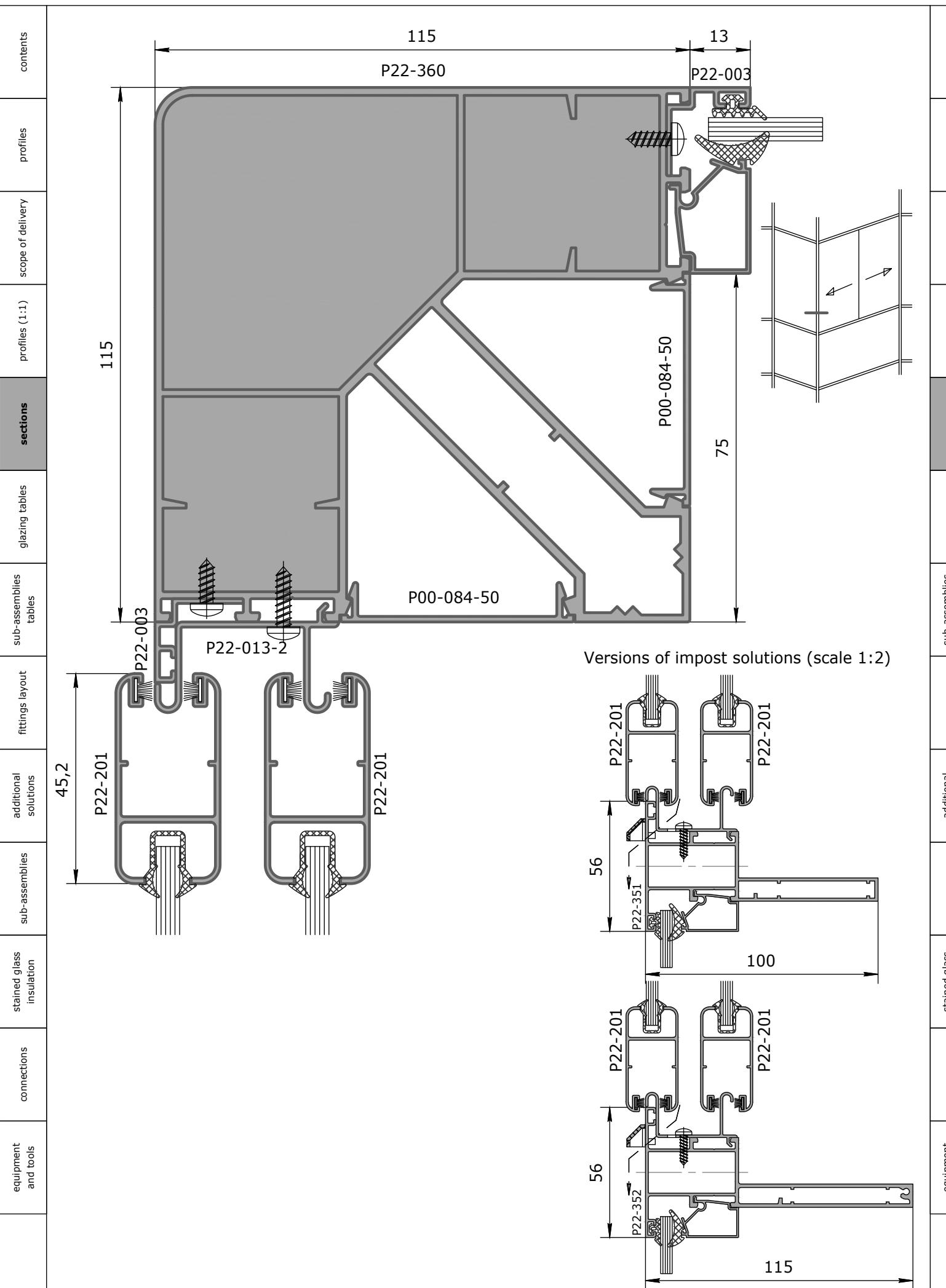
Alternative solution (1:2)

Dimensions shown: 73, 2, 56, 100.



	contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	fittings layout	additional solutions	connections	stained glass insulation	sub-assemblies	equipment and tools





equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sub-assemblies	sections	profiles (1:1)	scope of delivery	contents

Versions of impost solutions (scale 1:2)

P22-202

73,2

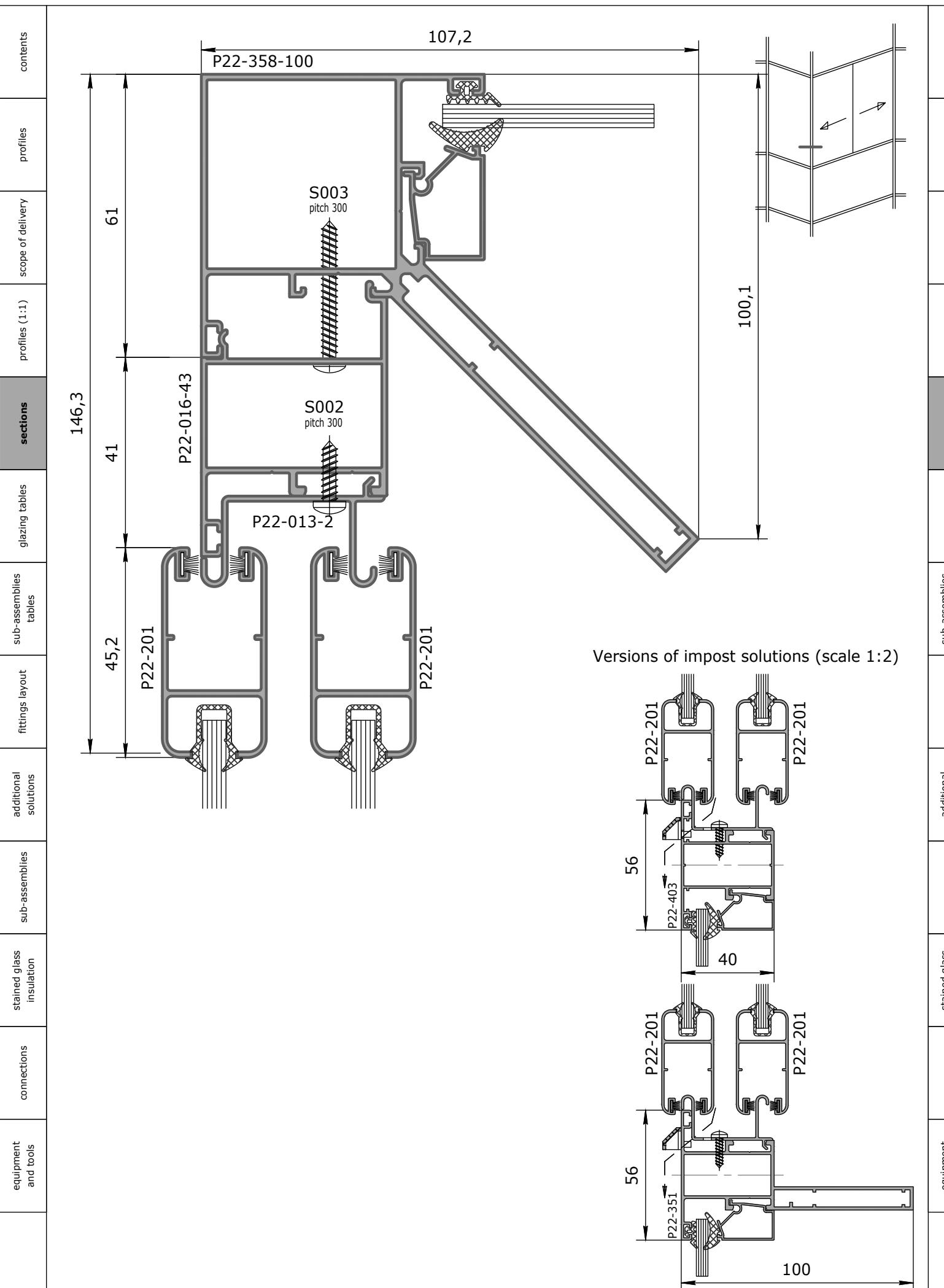
56

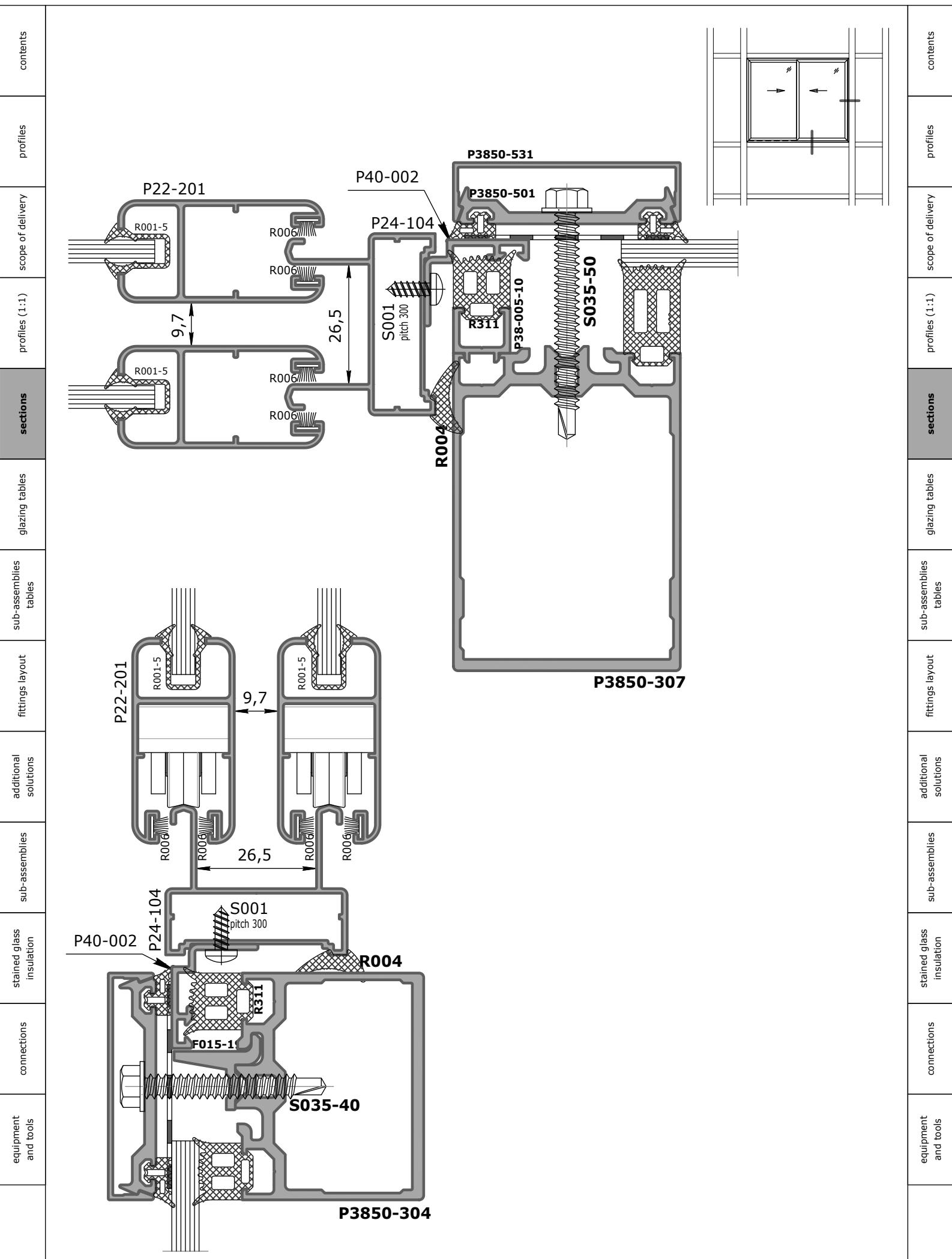
P22-351

73,2

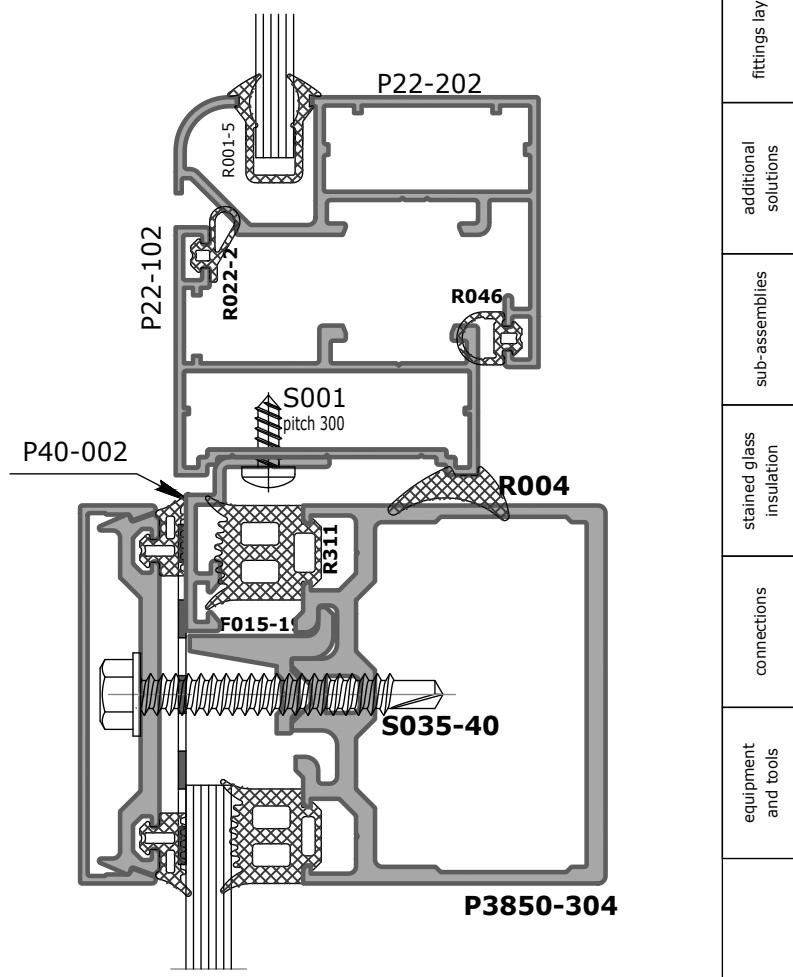
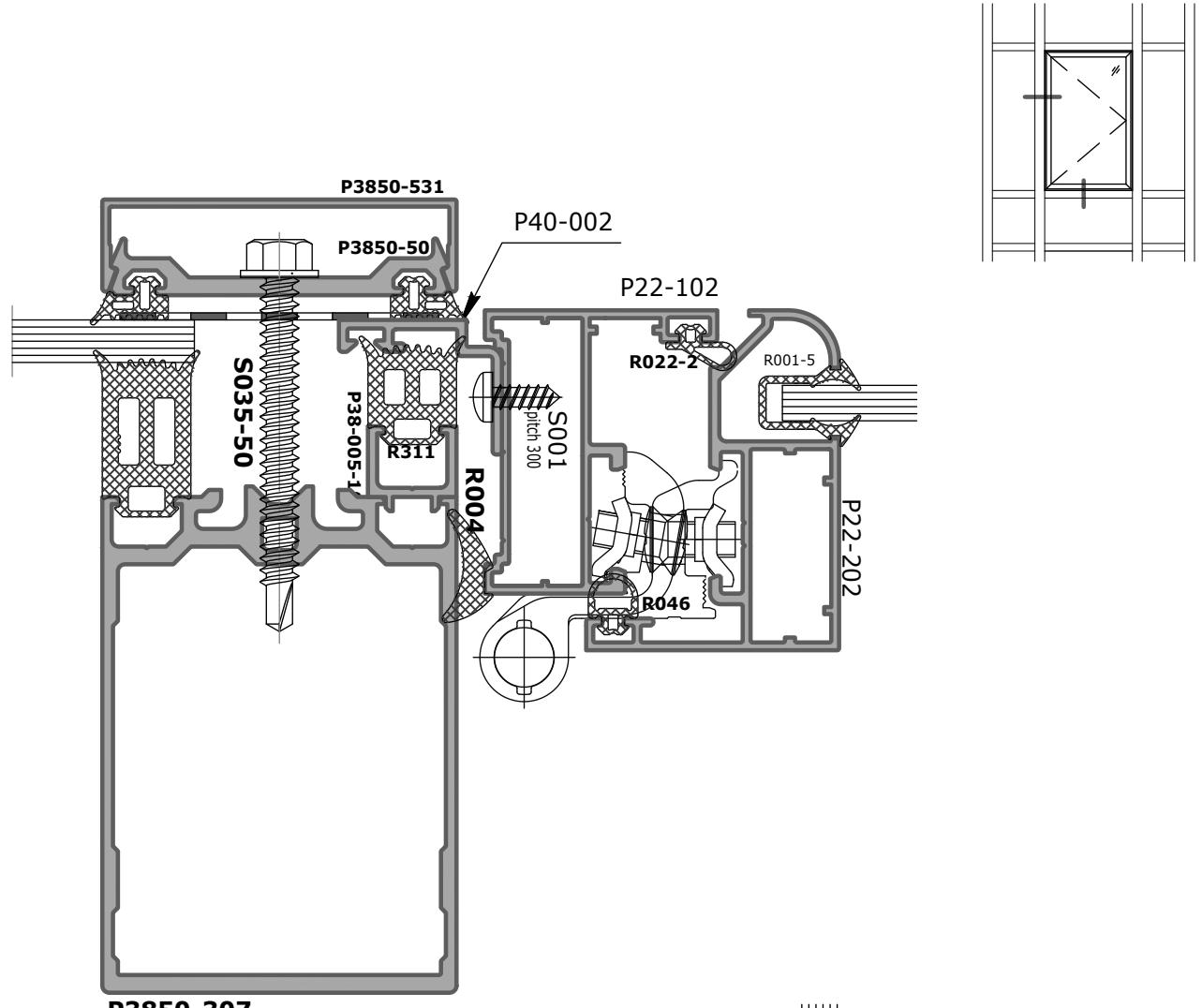
56

100

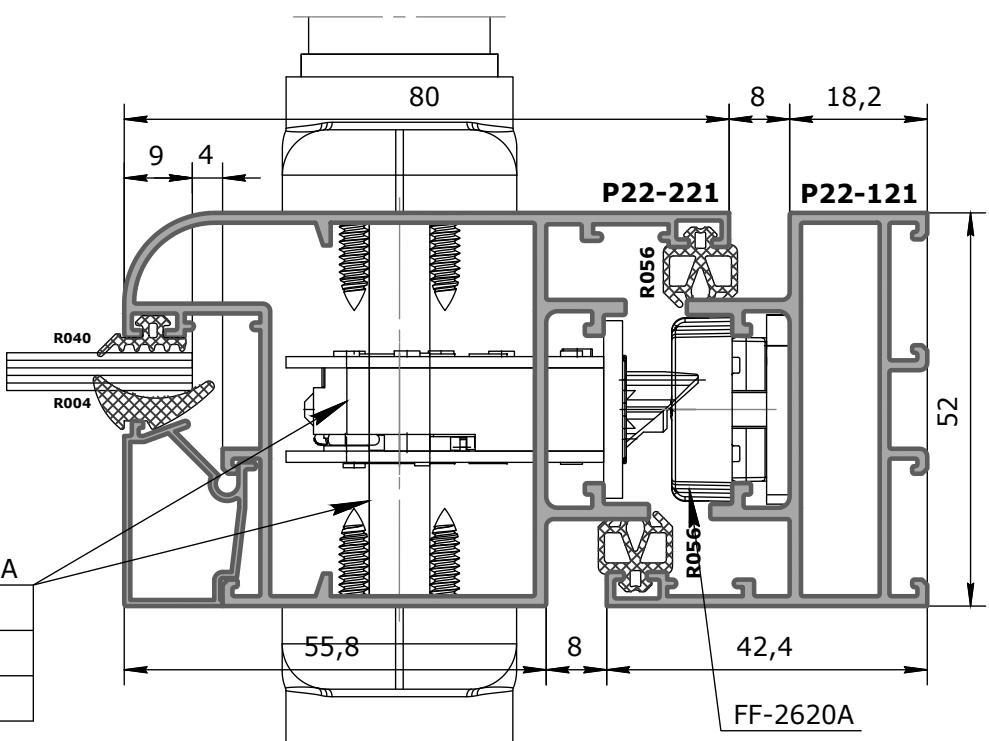
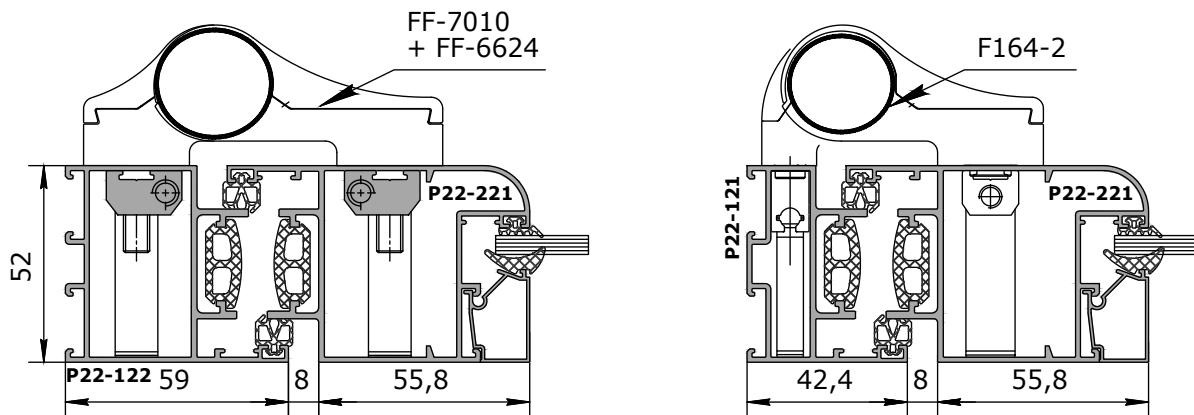
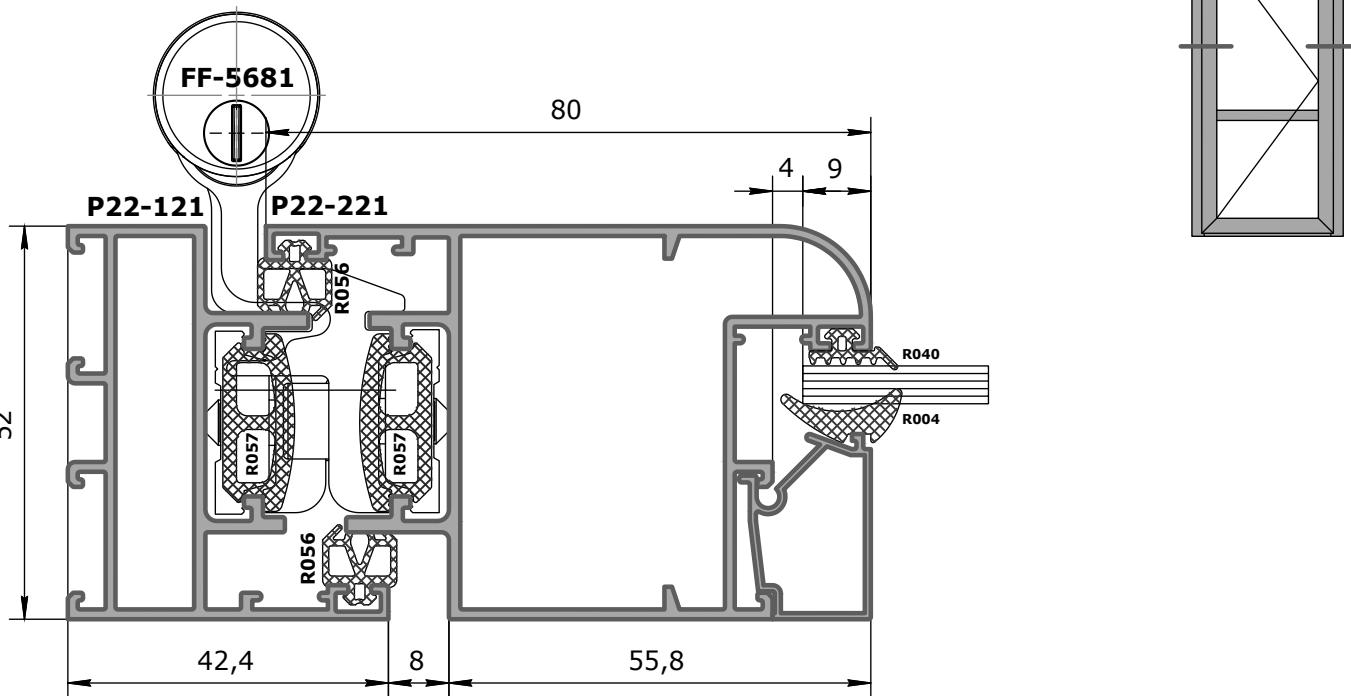




equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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## **Outside doors 52 mm Frame structures**

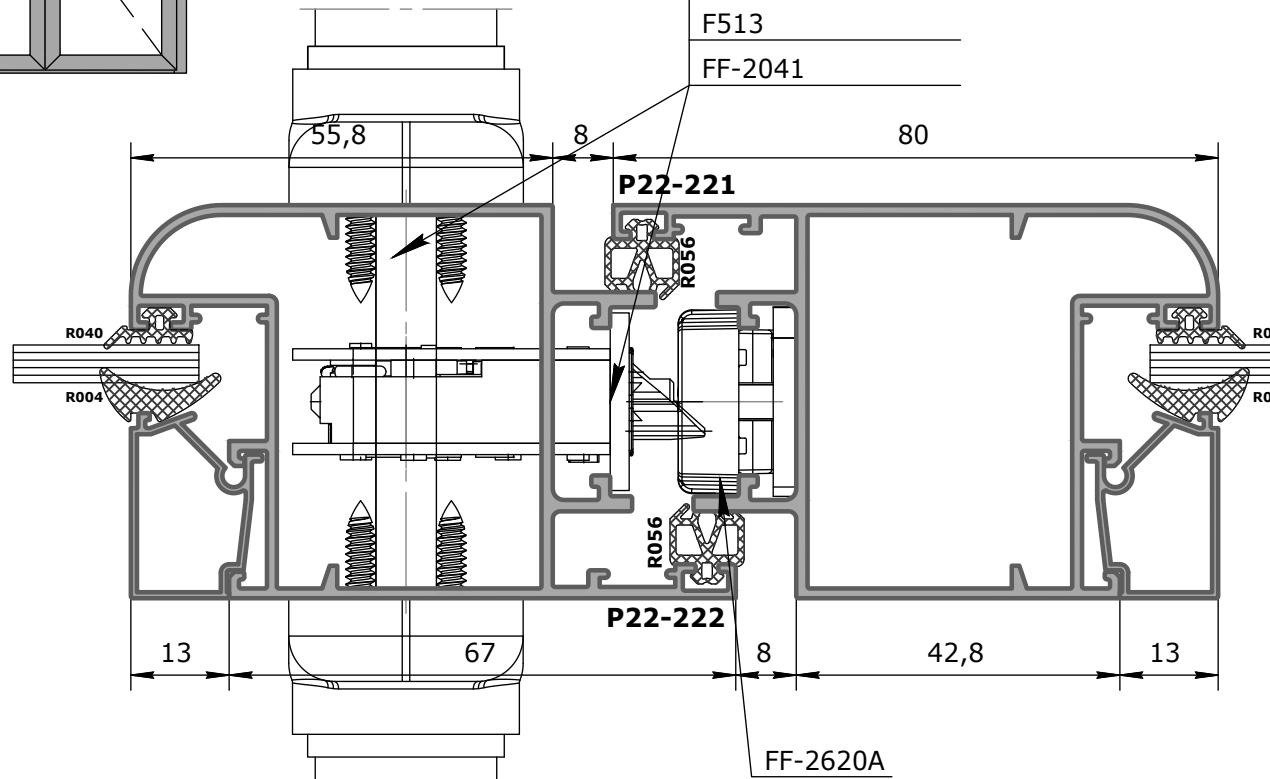
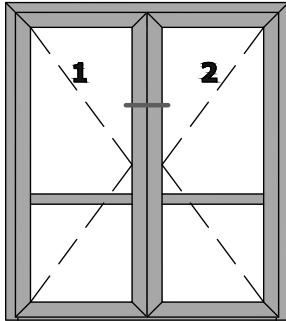
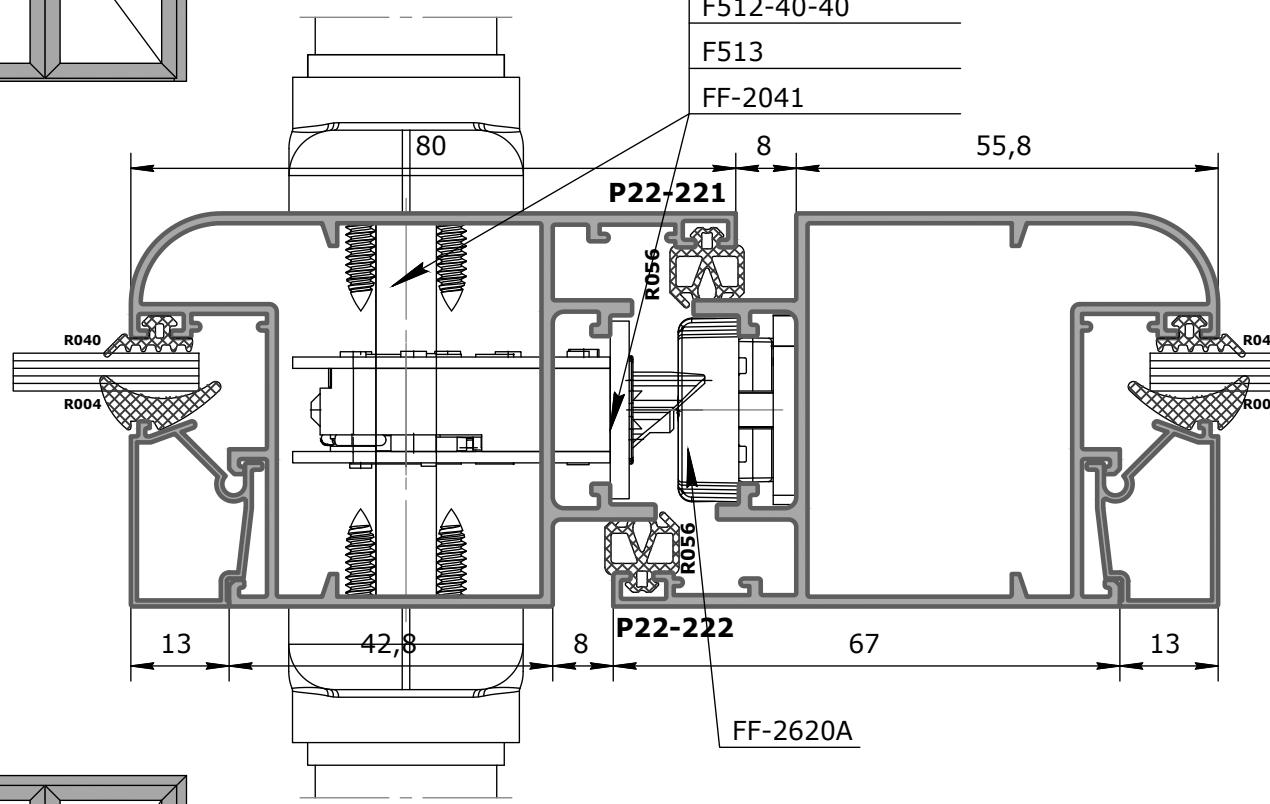
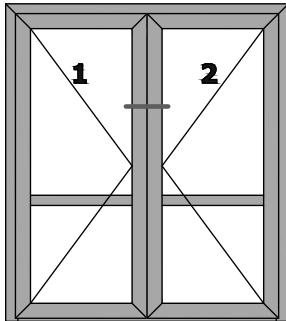


The diagram illustrates several technical cross-sections of window profiles P22-121 and P22-222, along with associated hardware and assembly details:

- Top Drawing:** A detailed cross-section of the profile assembly. It shows the main profile P22-222 with a height of 80 mm and a side profile P22-121 with a height of 18,2 mm. The gap between them is 8 mm. Internal components include R056, R057, and R040. A circular callout labeled FF-5681 indicates a specific detail.
- Middle Left Drawing:** A cross-section showing two profiles P22-122 and P22-222 joined together. A circular callout labeled FF-7010 + FF-6624 indicates a specific detail.
- Middle Right Drawing:** A cross-section showing two profiles P22-121 and P22-222 joined together. A circular callout labeled F164-2 indicates a specific detail.
- Bottom Drawing:** A large cross-section showing the internal mechanism. It features a central vertical frame with dimensions 55,8 mm, 8 mm, 42,4 mm, and 80 mm. The frame is held together by springs and secured with hardware like R040, R004, and R056. Labels include F511 or FF-2501BA, F512-40-40, F513, FF-2041, P22-222, P22-121, and FF-2620A.



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation



This technical drawing illustrates five window profile variants (P22-102, P22-034, P22-121, P22-221, and FF-5681) along with their sub-assemblies and glazing tables.

**P22-102:** A vertical cross-section showing a profile height of 40 and a width of 32,8. It includes sub-assemblies R040 and R004, and a glazing table.

**P22-034:** A vertical cross-section showing a profile height of 80 and a width of 55,4. It includes sub-assemblies R040, R004, R040, R004, R056, R057, R056, R057, and a glazing table.

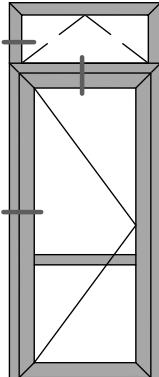
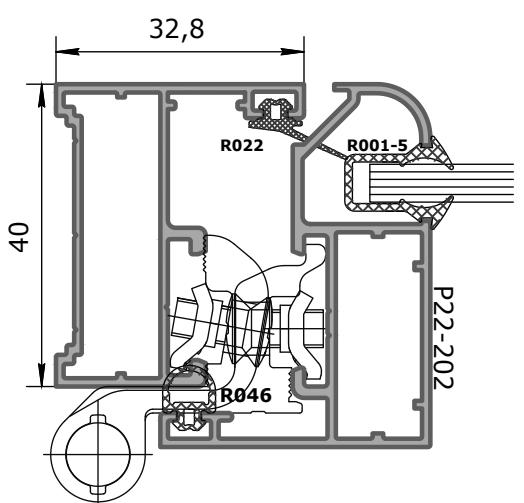
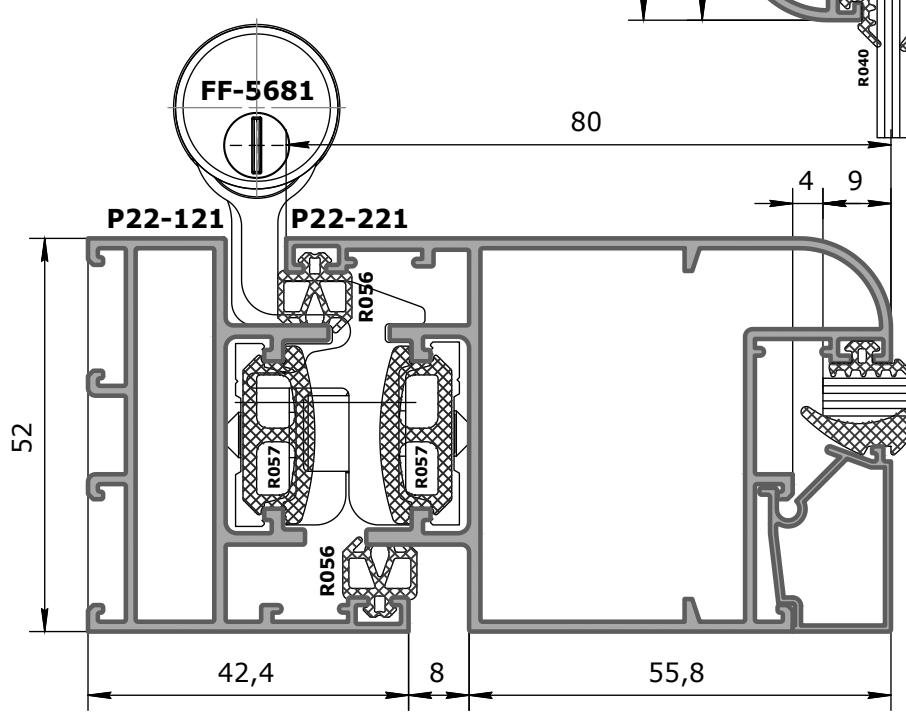
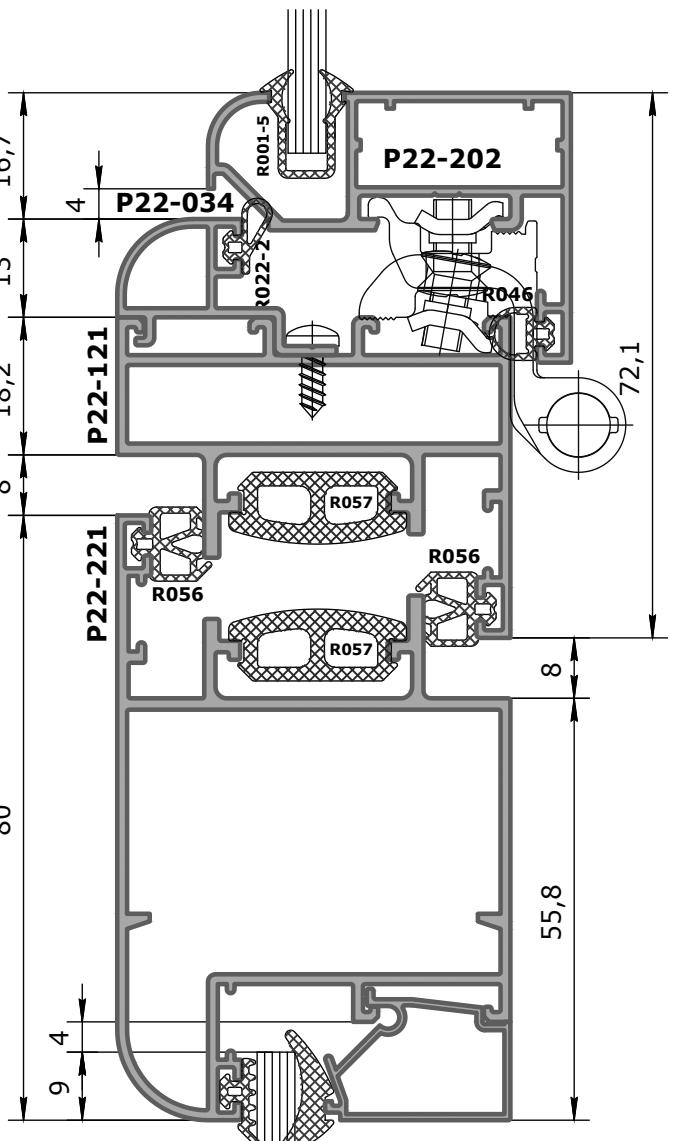
**P22-121:** A horizontal cross-section showing a profile length of 80 and a height of 52. It includes sub-assemblies R056, R057, R056, R057, and a glazing table.

**P22-221:** A horizontal cross-section showing a profile length of 55,8 and a height of 52. It includes sub-assemblies R040, R004, R040, R004, and a glazing table.

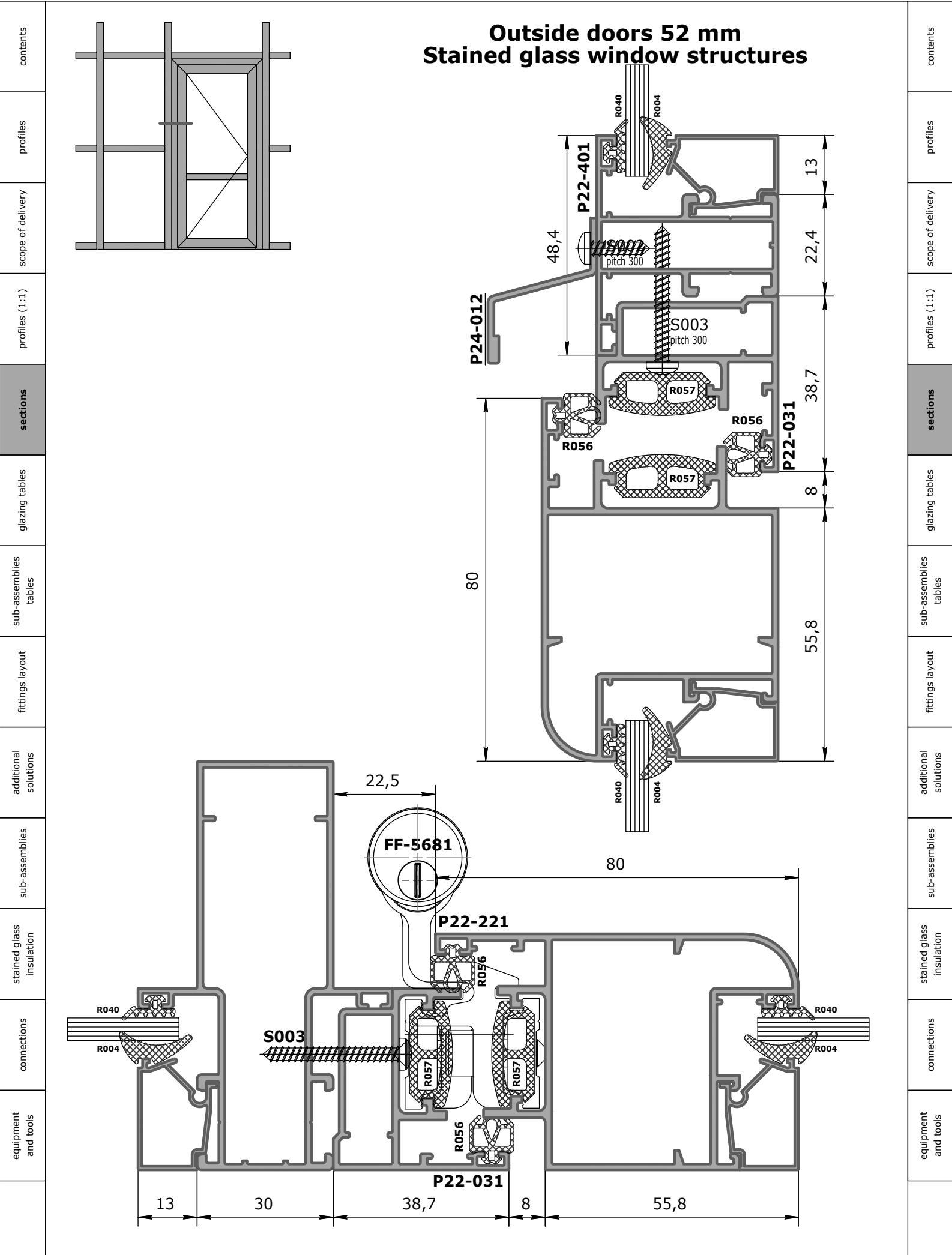
**FF-5681:** A circular cross-section showing a diameter of 80 and a height of 42,4. It includes a central hole of 4 and a side gap of 9.

The drawing also includes a legend for components:

- Equipment and tools
- Connections
- Stained glass insulation
- Sub-assemblies
- Additional solutions
- Fittings layout
- Sub-assemblies tables
- Glazing tables
- Sections
- Profiles (1:1)
- Scope of delivery
- Profiles
- Contents

		contents	
		stained glass insulation	connections
equipment and tools		sub-assemblies	additional solutions
		fittings layout	
		glazing tables	
		sub-assemblies tables	
		sections	profiles (1:1)
		scope of delivery	profiles
		contents	contents
			
			
			
			

# Outside doors 52 mm Stained glass window structures



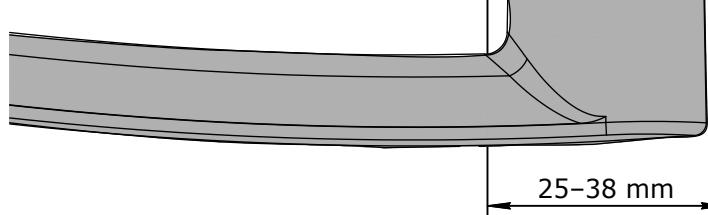
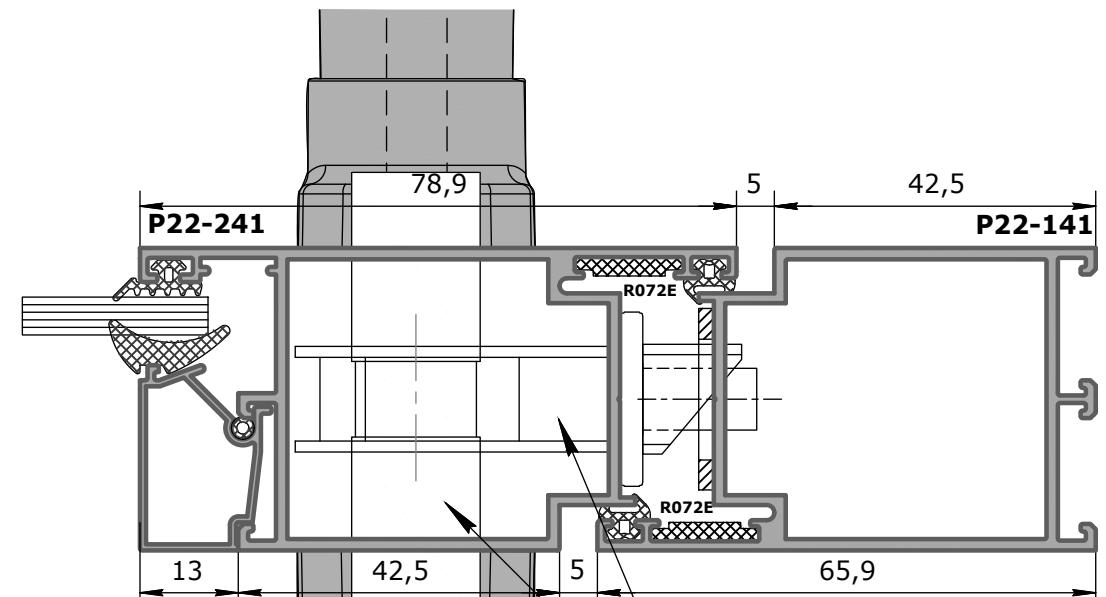
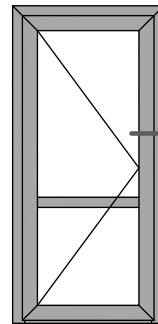
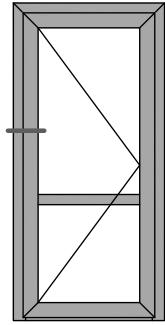
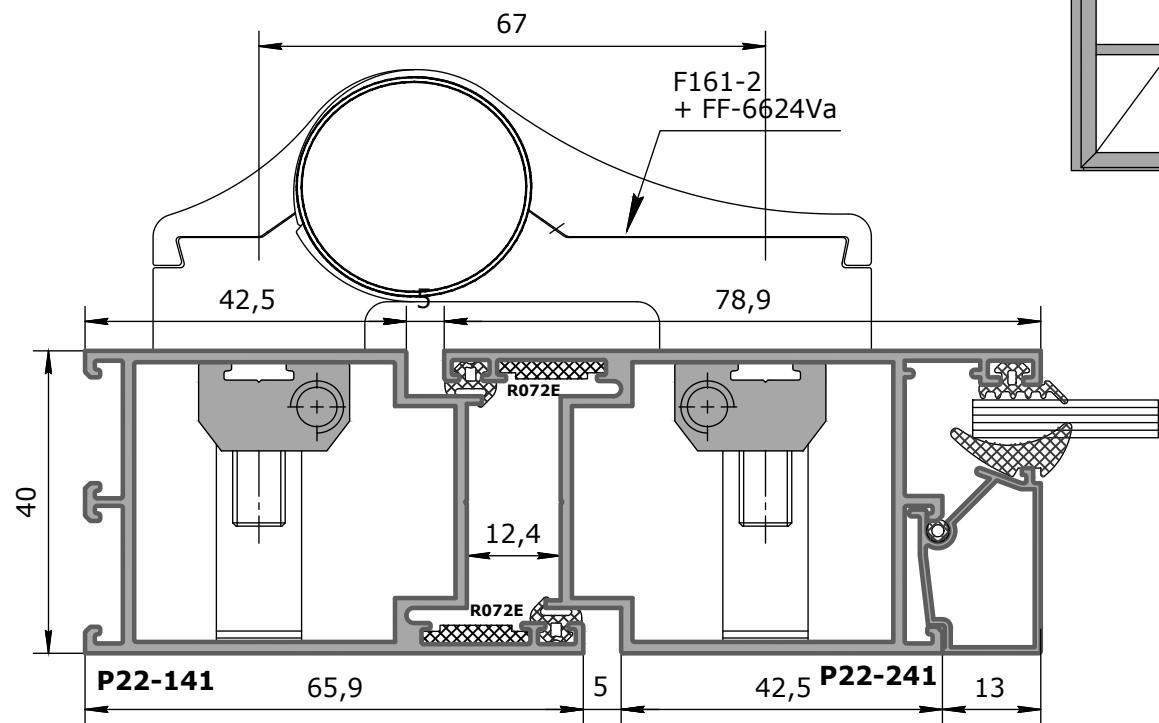
The diagram illustrates a window profile cross-section labeled P22-401. The overall height of the profile is 80 mm. Key dimensions include:

- Total height: 80 mm
- Top horizontal gap: 13 mm
- Left vertical gap: 48,4 mm
- Right vertical gap: 22,4 mm
- Bottom horizontal gap: 55,8 mm
- Left side height: 12,7 mm
- Right side height: 9,5 mm
- Bottom horizontal width: 39,5 mm
- Bottom right horizontal width: 80 mm
- Bottom left horizontal width: 55,8 mm
- Bottom center horizontal width: 25,7 mm
- Bottom center gap: 8 mm

Assembly components labeled include R040, R004, R056, R057, and FF-5681.

contents								
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In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.

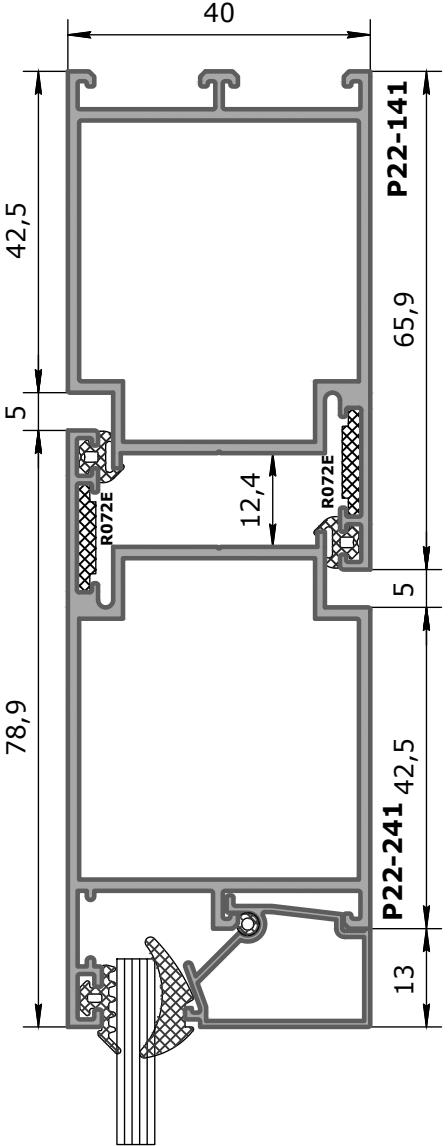
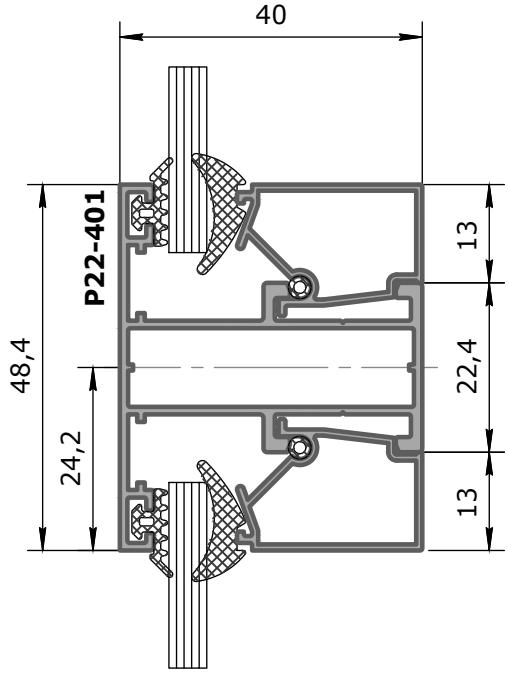
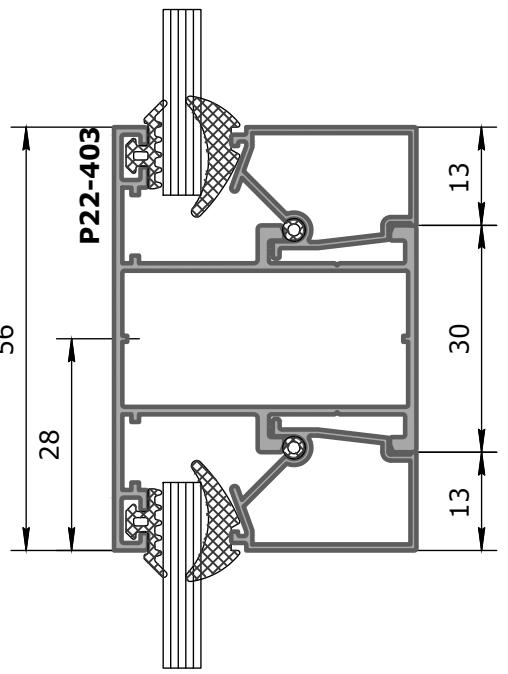


Any separate lever handle twin set with maximum plate width of 38 mm may be used as a door handle. If a handle twin set combined with cylinder plate is used, center-to-center distance of lock being used (85 mm) must be taken into consideration.

It is possible to install a lock with maximum front plate width of 25 mm.

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	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents																																																							
			<table border="1"> <thead> <tr> <th>equipment and tools</th><th>connections</th><th>stained glass insulation</th><th>sub-assemblies</th><th>additional solutions</th><th>fittings layout</th><th>sub-assemblies</th><th>glazing tables</th><th>sections</th><th>profiles (1:1)</th><th>scope of delivery</th><th>profiles</th><th>contents</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents																																																				
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents

F161-2  
+ FF-6624Va

P22-302

67

29,5

13

78,9

R072E

R072E

S003 pitch 300

R045E

P22-143

65,9

30

30

13

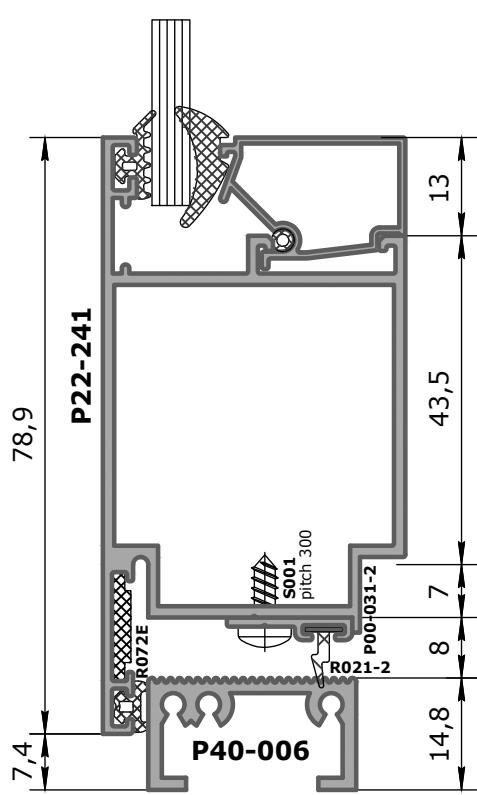
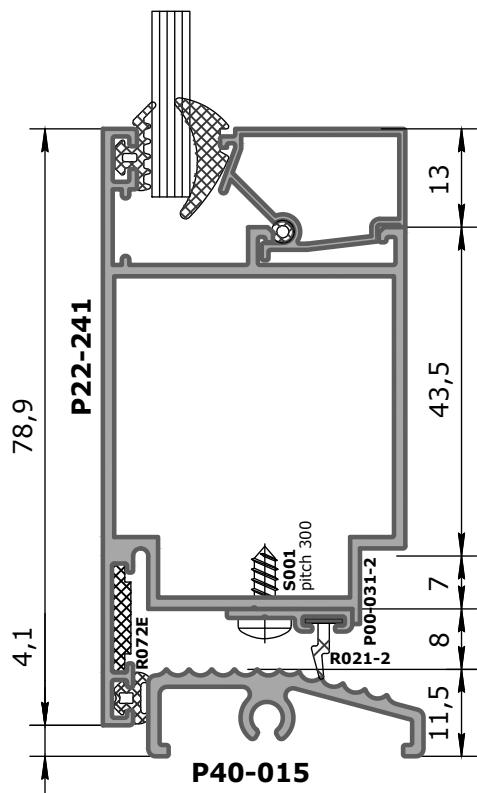
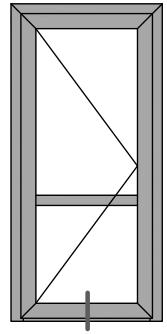
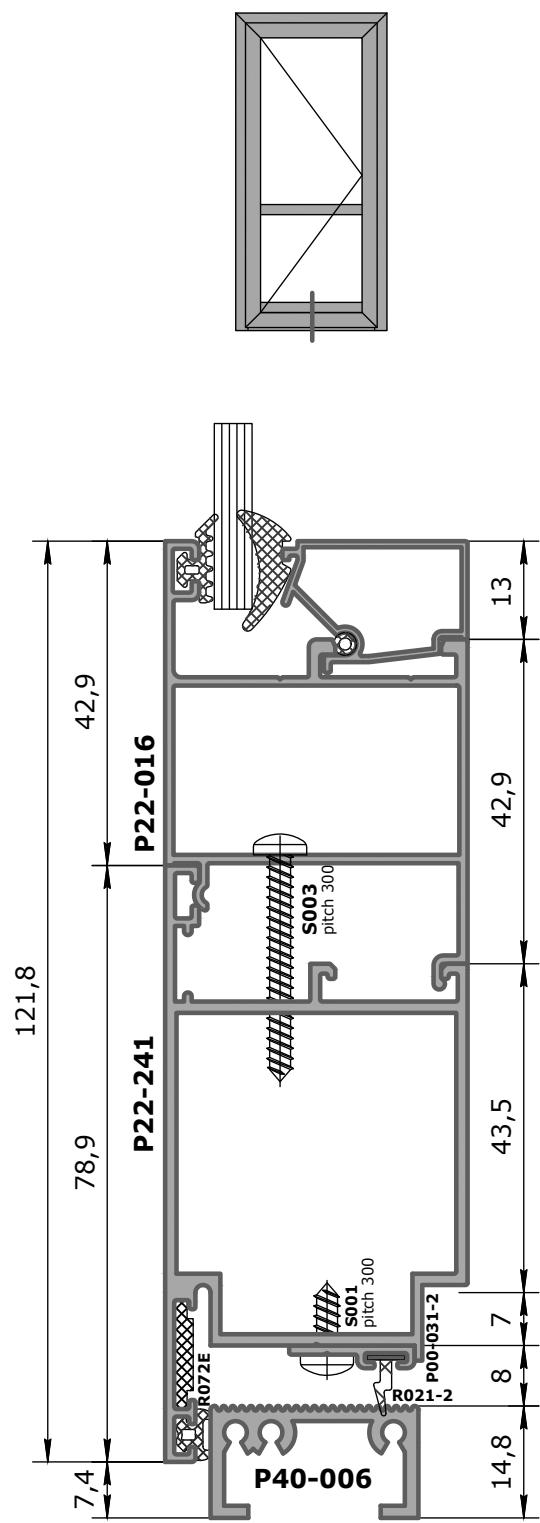
40

P22-241

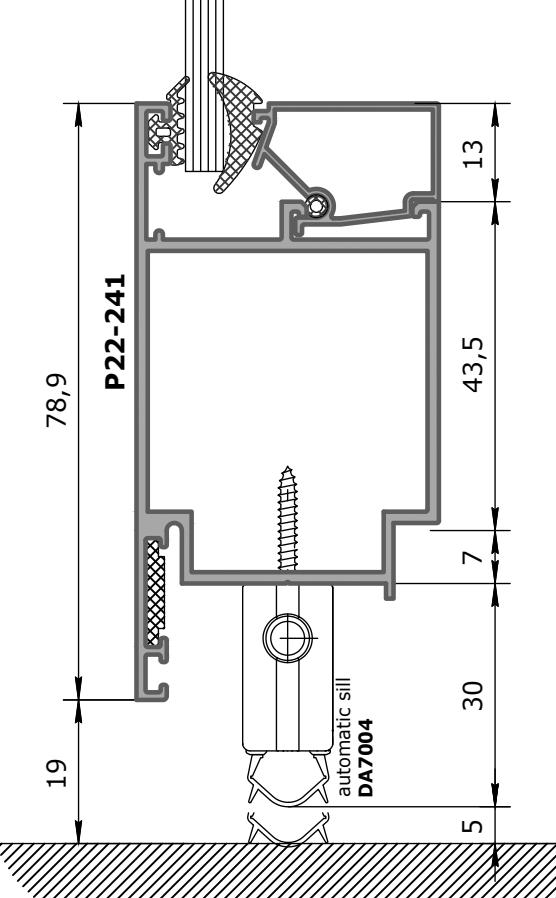
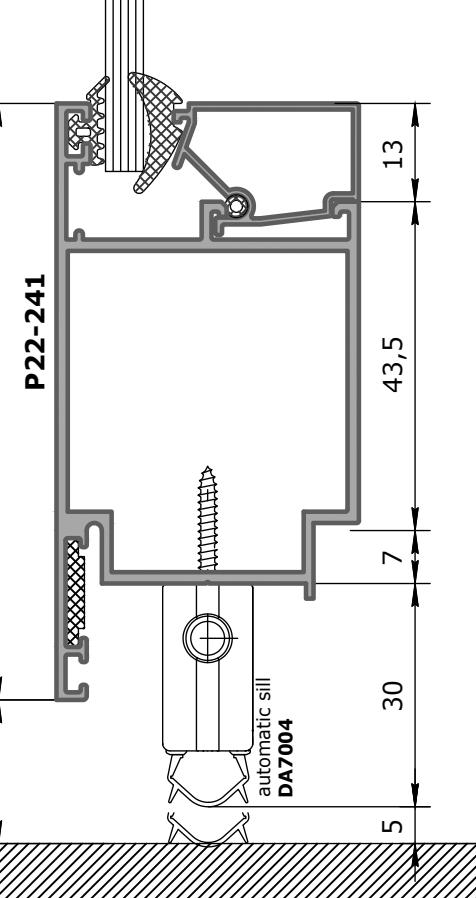
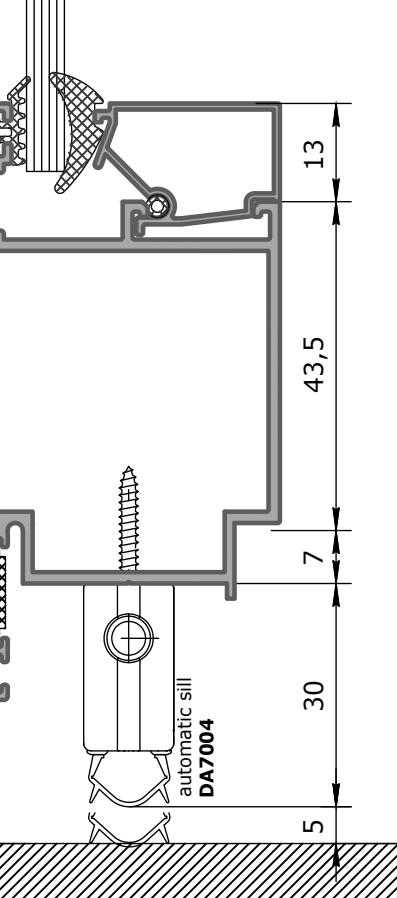
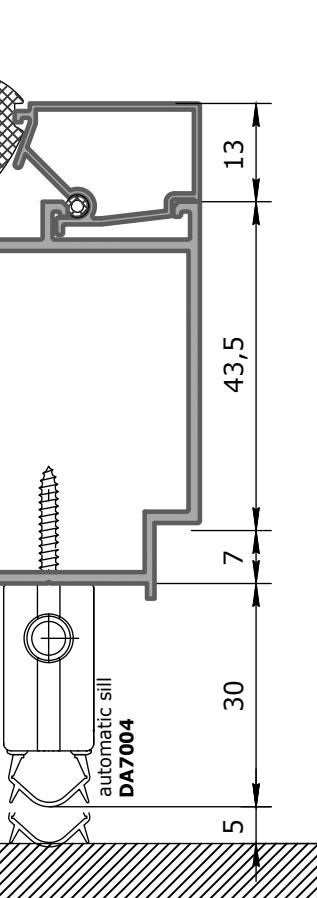
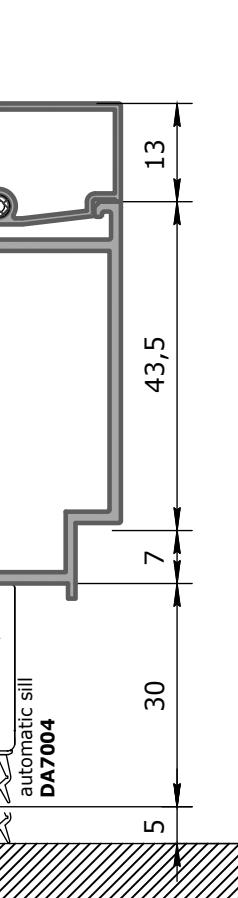
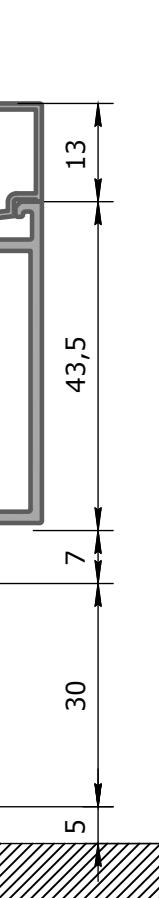
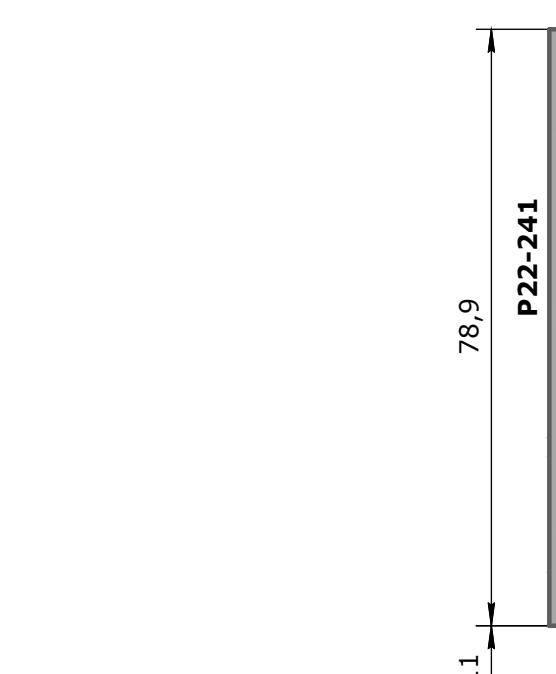
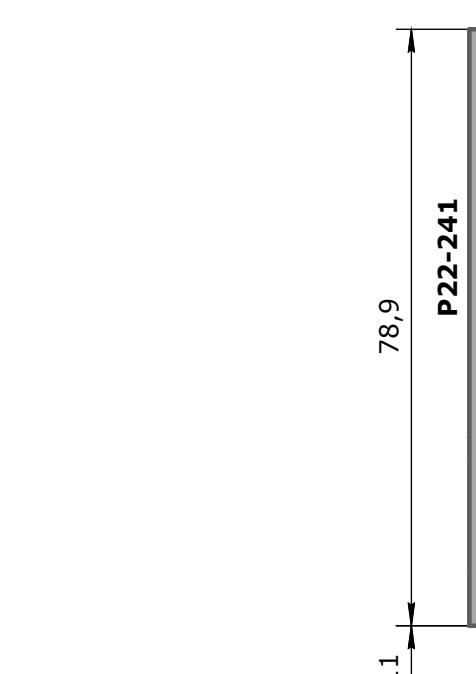
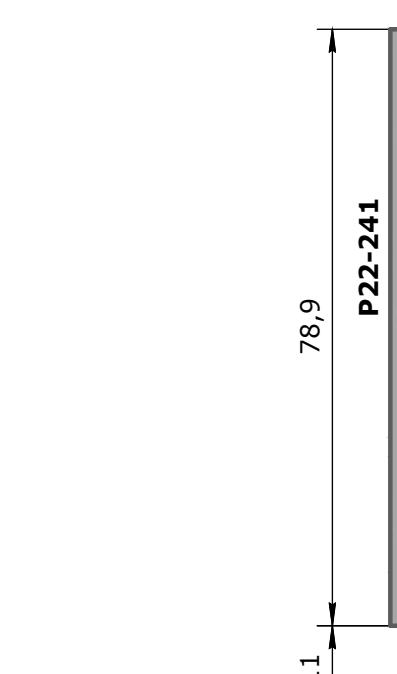
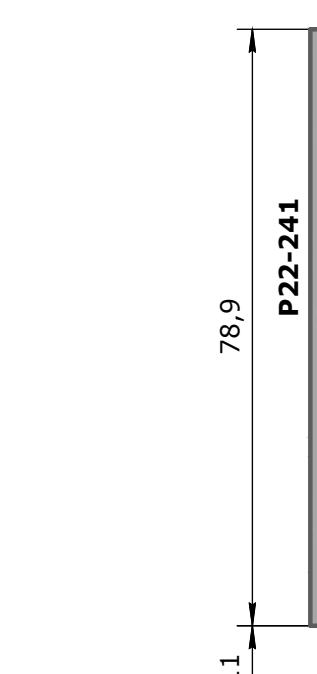
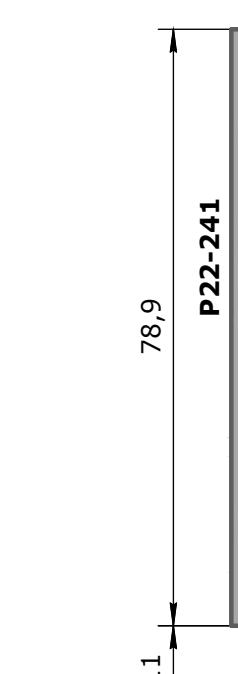
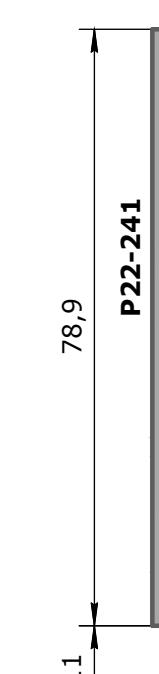
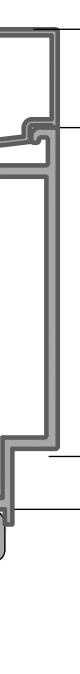
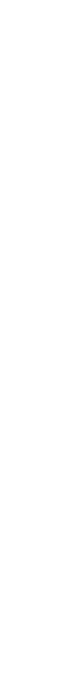
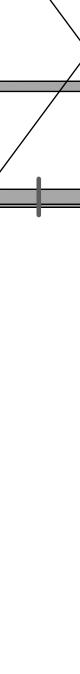
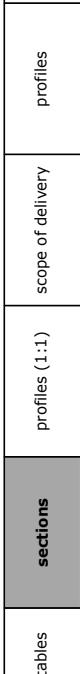
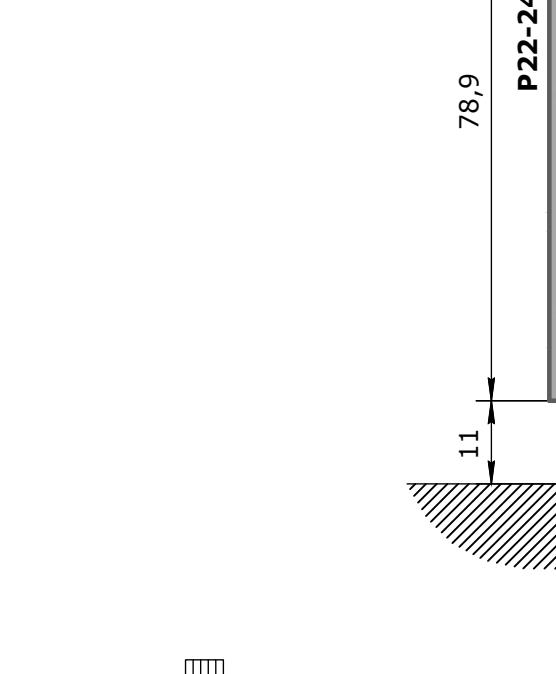
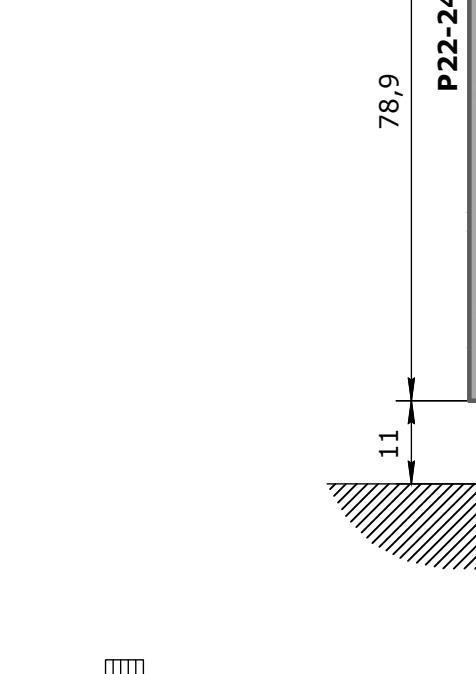
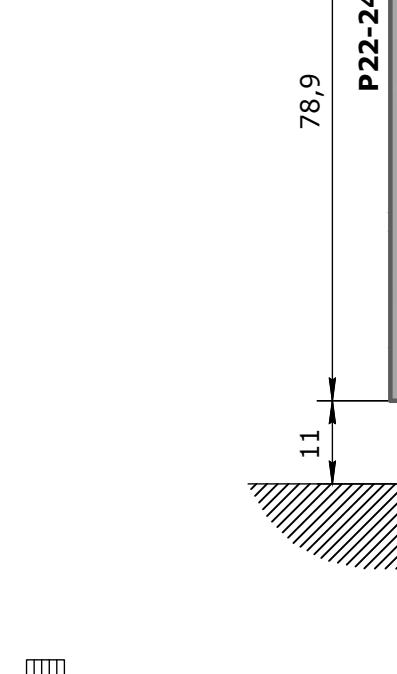
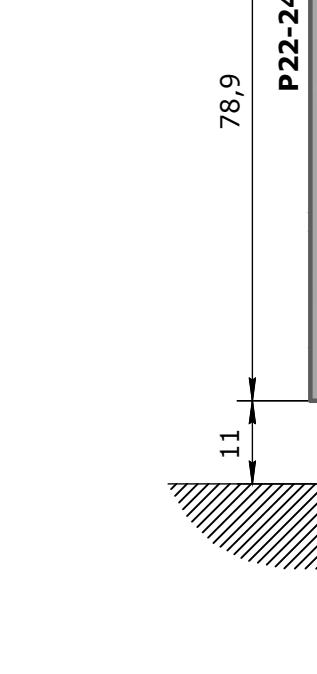
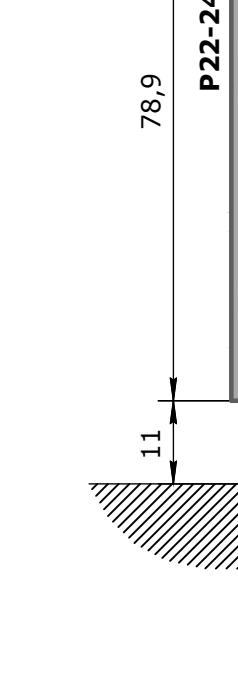
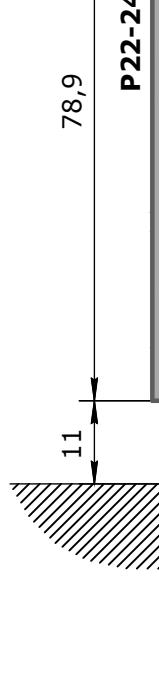
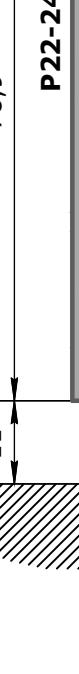
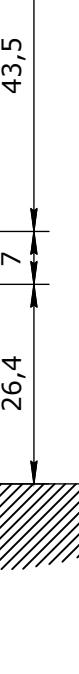
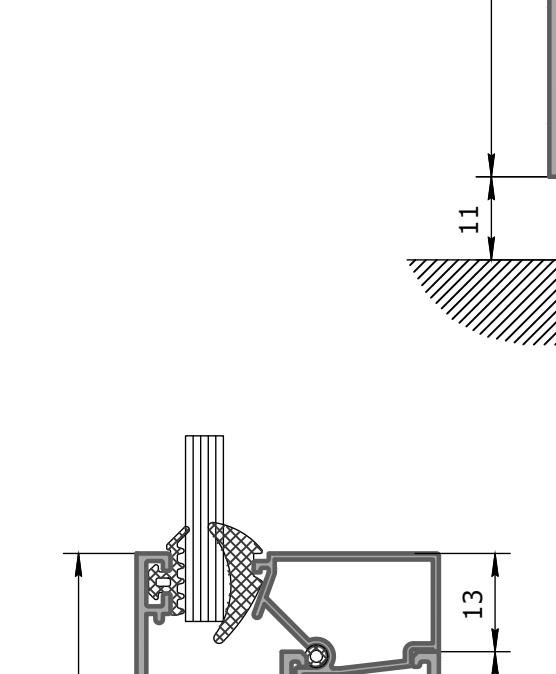
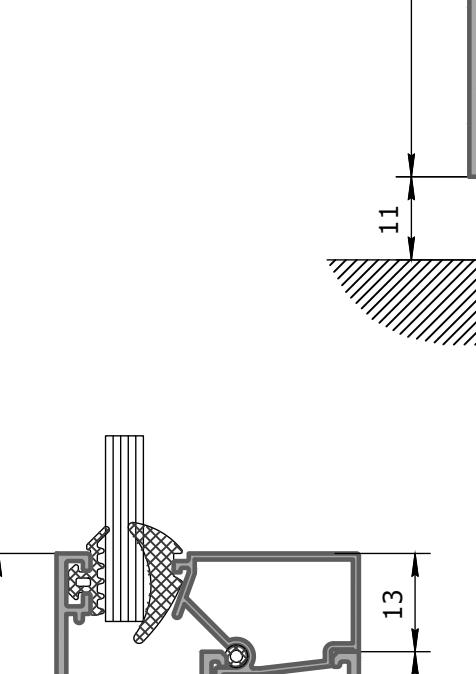
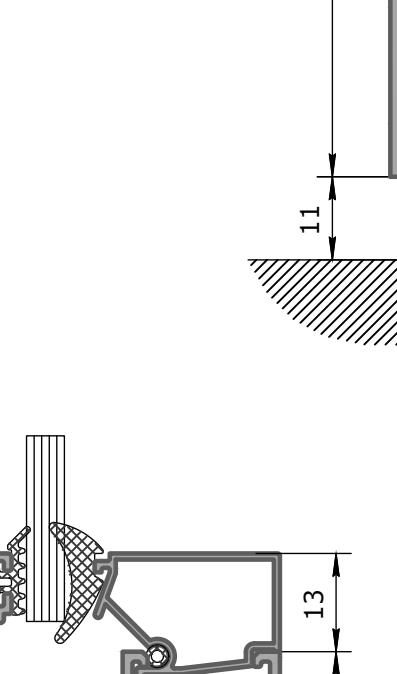
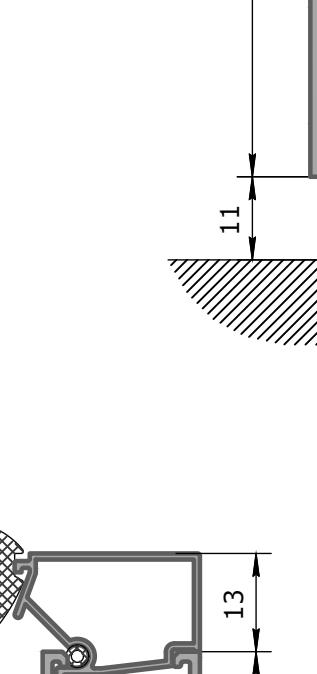
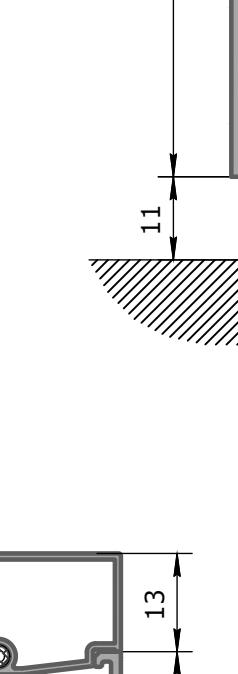
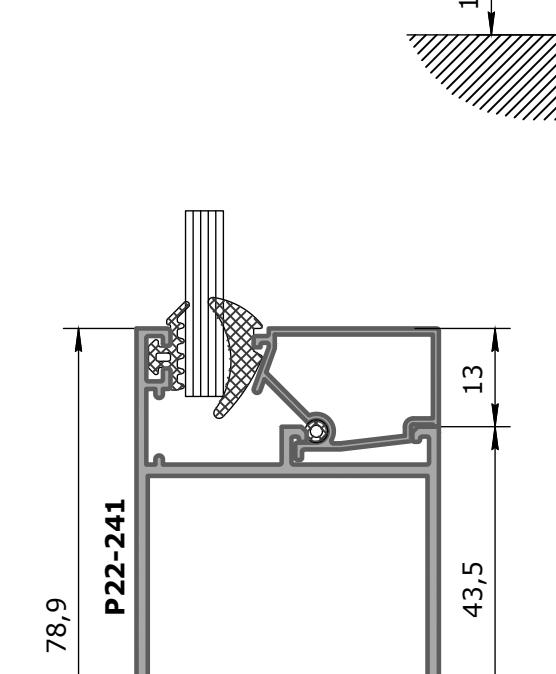
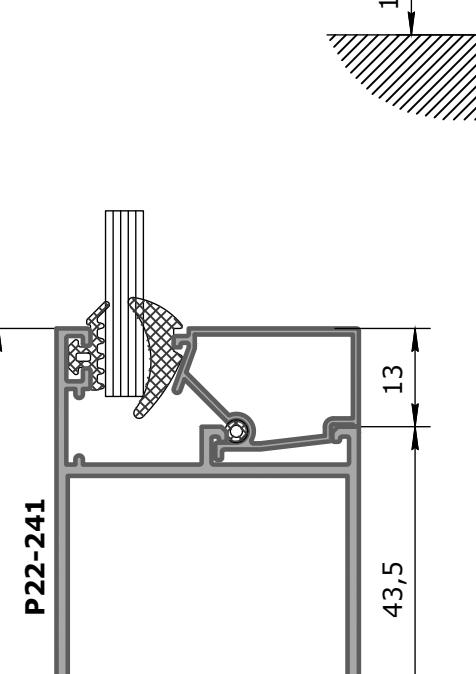
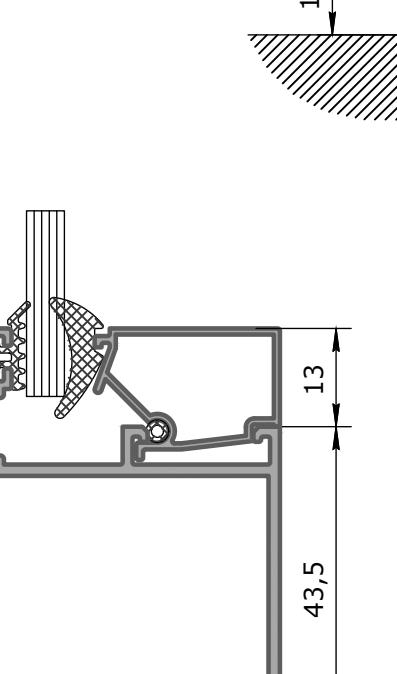
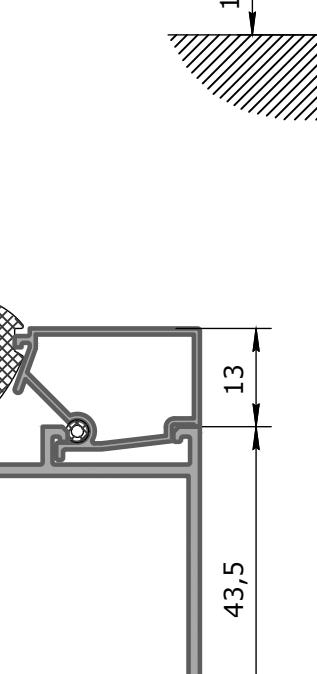
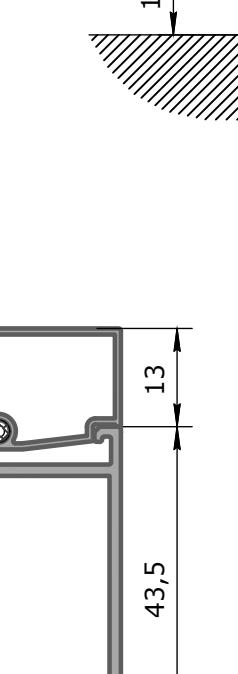
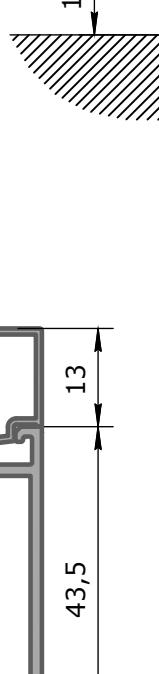
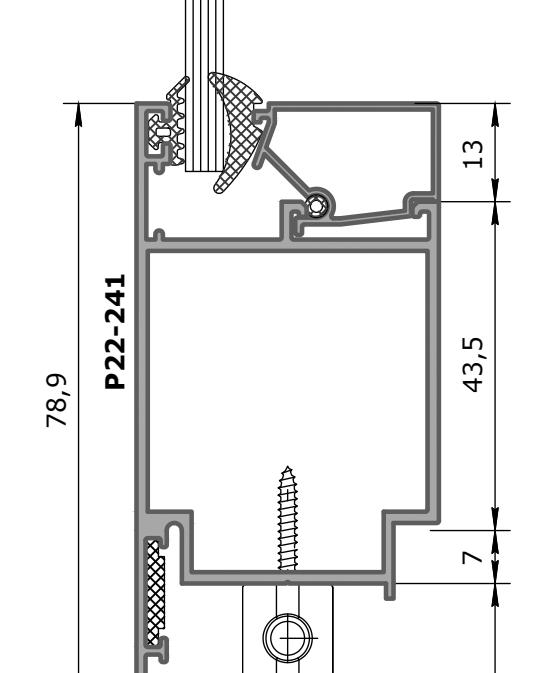
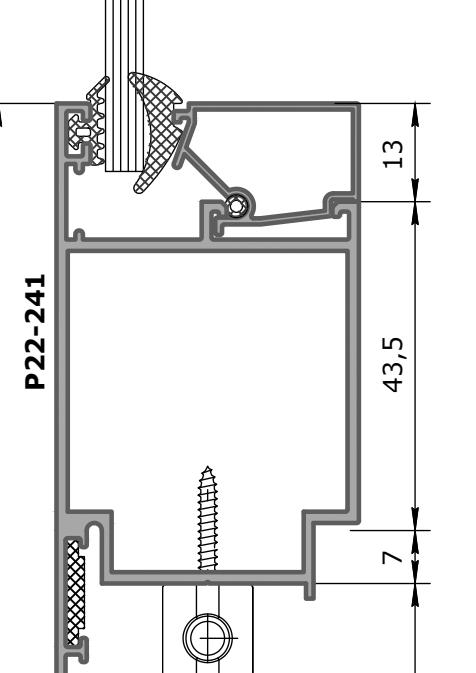
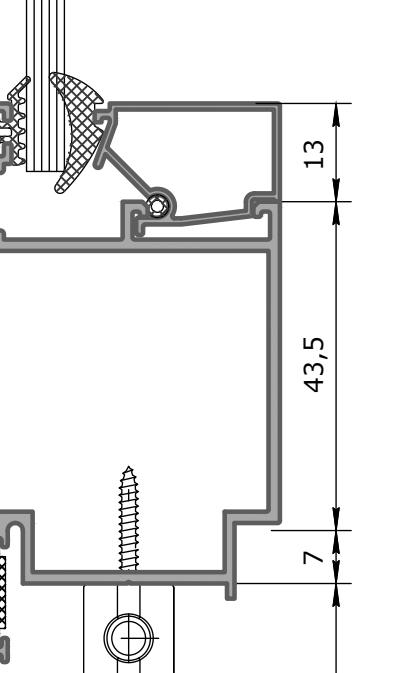
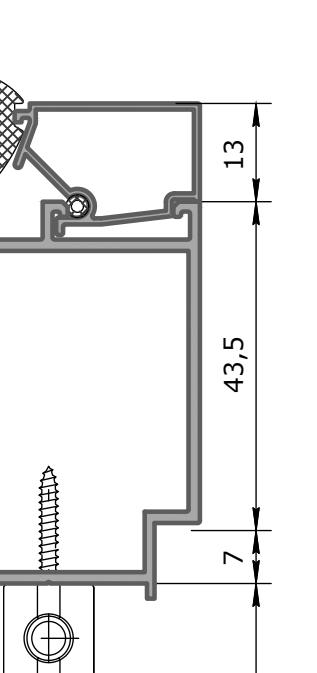
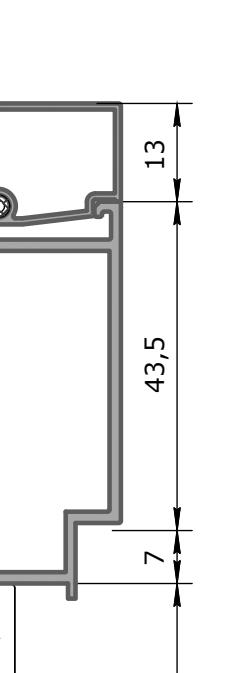
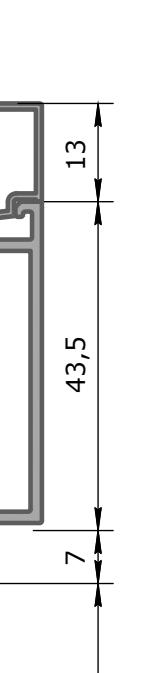
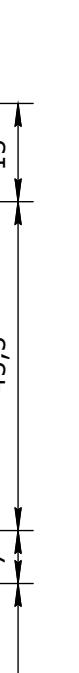
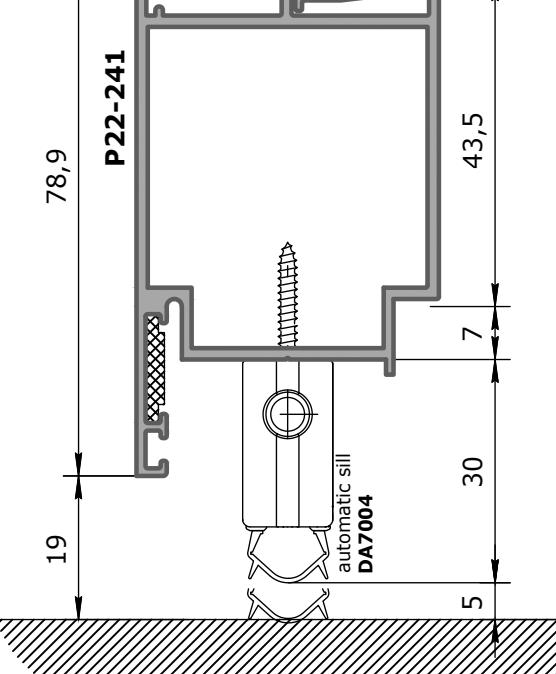
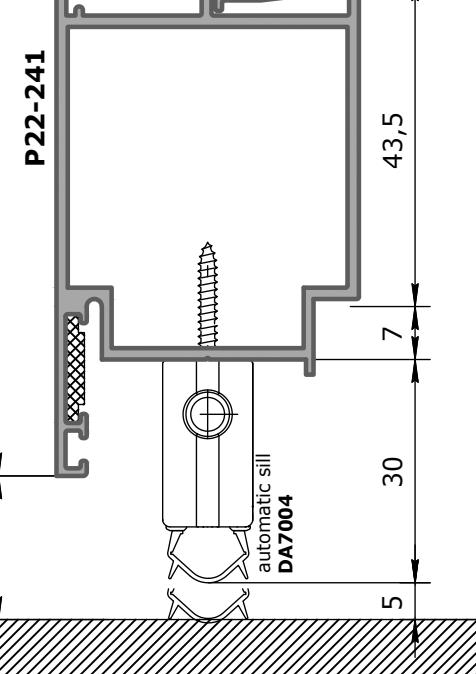
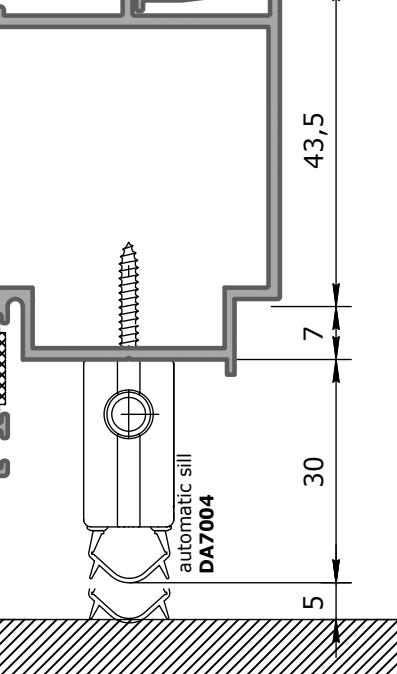
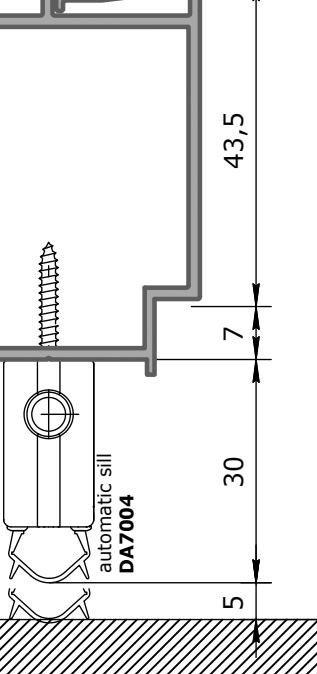
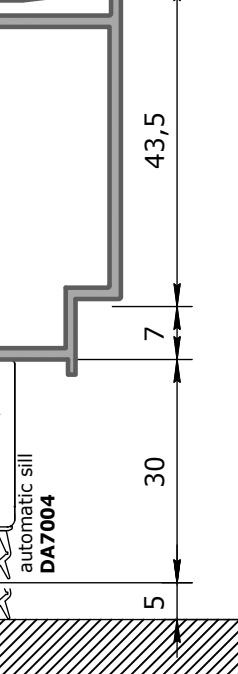
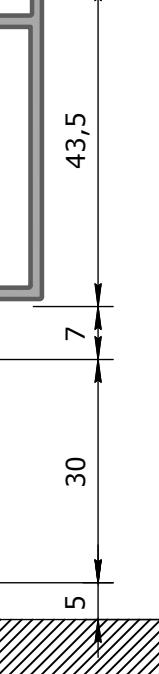
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In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.

contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
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	sections	glazing tables	sub-assemblies	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
	profiles (1:1)	scope of delivery	profiles	contents					

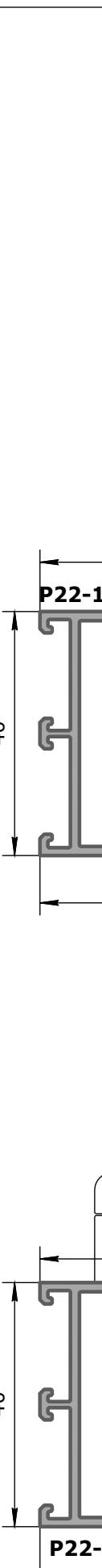
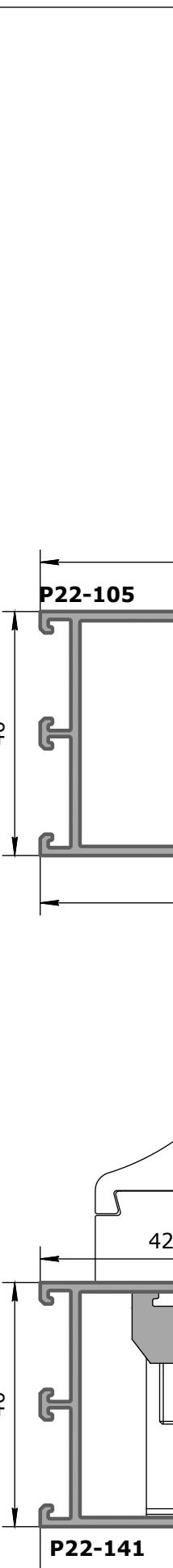
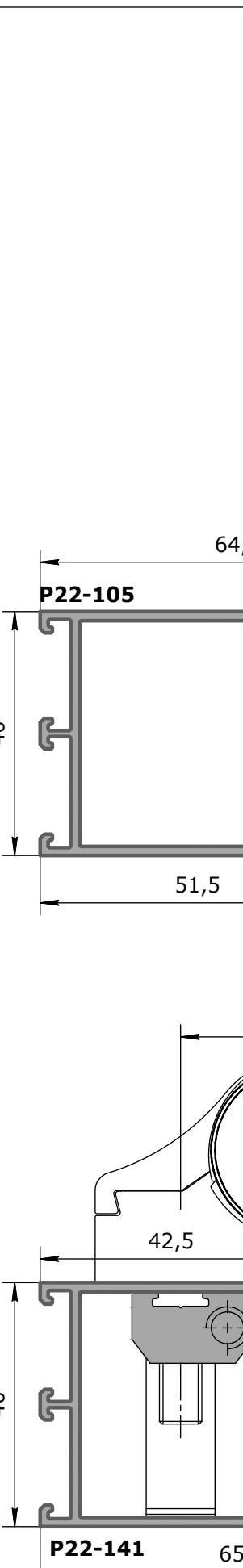
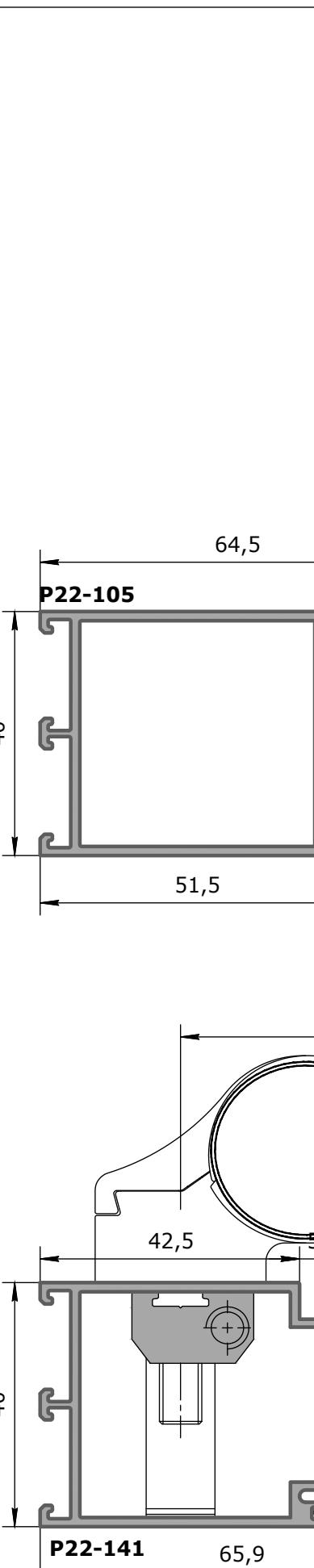
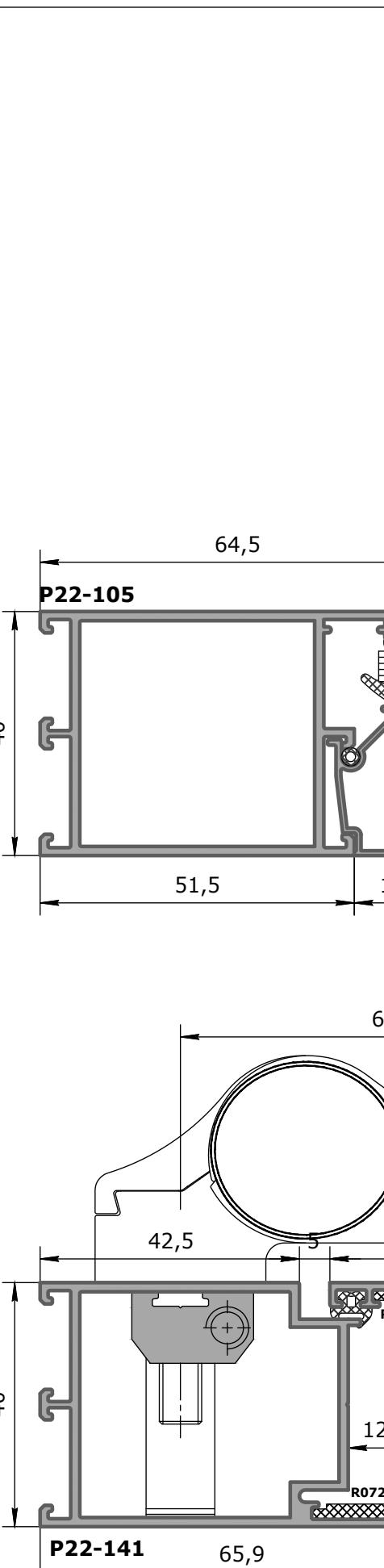
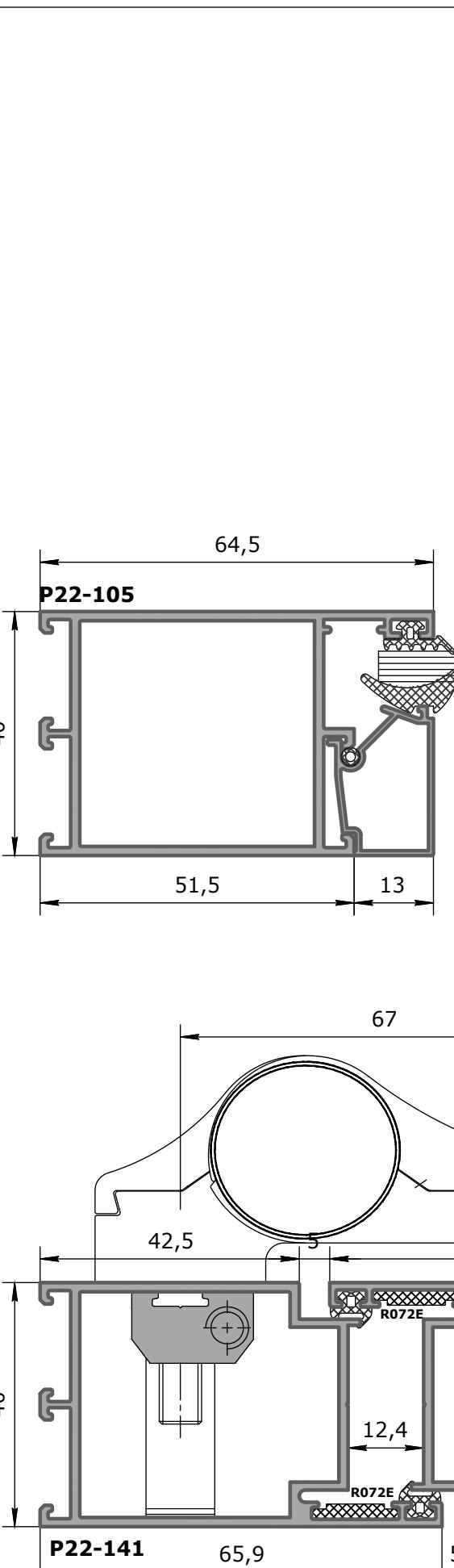
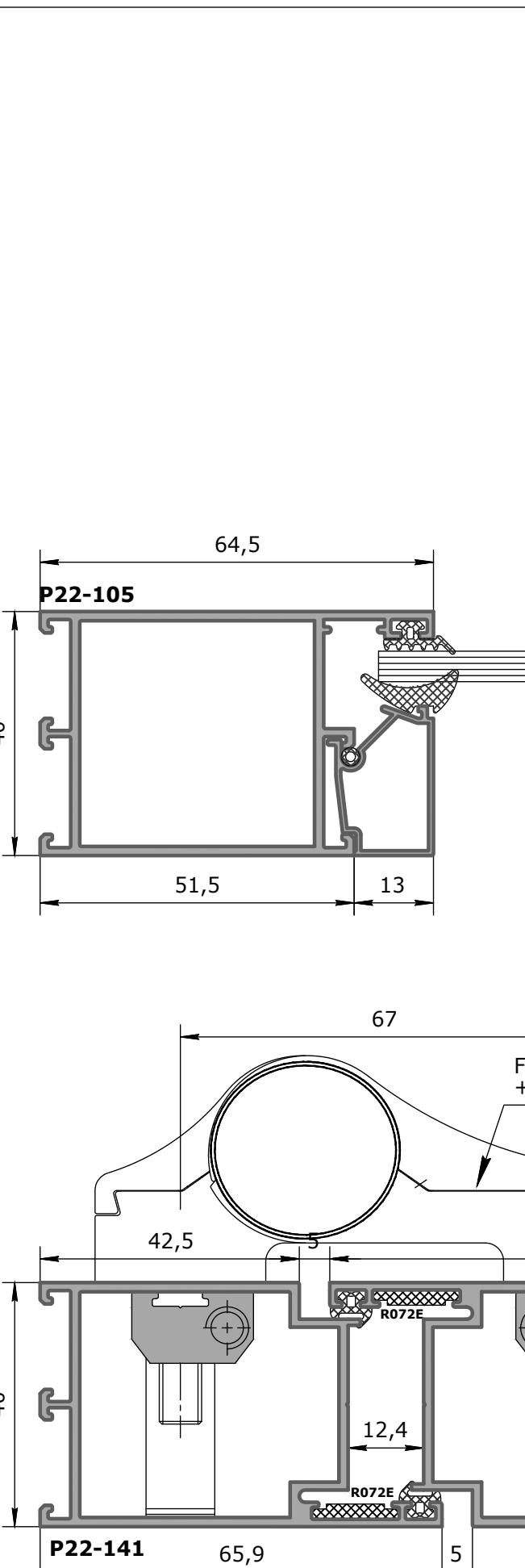
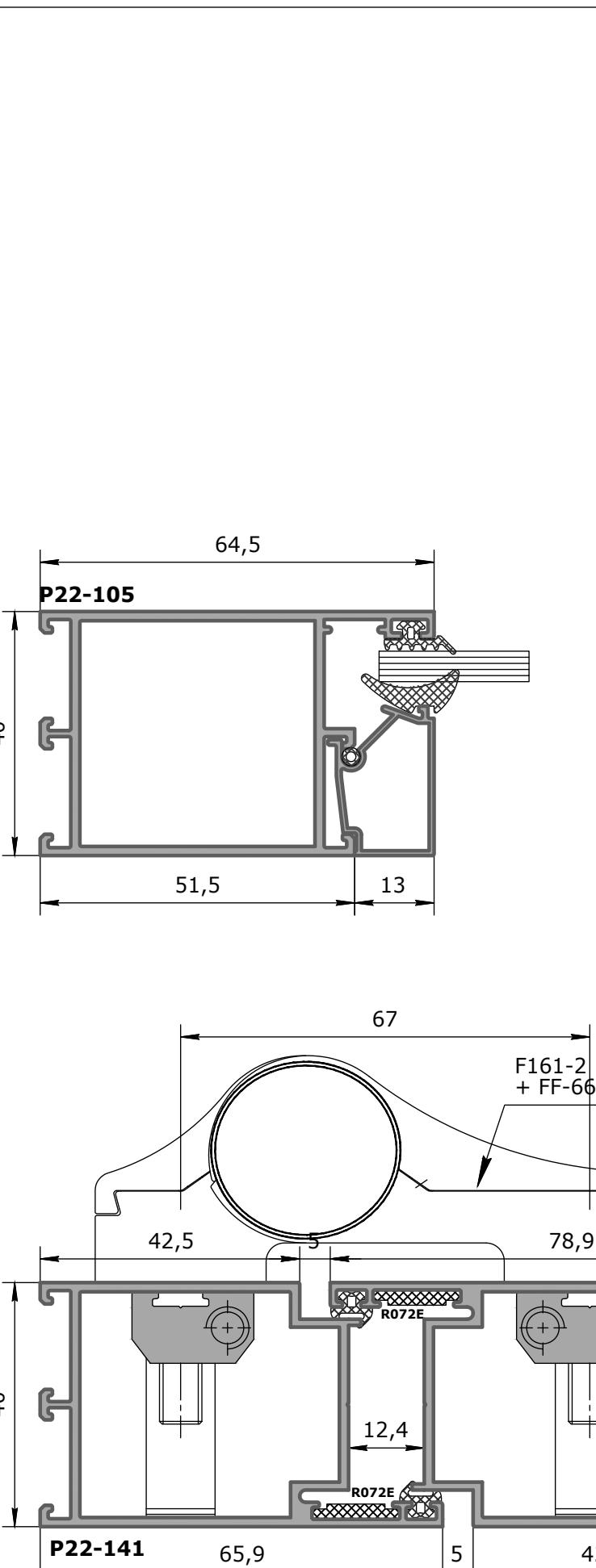
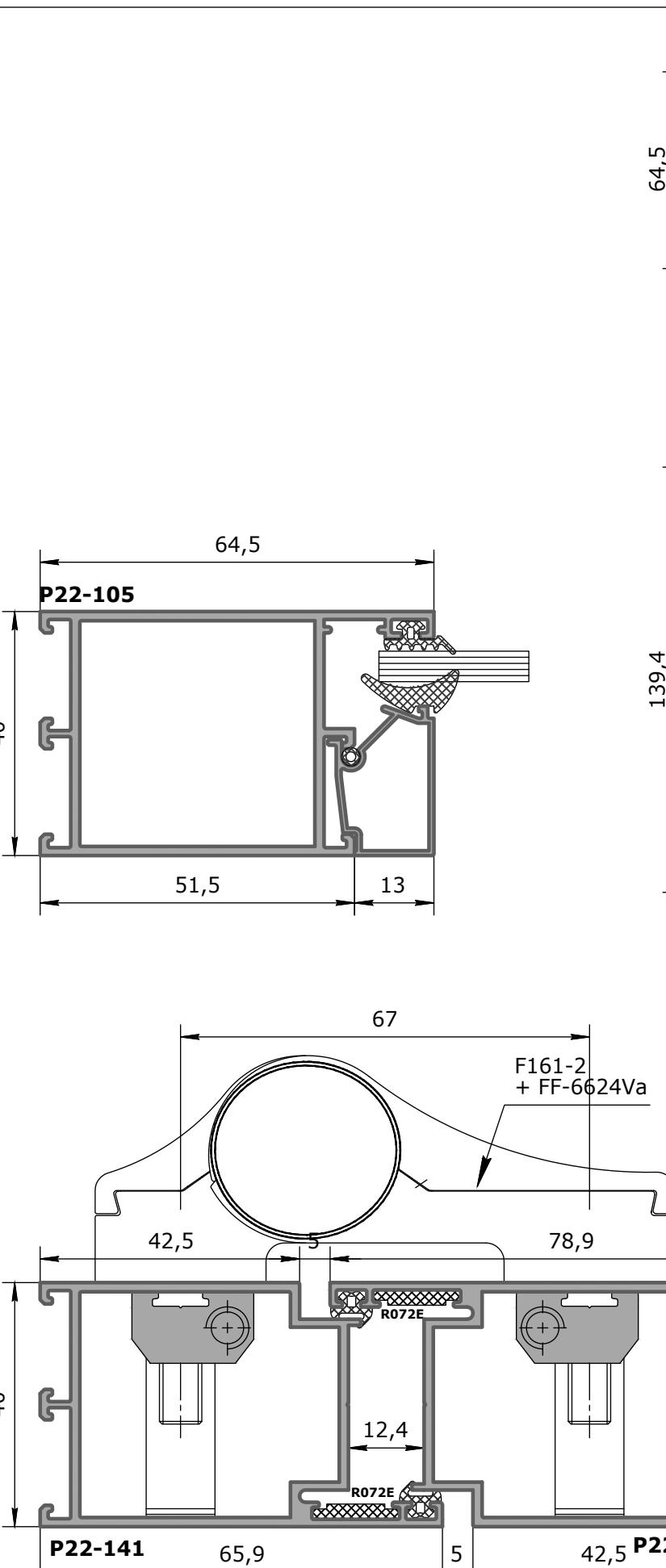
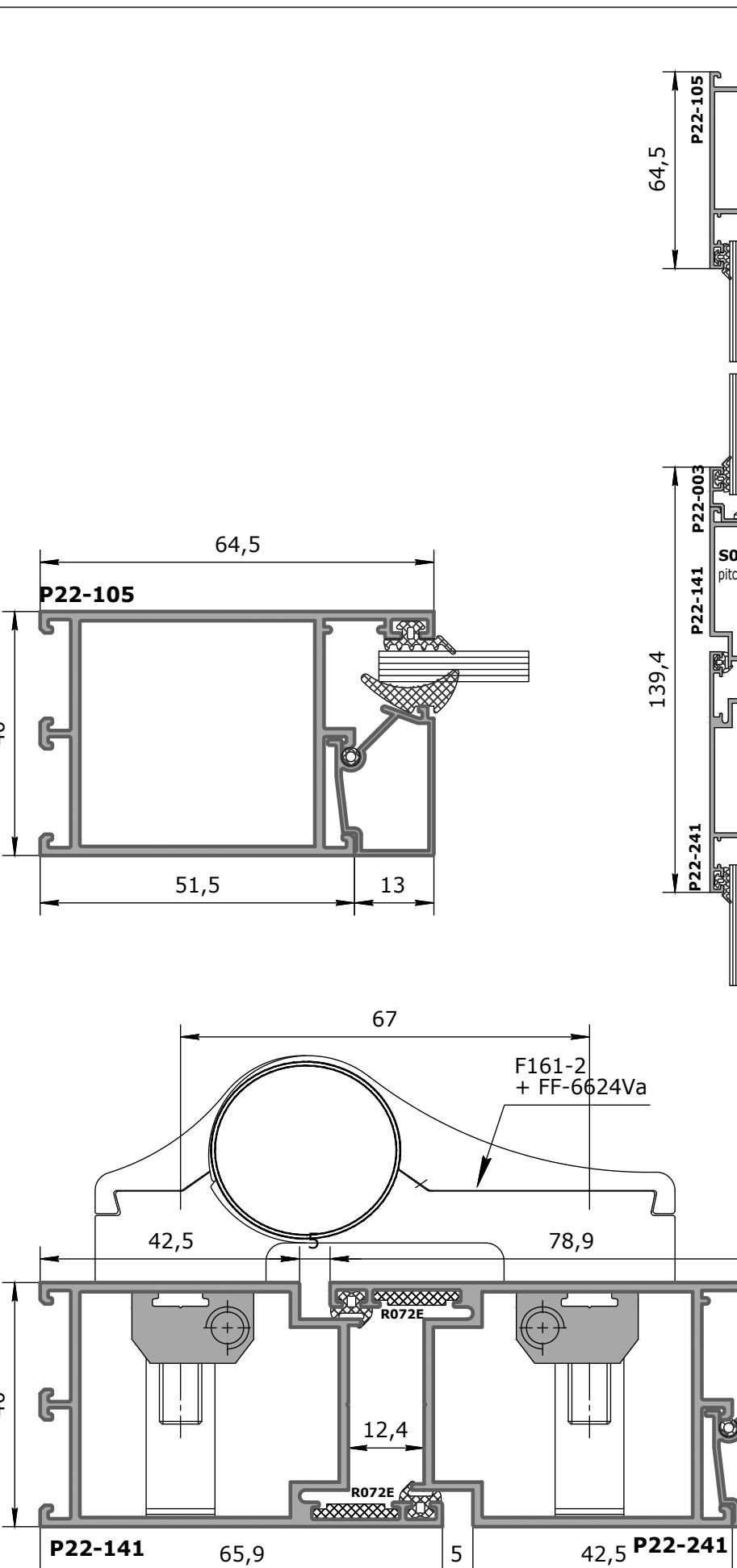
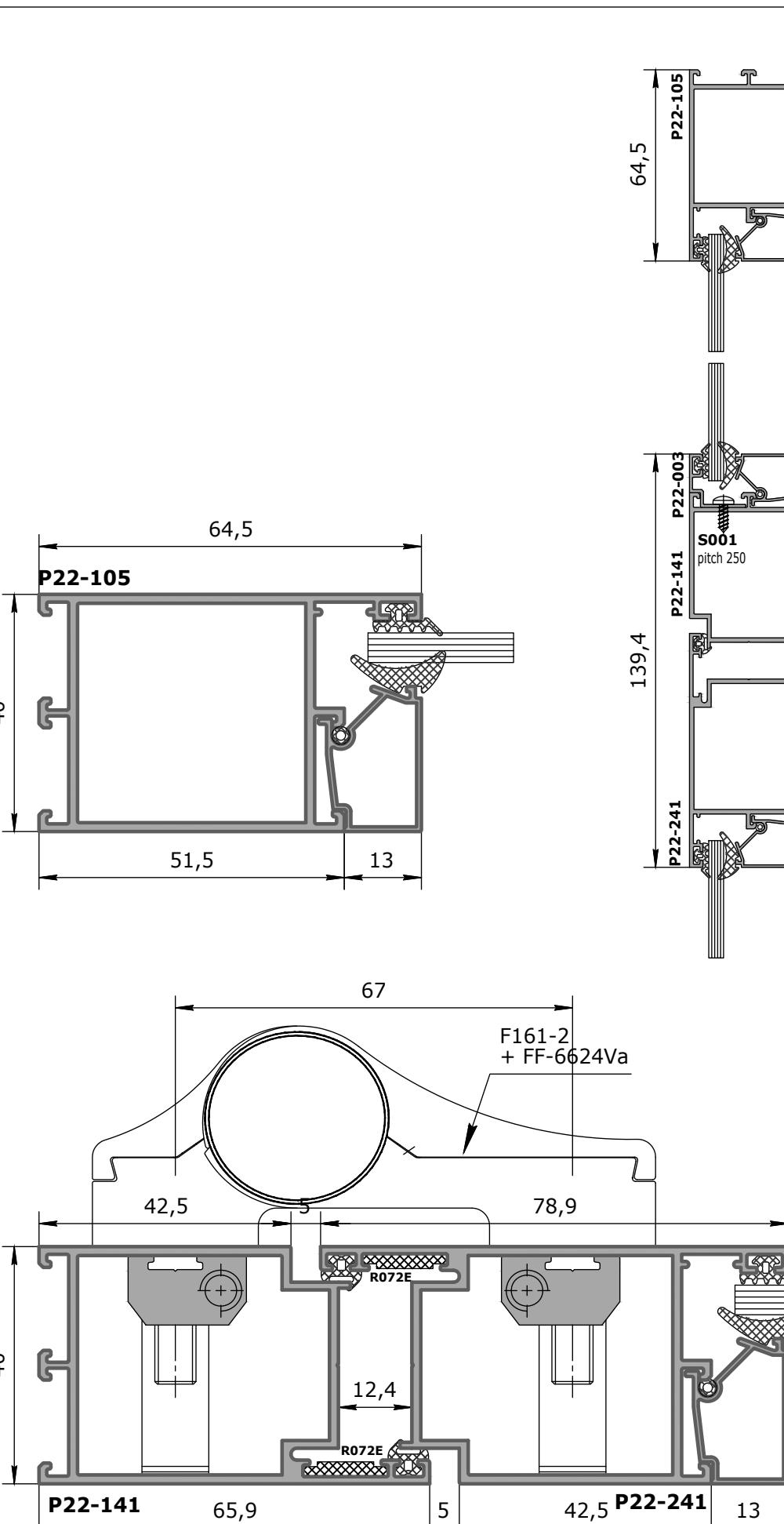
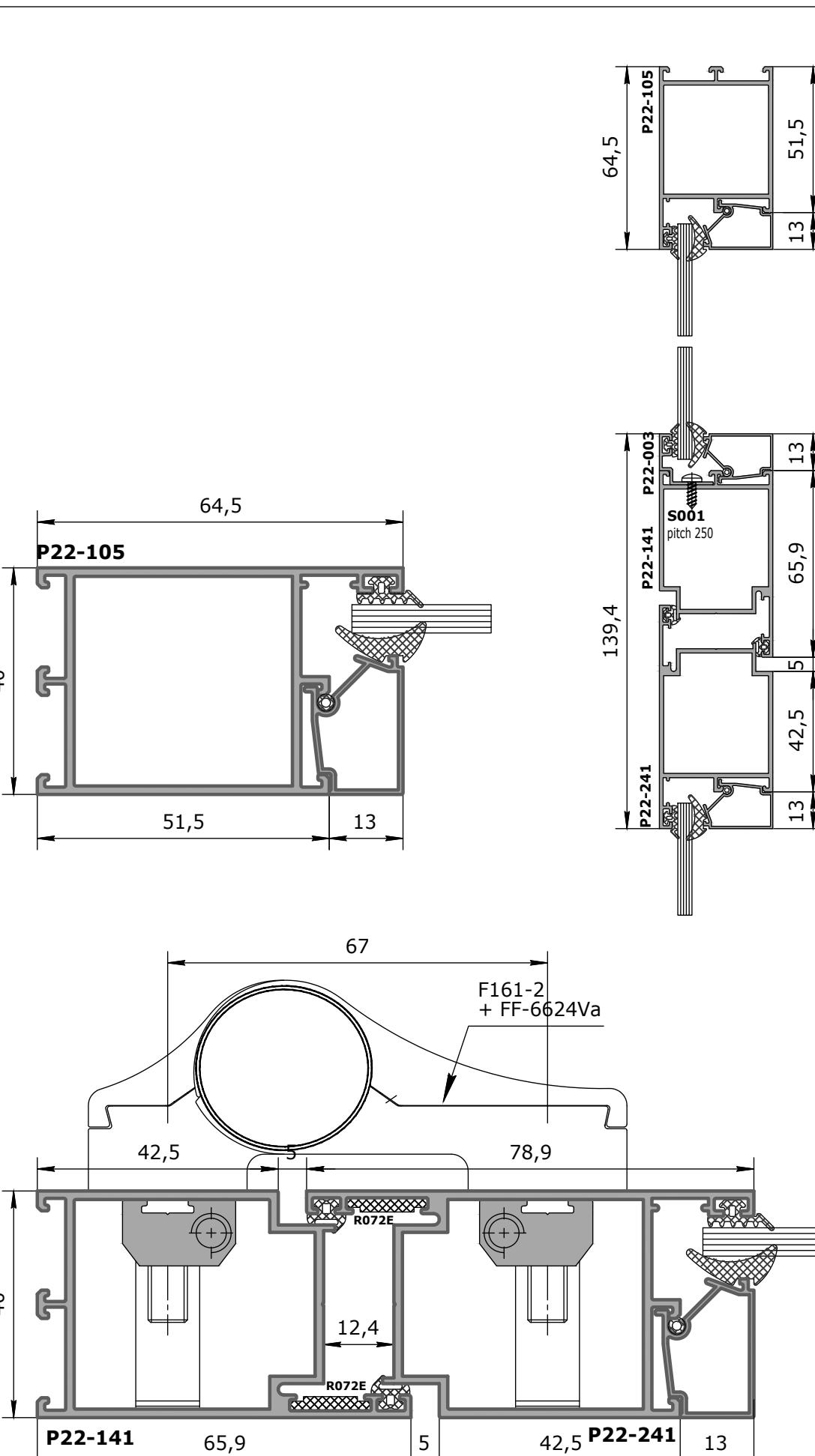
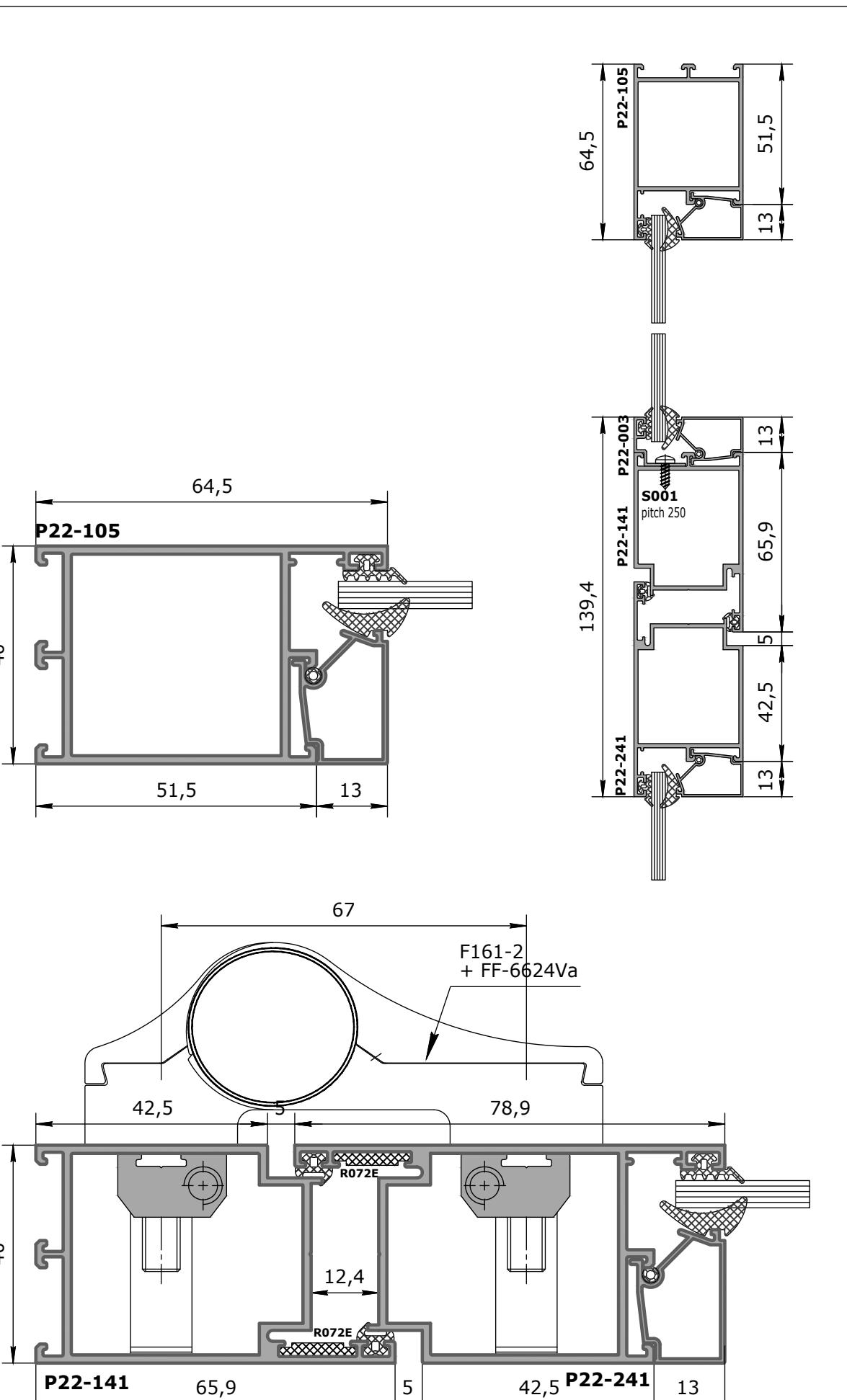
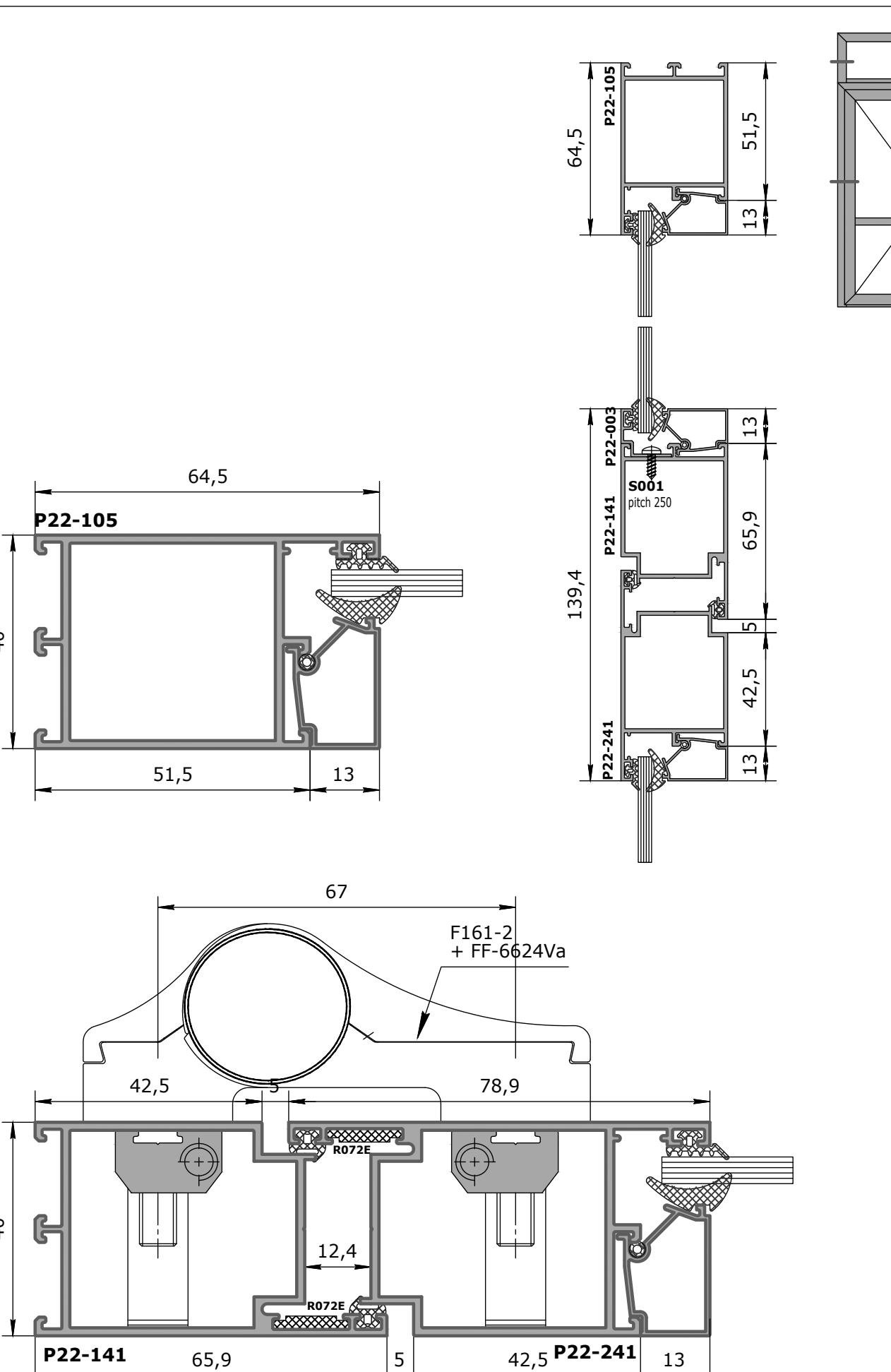
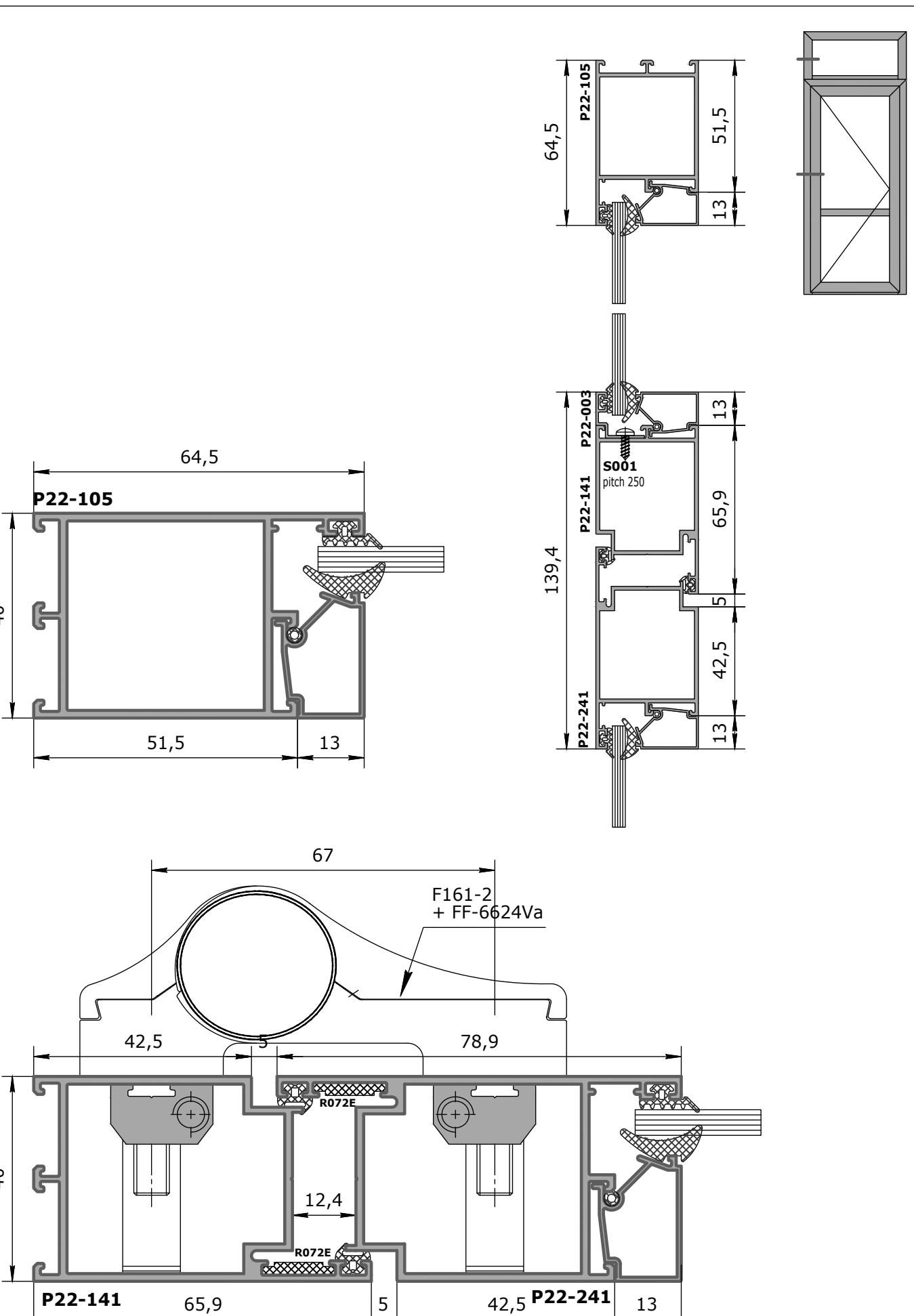
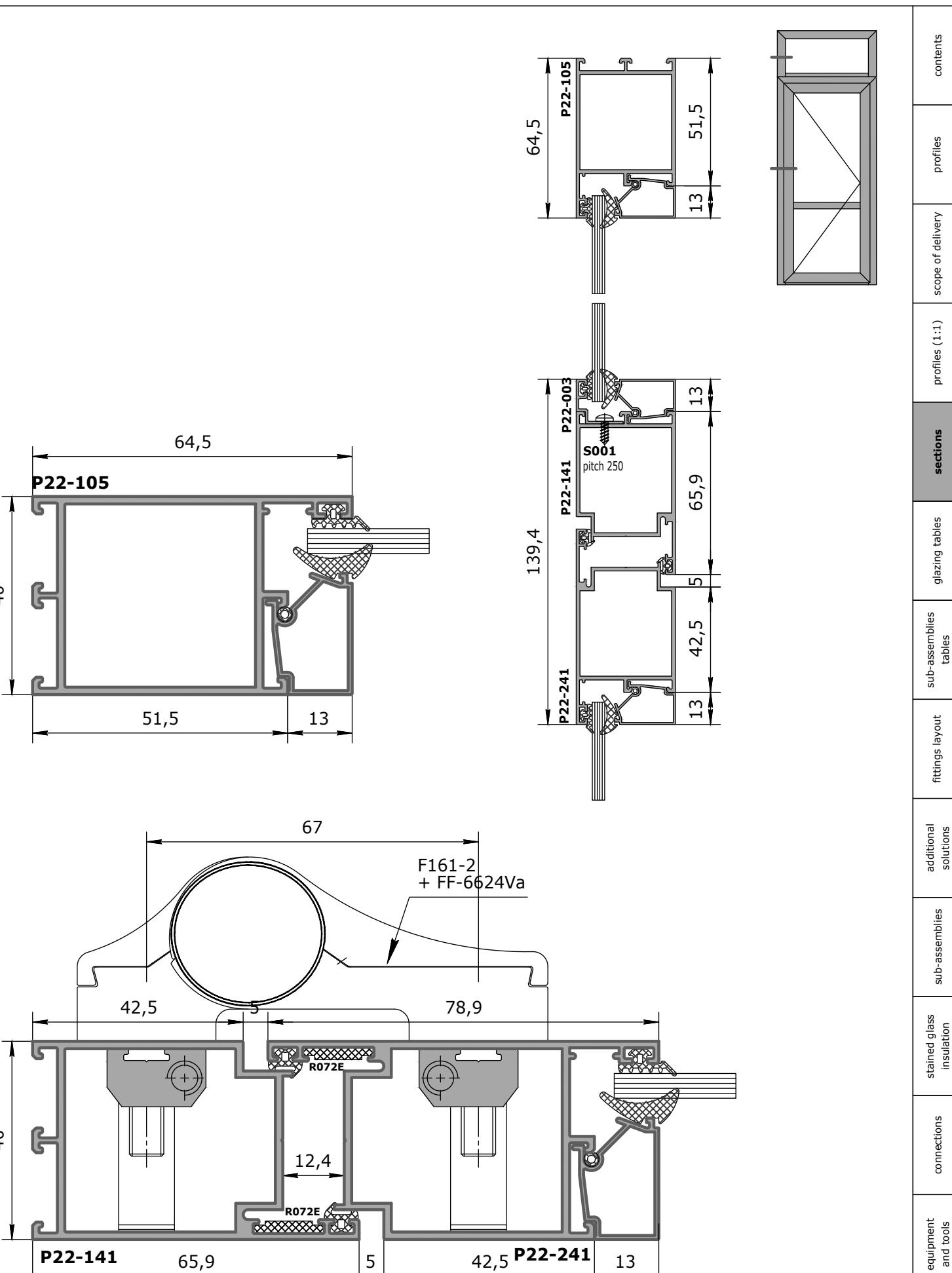
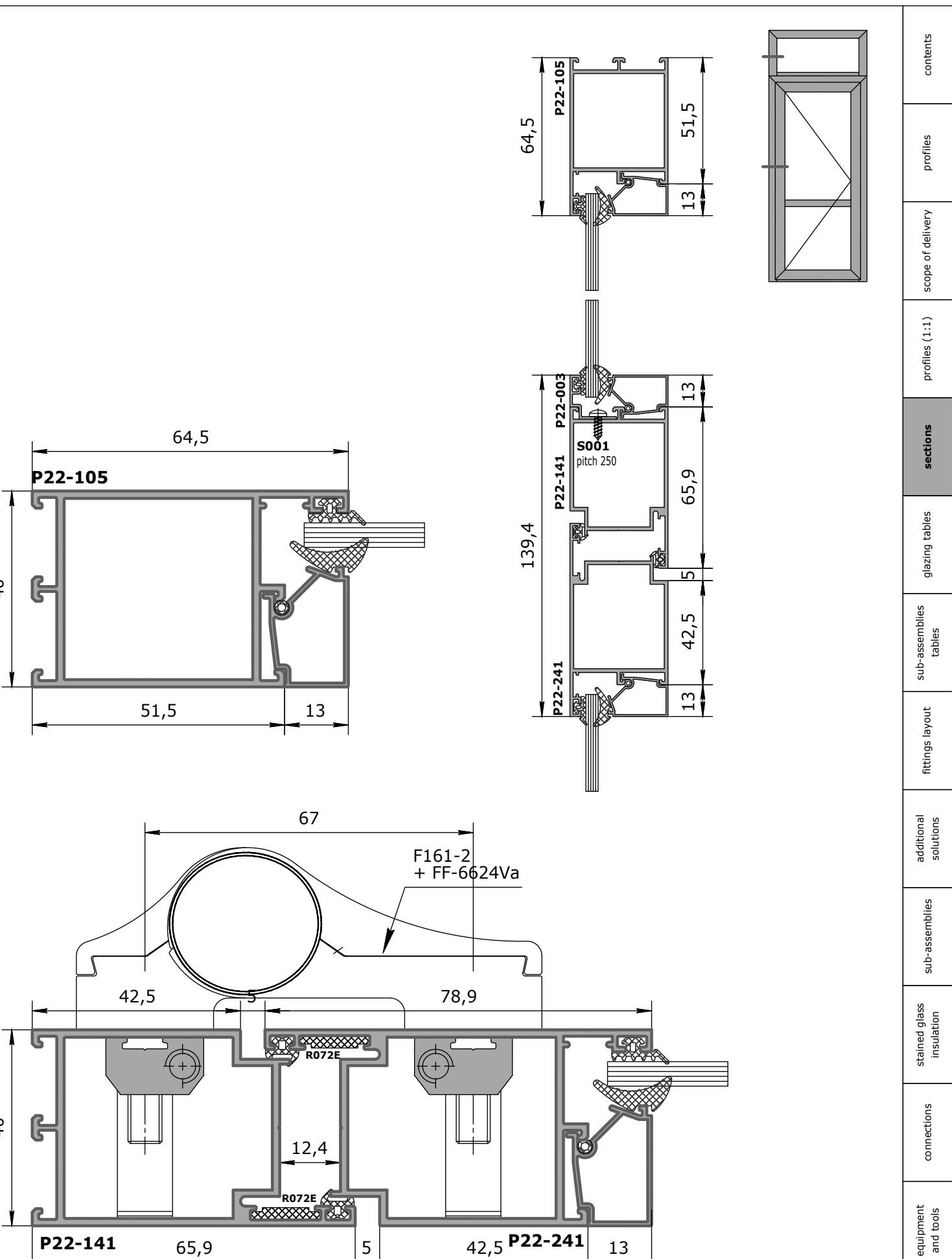
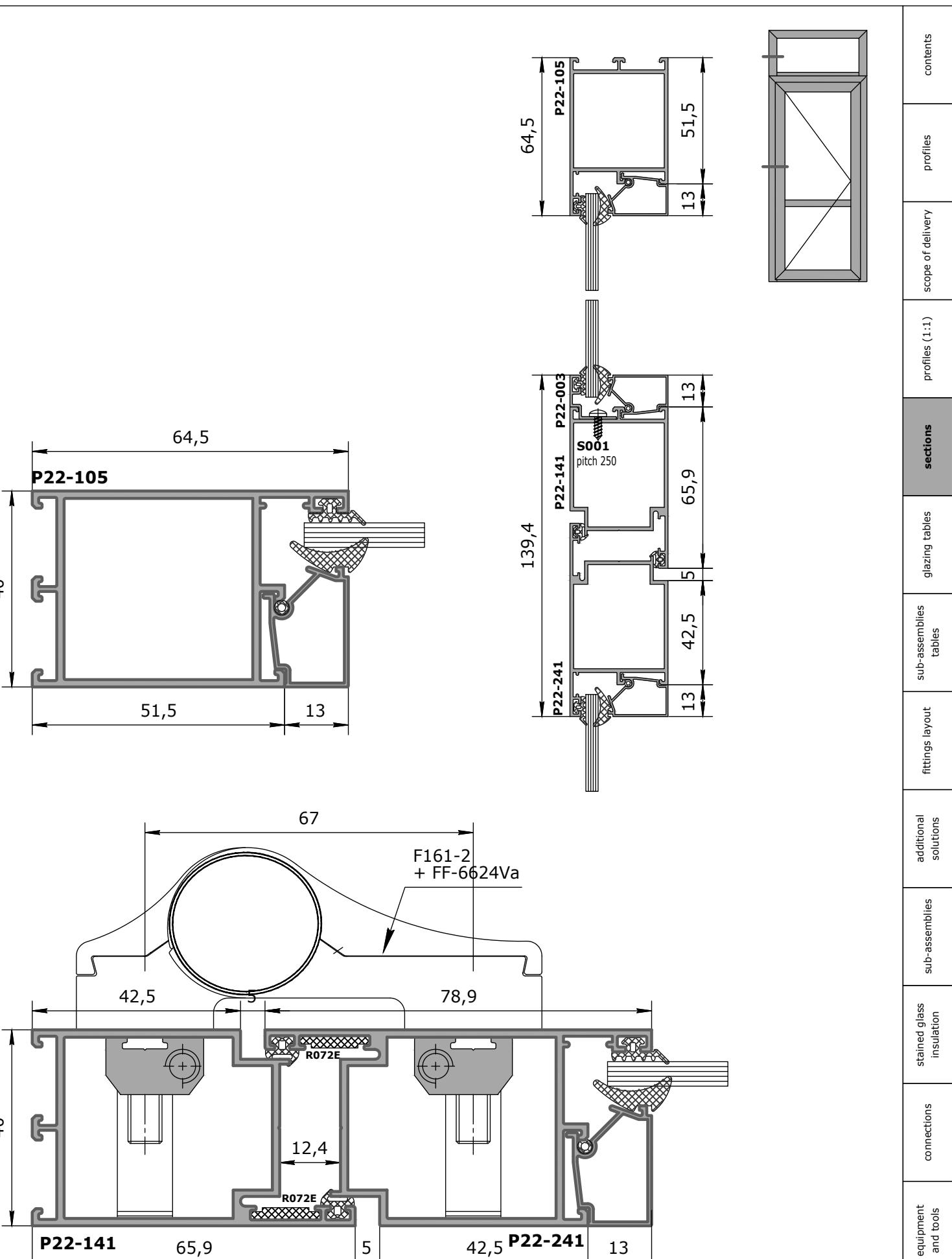
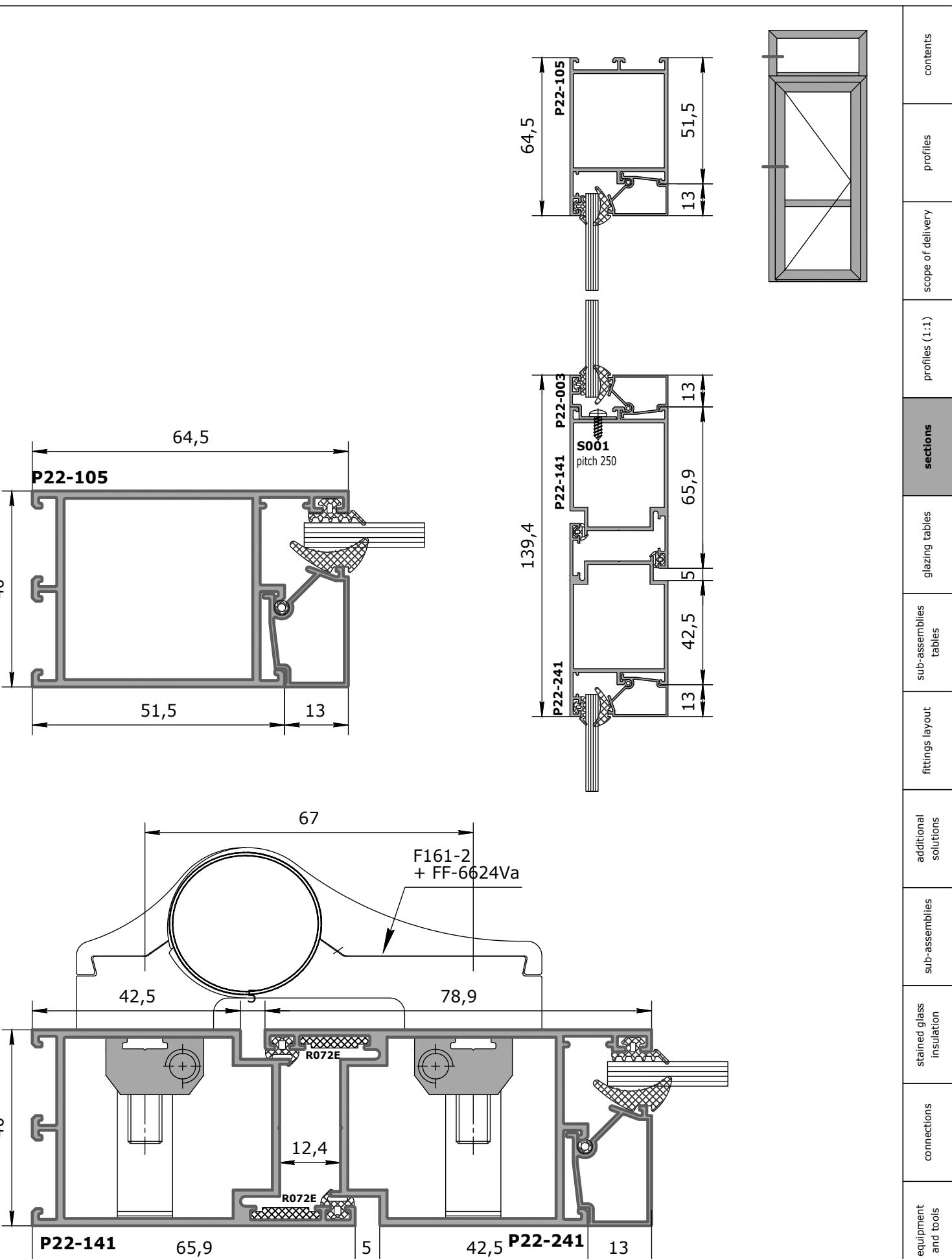
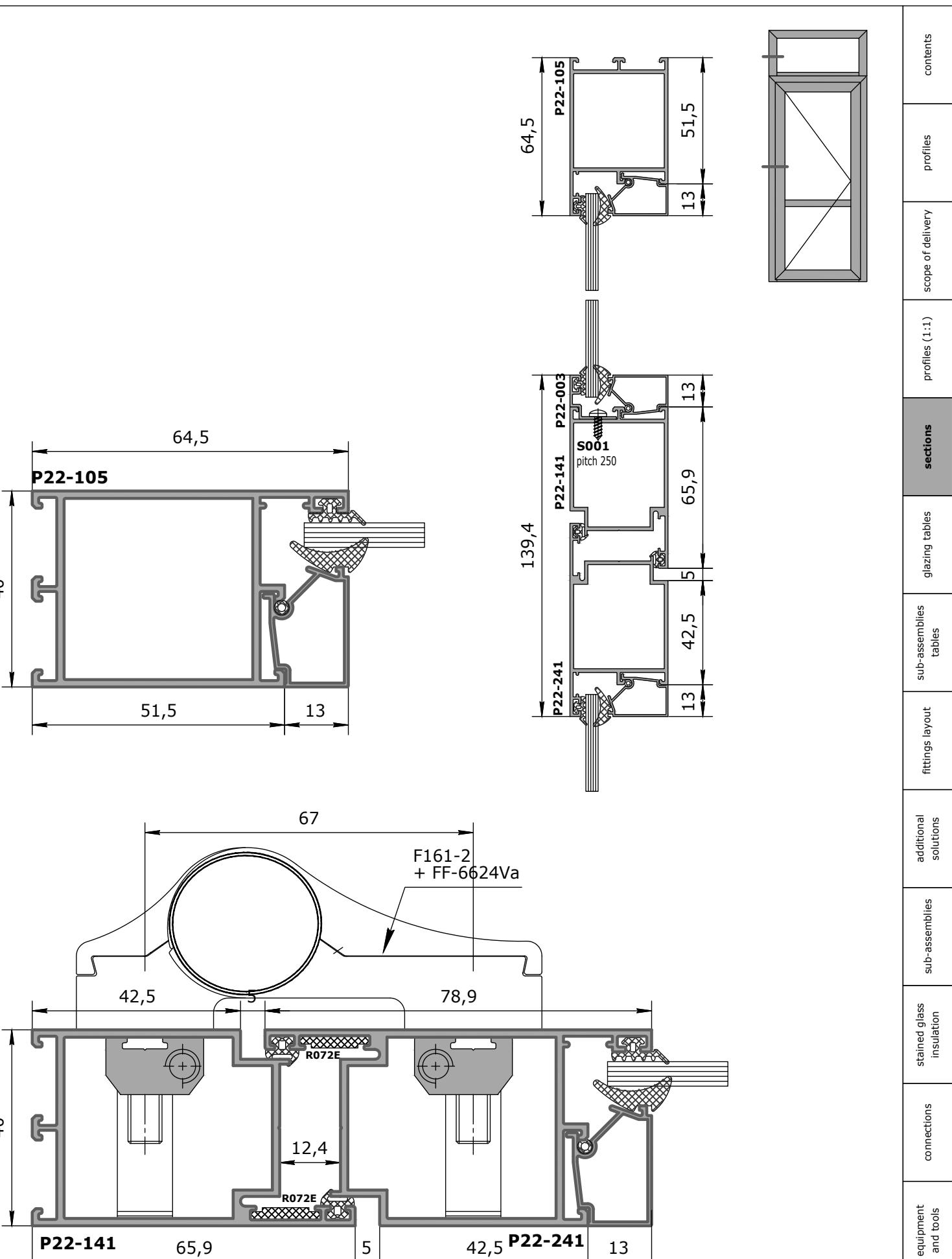
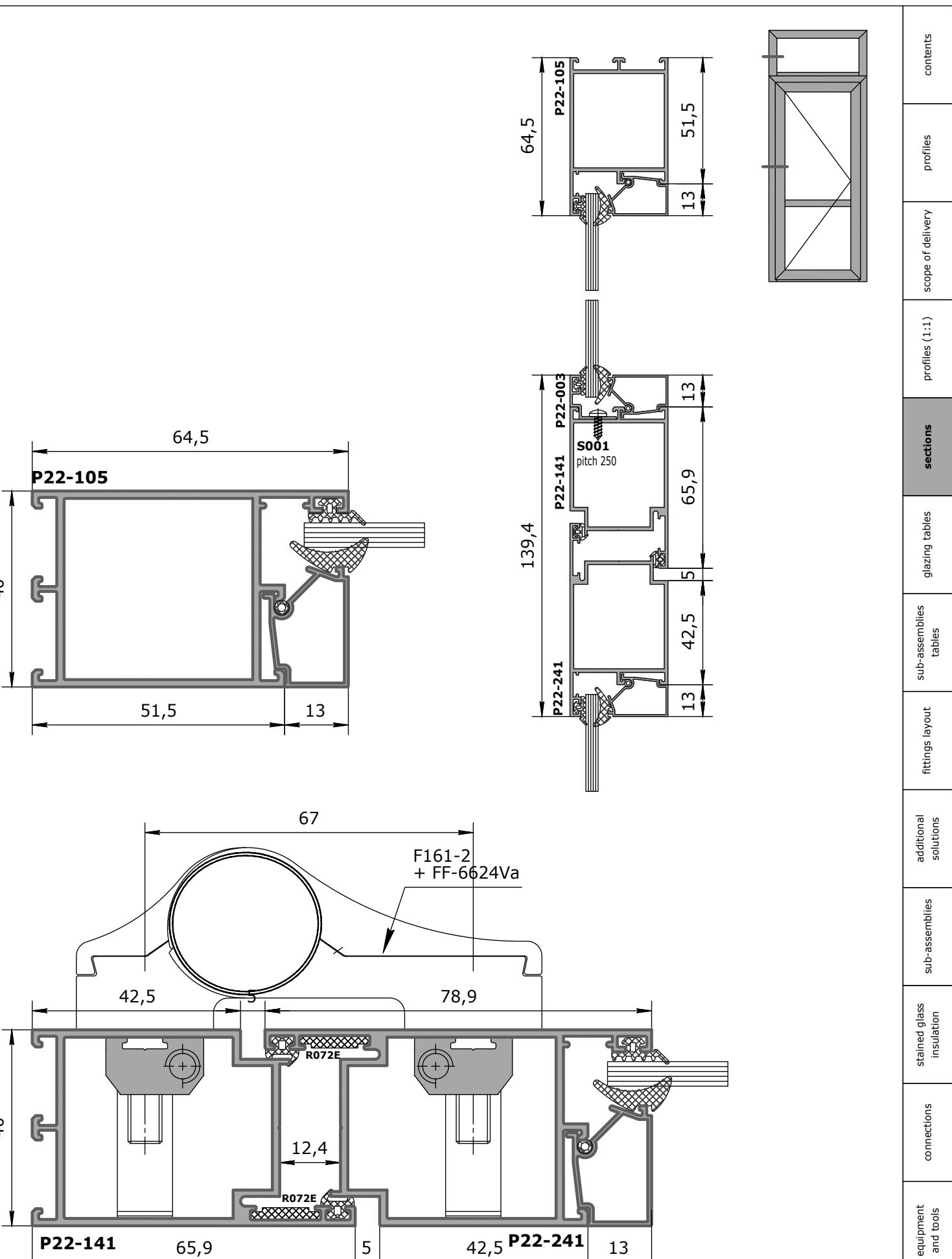
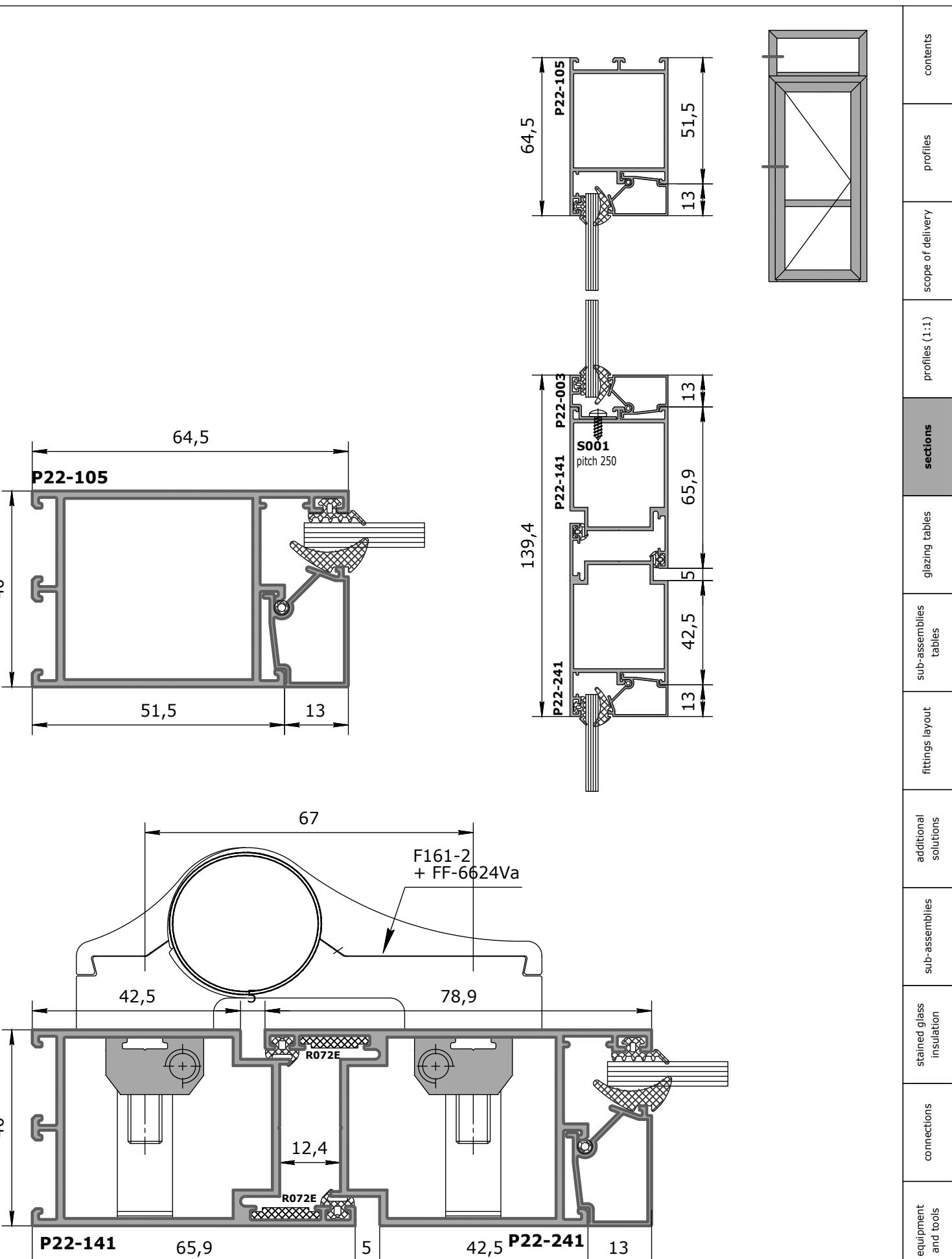
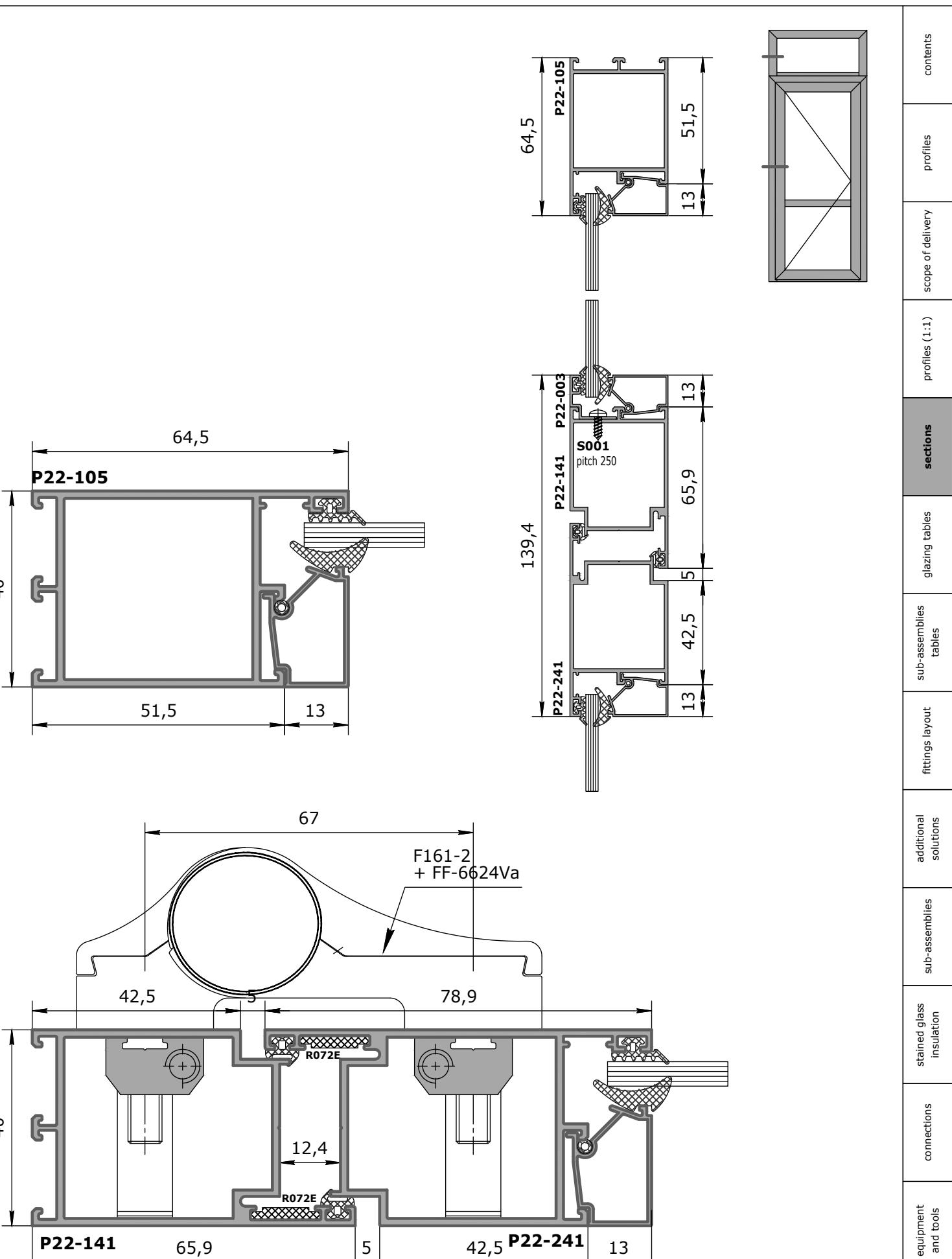
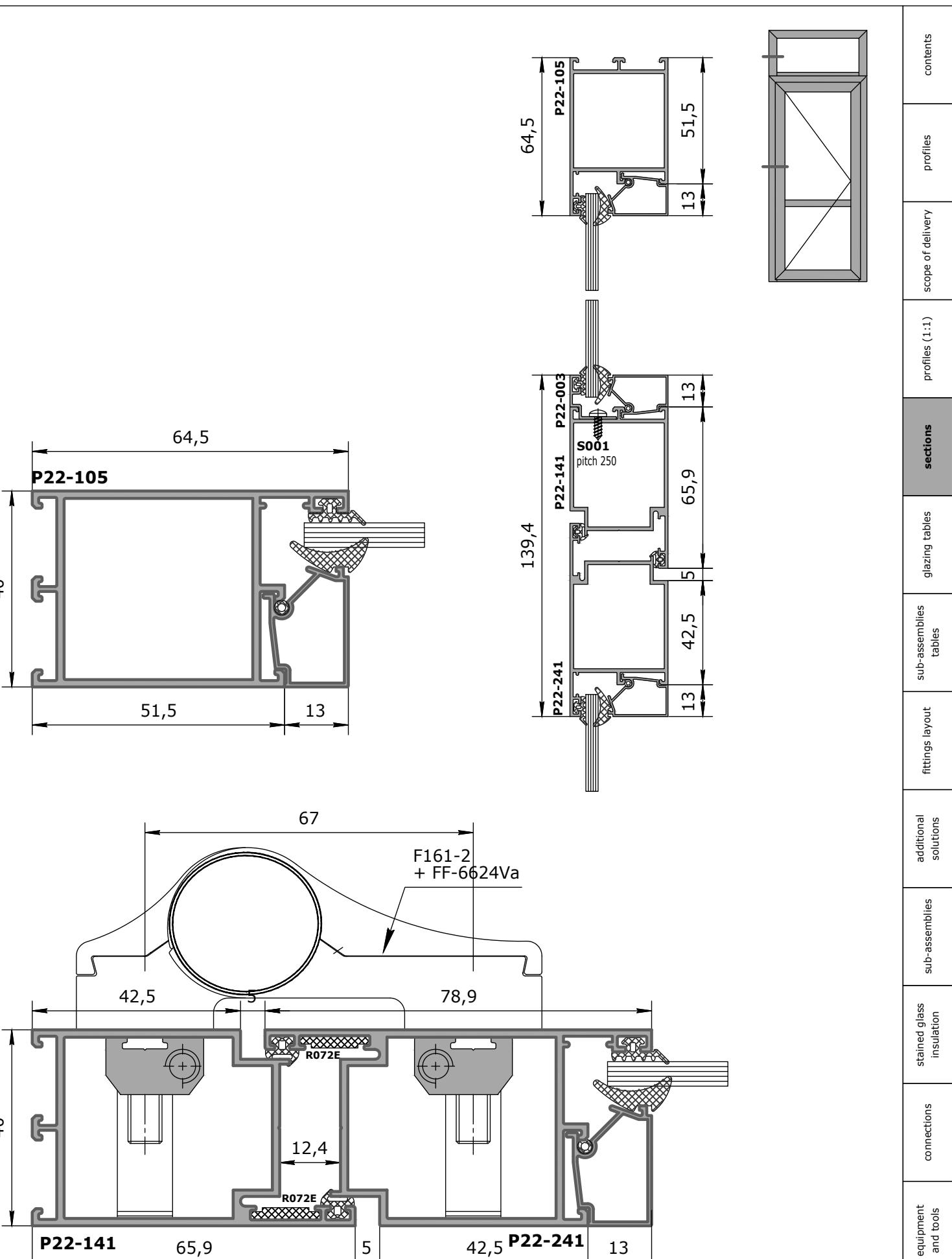
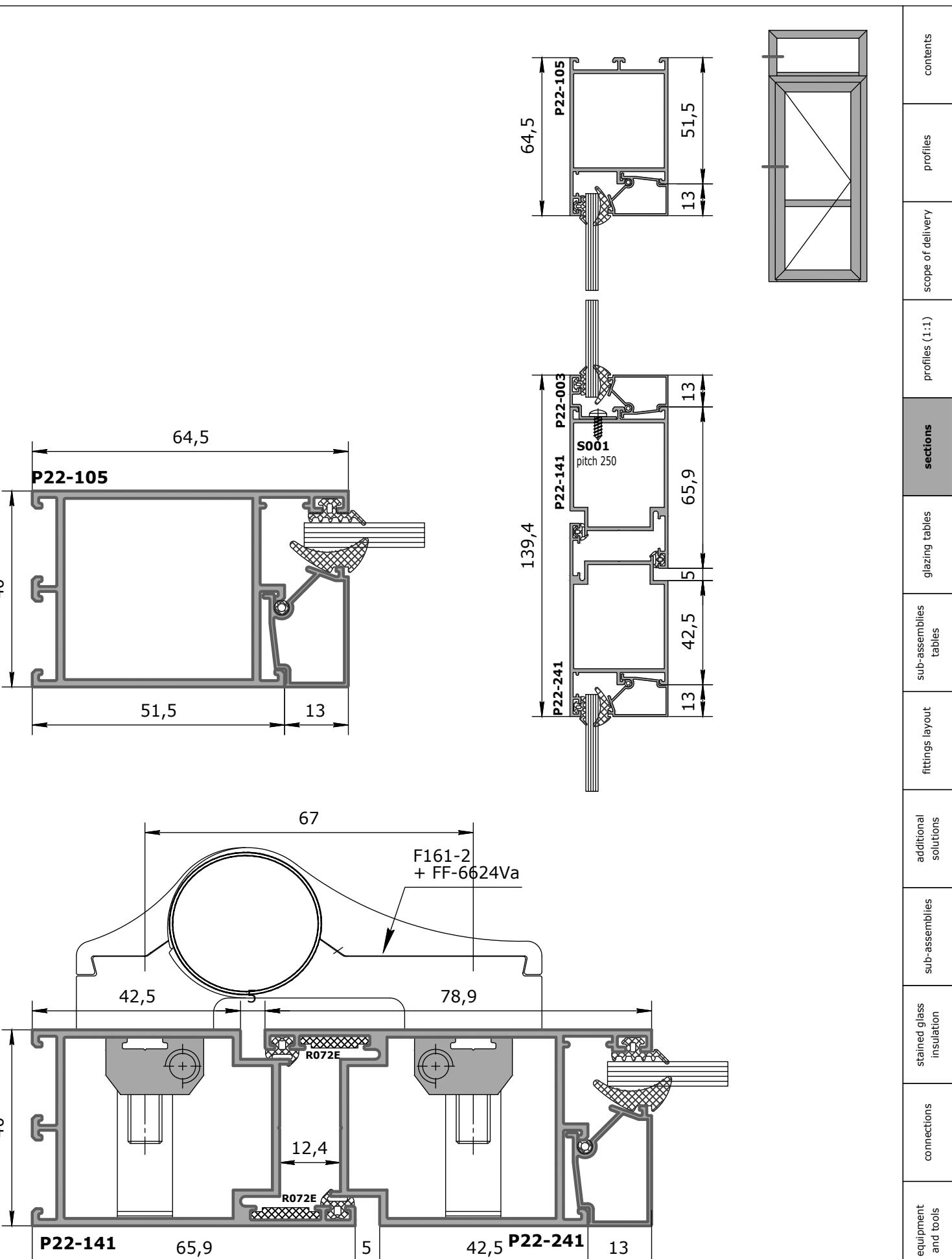
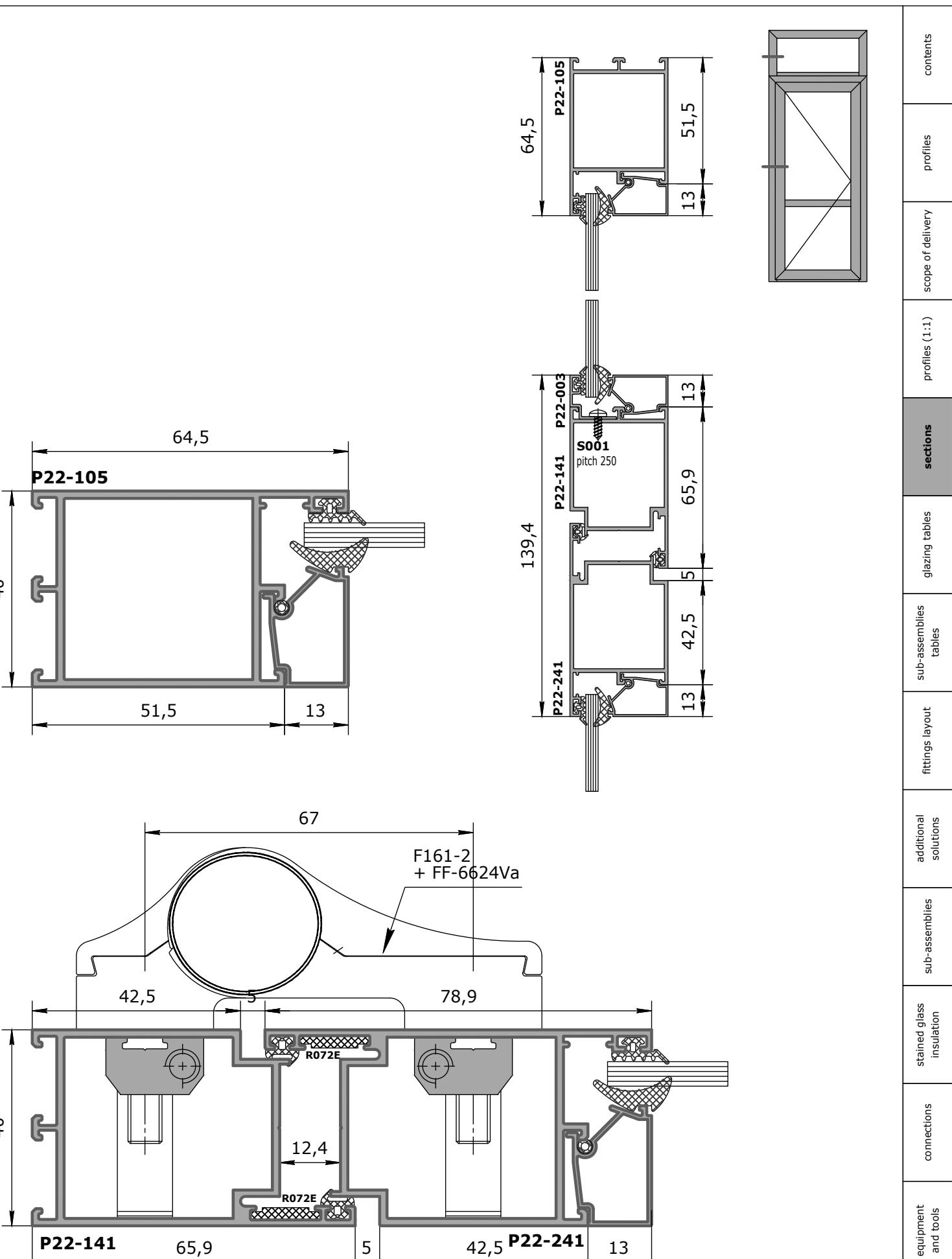
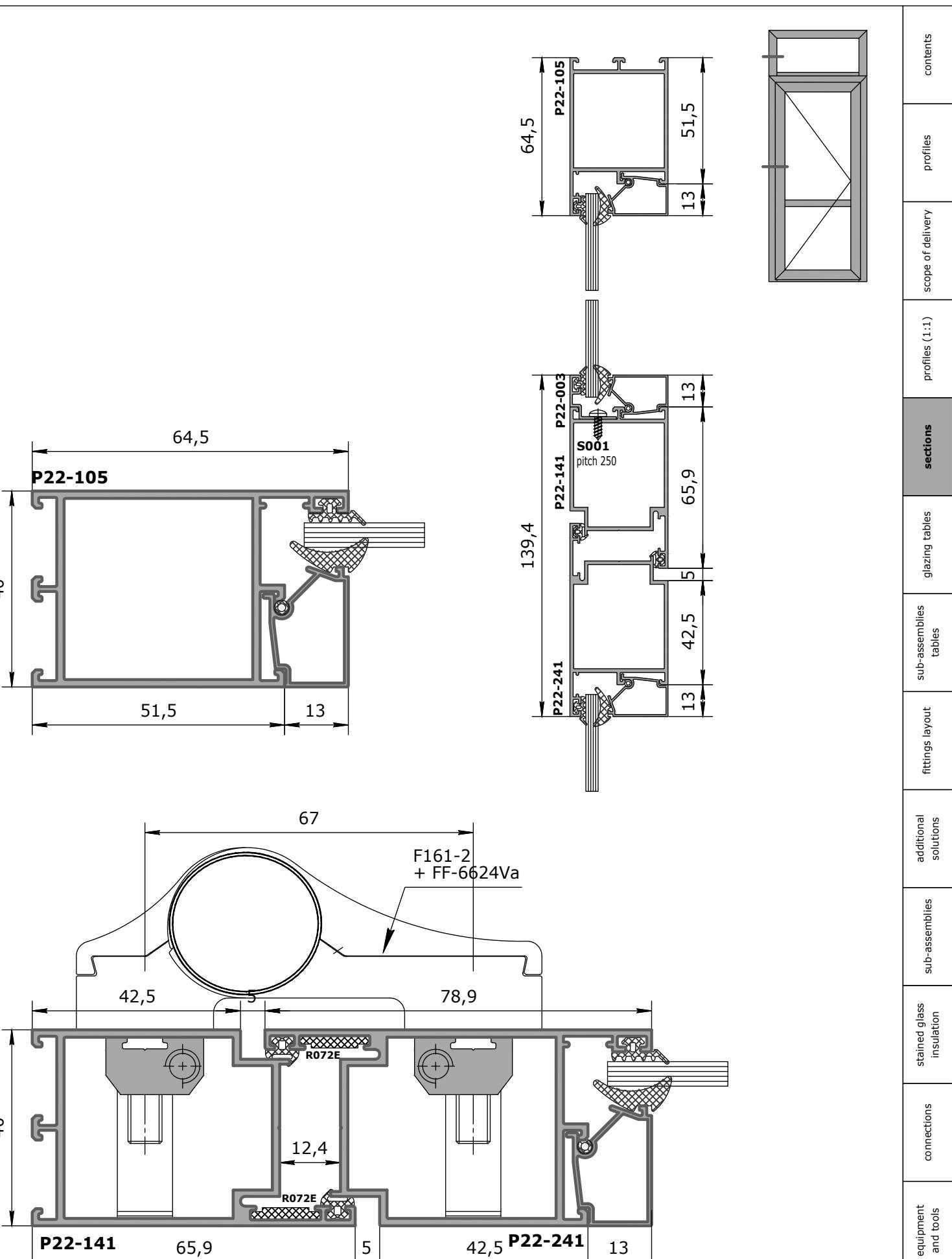
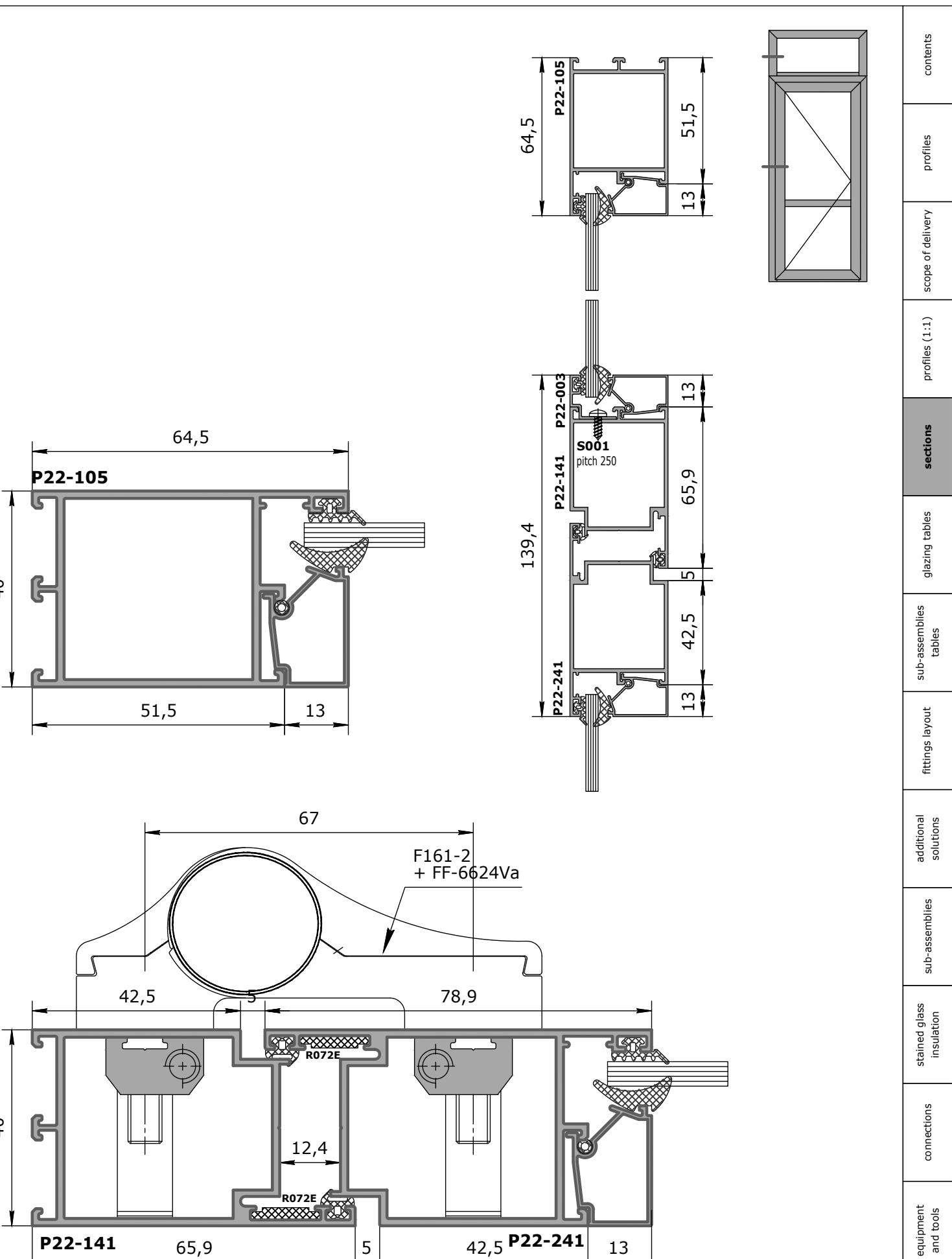
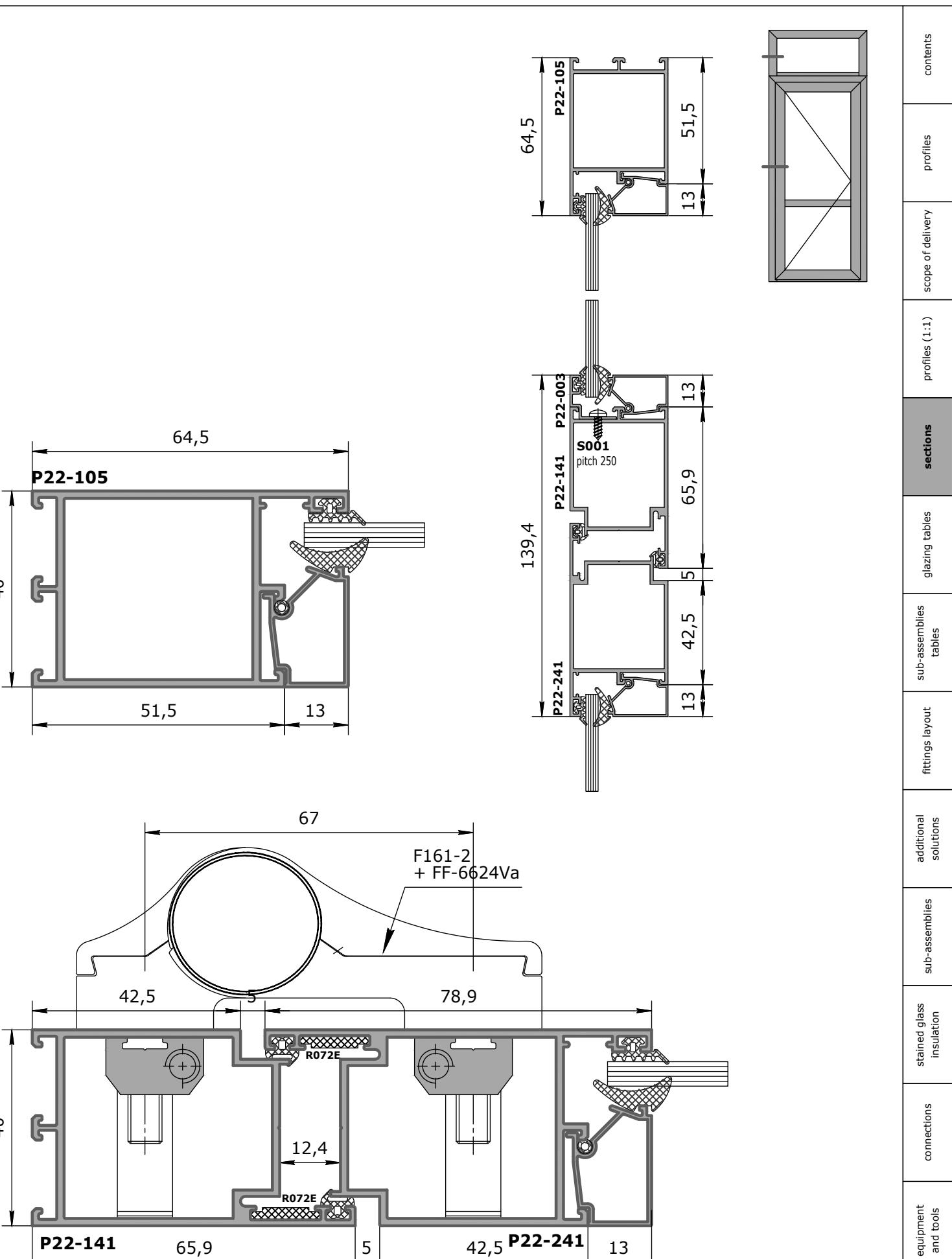
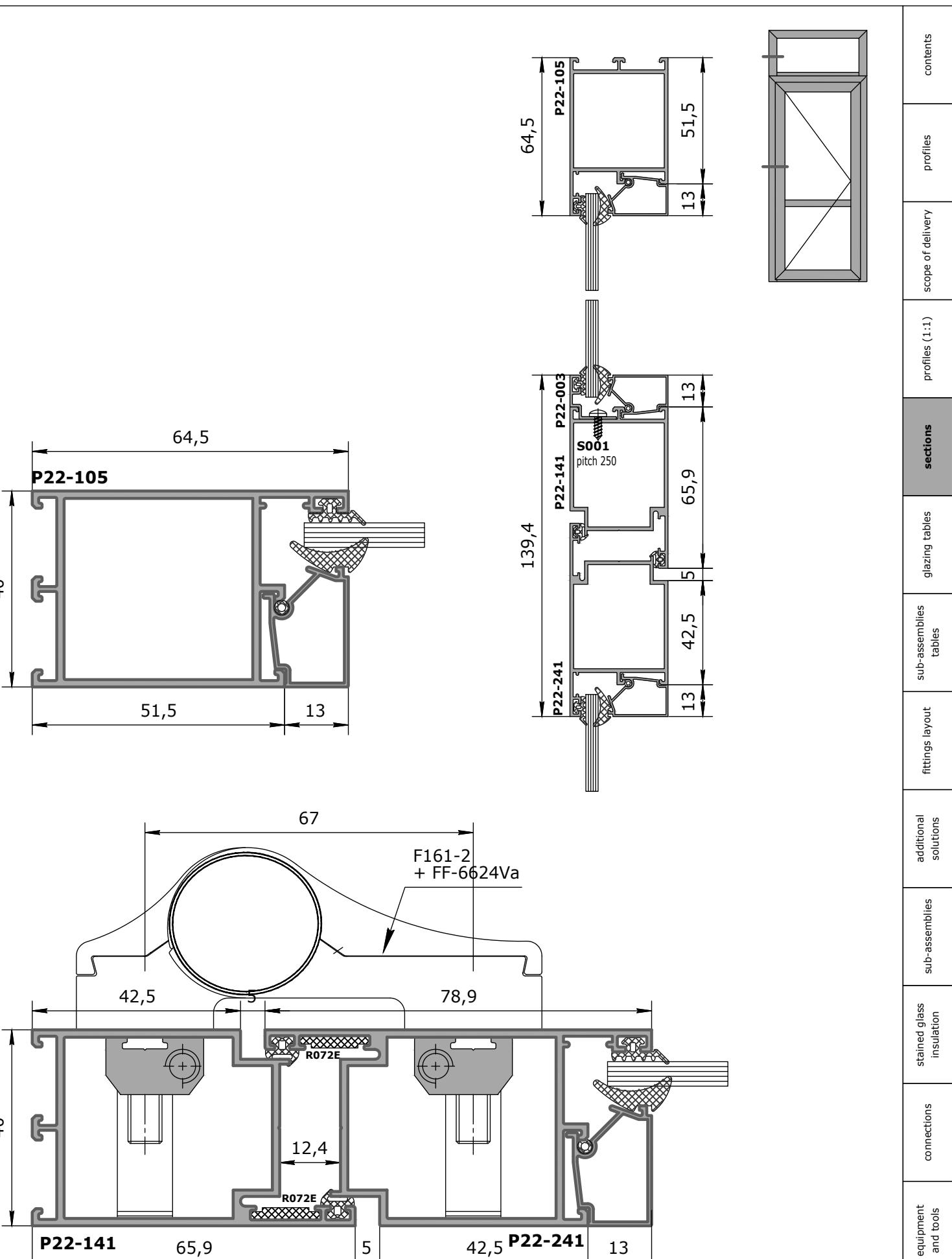
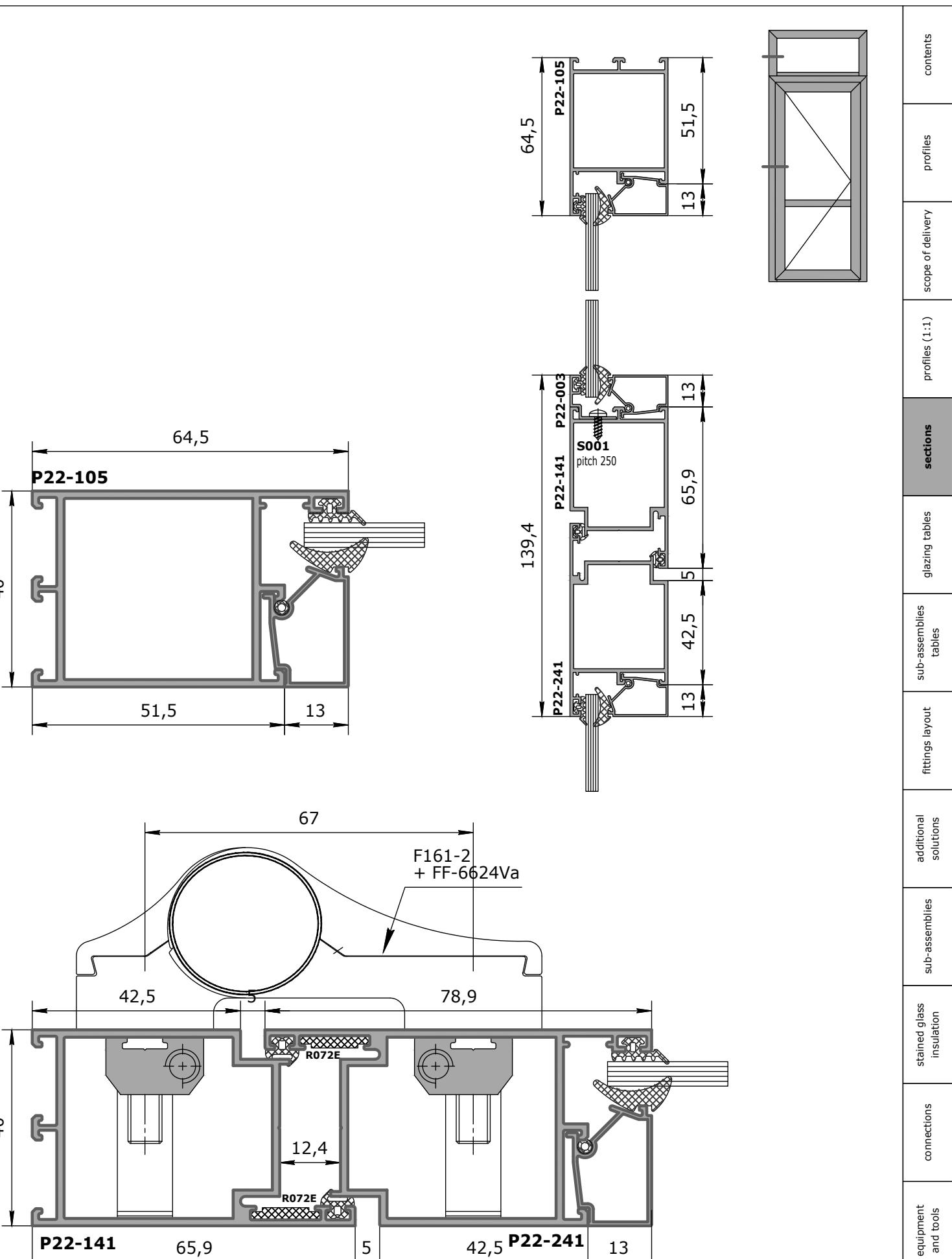
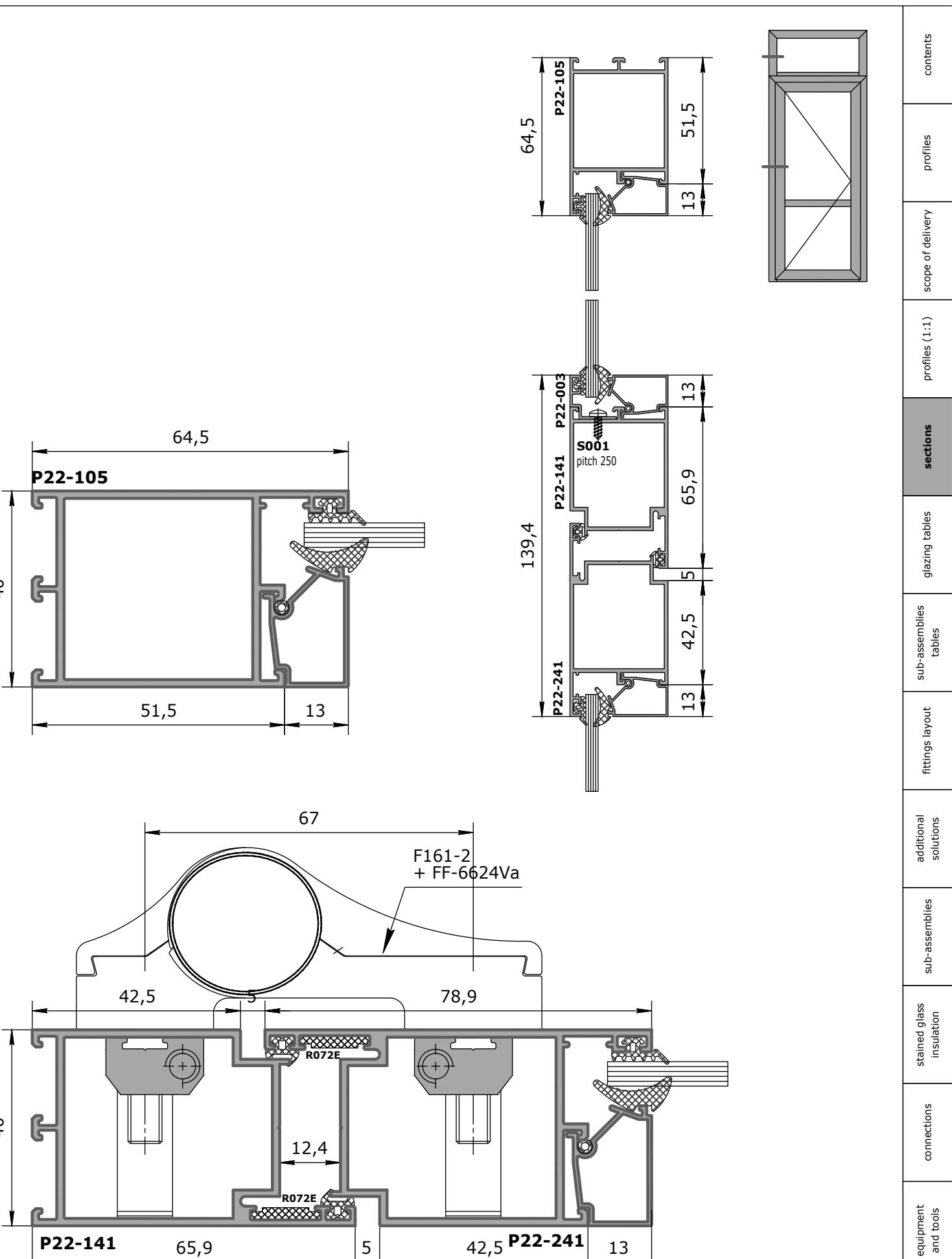
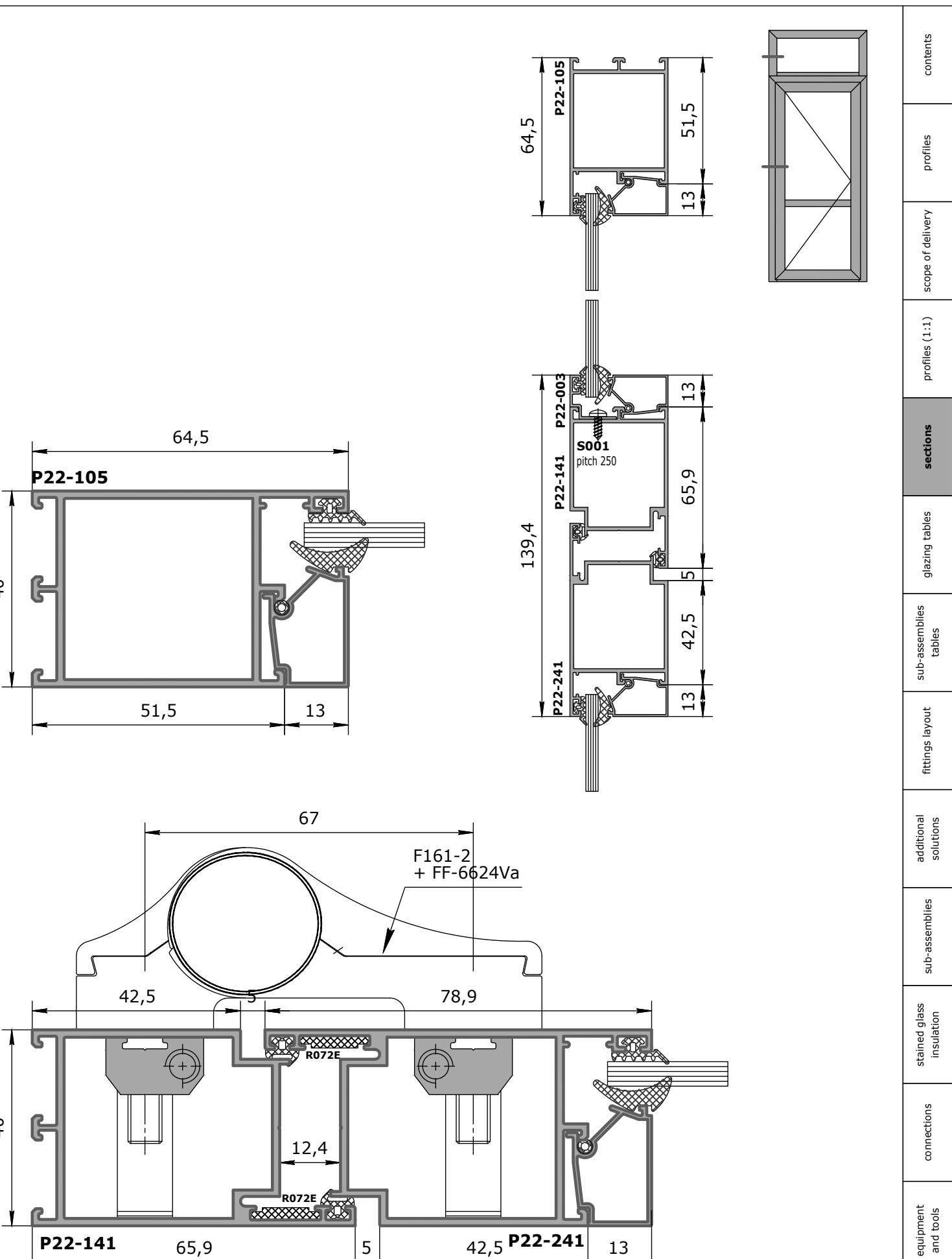
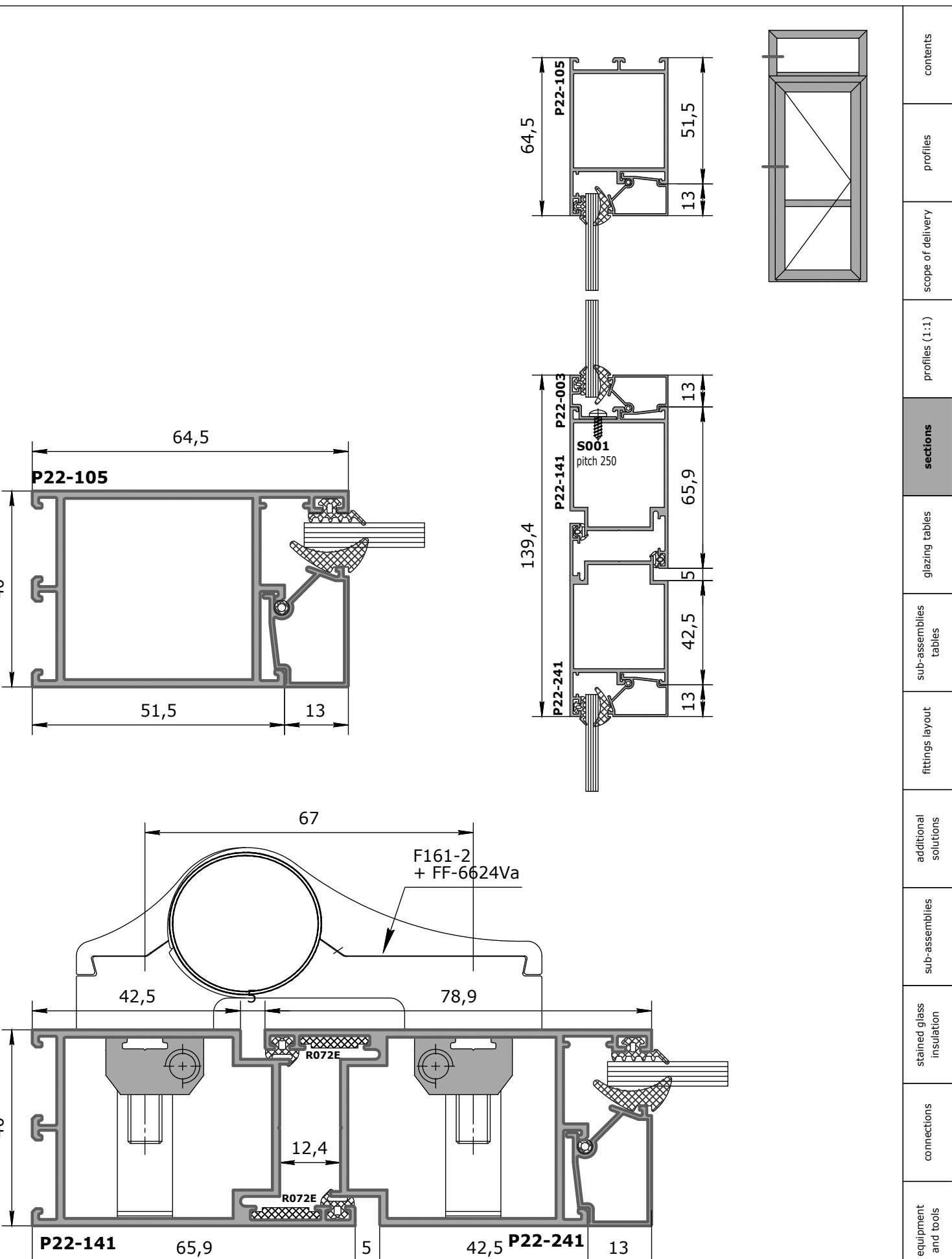
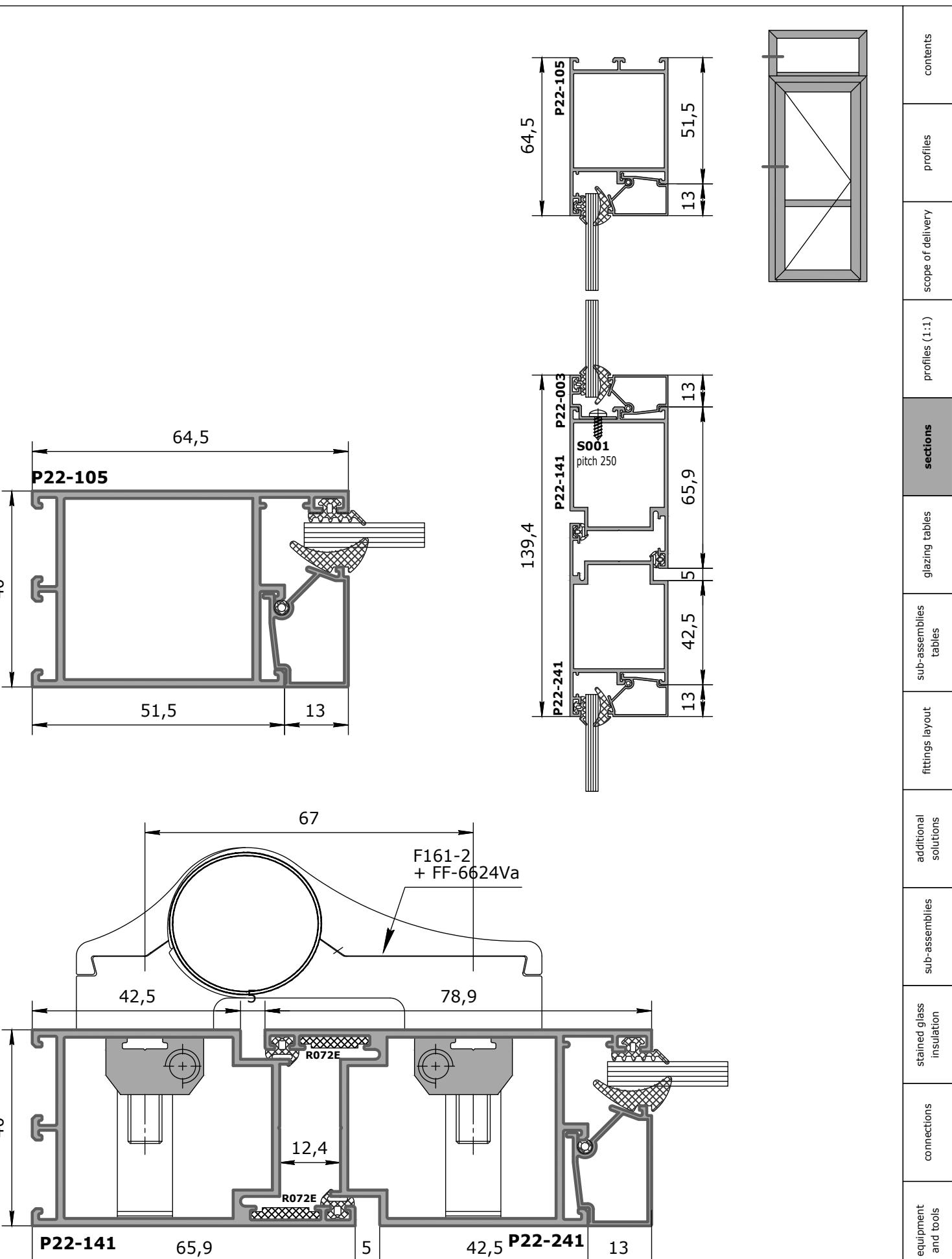
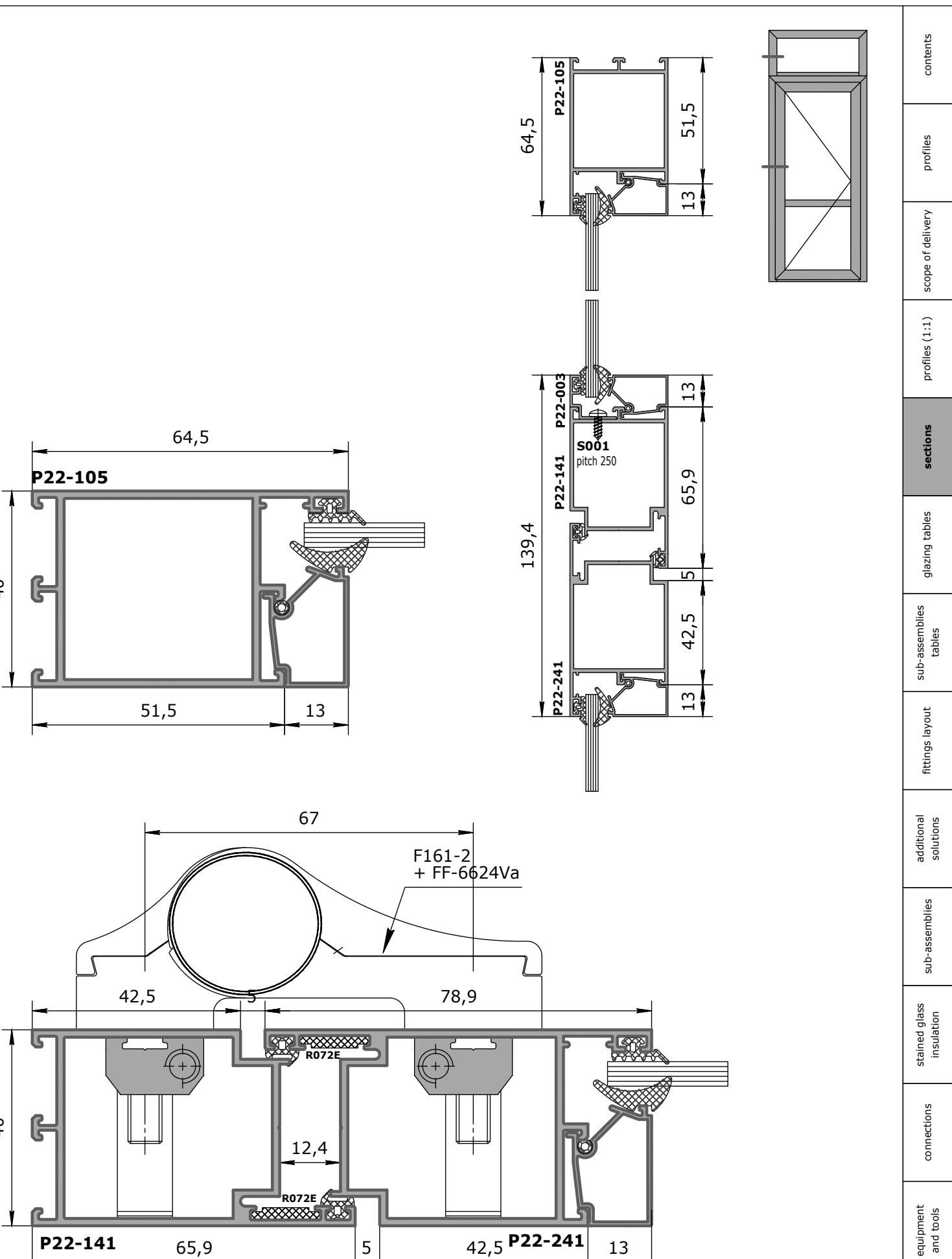
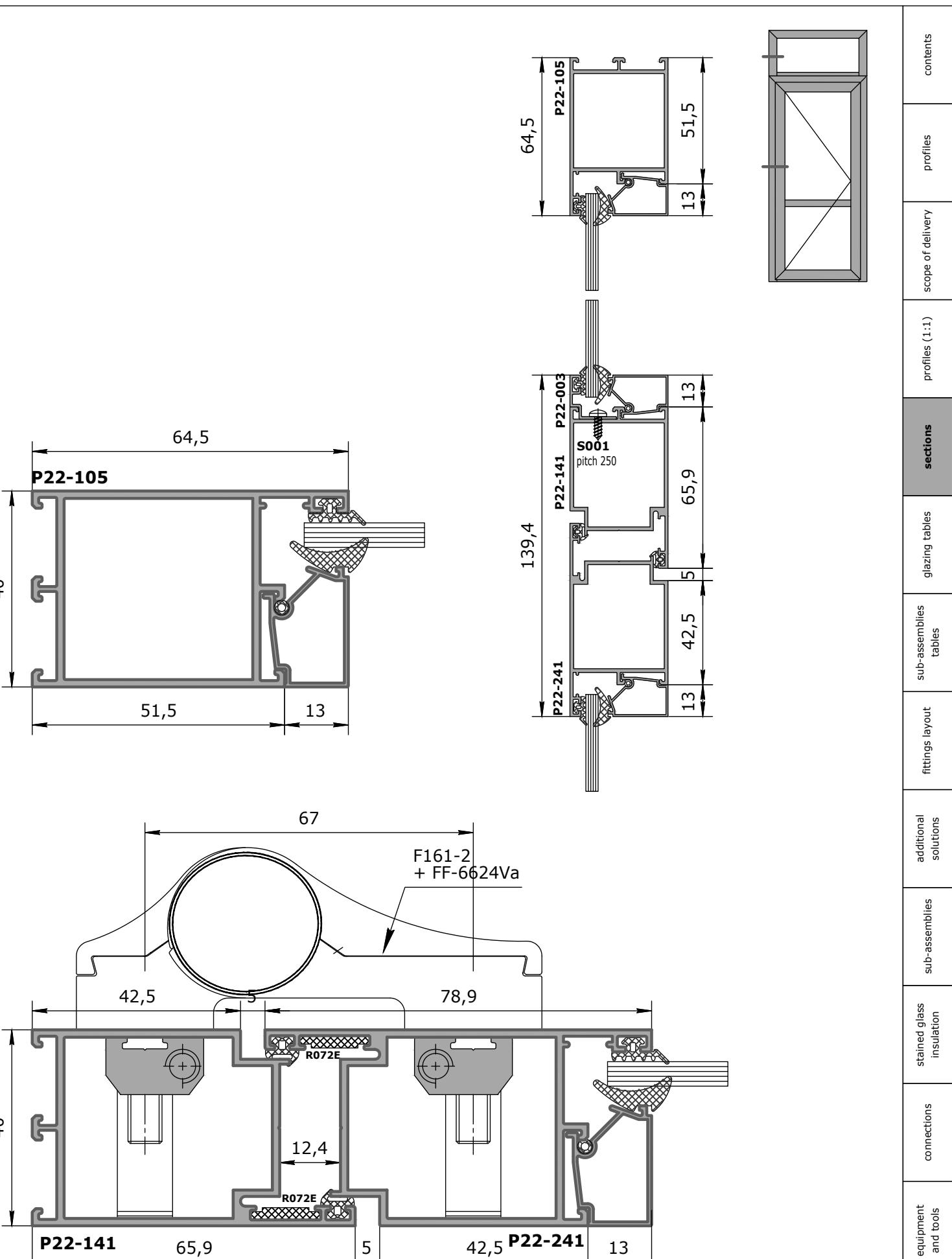
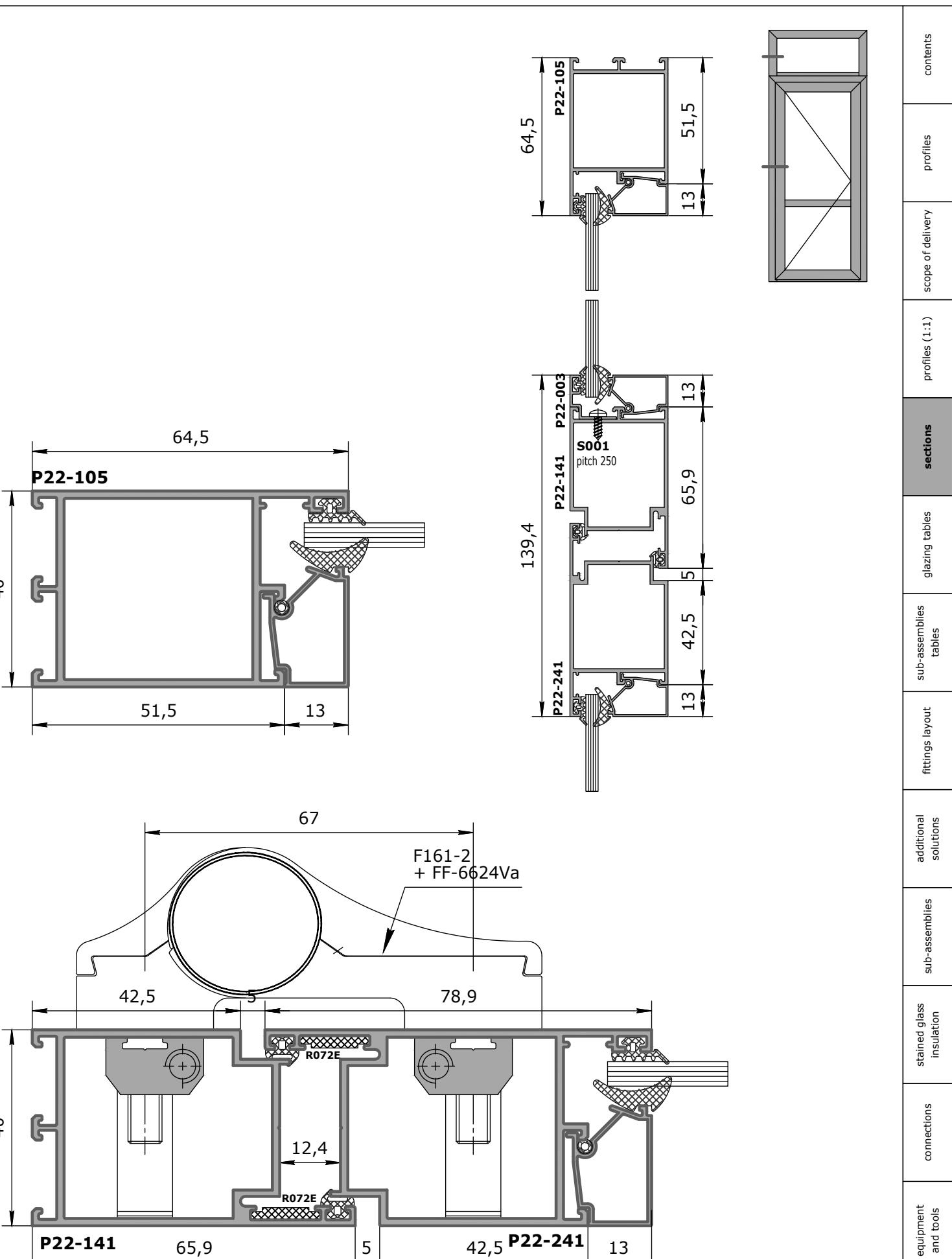
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents					
																	
																	
																	
																	
																	
																	
																	

	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents

The technical drawing illustrates the following details:

- Profile P22-102:** A cross-section showing a height of 40 and a top horizontal width of 32,8. It features a central vertical channel labeled R040 and a diagonal glazing track labeled R004.
- Profile P22-143:** A cross-section showing a height of 40. It includes a circular hole labeled S003 (pitch 300) and a bottom horizontal width of 65,9.
- Profile P22-241:** A cross-section showing a height of 40. It includes a circular hole labeled S003 (pitch 250) and a bottom horizontal width of 42,5.
- Top-down view:** Shows the three profiles joined together. Dimensions include 67, 78,9, 12,4, 19,8, 65,9, 5, 42,5, and 13. A callout indicates "F161-2 + FF-6624Va".
- Glazing:** The drawing shows glazing tracks labeled R040 and R048E, and glazing tables labeled R072E.
- Hardware:** Surface-mounted hinges are shown at various points along the profiles.
- Dimensions:** Key dimensions include 40 (height), 32,8, 19,8, 62,3, 65,9, 78,9, 12,4, 42,5, 13, 32,8, 13, 19,8, 22,4, 13, 65,9, 5, and 13.

In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
											
<img alt="Technical drawing of a door assembly showing dimensions and components. Top view shows a double door frame P22-105 with height 40, width 64,5, and side panels 51,5. A handle is shown on the right panel. A cross-section shows the door thickness 13 and a glazing table. A side view shows the door height 64,5 and width 51,5. A top-down view shows the door height 40 and width 64,5." data-bbox="7											

In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents

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	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
<b>P22-401</b>	48,4	24,2											
<b>P22-403</b>	56	28											
<b>P22-242</b>	55,5	55,5	48,4	65,9	40	12,4	13	65,9	42,5 P22-141	5	5	40	65,9
<b>P22-141</b>	65,9	5	5	5	40			5					

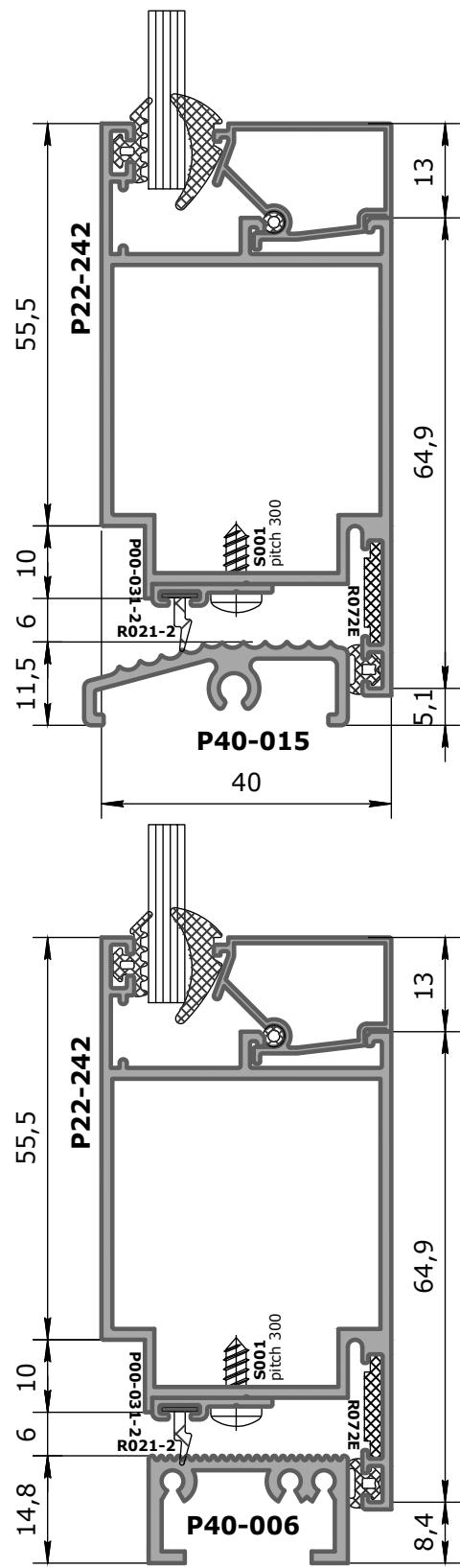
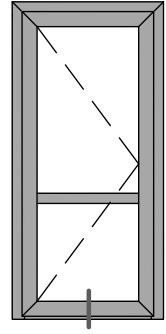
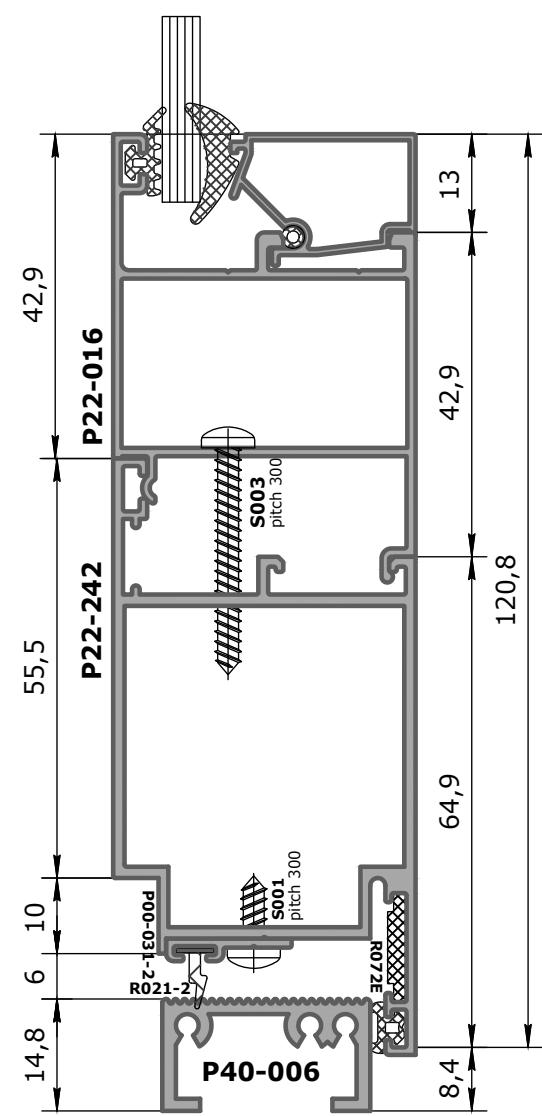
The diagram illustrates four different window profile models (P22-401, P22-403, P22-242, and P22-141) with their respective dimensions and assembly details.

- P22-401:** A single-unit profile with a total height of 48,4 mm. It features a central vertical bar and two horizontal bars at the top and bottom. The left side has a height of 24,2 mm, and the right side has a height of 22,4 mm. The total width is 40 mm, and the thickness is 13 mm.
- P22-403:** A double-unit profile with a total height of 56 mm. It consists of two vertical bars and two horizontal bars. The left side has a height of 28 mm, and the right side has a height of 30 mm. The total width is 40 mm, and the thickness is 13 mm.
- P22-242:** A triple-unit profile with a total height of 55,5 mm. It features three vertical bars and three horizontal bars. The left side has a height of 55,5 mm, and the right side has a height of 65,9 mm. The total width is 40 mm, and the thickness is 13 mm. A central vertical bar has a width of 12,4 mm.
- P22-141:** A quadruple-unit profile with a total height of 65,9 mm. It includes four vertical bars and four horizontal bars. The left side has a height of 55,5 mm, and the right side has a height of 65,9 mm. The total width is 40 mm, and the thickness is 5 mm. Two central vertical bars have a width of 12,4 mm each.

Each profile is shown with its internal components, including glazing points, sealants, and fasteners. An inset diagram in the top right corner provides a detailed view of the glazing area.

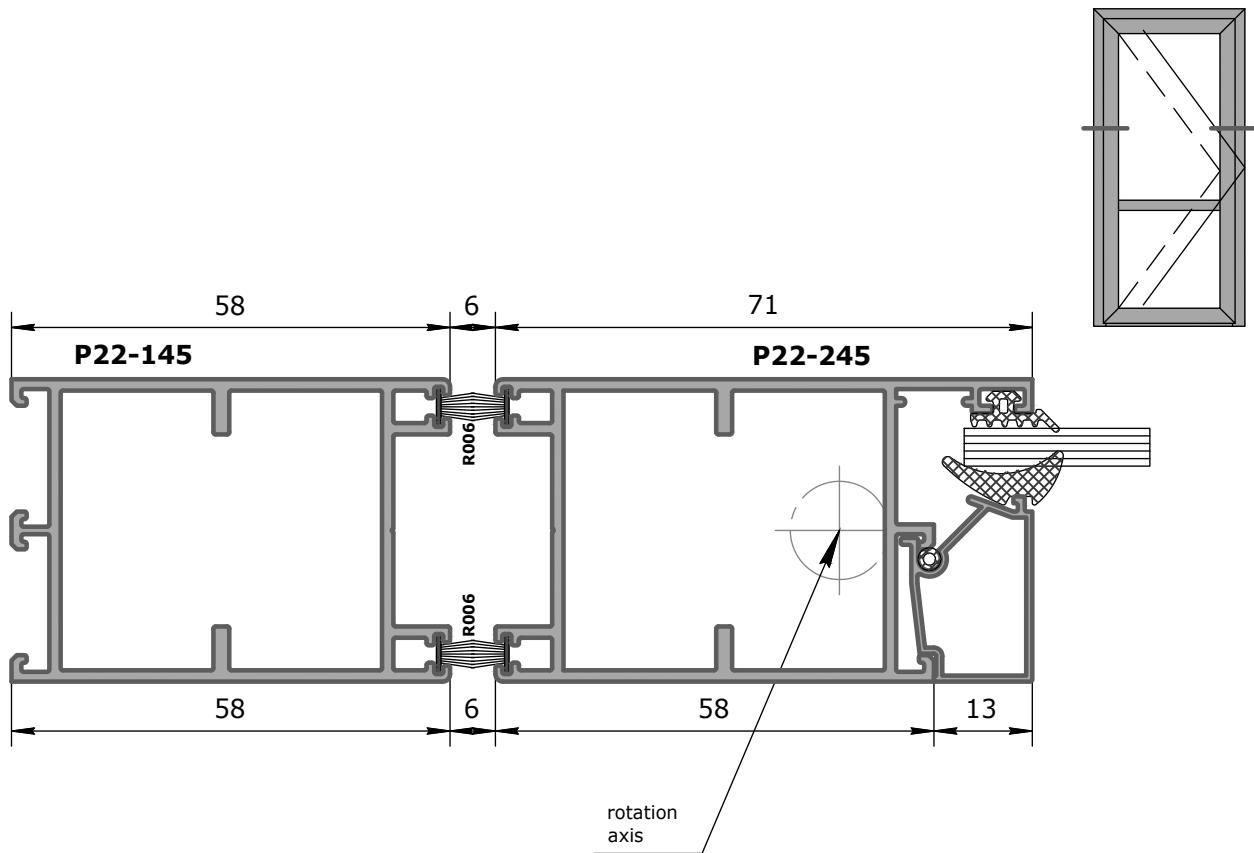
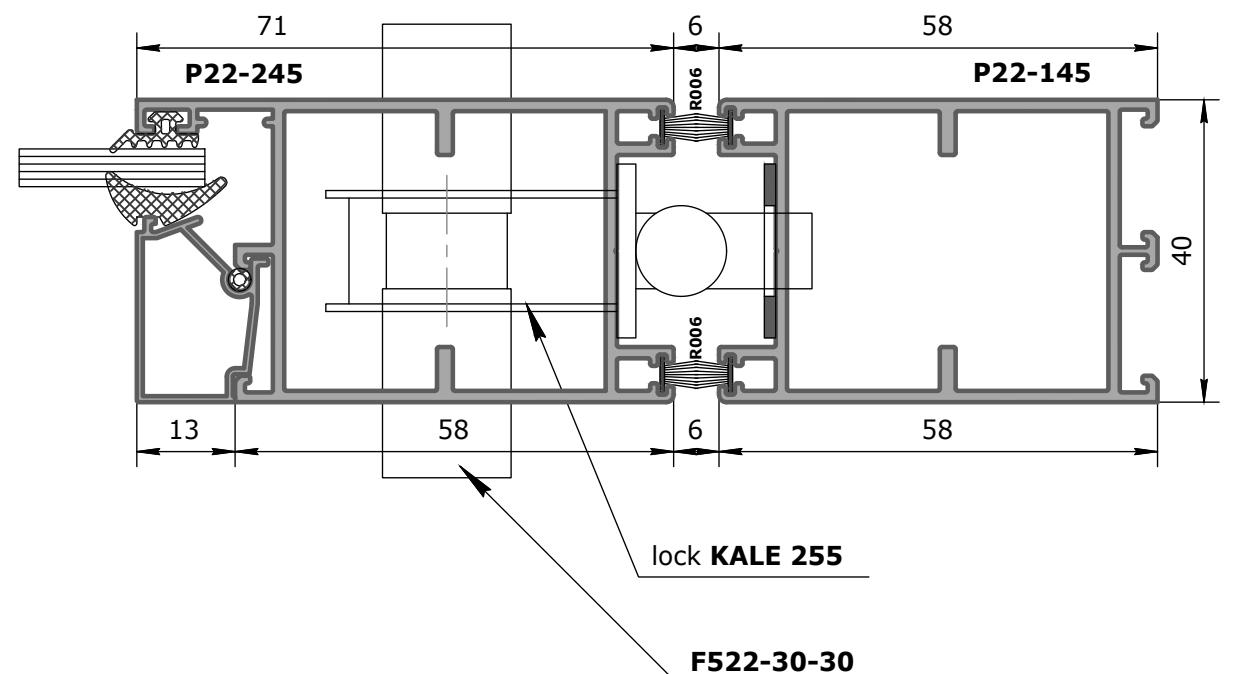
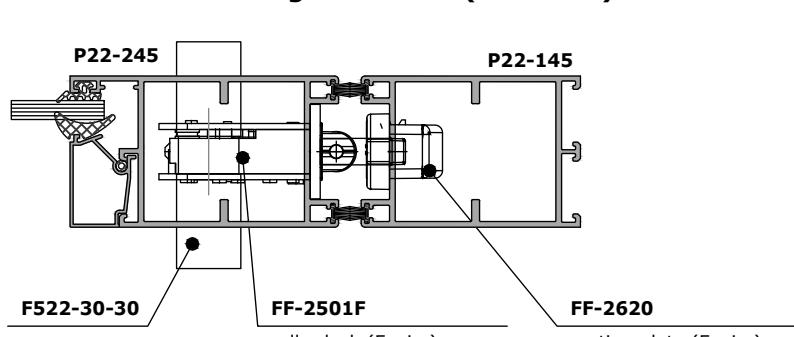
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents		
<p>In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.</p>	<table border="1"> <tr> <td>equipment and tools</td> <td>connections</td> <td>stained glass insulation</td> <td>sub-assemblies</td> <td>additional solutions</td> <td>fittings layout</td> <td>sub-assemblies</td> <td>glazing tables</td> <td>sections</td> <td>profiles (1:1)</td> <td>scope of delivery</td> <td>profiles</td> <td>contents</td> </tr> </table>	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents		

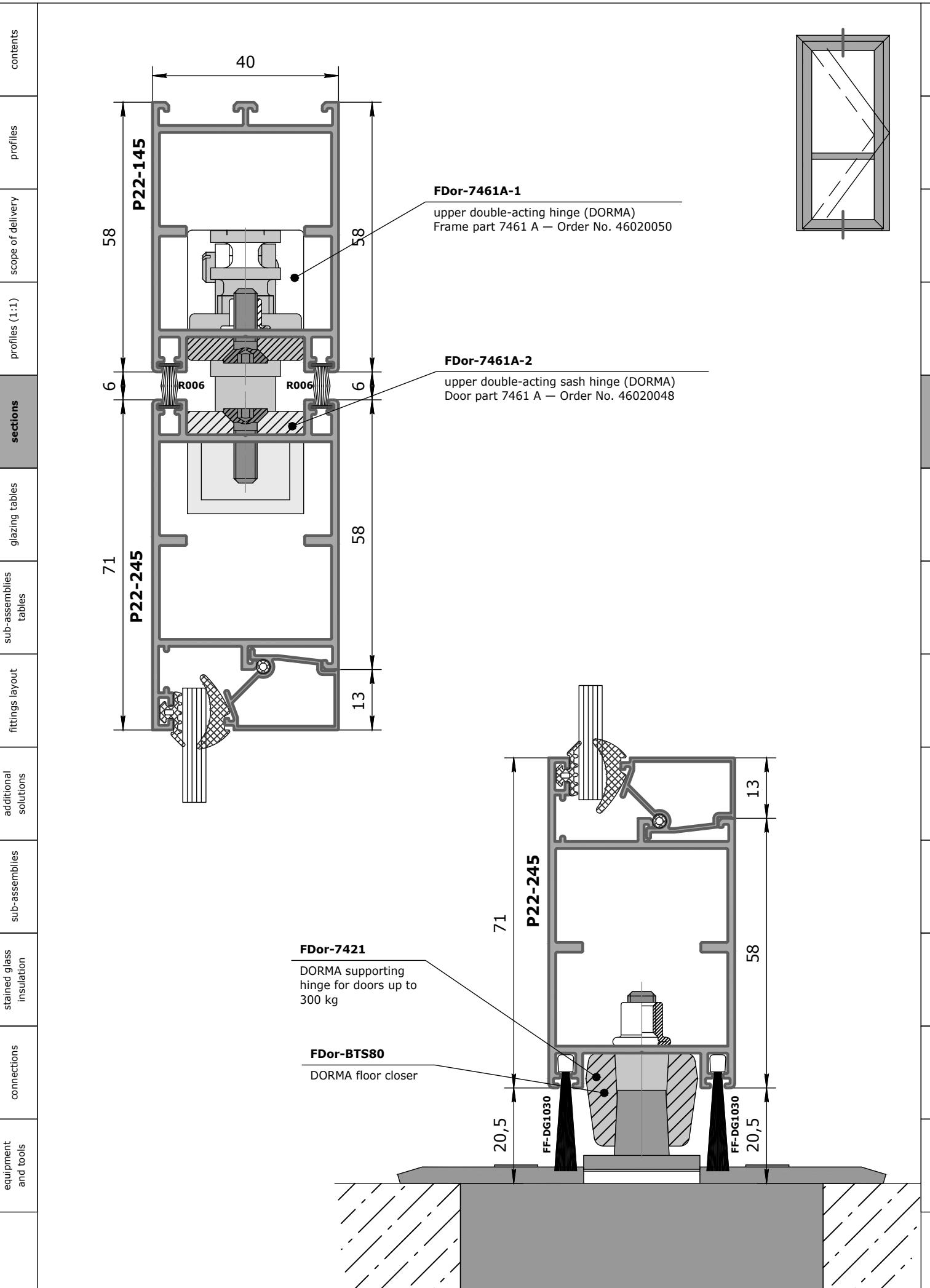
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profiles	profiles
scope of delivery	scope (1:1)
glazing tables	glazing tables
sub-assemblies	sub-assemblies
fittings layout	fittings layout
additional solutions	additional solutions
sub-assemblies	sub-assemblies
stained glass insulation	stained glass insulation
connections	connections
equipment and tools	equipment and tools



contents	profiles	scope of delivery	glazing tables	sub-assemblies	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
											
											
<p><b>Alternative fittings selection (scale 1:2)</b></p> 											



contents					
	profiles	scope of delivery	profiles (1:1)	scope of delivery	profiles
stained glass insulation	sub-assemblies	sub-assemblies			
connections					
equipment and tools					
glass thickness, mm	internal gasket B	glazing beads C	sections	sections	sections
A	B	C			
4	R011 - 5 mm	P22-501-2 (24.5 mm) + R052			
5	R004 - 4 mm	P22-501-2 (24.5 mm) + R052			
6	R019 - 3 mm	P22-501-2 (24.5 mm) + R052			
7	R011 - 5 mm	P22-503 (21.5 mm)			
8	R004 - 4 mm	P22-503 (21.5 mm)			
9	R019 - 3 mm	P22-503 (21.5 mm)			
10	R011 - 5 mm	P22-502 (18.5 mm)			
12	R019 - 3 mm	P22-502 (18.5 mm)			
14	R004 - 4 mm	P00-503-25 (15.5 mm)			
16	R065-2-5 mm	P00-503-2 (12.5 mm)			
18	R019 - 3 mm	P00-503-2 (12.5 mm)			
20	R004 - 4 mm	P00-502-25 (12.5 mm)			
22	R065-2-5 mm	P00-502-2 (6.5 mm)			
24	R019 - 3 mm	P00-502-2 (6.5 mm)			
26	R004 - 4 mm	P00-501-25 (3.5 mm)			

Attention! Glazing beads of article P00-5\*\* have the height of 18 mm, and height of the rabbet wing of the MastTech-22 system profile (frames, mullions, etc.) is 13 mm. I.e., the glazing beads will project by 5 mm above the frame. It is not critical for non-translucent glazing, but will be noticeable if translucent glazing is used.

Selection of gaskets to be used for installation of DGUs into aluminum structures regulated by the Masttech systems technical documentation is indicative and serves solely for drawing up of primary specification of materials used. Since regulatory documentation on glued double-glazed units (GOSTs, SP, TU, etc.) allows for fluctuation of their thickness within tolerance of +/-1 mm, the selection of specific gaskets to be used must be performed by way of trial for each batch of DGUs. Otherwise connection between the gaskets and the may not be tight enough, which will lead to leaks and draughts. Company that installed aluminum structures will be responsible for that.

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**Pad installation diagram  
(support and wedging leveling pads)**

contents

profiles

scope of delivery

profiles (1:1)

sections

glazing tables

sub-assemblies

tables

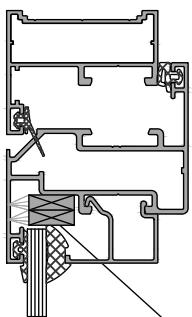
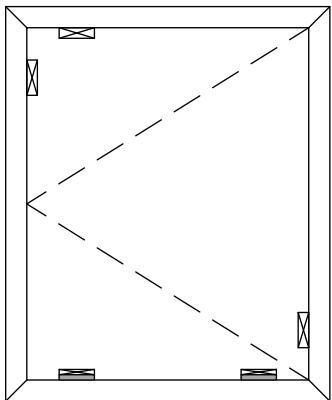
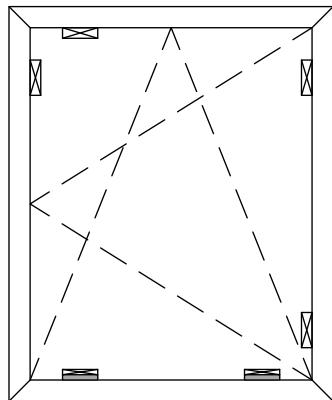
fittings layout

additional solutions

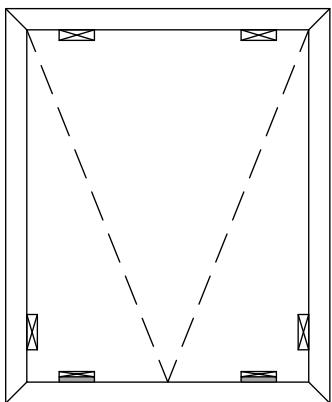
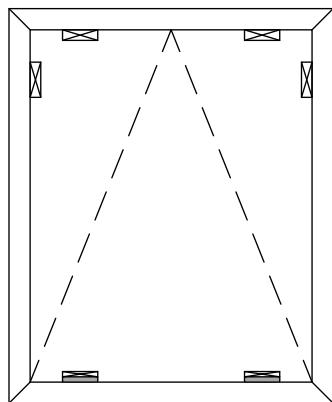
sub-assemblies

stained glass insulation

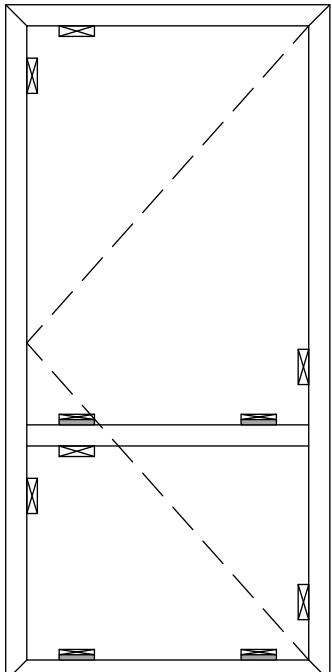
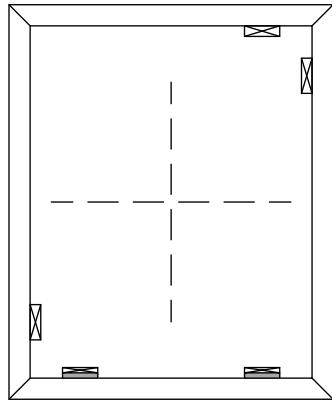
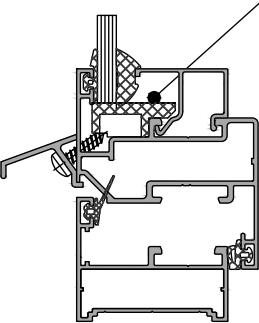
equipment and tools



*leveling pads*

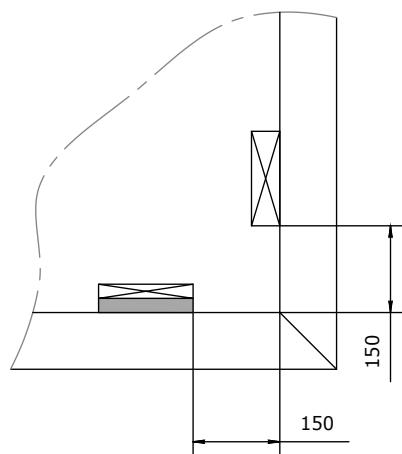


*support pad*



*leveling pads*

*leveling and support pads*



Before locking with glazing beads, the material used for glazing of opening and fixed elements must be wedged. Wedging is performed by means of plastic leveling pads according to the scheme specified for the relevant opening type.

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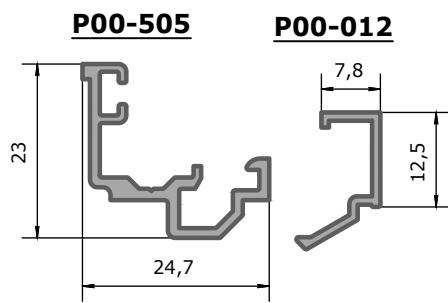
sub-assemblies

stained glass insulation

equipment and tools

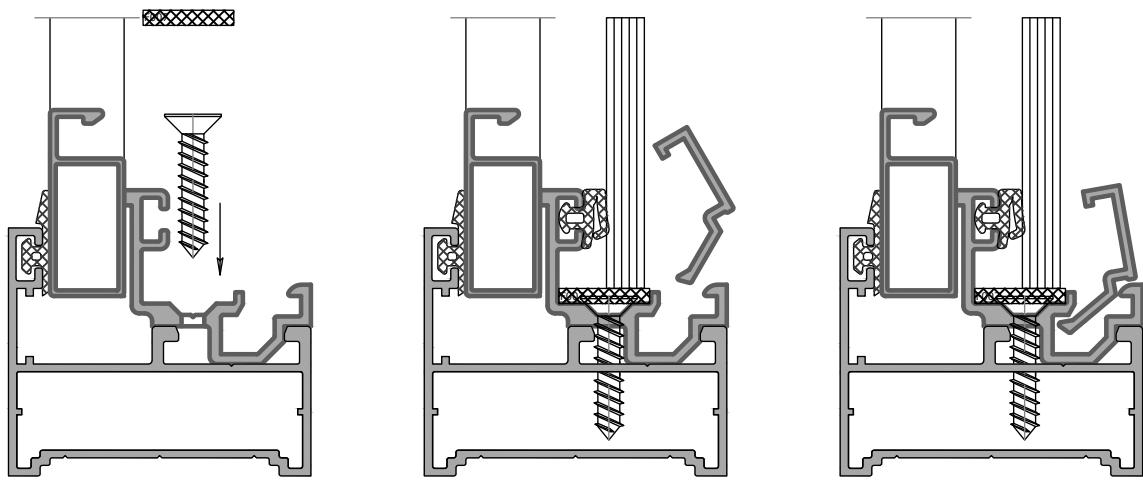
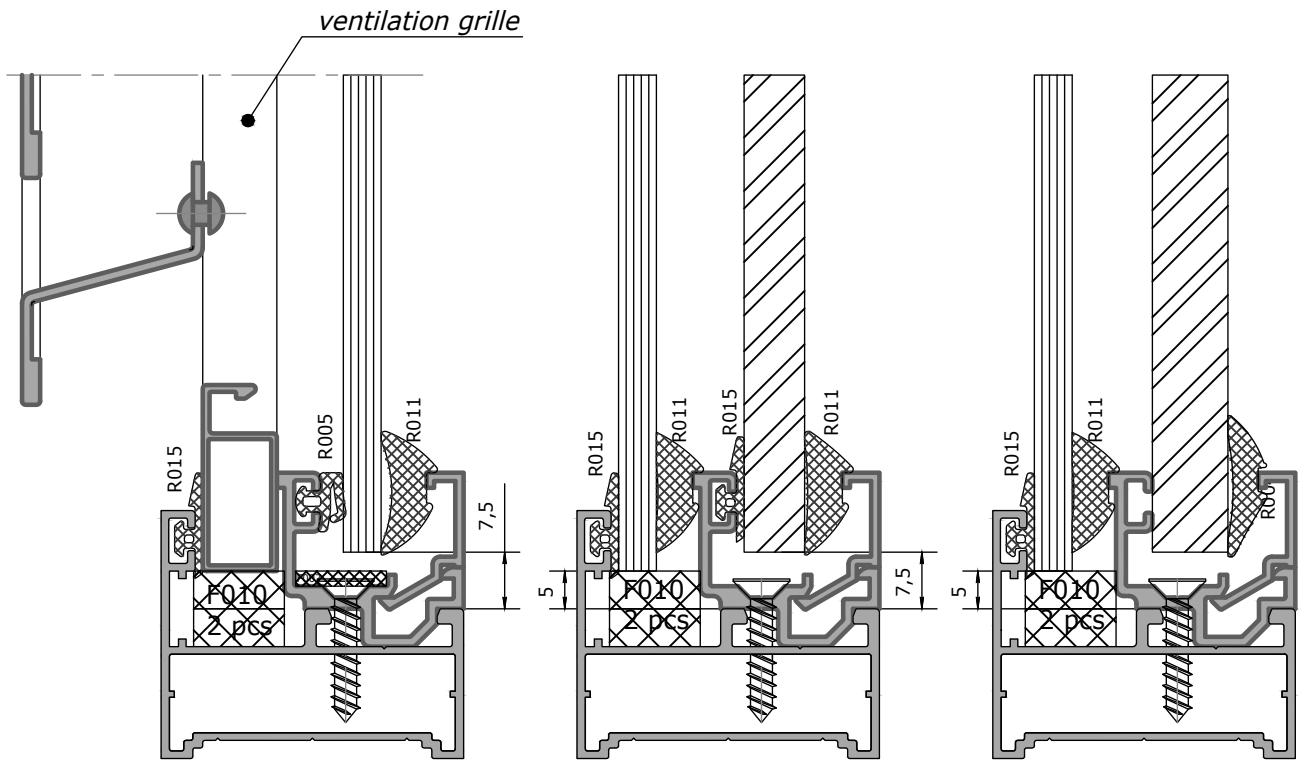
contents

			contents								
			profiles								
			glass thickness, mm <b>A</b>			glazing beads <b>C</b>					
equipment and tools	connections	stained glass insulation	glass thickness, mm <b>A</b>	internal gasket <b>B</b>	glazing beads <b>C</b>	scope of delivery	profiles (1:1)	sections	scope of delivery	profiles (1:1)	contents
sub-assemblies	additional solutions	fittings layout	sub-assemblies	sub-assemblies	sub-assemblies	glazing tables	glazing tables	glazing tables	glazing tables	glazing tables	contents
sub-assemblies	additional solutions	fittings layout	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	contents
sub-assemblies	additional solutions	fittings layout	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	contents
			4	<b>R011</b> - 5 mm	<b>P22-501-2</b> (24.5 mm) + R052						
			5	<b>R004</b> - 4 mm	<b>P22-501-2</b> (24.5 mm) + R052						
			6	<b>R019</b> - 3 mm	<b>P22-501-2</b> (24.5 mm) + R052						
			7	<b>R011</b> - 5 mm	<b>P22-503</b> (21.5 mm)						
			8	<b>R004</b> - 4 mm	<b>P22-503</b> (21.5 mm)						
			9	<b>R019</b> - 3 mm	<b>P22-503</b> (21.5 mm)						
			10	<b>R011</b> - 5 mm	<b>P22-502</b> (18.5 mm)						
			12	<b>R019</b> - 3 mm	<b>P22-502</b> (18.5 mm)						
			14	<b>R064-2</b> -4 mm	<b>P00-503-25</b> (15.5 mm)						
			16	<b>R065-2</b> -5 mm	<b>P00-503-2</b> (12.5 mm)						
			18	<b>R019</b> - 3 mm	<b>P00-503-2</b> (12.5 mm)						
			20	<b>R064-2</b> -4 mm	<b>P00-502-25</b> (12.5 mm)						
			22	<b>R065-2</b> -5 mm	<b>P00-502-2</b> (6.5 mm)						
			24	<b>R019</b> - 3 mm	<b>P00-502-2</b> (6.5 mm)						
			26	<b>R064-2</b> -4 mm	<b>P00-501-25</b> (3.5 mm)						
			<p>Attention! Glazing beads of article P00-5** have the height of 18 mm, and height of the rabbet wing of the MastTech-22 system profile (frames, mullions, etc.) is 13 mm. I.e., the glazing beads will project by 5 mm above the frame. It is not critical for non-translucent glazing, but will be noticeable if translucent glazing is used.</p>								
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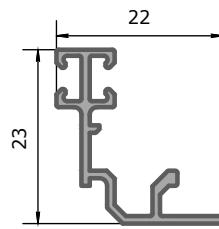
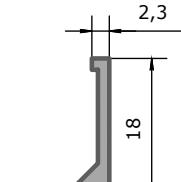
**Double glazing — option 1****Installation diagram**

Double glazing profiles are used in case when non-translucent material is installed on the inside of the room parallel to the glass. This type of glazing is used in stained glass windows in the area of parapet.

If ventilation grilles and double glazing profiles are used together, it is possible to install glass parallel to the ventilation grille. This is necessary to ensure the possibility to subsequently remove glass without dismantling of the ventilation grille (for installation of air conditioner).

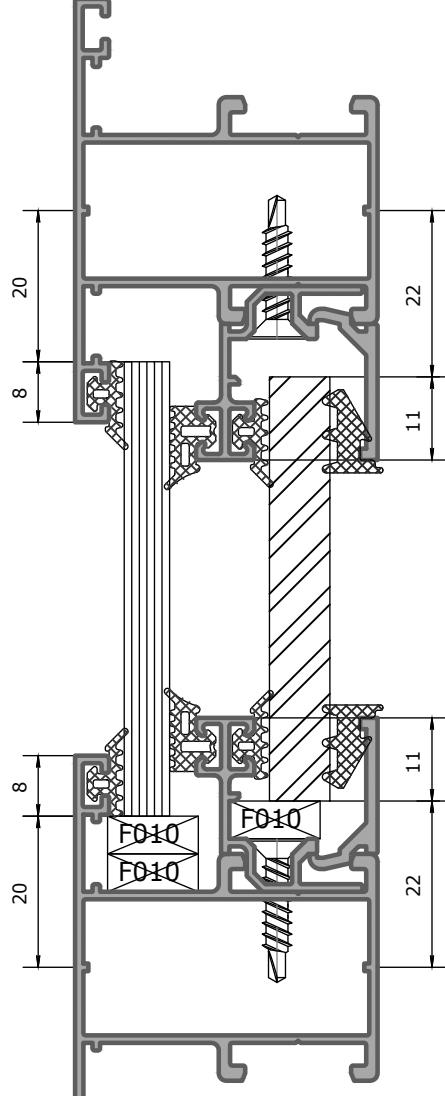
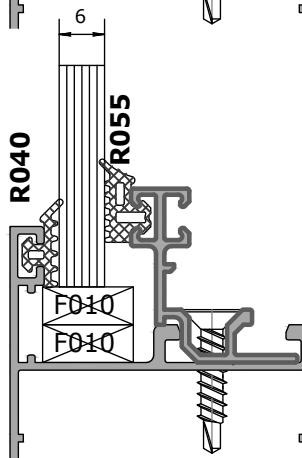
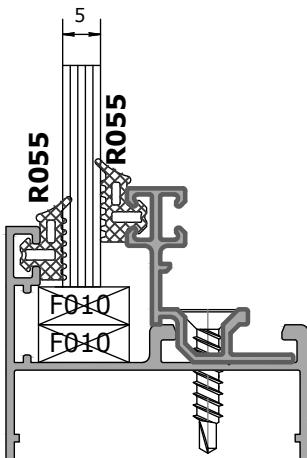
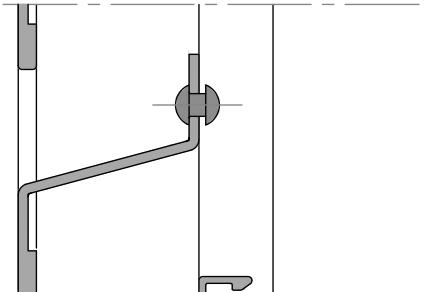
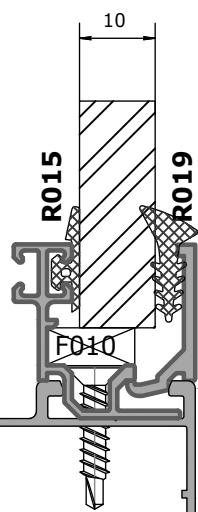
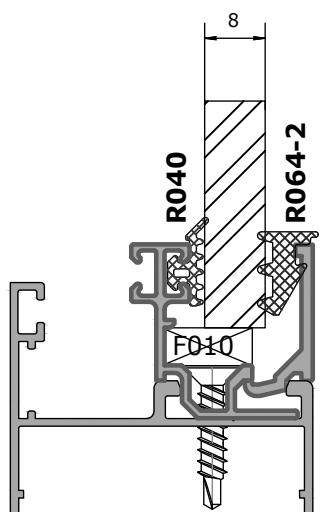
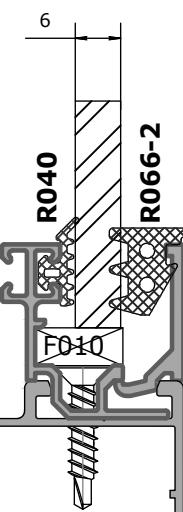
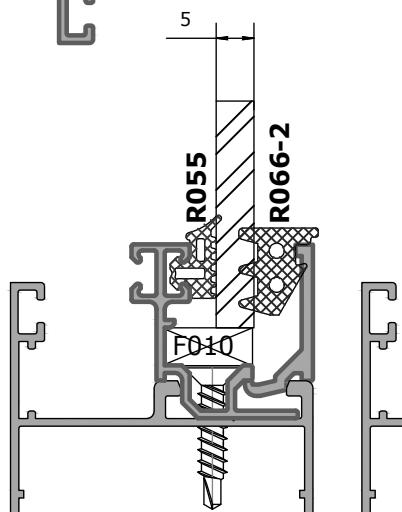
**Scope of application**

## Double glazing – option 2

**P00-505-3****P00-520**

Double glazing profiles are used in case when non-translucent material is installed on the inside of the room parallel to the glass. This type of glazing is used in stained glass windows in the area of parapet.

If ventilation grilles and double glazing profiles are used together, it is possible to install glass parallel to the ventilation grille. This is necessary to ensure the possibility to subsequently remove glass without dismantling of the ventilation grille (for installation of air conditioner).

**Glazing table:  
outer glazing****Glazing table:  
inner glazing**

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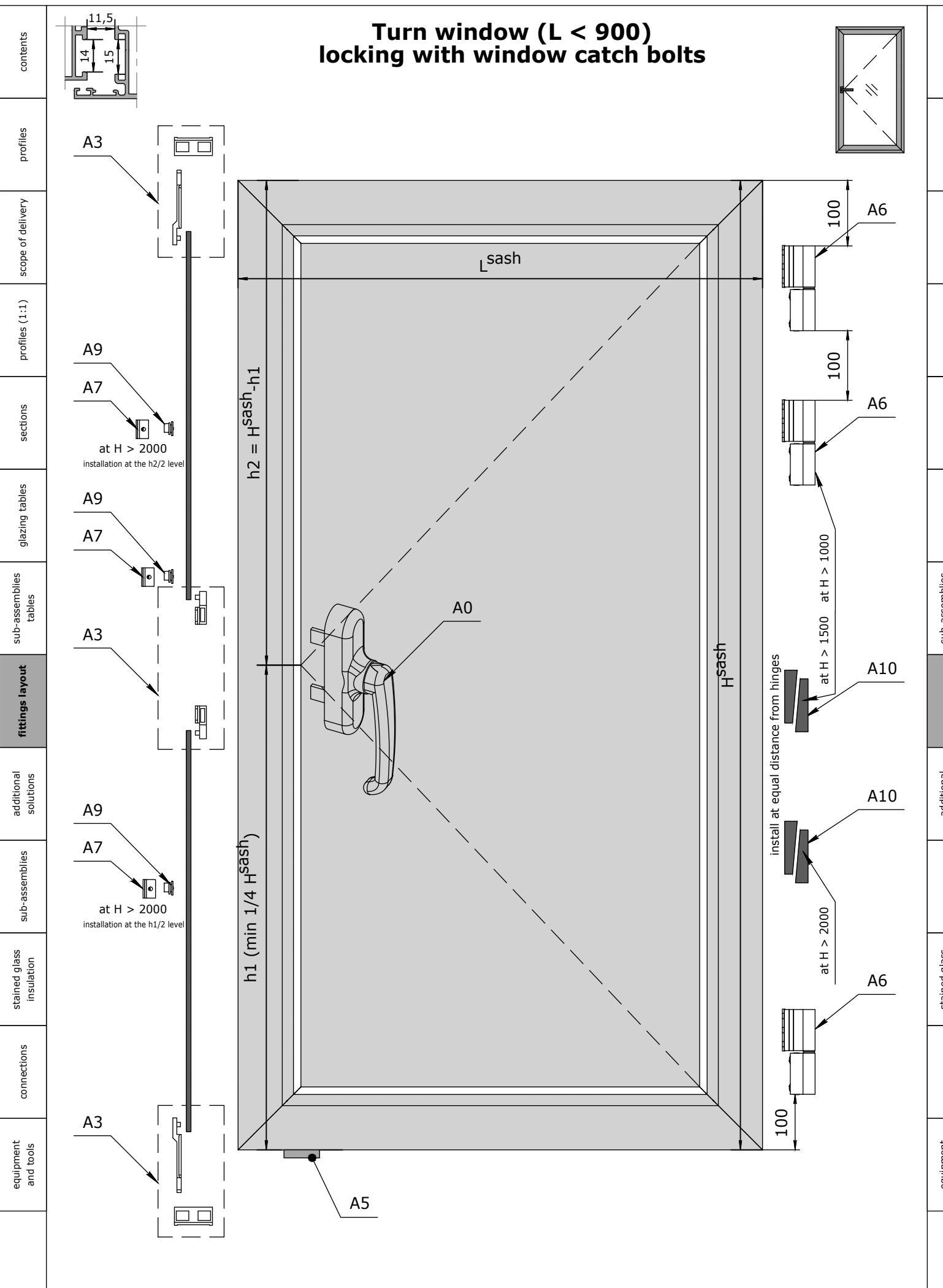
stained glass insulation

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
P24-104			C101		C115				C117-36 S403 (2 pcs)		
P22-102			C101 C605		C115 C605				C117-36 C605 S403 (2 pcs)		
P22-105									C125-37 C605	C125-37 S407 (4 pcs) C605	
P22-121									C117-49 C605	C117-49 S403 (4 pcs) C605	
P22-122									C118-49 C605	C118-49 S403 (4 pcs) C605	
P22-141									C129-25 C602	C129-25 S407 (4 pcs) C602	
P22-143									C129-25 C602	C129-25 S407 (4 pcs) C602	
P22-144									C129-25 C602	C129-25 S407 (4 pcs) C602	
P22-145									C120-37	C120-37 S407 (2 pcs)	
P22-201				sash kit (4 corners): C114 C602 (8 pcs)							
	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles
											contents

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents	
P22-202								C116 C602		C117-25 C602 S403 (2 pcs)		
P22-203								sash kit (4 corners): C114 C602 (8 pcs)				
P22-203-74								sash kit (4 corners): C114 C602 (8 pcs)				
P22-204								C115 C602 (2 pcs)	C117-36 C602 (2 pcs)	C117-36 C602 (2 pcs) S403 (2 pcs)		
P22-205								C116 C602	C117-25 C602	C117-25 C602 S403 (2 pcs)		
P22-207									C120-53 C121-06 C605	C120-53 C121-06 C605 S407 (2 pcs)		
P22-221									C118-49 C605 (2 pcs)	C118-49 C605 (2 pcs) S407 (4 pcs)		
P22-222									C118-49 C605 (2 pcs)	C118-49 C605 (2 pcs) S407 (4 pcs)		
P22-241									C129-25 C602 C605	C129-25 S407 (2 pcs) C602 C605		
P22-242									C129-25 C602 C605	C129-25 S407 (2 pcs) C602 C605		

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents						
												sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles
P22-245									C120-37 C605	C120-37 S407 (2 pcs) C605							
P22-401									C117-36 C605 (2 pcs)	C117-36 C605 (2 pcs) S403 (2 pcs)							
P22-403									C124-36 C605 (2 pcs)	C124-36 C605 (2 pcs) S407 (2 pcs)							
P40-206			C101 C602		C115 C602		C117-36 C602		C117-36 C602 S403 (2 pcs)	C117-36 C602 S403 (2 pcs)							
P40-208-2									C123-45 C602 (2 pcs)	C123-45 C602 (2 pcs) S403 (2 pcs)							

# Turn window (L < 900) locking with window catch bolts



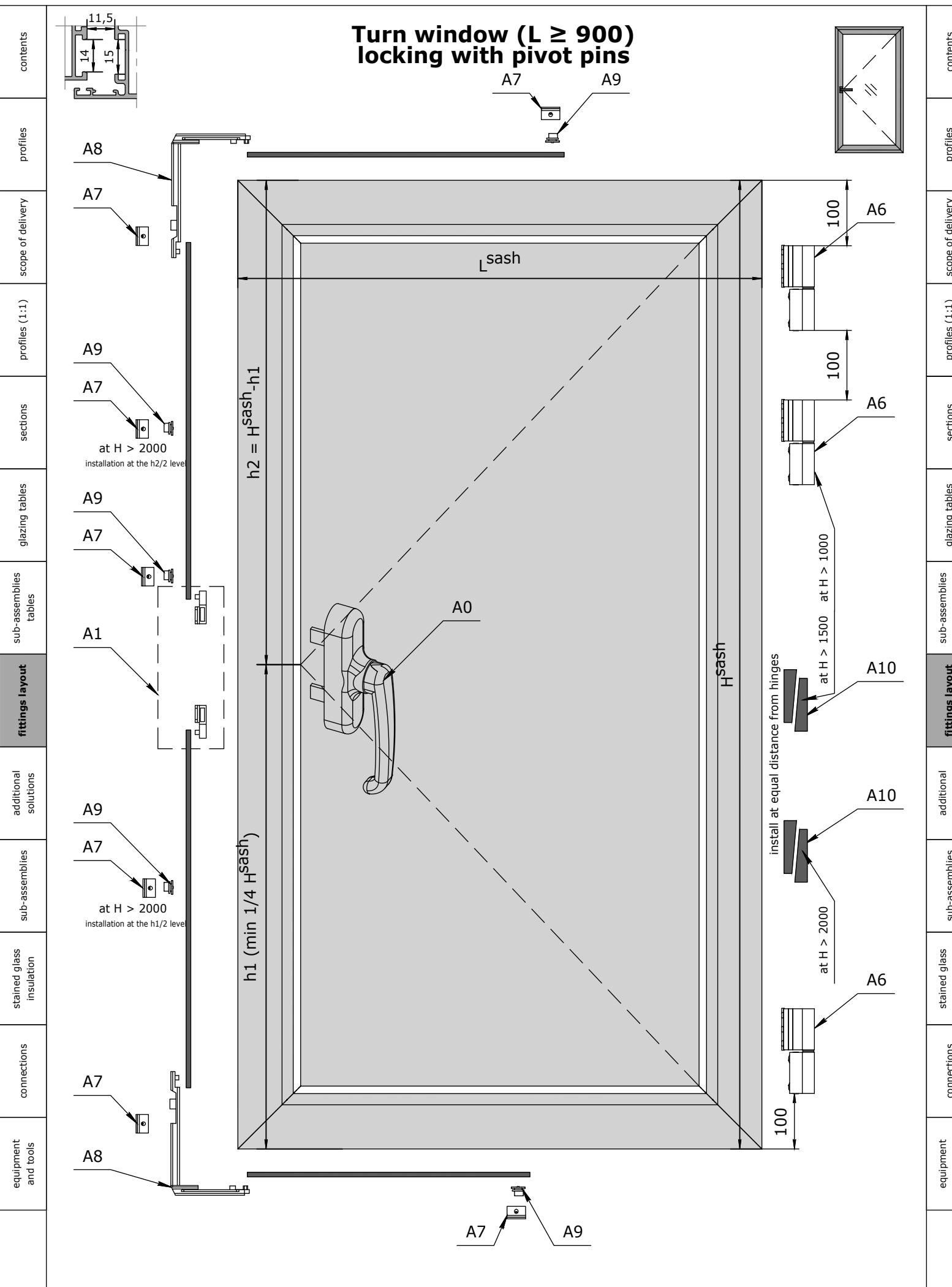
## **Turn window ( $L < 900$ ) locking with pivot pins**

**Turn window (L < 900) locking with pivot pins**

The diagram illustrates the assembly of a turn window (L < 900) with different locking mechanisms. The main drawing shows the window frame with two sashes. The left sash is labeled  $h_1$  (min 1/4  $H_{\text{sash}}$ ) and the right sash is labeled  $h_2 = H_{\text{sash}} - h_1$ . A central hinge mechanism is labeled A0. Various locking options are shown:

- A5:** A small lock at the bottom center.
- A6:** A lock at the top right corner, with dimensions of 100 mm height and width.
- A7:** A lock at the top left corner.
- A8:** A lock at the top right corner, with dimensions of 100 mm height and width.
- A9:** A lock at the top left corner.
- A10:** A lock at the top right corner, with dimensions of 100 mm height and width.
- A1:** A lock at the top left corner.
- Additional Solutions:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".
- Sub-assemblies:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{2/2}$  level".
- Glazing tables:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".
- Sections:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".
- Profiles (1:1):** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".
- Scope of delivery:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".
- Contents:** A separate section showing a lock at the top left corner with a note: "at  $H > 2000$  installation at the  $h_{1/2}$  level".

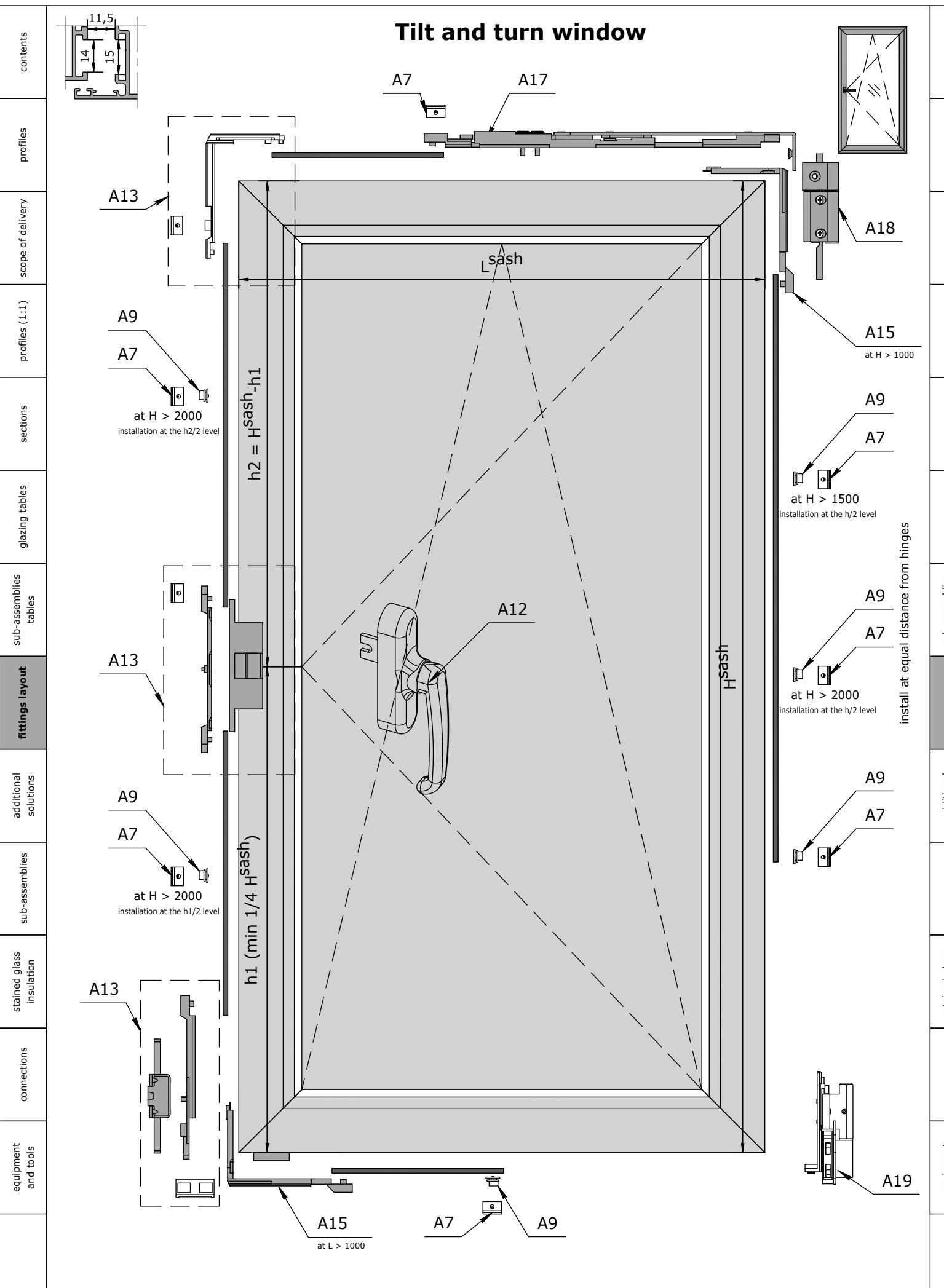
## Turn window ( $L \geq 900$ ) locking with pivot pins



**Fittings selection – turn window**

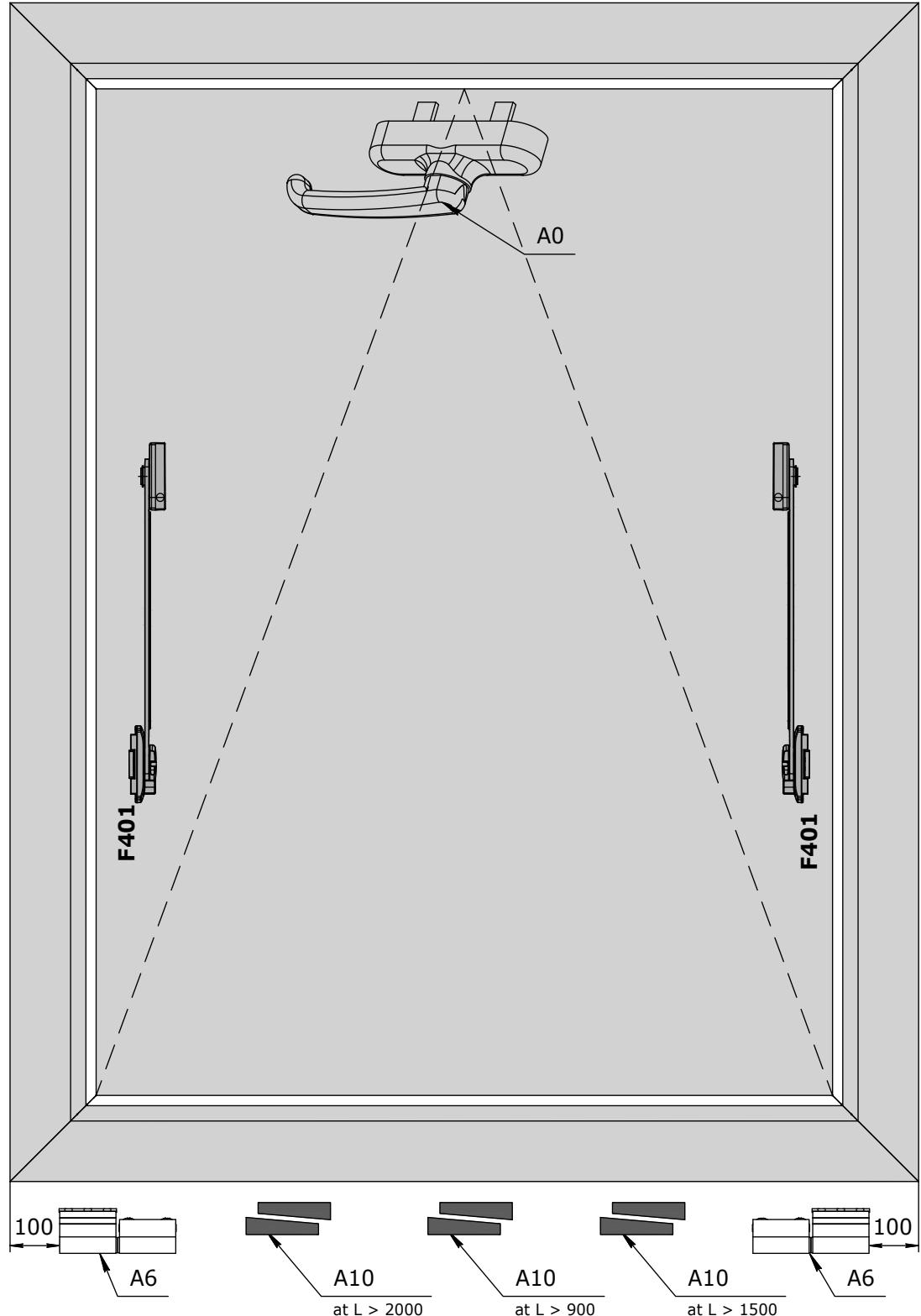
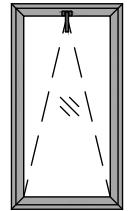
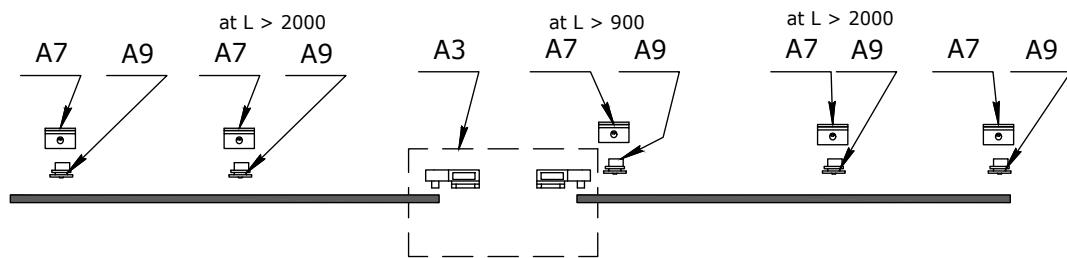
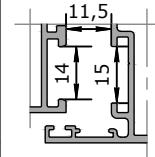
contents		Fittings selection – turn window				contents				
		sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)				
profiles	400-1000	Handle	A0	<b>Ffor-203</b>	1 pc		profiles	scope of delivery		
		handle coupling	A1	<b>Ffor-202</b>	1 pc					
		foot plate	A5	<b>Ffor-023</b>	1 pc	-				
		hinges	A6	<b>Ffor-101</b>	2 pcs					
		mating plate	A7	<b>Ffor-504</b>	3 pcs	5 pcs				
		corner switch	A8	<b>Ffor-612</b>	-	2 pcs				
		eccentric pin	A9	<b>Fv-514</b>	3 pcs	3 pcs				
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-					
sections	1001-1500	Handle	A0	<b>Ffor-203</b>	1 pc		sections	scope of delivery		
		handle coupling	A1	<b>Ffor-202</b>	1 pc					
		foot plate	A5	<b>Ffor-023</b>	1 pc	-				
		hinges	A6	<b>Ffor-101</b>	3 pcs					
		mating plate	A7	<b>Ffor-504</b>	3 pcs	5 pcs				
		corner switch	A8	<b>Ffor-612</b>	-	2 pcs				
		eccentric pin	A9	<b>Fv-514</b>	3 pcs	3 pcs				
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-					
sub-assemblies	1501-2000	Handle	A0	<b>Ffor-203</b>	1 pc		sub-assemblies	scope of delivery		
		handle coupling	A1	<b>Ffor-202</b>	1 pc					
		foot plate	A5	<b>Ffor-023</b>	1 pc	-				
		hinges	A6	<b>Ffor-101</b>	3 pcs					
		mating plate	A7	<b>Ffor-504</b>	3 pcs	5 pcs				
		corner switch	A8	<b>Ffor-612</b>	-	2 pcs				
		eccentric pin	A9	<b>Fv-514</b>	3 pcs	3 pcs				
		additional clamp (hinge side)	A10	<b>Fv-505</b>	1 pc					
sub-assemblies	2001-2500	Handle	A0	<b>Ffor-203</b>	1 pc		sub-assemblies	scope of delivery		
		handle coupling	A1	<b>Ffor-202</b>	1 pc					
		foot plate	A5	<b>Ffor-023</b>	1 pc	-				
		hinges	A6	<b>Ffor-101</b>	3 pcs					
		mating plate	A7	<b>Ffor-504</b>	5 pcs	7 pcs				
		corner switch	A8	<b>Ffor-612</b>	-	2 pcs				
		eccentric pin	A9	<b>Fv-514</b>	5 pcs	5 pcs				
		additional clamp (hinge side)	A10	<b>Fv-505</b>	2 pcs					
stained glass insulation	connections	equipment and tools	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies	sub-assemblies		

## Tilt and turn window



		Fittings selection — tilt and turn window							
contents	Height	description	item	article	sash width over rebate (SWR)			contents	
					400-675	676-1000	1001-1200		
profiles	400-1000	handle	A12	<b>Ffor-601</b>	1 pc			profiles	
		standard accessories for tilt and turn window	A13	<b>Ffor-616</b>	1 pc				
		scissor stay for tilt and turn window	A17	1 pc	<b>Ffor-614</b>	<b>Ffor-615</b>			
		upper hinge group of tilt and turn window	A18	<b>Ffor-6131</b>	1 pc				
		lower hinge group of tilt and turn window	A19	<b>Ffor-6132</b>	1 pc				
		additional corner switch of tilt and turn window	A15	<b>Ffor-6162</b>	-	1 pc	2 pcs		
		eccentric pin	A9	<b>Fv-514</b>	1 pc				
sections	1001-1500	mating plate	A7	<b>Ffor-504</b>	1 pc		2 pcs	sections	
		handle	A12	<b>Ffor-601</b>	1 pc				
		standard accessories for tilt and turn window	A13	<b>Ffor-616</b>	1 pc				
		scissor stay for tilt and turn window	A17	1 pc	<b>Ffor-614</b>	<b>Ffor-615</b>			
		upper hinge group of tilt and turn window	A18	<b>Ffor-6131</b>	1 pc				
		lower hinge group of tilt and turn window	A19	<b>Ffor-6132</b>	1 pc				
		additional corner switch of tilt and turn window	A15	<b>Ffor-6162</b>	1 pc		2 pcs		
glazing tables	1501-2000	eccentric pin	A9	<b>Fv-514</b>	2 pcs		3 pcs	glazing tables	
		mating plate	A7	<b>Ffor-504</b>	2 pcs		3 pcs		
		handle	A12	<b>Ffor-601</b>	1 pc				
		standard accessories for tilt and turn window	A13	<b>Ffor-616</b>	1 pc				
		scissor stay for tilt and turn window	A17	1 pc	<b>Ffor-614</b>	<b>Ffor-615</b>			
		upper hinge group of tilt and turn window	A18	<b>Ffor-6131</b>	1 pc				
		lower hinge group of tilt and turn window	A19	<b>Ffor-6132</b>	1 pc				
sub-assemblies	2001-2500	additional corner switch of tilt and turn window	A15	<b>Ffor-6162</b>	1 pc		2 pcs	sub-assemblies	
		eccentric pin	A9	<b>Fv-514</b>	3 pcs		4 pcs		
		mating plate	A7	<b>Ffor-504</b>	3 pcs		4 pcs		
		handle	A12	<b>Ffor-601</b>	1 pc				
		standard accessories for tilt and turn window	A13	<b>Ffor-616</b>	1 pc				
		scissor stay for tilt and turn window	A17	1 pc	<b>Ffor-614</b>	<b>Ffor-615</b>			
		upper hinge group of tilt and turn window	A18	<b>Ffor-6131</b>	1 pc				
stained glass insulation	connections	lower hinge group of tilt and turn window	A19	<b>Ffor-6132</b>	1 pc			stained glass insulation	
		additional corner switch of tilt and turn window	A15	<b>Ffor-6162</b>	1 pc		2 pcs		
equipment and tools		eccentric pin	A9	<b>Fv-514</b>	6 pcs		7 pcs	equipment and tools	
		mating plate	A7	<b>Ffor-504</b>	6 pcs		7 pcs		

## Tilt window (H &lt; 900), top handle



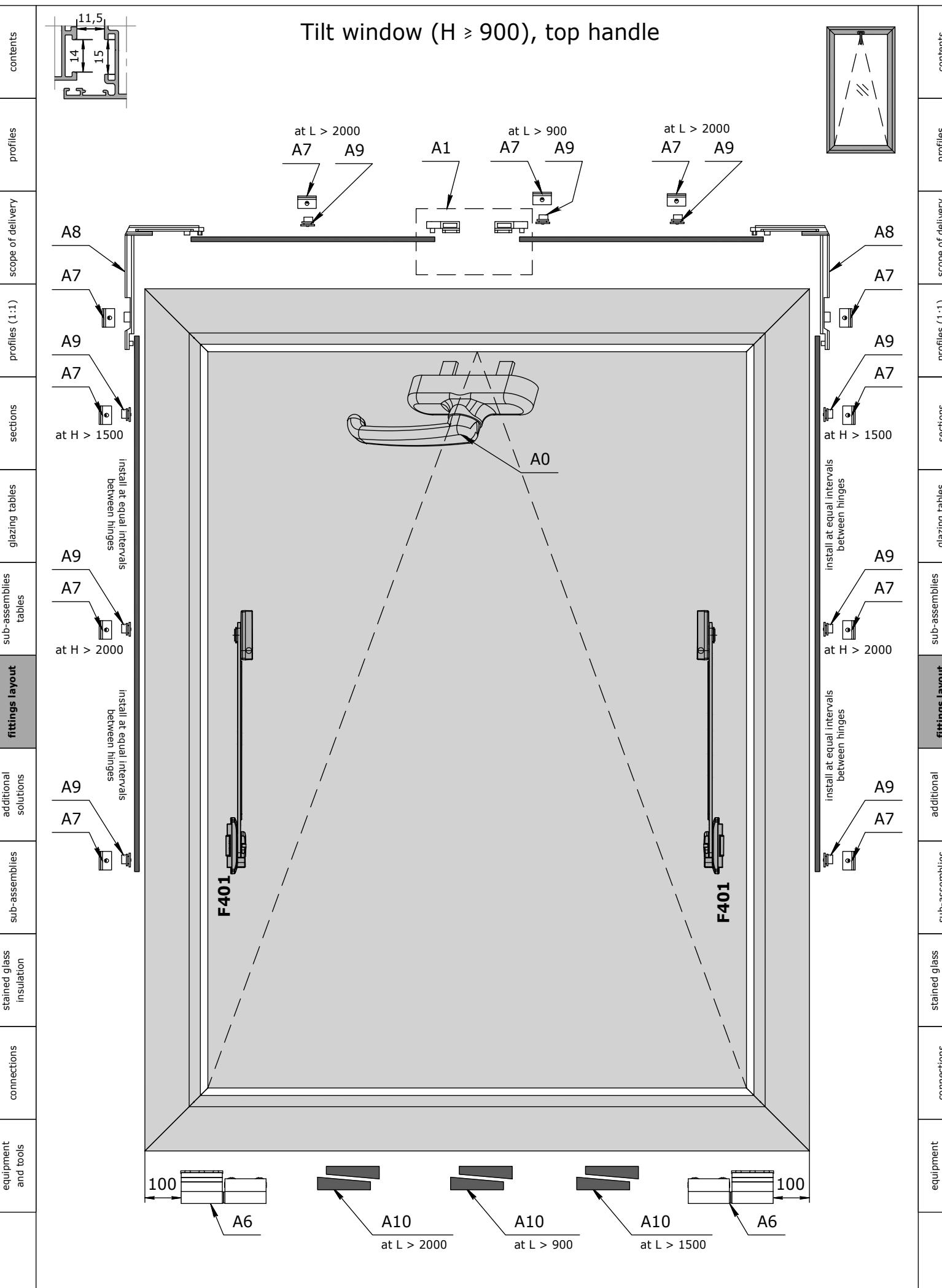
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout
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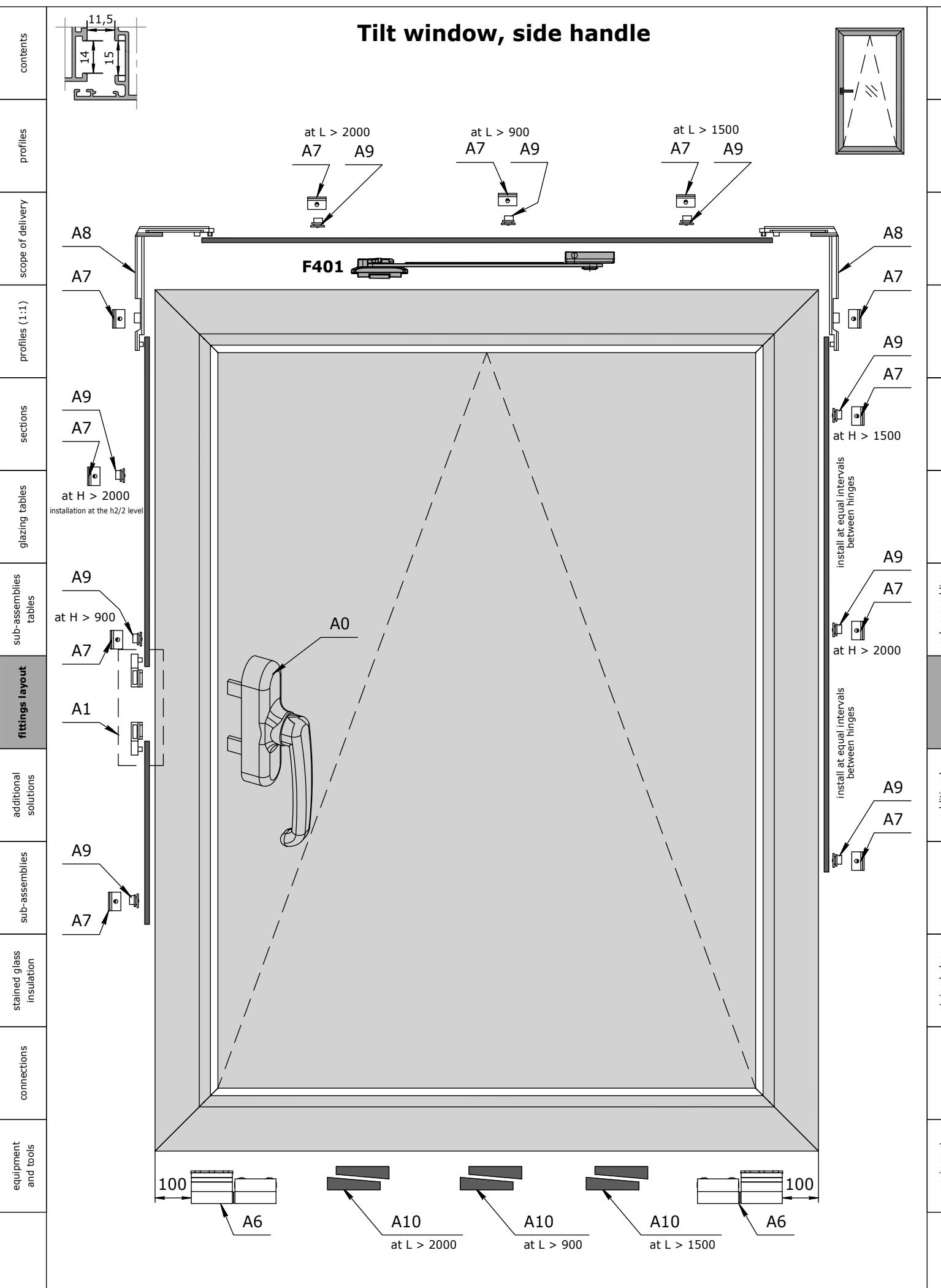
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout
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## Tilt window ( $H \geq 900$ ), top handle



		Fittings selection — transom window, top handle								
contents	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)				contents	
					400–900	901–1500	1501–2000	2001–2500		
400–900	Handle	A0	Ffor-203					1 pc	profiles	
		A1	Ffor-202					1 pc		
		A6	Ffor-101					2 pcs		
		A7	Ffor-504		2 pcs			3 pcs		
		A8	Ffor-612					-		
		A9	Fv-514		2 pcs			3 pcs		
		A10	Fv-505		-	1 pc	2 pcs	5 pcs		
			F401					1 pc (pair)		
901–1500	Handle	A0	Ffor-203					1 pc	profiles	
		A1	Ffor-202					1 pc		
		A6	Ffor-101					2 pcs		
		A7	Ffor-504		4 pcs			5 pcs		
		A8	Ffor-612					7 pcs		
		A9	Fv-514		4 pcs			5 pcs		
		A10	Fv-505		-	1 pc	2 pcs	7 pcs		
			F401					1 pc (pair)		
1501–2000	Handle	A0	Ffor-203					1 pc	sub-assemblies	
		A1	Ffor-202					1 pc		
		A6	Ffor-101					2 pcs		
		A7	Ffor-504		6 pcs			7 pcs		
		A8	Ffor-612					9 pcs		
		A9	Fv-514		6 pcs			7 pcs		
		A10	Fv-505		-	1 pc	2 pcs	9 pcs		
			F401					1 pc (pair)		
2001–2500	Handle	A0	Ffor-203					1 pc	sub-assemblies	
		A1	Ffor-202					1 pc		
		A6	Ffor-101					2 pcs		
		A7	Ffor-504		8 pcs			9 pcs		
		A8	Ffor-612					11 pcs		
		A9	Fv-514		8 pcs			9 pcs		
		A10	Fv-505		-	1 pc	2 pcs	11 pcs		
			F401					3 pcs		
stained glass insulation	connections								sub-assemblies	sub-assemblies
equipment and tools									stained glass insulation	stained glass insulation

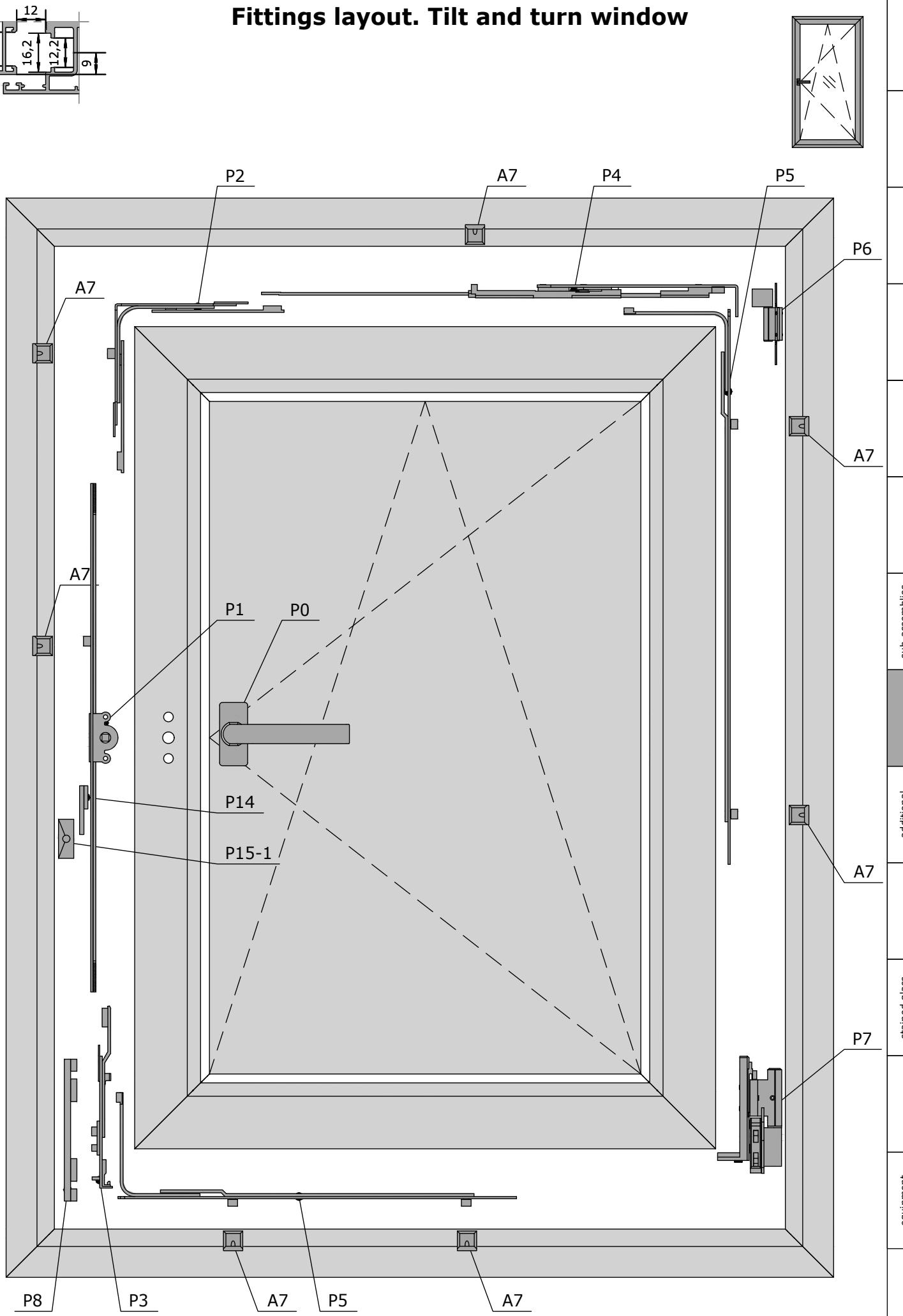
## Tilt window, side handle



**Fittings selection — transom window, side handle**

contents	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)				contents
					400–900	901–1500	1501–2000	2001–2500	
profiles	400–900	Handle	A0	<b>Ffor-203</b>				1 pc	profiles
		handle coupling	A1	<b>Ffor-202</b>				1 pc	
		hinges	A6	<b>Ffor-101</b>				2 pcs	
		mating plate	A7	<b>Ffor-504</b>	4 pcs	5 pcs	6 pcs	7 pcs	
		corner switch	A8	<b>Ffor-612</b>				2 pcs	
		eccentric pin	A9	<b>Fv-514</b>	2 pcs	3 pcs	4 pcs	5 pcs	
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-	1 pc	2 pcs	3 pcs	
		opening restrictor		<b>F401</b>				1 pc (pair)	
sections	901–1500	Handle	A0	<b>Ffor-203</b>				1 pc	sections
		handle coupling	A1	<b>Ffor-202</b>				1 pc	
		hinges	A6	<b>Ffor-101</b>				2 pcs	
		mating plate	A7	<b>Ffor-504</b>	5 pcs	6 pcs	7 pcs	8 pcs	
		corner switch	A8	<b>Ffor-612</b>				2 pcs	
		eccentric pin	A9	<b>Fv-514</b>	3 pcs	4 pcs	5 pcs	6 pcs	
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-	1 pc	2 pcs	3 pcs	
		opening restrictor		<b>F401</b>				1 pc (pair)	
glazing tables	1501–2000	Handle	A0	<b>Ffor-203</b>				1 pc	glazing tables
		handle coupling	A1	<b>Ffor-202</b>				1 pc	
		hinges	A6	<b>Ffor-101</b>				2 pcs	
		mating plate	A7	<b>Ffor-504</b>	6 pcs	7 pcs	8 pcs	9 pcs	
		corner switch	A8	<b>Ffor-612</b>				2 pcs	
		eccentric pin	A9	<b>Fv-514</b>	4 pcs	5 pcs	6 pcs	7 pcs	
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-	1 pc	2 pcs	3 pcs	
		opening restrictor		<b>F401</b>				1 pc (pair)	
sub-assemblies	2001–2500	Handle	A0	<b>Ffor-203</b>				1 pc	sub-assemblies
		handle coupling	A1	<b>Ffor-202</b>				1 pc	
		hinges	A6	<b>Ffor-101</b>				2 pcs	
		mating plate	A7	<b>Ffor-504</b>	8 pcs	9 pcs	10 pcs	11 pcs	
		corner switch	A8	<b>Ffor-612</b>				2 pcs	
		eccentric pin	A9	<b>Fv-514</b>	6 pcs	7 pcs	8 pcs	9 pcs	
		additional clamp (hinge side)	A10	<b>Fv-505</b>	-	1 pc	2 pcs	3 pcs	
		opening restrictor		<b>F401</b>				1 pc (pair)	
stained glass insulation	connections								stained glass insulation
equipment and tools	equipment and tools								equipment and tools

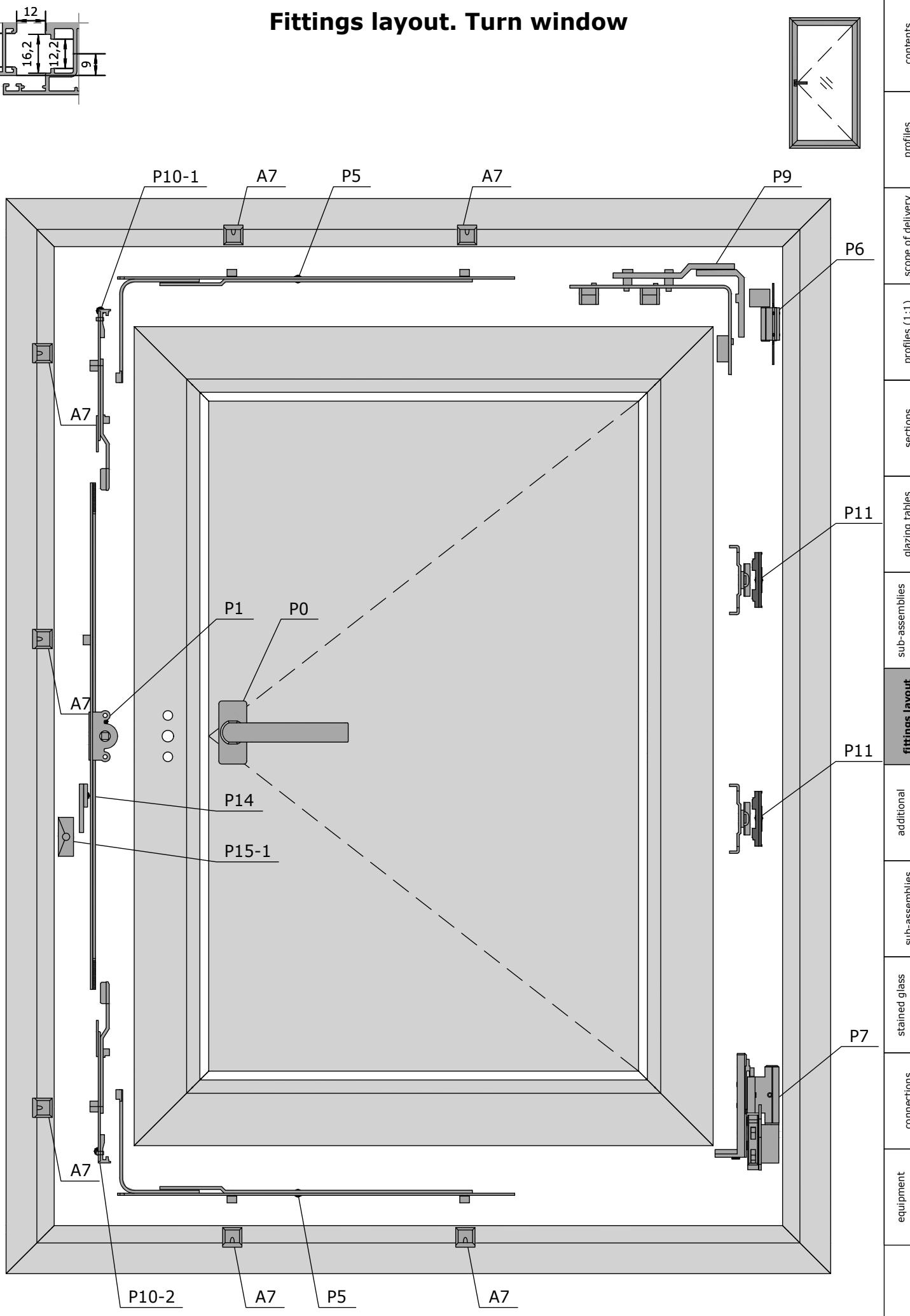
## **Fittings layout. Tilt and turn window**



## Fittings selection — tilt and turn window

contents	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)							contents
					395-600	595-800	795-1000	995-1200	1195-1400	1395-1600		
480-700	480-700	handle	P0	FPfor-200-1							1 pc	profiles
		tilt and turn variation mechanism	P1	FPfor-602-0							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	-							-	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	1 pc	3 pcs	4 pcs	4 pcs	4 pcs	5 pcs		
685-1100	685-1100	handle	P0	FPfor-200-1							1 pc	profiles
		tilt and turn variation mechanism	P1	FPfor-602-1-1							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	FPfor-611-1-1							1 pc	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	4 pcs	6 pcs	7 pcs	7 pcs	7 pcs	8 pcs		
885-1300	885-1300	handle	P0	FPfor-200-1							1 pc	glazing tables
		tilt and turn variation mechanism	P1	FPfor-602-2							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	FPfor-611-2							1 pc	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	4 pcs	6 pcs	7 pcs	7 pcs	7 pcs	8 pcs	8 pcs	
1185-1600	1185-1600	handle	P0	FPfor-200-1							1 pc	fittings layout
		tilt and turn variation mechanism	P1	FPfor-602-3							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	FPfor-611-2							1 pc	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	5 pcs	7 pcs	8 pcs	8 pcs	8 pcs	9 pcs	9 pcs	
1585-2000	1585-2000	handle	P0	FPfor-200-1							1 pc	sub-assemblies
		tilt and turn variation mechanism	P1	FPfor-602-5							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	FPfor-611-3							1 pc	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	6 pcs	8 pcs	9 pcs	9 pcs	9 pcs	10 pcs		
1985-2400	1985-2400	handle	P0	FPfor-200-1							1 pc	connections
		tilt and turn variation mechanism	P1	FPfor-602-6							1 pc	
		corner switch	P2	FPfor-612							1 pc	
		hinged latch	P3	FPfor-6161							1 pc	
		scissor stay for tilt and turn window	P4	1 pc	FPfor-615-1	FPfor-615-2-1	FPfor-615-3	FPfor-615-4	FPfor-615-5	FPfor-615-6		
		middle latch (horizontal)	P5	1 pc	-	FPfor-611-0		FPfor-611-1-1		FPfor-611-2	FPfor-611-2-1	
		middle latch (vertical)	P5	FPfor-611-5							1 pc	
		upper hinge on the frame	P6	FPfor-101							1 pc	
		lower hinge	P7	FPfor-102							1 pc	
		mating plate for hinged latch	P8	FPfor-6162							1 pc	
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	7 pcs	9 pcs	10 pcs	10 pcs	10 pcs	11 pcs		

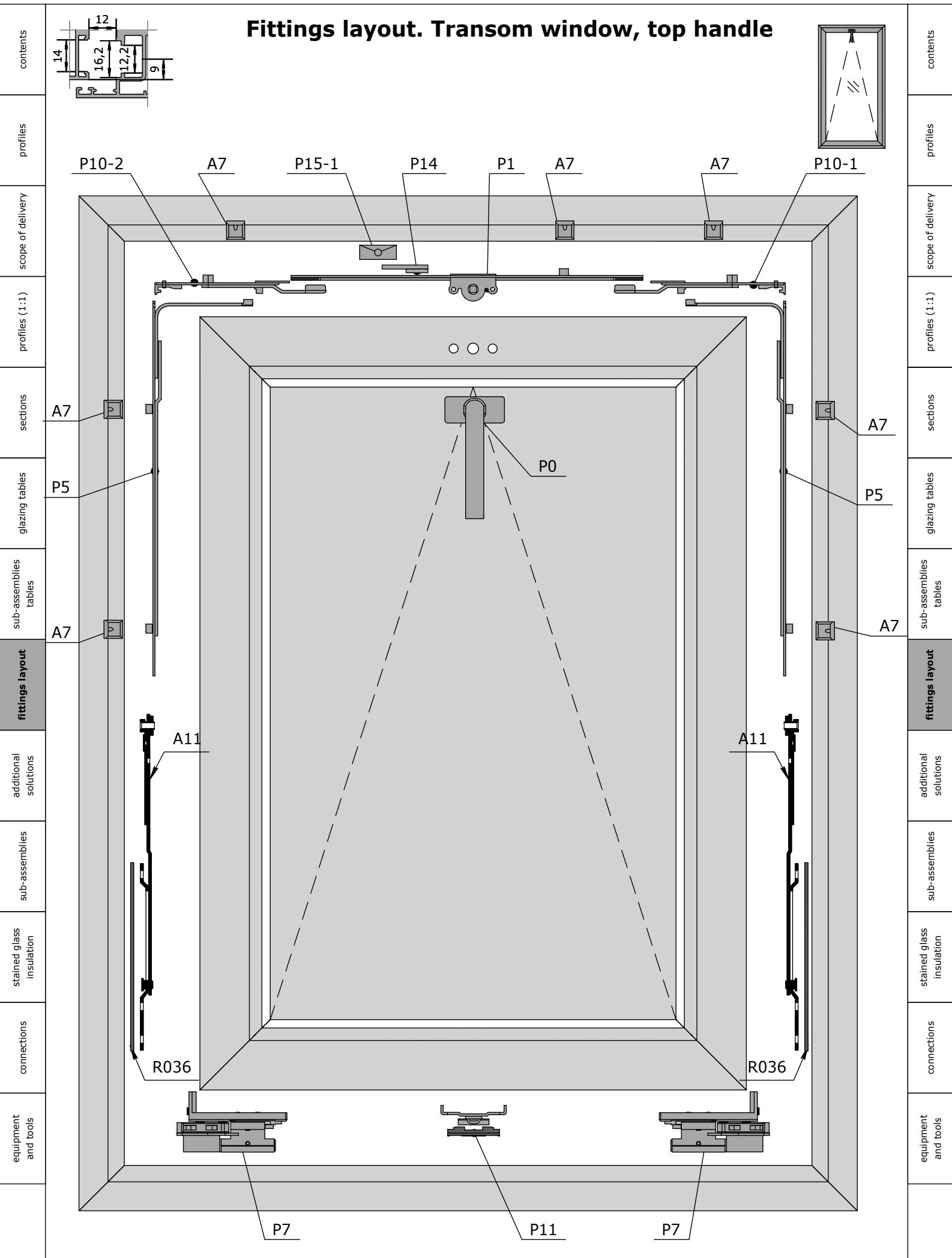
## **Fittings layout. Turn window**



## Fittings selection — turn window

contents		sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)						contents
						395-600	595-800	795-1000	995-1200	1195-1400	1395-1600	
480-700	scope of delivery profiles (1:1)	480-700	handle	P0	FPfor-200-1					1 pc		profiles
			tilt and turn variation mechanism	P1	FPfor-602-0					1 pc		
			middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		
			upper hinge on the frame	P6	FPfor-101					1 pc		
			lower hinge	P7	FPfor-102					1 pc		
			top hinge on the sash	P9	FPfor-111					1 pc		
			end latch, upper	P10-1	FPfor-501-1					1 pc		
			end latch, lower	P10-2	FPfor-501-2					1 pc		
			additional clamp (from the hinge side)	P11	FPfor-453					-		
			lock/lifter	P14	FPfor-463					1 pc		
685-1100	scope of delivery profiles (1:1)	685-1100	lifter mating plate	P15-1	FPfor-464-1					1 pc		scope of delivery profiles (1:1)
			mating plate of pivot pin	A7	Ffor-504	2 pcs	4 pcs	6 pcs	6 pcs	6 pcs	8 pcs	
			handle	P0	FPfor-200-1					1 pc		
			tilt and turn variation mechanism	P1	FPfor-602-1-1					1 pc		
			middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		
			upper hinge on the frame	P6	FPfor-101					1 pc		
			lower hinge	P7	FPfor-102					1 pc		
			top hinge on the sash	P9	FPfor-111					1 pc		
			end latch, upper	P10-1	FPfor-501-1					1 pc		
			end latch, lower	P10-2	FPfor-501-2					1 pc		
885-1300	scope of delivery profiles (1:1)	885-1300	additional clamp (from the hinge side)	P11	FPfor-453					1 pc		scope of delivery profiles (1:1)
			lock/lifter	P14	FPfor-463					1 pc		
			lifter mating plate	P15-1	FPfor-464-1					1 pc		
			mating plate of pivot pin	A7	Ffor-504	3 pcs	5 pcs	7 pcs	7 pcs	7 pcs	9 pcs	
			handle	P0	FPfor-200-1					1 pc		
			tilt and turn variation mechanism	P1	FPfor-602-2					1 pc		
			middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		
			upper hinge on the frame	P6	FPfor-101					1 pc		
			lower hinge	P7	FPfor-102					1 pc		
			top hinge on the sash	P9	FPfor-111					1 pc		
1185-1600	scope of delivery profiles (1:1)	1185-1600	end latch, upper	P10-1	FPfor-501-1					1 pc		scope of delivery profiles (1:1)
			end latch, lower	P10-2	FPfor-501-2					1 pc		
			additional clamp (from the hinge side)	P11	FPfor-453					1 pc		
			lock/lifter	P14	FPfor-463					1 pc		
			lifter mating plate	P15-1	FPfor-464-1					1 pc		
			mating plate of pivot pin	A7	Ffor-504	3 pcs	5 pcs	7 pcs	7 pcs	7 pcs	9 pcs	
			handle	P0	FPfor-200-1					1 pc		
			tilt and turn variation mechanism	P1	FPfor-602-3					1 pc		
			middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		
			upper hinge on the frame	P6	FPfor-101					1 pc		
1585-2000	scope of delivery profiles (1:1)	1585-2000	lower hinge	P7	FPfor-102					1 pc		scope of delivery profiles (1:1)
			top hinge on the sash	P9	FPfor-111					1 pc		
			end latch, upper	P10-1	FPfor-501-1					1 pc		
			end latch, lower	P10-2	FPfor-501-2					1 pc		
			additional clamp (from the hinge side)	P11	FPfor-453					1 pc		
			lock/lifter	P14	FPfor-463					1 pc		
			lifter mating plate	P15-1	FPfor-464-1					1 pc		
			mating plate of pivot pin	A7	Ffor-504	4 pcs	6 pcs	8 pcs	8 pcs	8 pcs	10 pcs	
			handle	P0	FPfor-200-1					1 pc		
			tilt and turn variation mechanism	P1	FPfor-602-5					1 pc		
1985-2400	scope of delivery profiles (1:1)	1985-2400	middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		scope of delivery profiles (1:1)
			upper hinge on the frame	P6	FPfor-101					1 pc		
			lower hinge	P7	FPfor-102					1 pc		
			top hinge on the sash	P9	FPfor-111					1 pc		
			end latch, upper	P10-1	FPfor-501-1					1 pc		
			end latch, lower	P10-2	FPfor-501-2					1 pc		
			additional clamp (from the hinge side)	P11	FPfor-453					2 pcs		
			lock/lifter	P14	FPfor-463					1 pc		
			lifter mating plate	P15-1	FPfor-464-1					1 pc		
			mating plate of pivot pin	A7	Ffor-504	4 pcs	6 pcs	8 pcs	8 pcs	8 pcs	10 pcs	
stained glass insulation	connections	stained glass insulation	handle	P0	FPfor-200-1					1 pc		stained glass insulation
			tilt and turn variation mechanism	P1	FPfor-602-6					1 pc		
equipment and tools	connections	stained glass insulation	middle latch (horizontal)	P5	2 pcs	-	FPfor-611-0	FPfor-611-1-1	FPfor-611-2	FPfor-611-2-1		stained glass insulation
			upper hinge on the frame	P6	FPfor-101					1 pc		

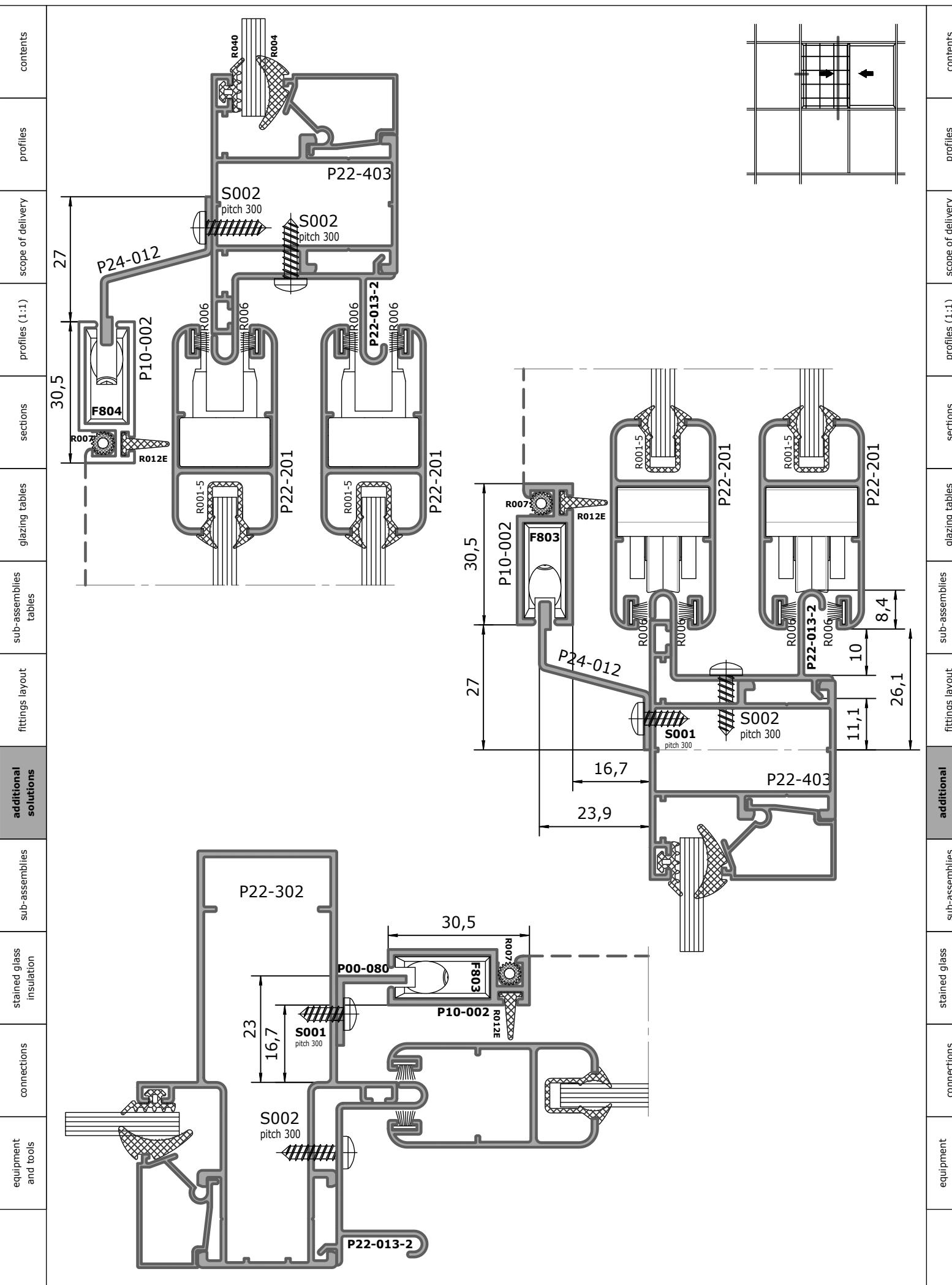
# Fittings layout. Transom window, top handle



## Fittings selection — transom window, top handle

contents	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)							contents
					480-700	685-1100	885-1300	1185-1600	1585-2000	1985-2400		
395-600	395-600	handle	P0	FPfor-200-1							1 pc	profiles
		tilt and turn variation mechanism	P1	1 pc	FPfor-602-0	FPfor-602-1-1	FPfor-602-2	FPfor-602-3	FPfor-602-5	FPfor-602-6		
		middle latch (horizontal)	P5	-							-	
		lower hinge	P7	FPfor-102							2 pcs	
		end latch, upper	P10-1	FPfor-501-1							1 pc	
		end latch, lower	P10-2	FPfor-501-2							1 pc	
		additional clamp (from the hinge side)	P11	FPfor-453	-	-	1 pc	1 pc	2 pcs	2 pcs		
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	2 pcs	3 pcs	3 pcs	4 pcs	4 pcs	4 pcs		
595-800	595-800	opening restrictor	A11	Ffor-401							2 pcs	profiles
		gasket (underlayer for opening restrictor)		R036							1 lin.m.	
		handle	P0	FPfor-200-1							1 pc	
		tilt and turn variation mechanism	P1	1 pc	FPfor-602-0	FPfor-602-1-1	FPfor-602-2	FPfor-602-3	FPfor-602-5	FPfor-602-6		
		middle latch (horizontal)	P5	2 pcs							FPfor-611-0	
		lower hinge	P7	FPfor-102							2 pcs	
		end latch, upper	P10-1	FPfor-501-1							1 pc	
		end latch, lower	P10-2	FPfor-501-2							1 pc	
		additional clamp (from the hinge side)	P11	FPfor-453	-	-	1 pc	1 pc	2 pcs	2 pcs		
		lock/lifter	P14	FPfor-463							1 pc	
795-1200	795-1200	lifter mating plate	P15-1	FPfor-464-1							1 pc	sections
		mating plate of pivot pin	A7	Ffor-504	4 pcs	5 pcs	5 pcs	6 pcs	6 pcs	6 pcs		
		opening restrictor	A11	Ffor-401							2 pcs	
		gasket (underlayer for opening restrictor)		R036							1 lin.m.	
		handle	P0	FPfor-200-1							1 pc	
		tilt and turn variation mechanism	P1	1 pc	FPfor-602-0	FPfor-602-1-1	FPfor-602-2	FPfor-602-3	FPfor-602-5	FPfor-602-6		
		middle latch (horizontal)	P5	2 pcs							FPfor-611-1-1	
		lower hinge	P7	FPfor-102							2 pcs	
		end latch, upper	P10-1	FPfor-501-1							1 pc	
		end latch, lower	P10-2	FPfor-501-2							1 pc	
1195-1400	1195-1400	additional clamp (from the hinge side)	P11	FPfor-453	-	-	1 pc	1 pc	2 pcs	2 pcs		sub-assemblies
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	6 pcs	7 pcs	7 pcs	8 pcs	8 pcs	8 pcs		
		opening restrictor	A11	Ffor-401							2 pcs	
		gasket (underlayer for opening restrictor)		R036							1 lin.m.	
		handle	P0	FPfor-200-1							1 pc	
		tilt and turn variation mechanism	P1	1 pc	FPfor-602-0	FPfor-602-1-1	FPfor-602-2	FPfor-602-3	FPfor-602-5	FPfor-602-6		
		middle latch (horizontal)	P5	2 pcs							FPfor-611-2-1	
		lower hinge	P7	FPfor-102							2 pcs	
1395-1600	1395-1600	end latch, upper	P10-1	FPfor-501-1							1 pc	sub-assemblies
		end latch, lower	P10-2	FPfor-501-2							1 pc	
		additional clamp (from the hinge side)	P11	FPfor-453	-	-	1 pc	1 pc	2 pcs	2 pcs		
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	8 pcs	9 pcs	9 pcs	10 pcs	10 pcs	10 pcs		
		opening restrictor	A11	Ffor-401							2 pcs	
		gasket (underlayer for opening restrictor)		R036							1 lin.m.	
		handle	P0	FPfor-200-1							1 pc	
		tilt and turn variation mechanism	P1	1 pc	FPfor-602-0	FPfor-602-1-1	FPfor-602-2	FPfor-602-3	FPfor-602-5	FPfor-602-6		
1600-2100	1600-2100	middle latch (horizontal)	P5	2 pcs							FPfor-611-4	stained glass insulation
		lower hinge	P7	FPfor-102							2 pcs	
		end latch, upper	P10-1	FPfor-501-1							1 pc	
		end latch, lower	P10-2	FPfor-501-2							1 pc	
		additional clamp (from the hinge side)	P11	FPfor-453	-	-	1 pc	1 pc	2 pcs	2 pcs		
		lock/lifter	P14	FPfor-463							1 pc	
		lifter mating plate	P15-1	FPfor-464-1							1 pc	
		mating plate of pivot pin	A7	Ffor-504	8 pcs	9 pcs	9 pcs	10 pcs	10 pcs	10 pcs		
		opening restrictor	A11	Ffor-401							2 pcs	
		gasket (underlayer for opening restrictor)		R036							1 lin.m.	



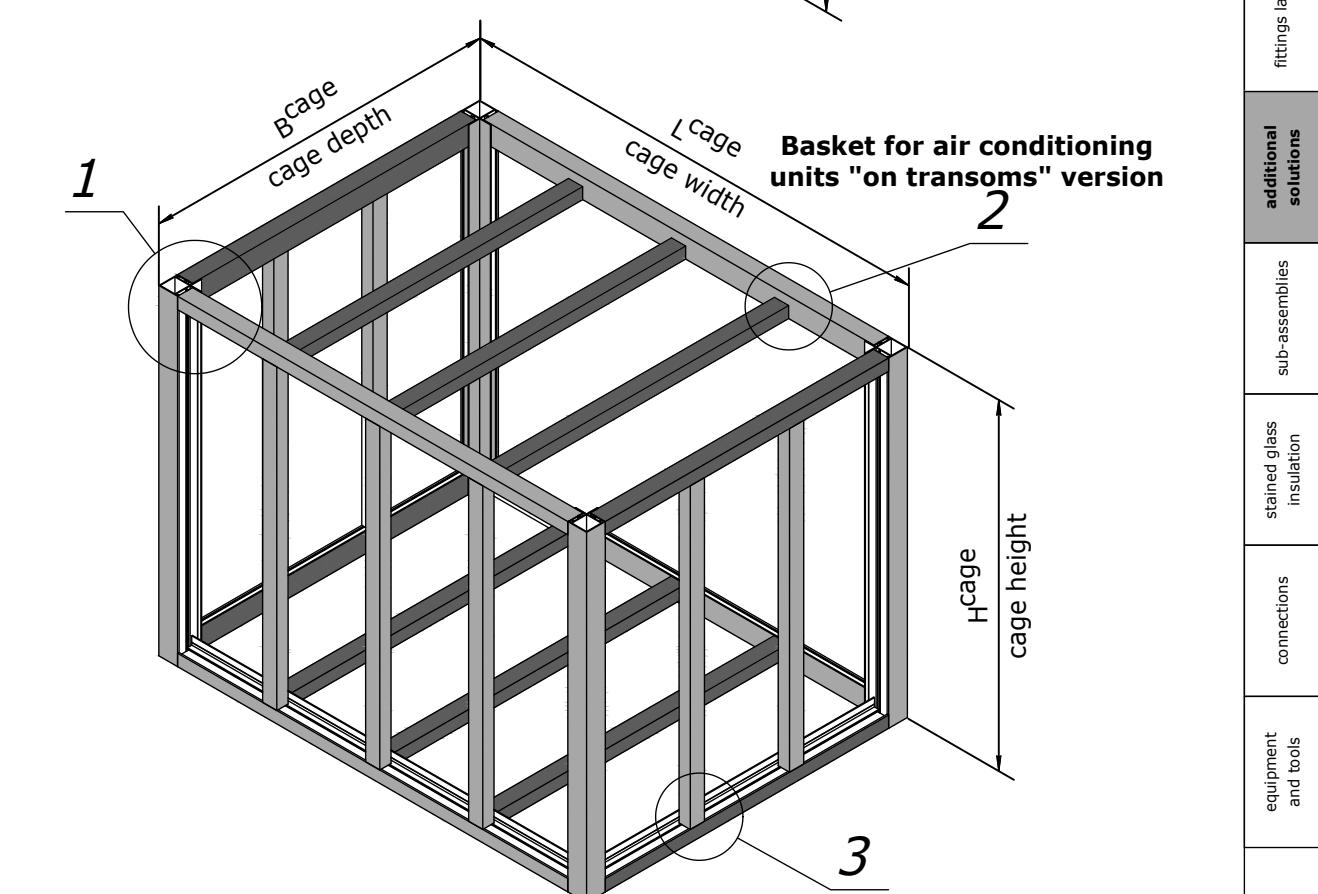
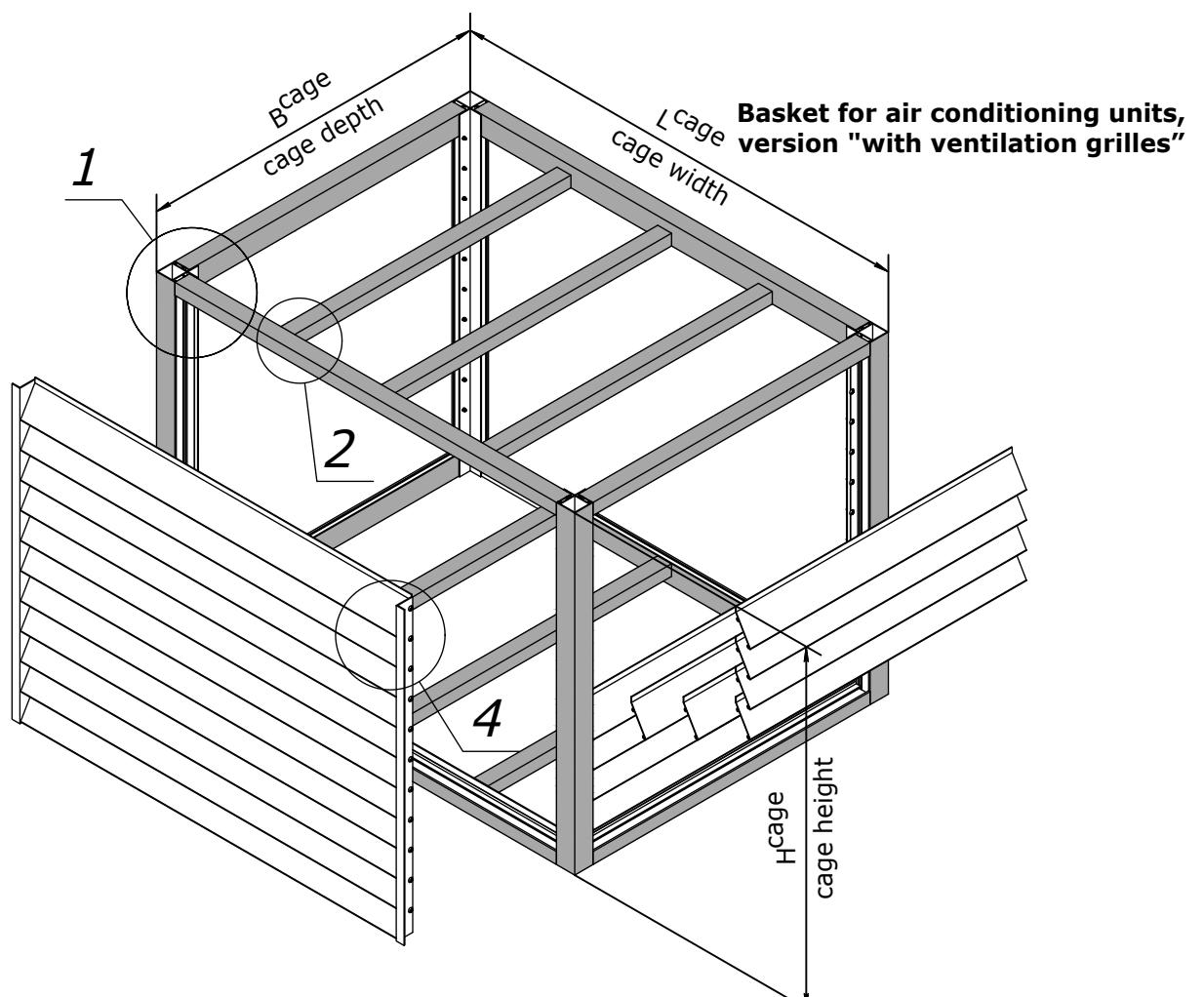


	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
<b>P22-013-2</b>													
<b>P22-302</b>													
<b>P22-407-2</b>													
<b>P22-201</b>													
<b>P22-201</b>													

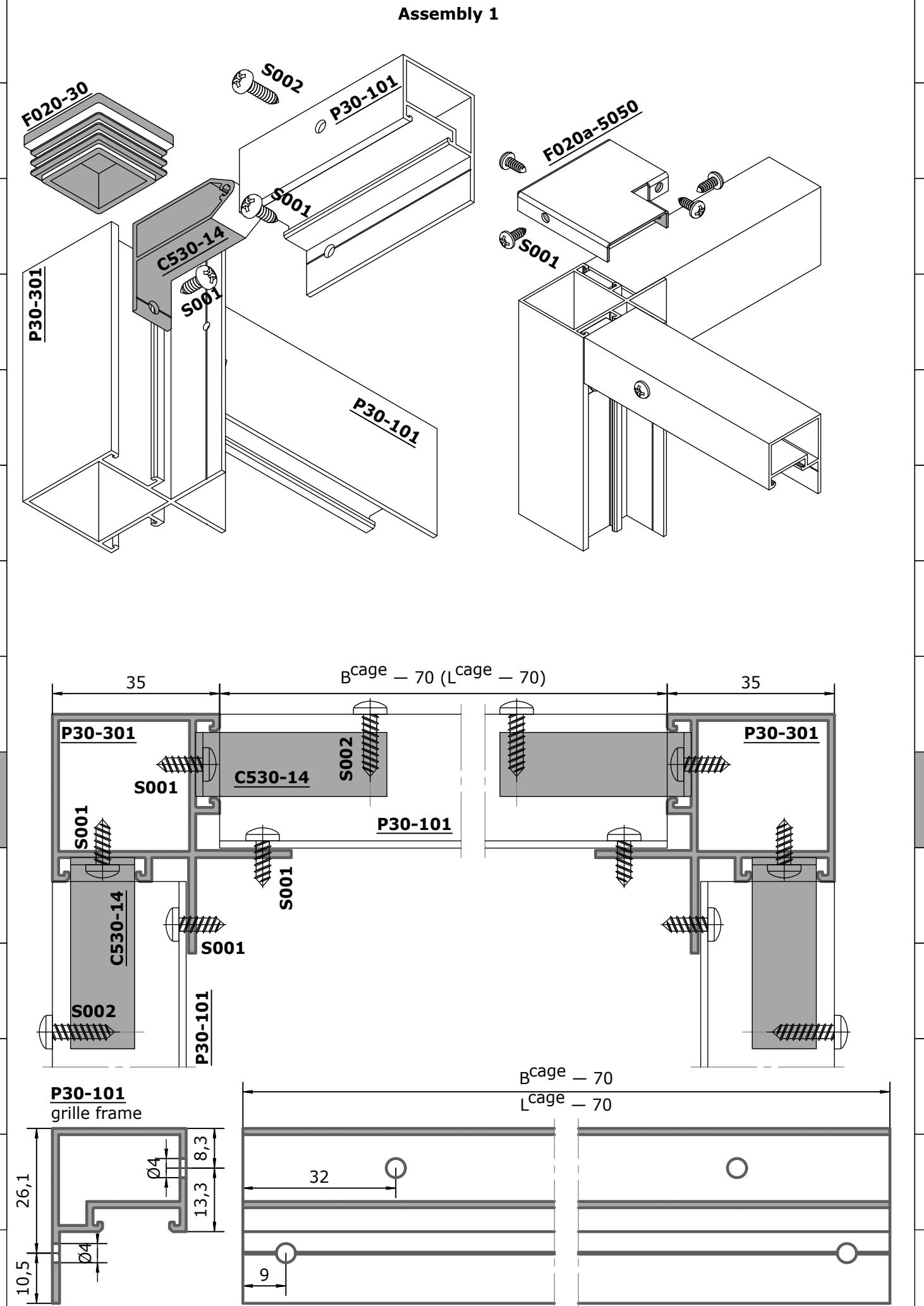
The diagram illustrates a detailed technical drawing of a window assembly, likely a double-glazed unit. It features multiple cross-sectional views and a top-down perspective. Key components labeled include:

- Cross-Sections:** P24-012, F804, R007, R012E, R006, R001-5, P10-002, P22-201, P22-201, P10-002, F803, R007, R012E, R006, R001-5, S001 (pitch 300), 16,7, 23, 30,5, 10,9, 30,5, P00-080, P10-002, R007, R012E, S001 (pitch 300), 16,7, 23, 30,5, S002 (pitch 300), and P22-013-2.
- Top-Down View:** Shows the overall profile and internal structure of the window frame.
- Dimensions:** 27, 30,5, 10,9, 30,5, 16,7, 23, 30,5, 16,7, 23, 30,5, and 27.
- Notes:** The drawing includes several notes such as "R007", "R012E", "R006", "R001-5", "S001 pitch 300", "P00-080", "P10-002", "R007", "R012E", "S001 pitch 300", "S002 pitch 300", and "P22-013-2".

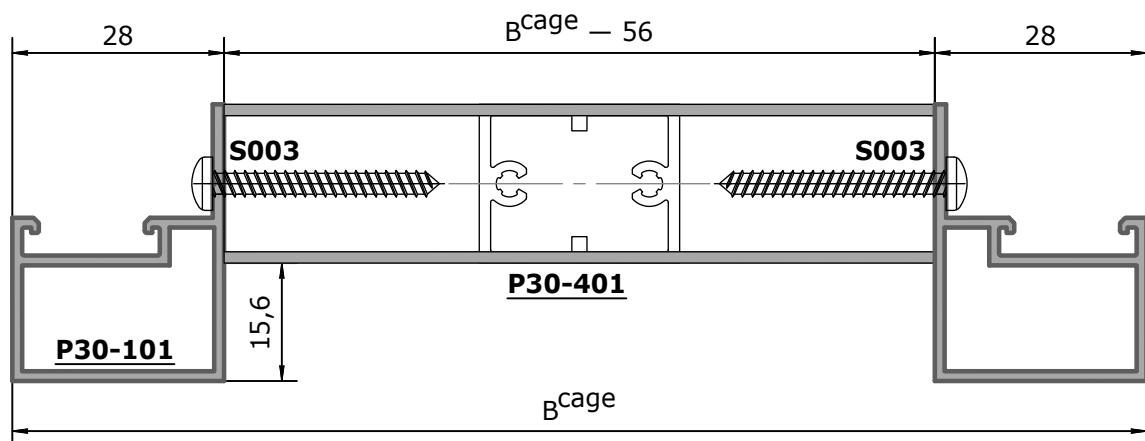
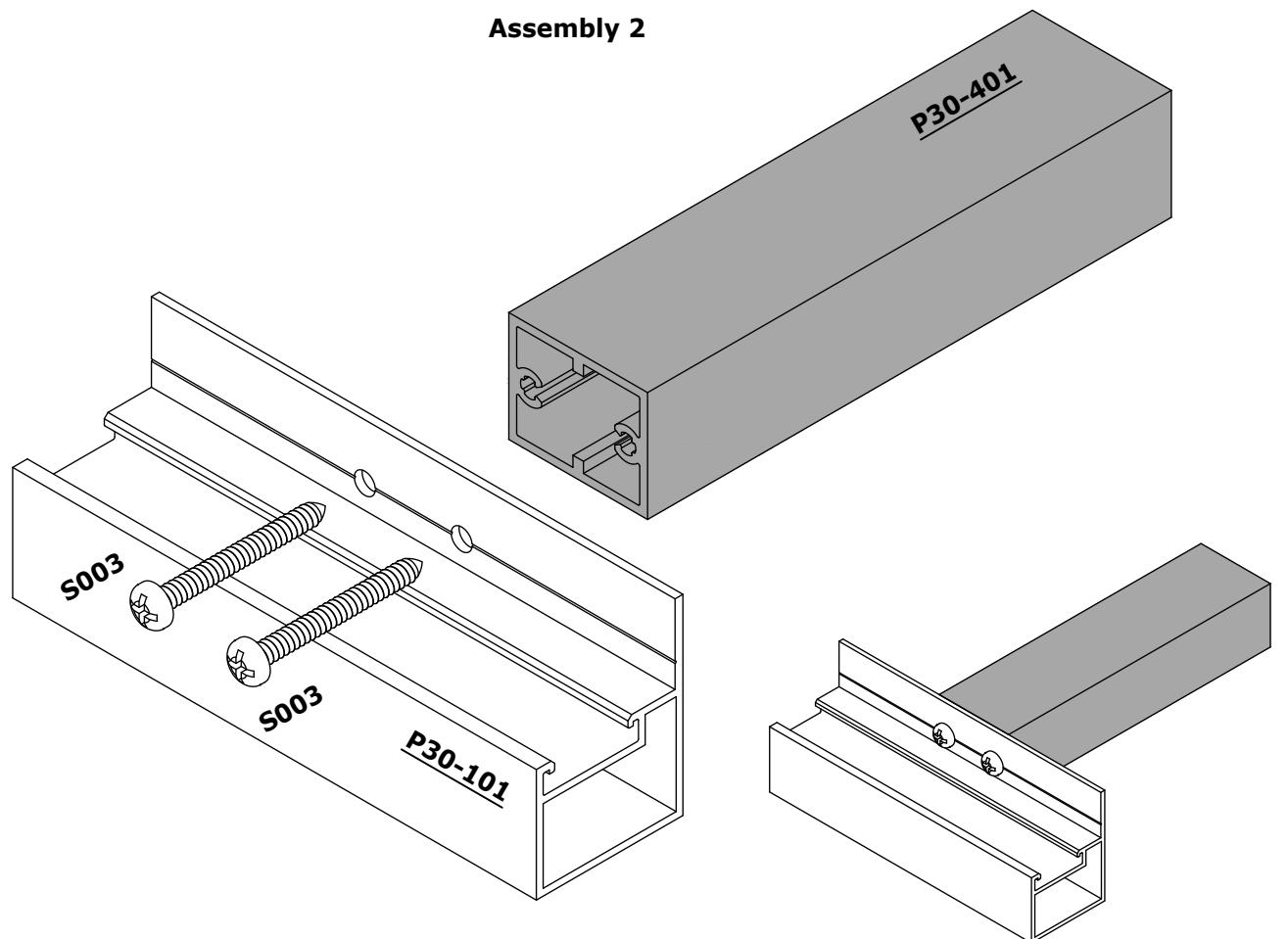
## Air conditioner cages



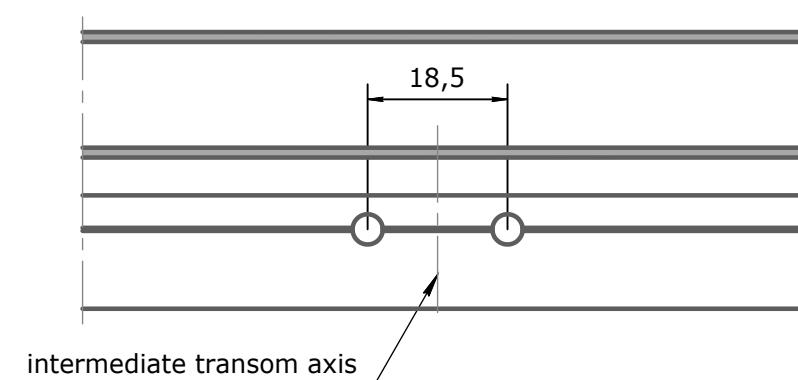
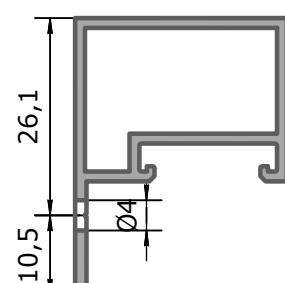
## Assembly 1



## Assembly 2



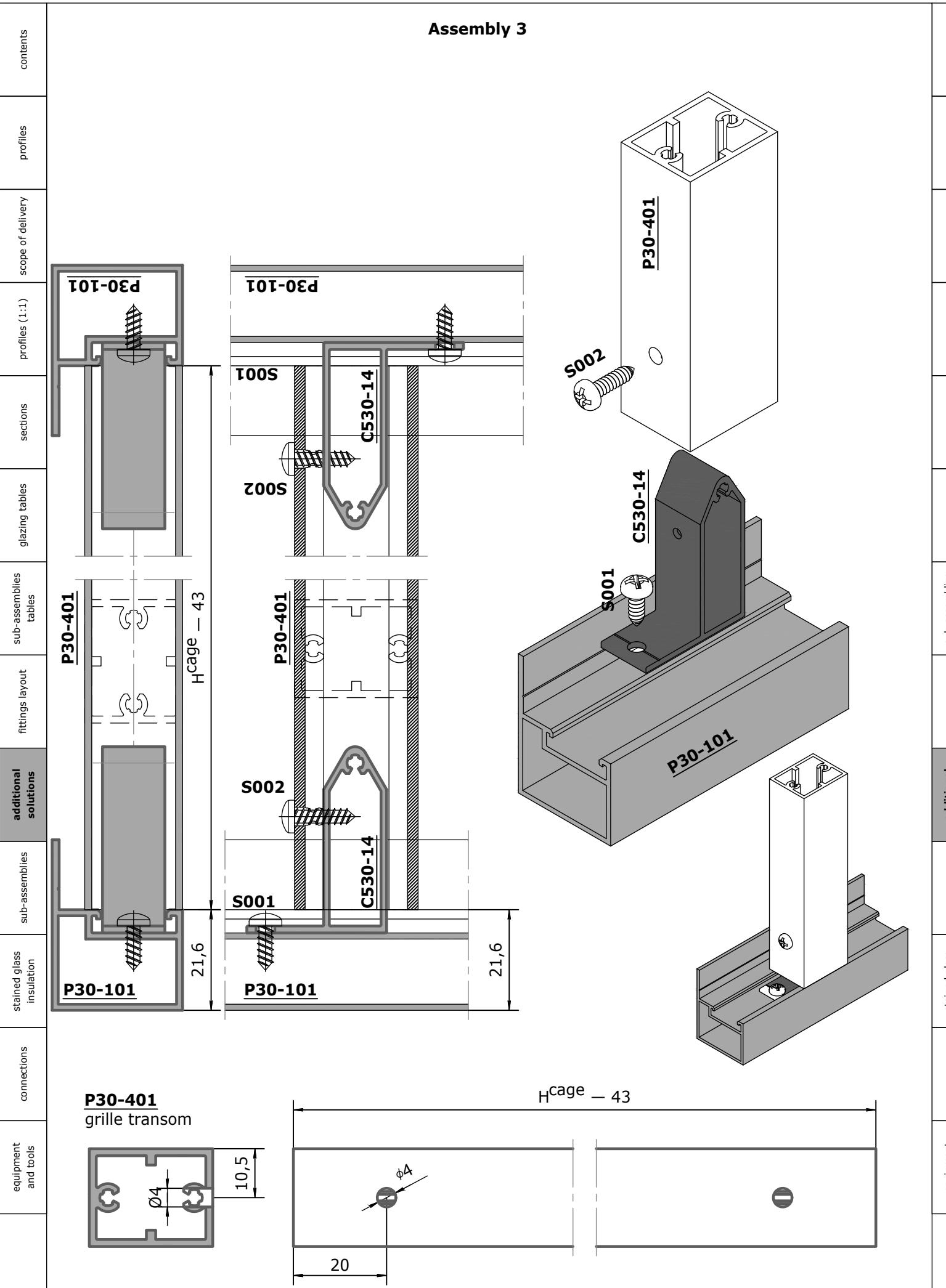
**P30-101**  
grille frame



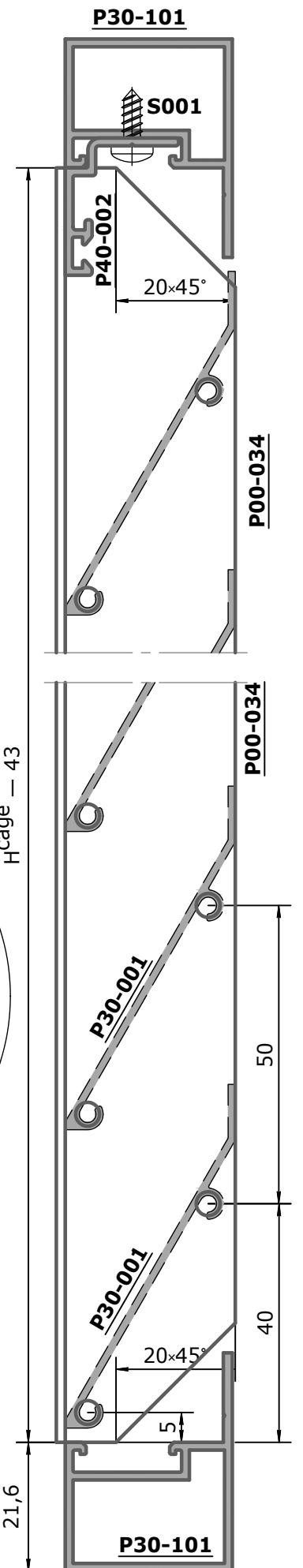
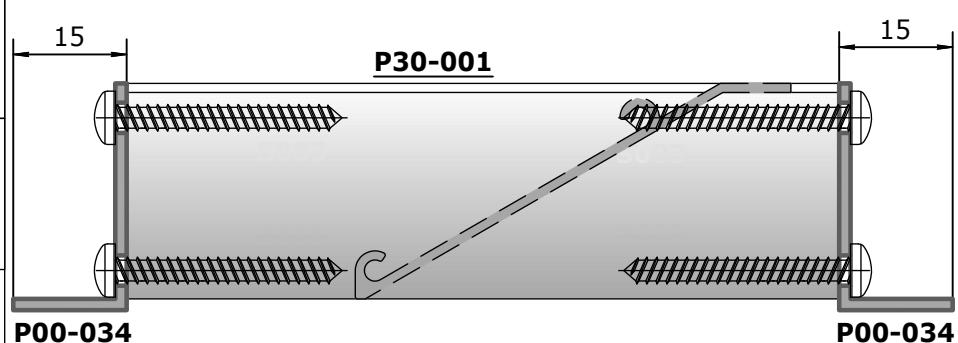
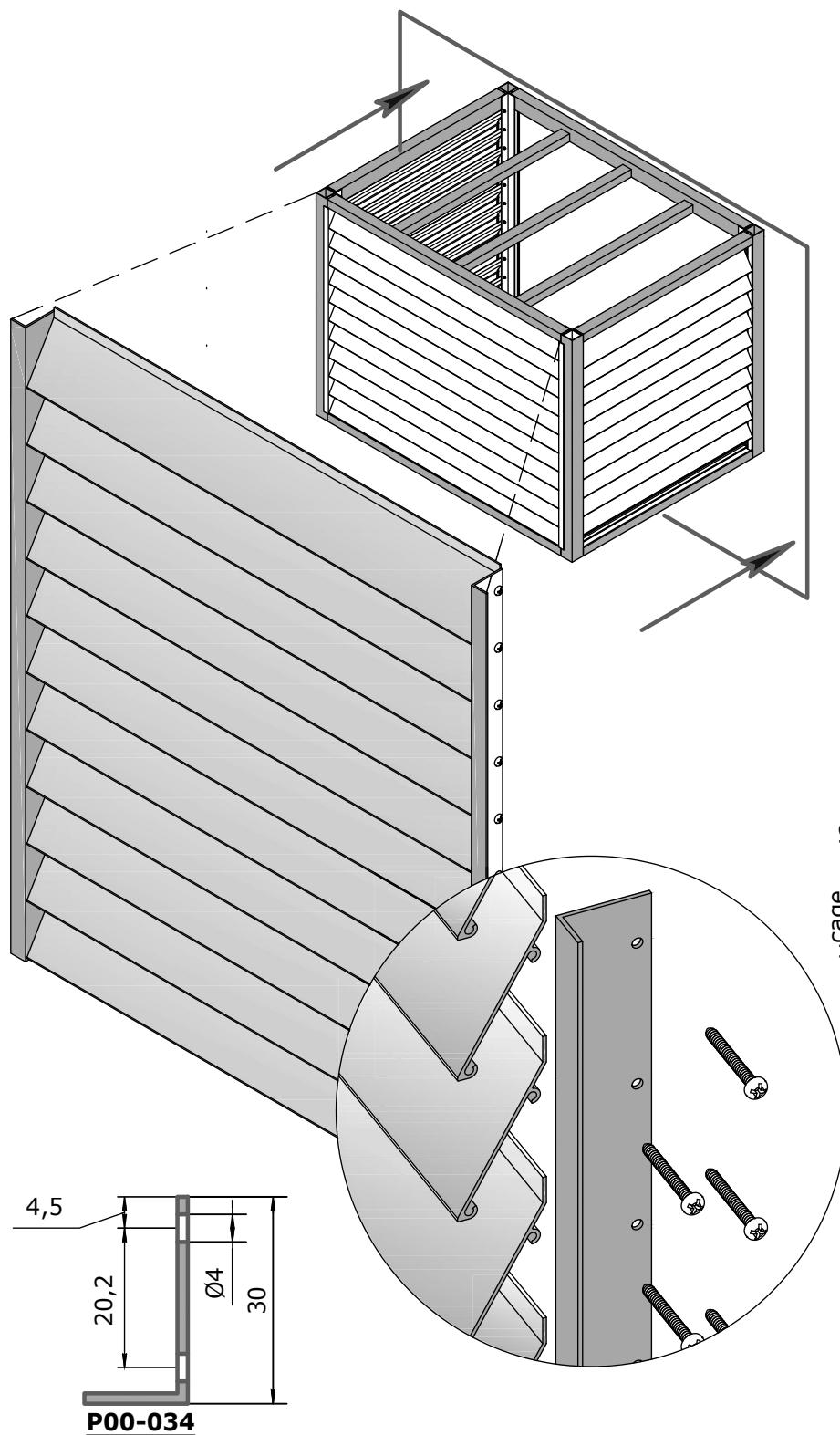
contents						
profiles						
scope of delivery						
profiles (1:1)						
sections						
glazing tables						
sub-assemblies						
tables						
additional solutions						
fittings layout						
sub-assemblies						
stained glass insulation						
connections						
equipment and tools						

contents						
profiles						
scope of delivery						
profiles (1:1)						
sections						
glazing tables						
sub-assemblies						
tables						
additional solutions						
fittings layout						
sub-assemblies						
stained glass insulation						
connections						
equipment and tools						

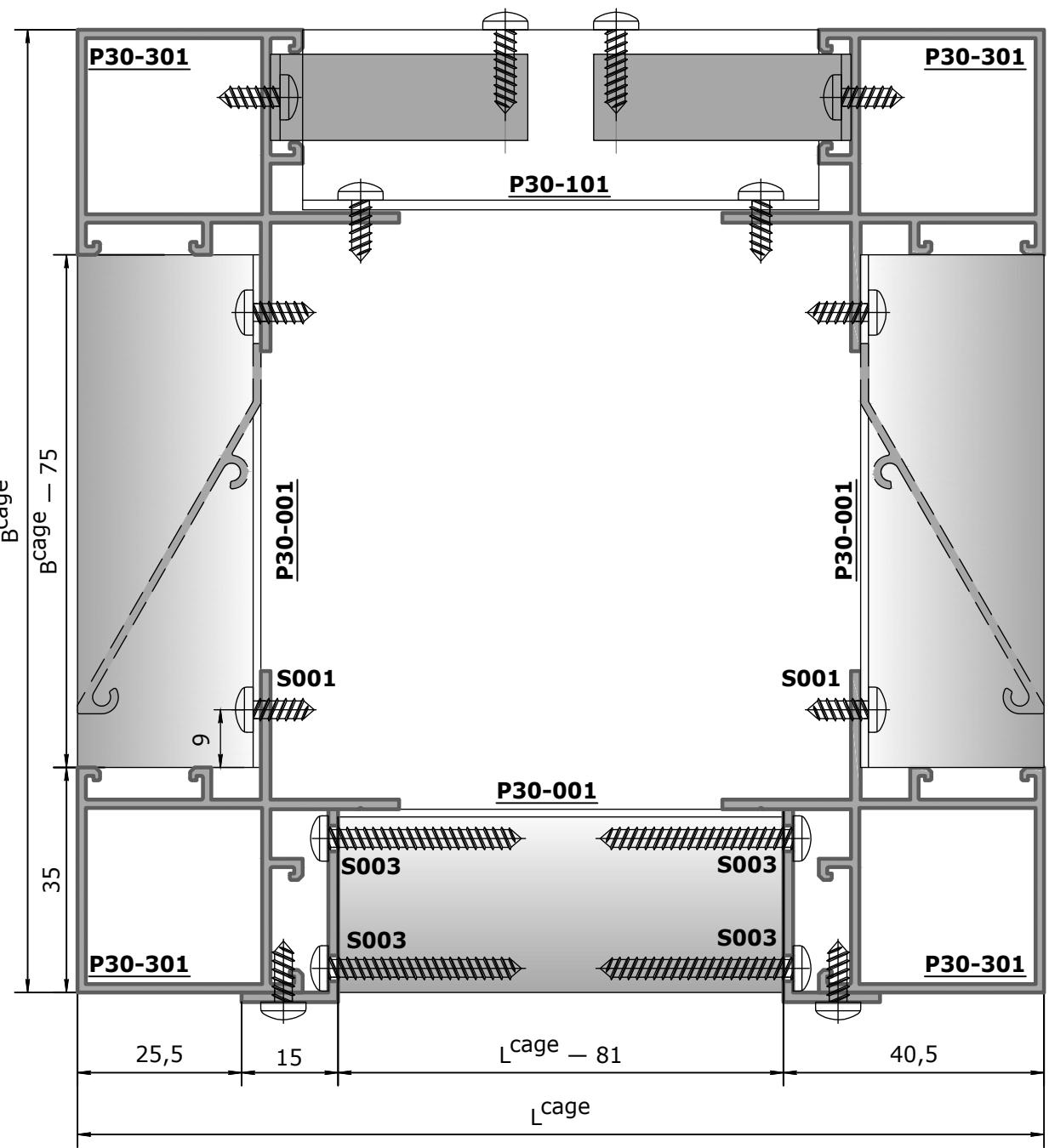
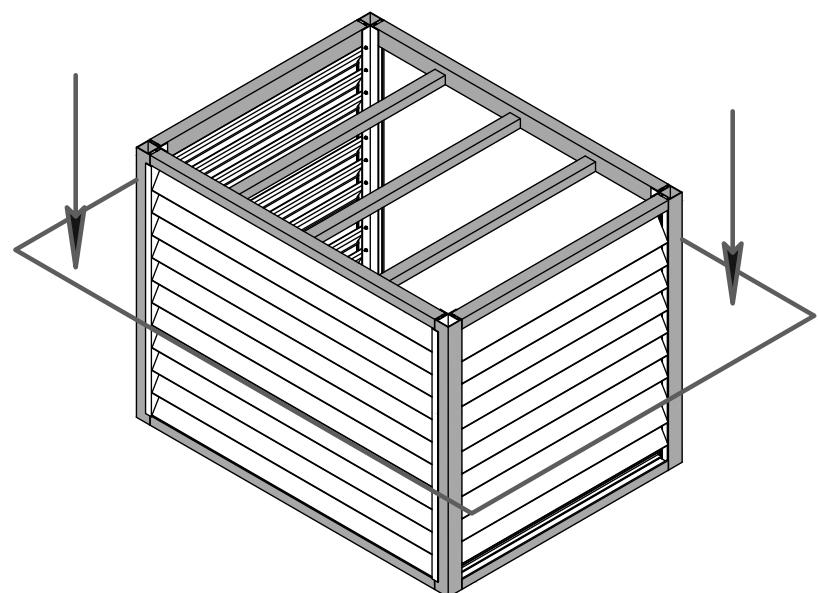
## Assembly 3

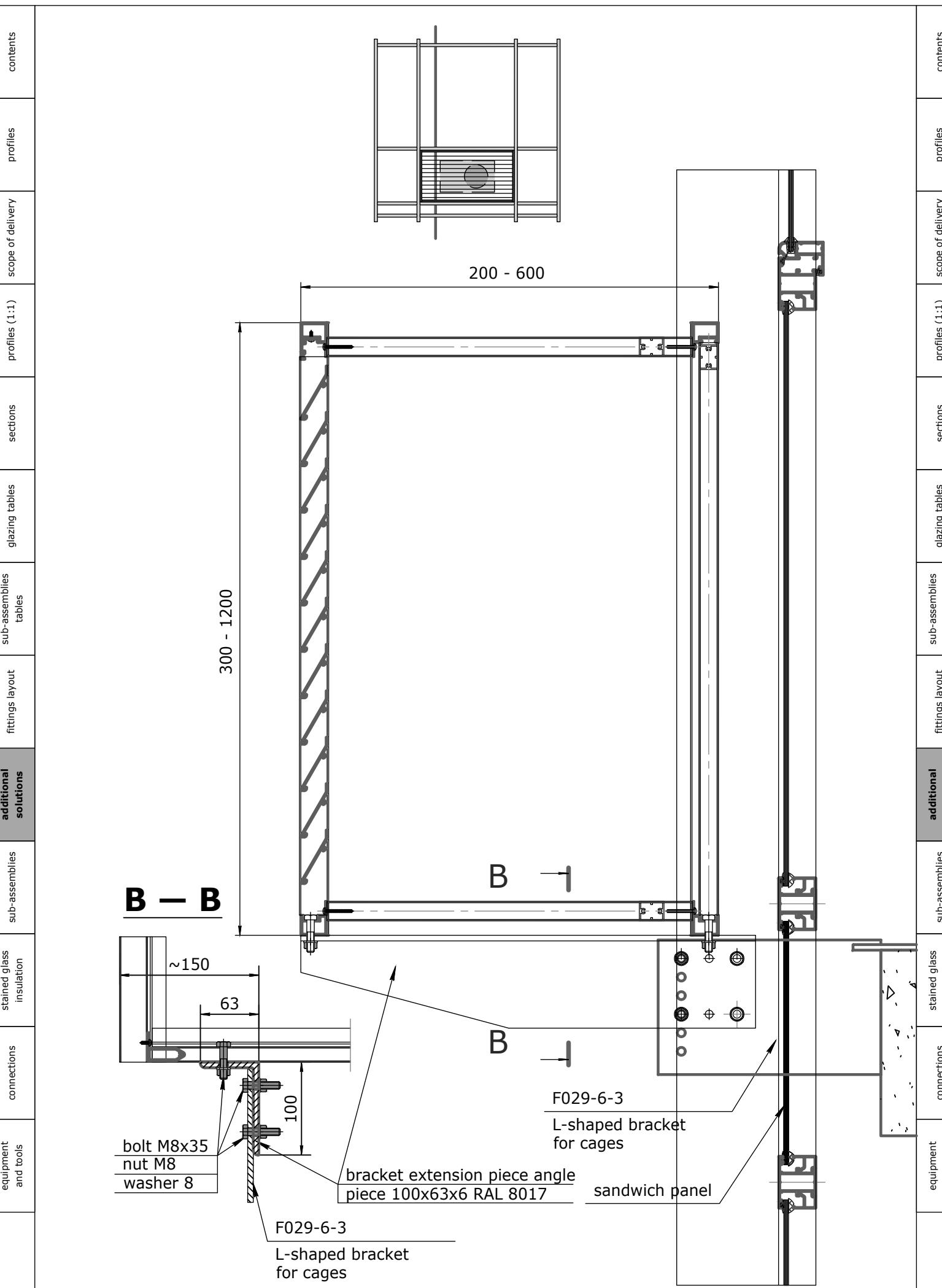


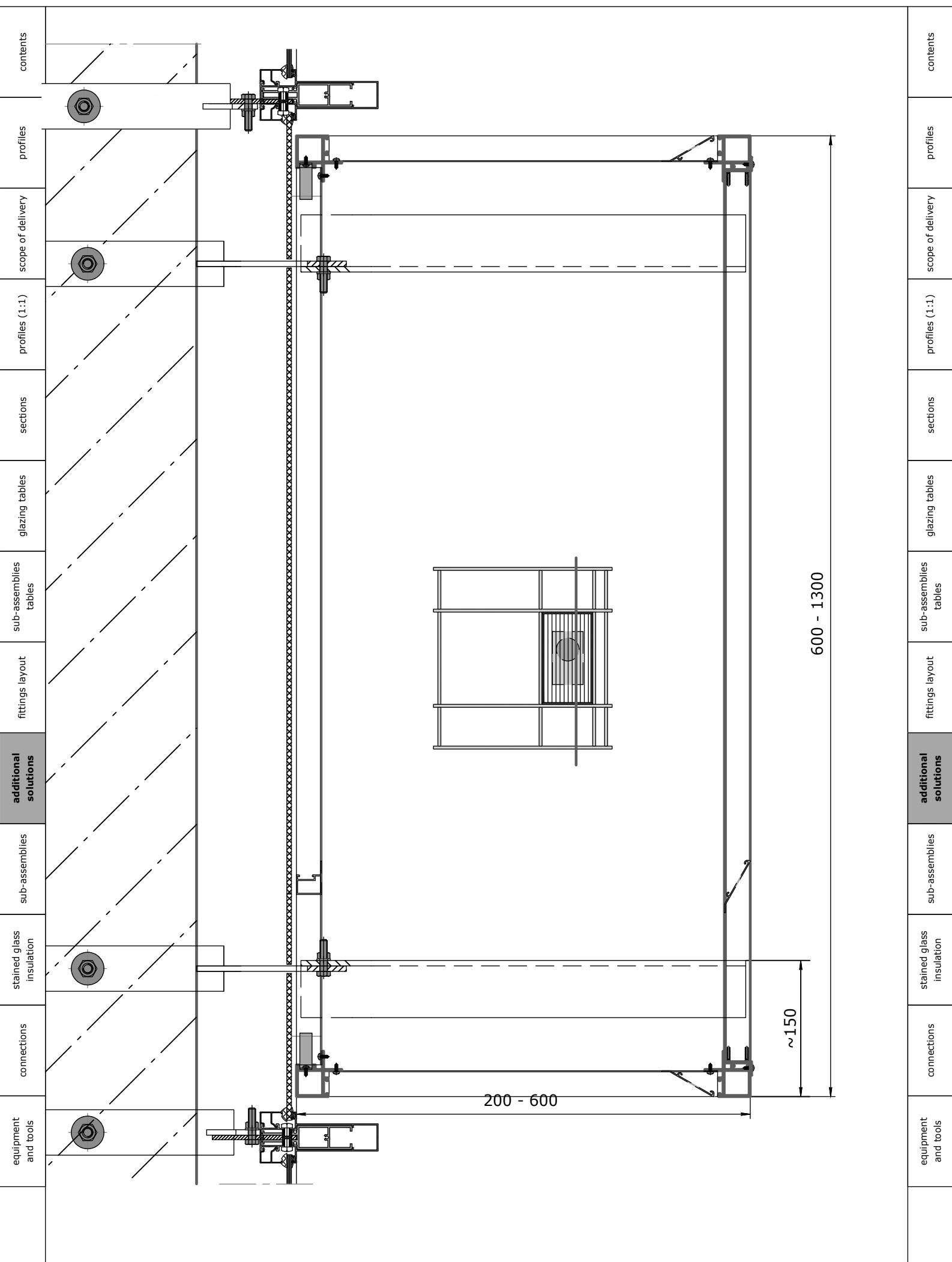
## Assembly 4



contents														
profiles														
scope of delivery														
sections														
profiles (1:1)														
scope of delivery														
contents														
profiles														
scope of delivery														
sections														
profiles (1:1)														
scope of delivery														
contents														

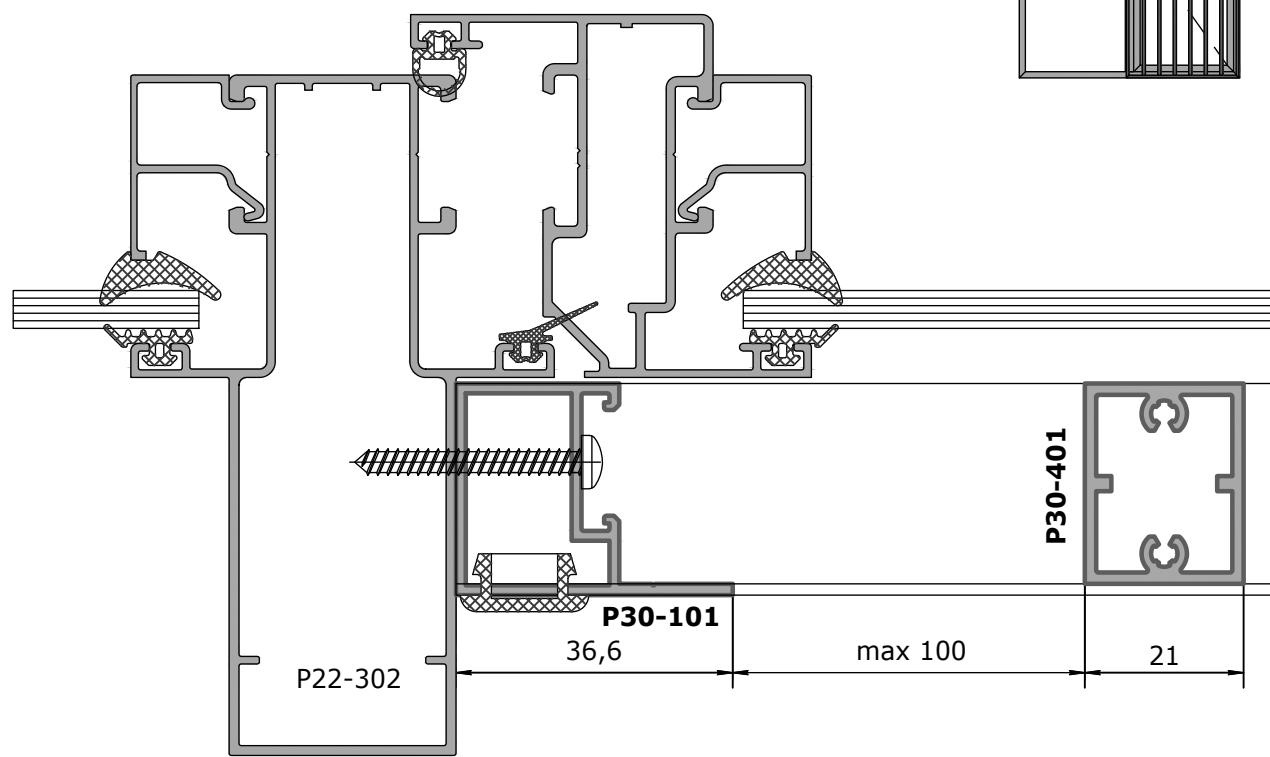
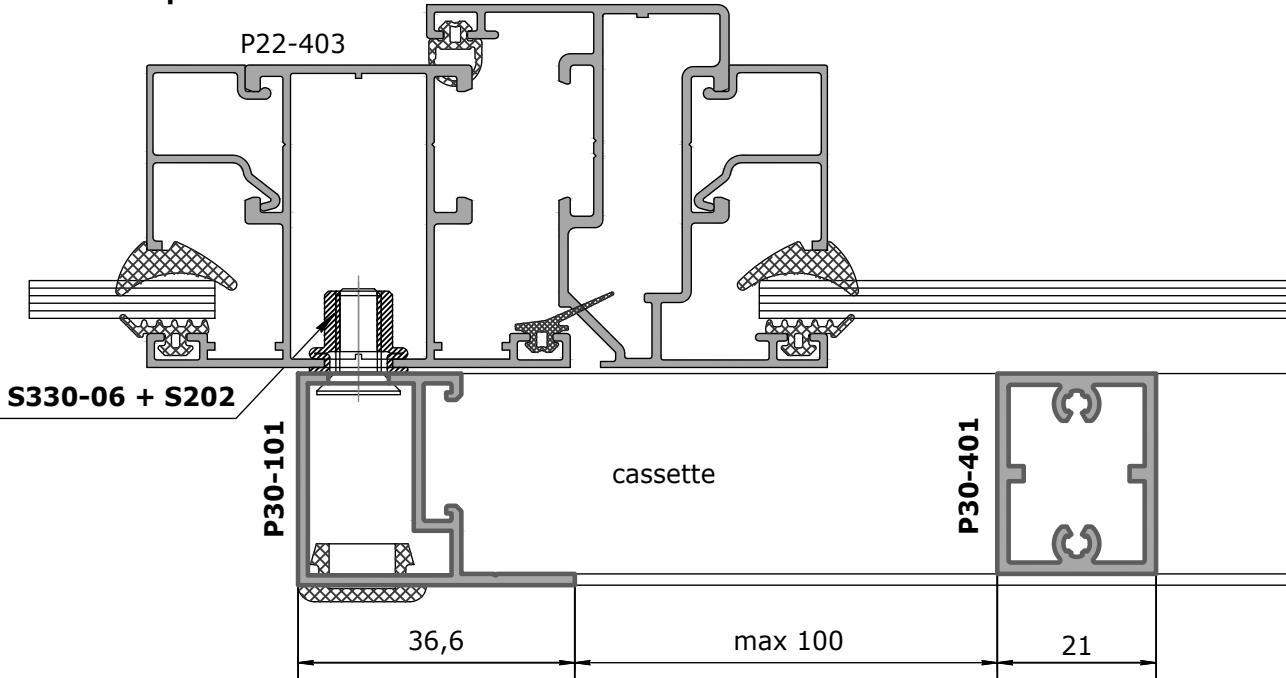






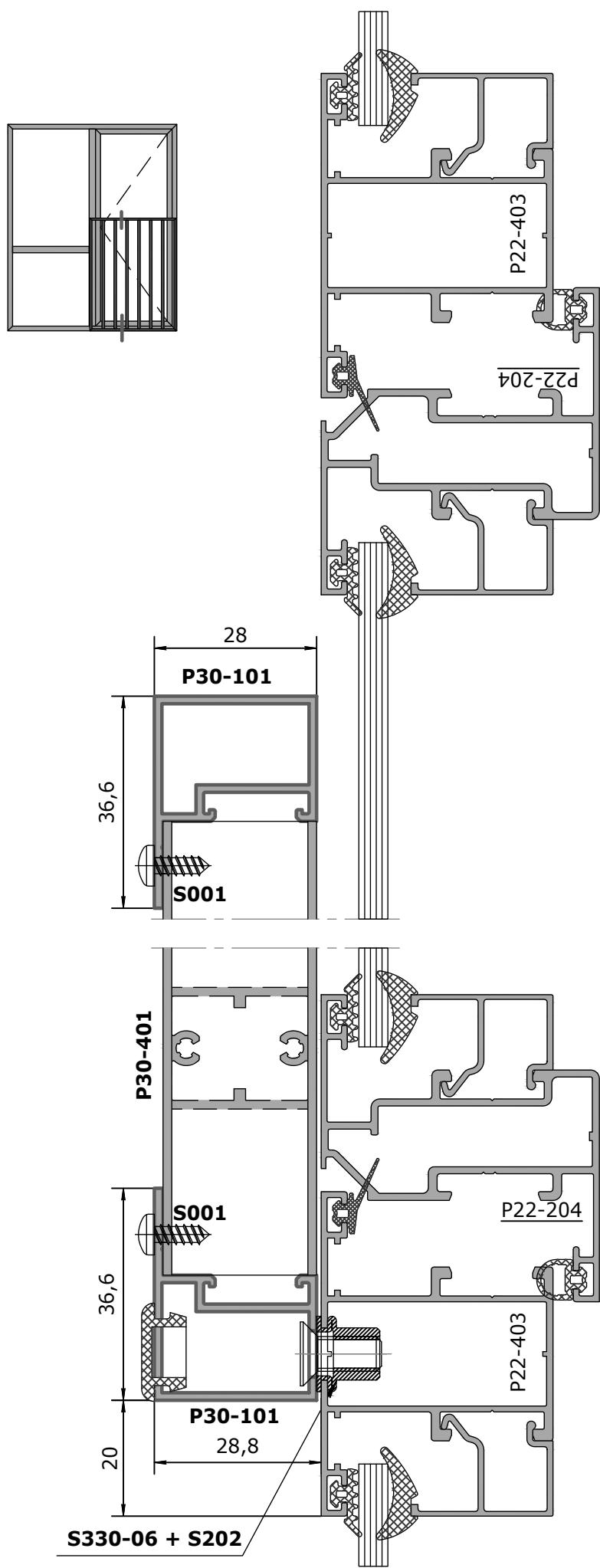
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	glazing tables	sections	profiles (1:1)	scope of delivery	glazing tables	sections	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	glazing tables	sections	profiles (1:1)	scope of delivery	glazing tables	sections	contents

contents	profiles	scope of delivery	sections	glazing tables	sub-assemblies	fittings layout	connections	stained glass insulation	sub-assemblies	additional solutions	equipment and tools

**"On the mullion" version****"On impost" version**

**French balcony.  
External grate**

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles	contents
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles	contents
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The diagram illustrates the "On the mullion" version of a window assembly. It includes:

- P22-302**: A top horizontal profile.
- S330-06 + S202**: Bottom horizontal profiles.
- P00-079-11**: A vertical mullion profile.
- P00-079-01**: A horizontal glazing bar.
- R305\***: A weatherstripping component.
- R301**: A bottom glazing seal.
- S002**: Glazing points with a pitch of 200.
- P00-062**: A mullion support.
- F075**: Fixing plates.
- S006**: A bottom glazing seal.
- Stained glass insulation**: Insulation material.
- Sub-assemblies**: Internal window frame components.
- Equipment and tools**: Required tools for assembly.
- Connections**: Internal connection points.
- additional solutions**: Alternative assembly options.
- glazing tables**: Glazing table sections.
- sub-assemblies tables**: Sub-assembly tables.
- scope of delivery**: Components included in the delivery.
- profiles**: Window profile types.
- contents**: General contents.

				contents

profiles

scope of delivery

sections

glazing tables

additional solutions

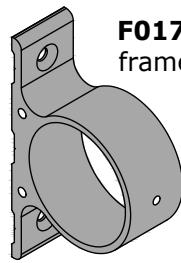
sub-assemblies

connections

stained glass insulation

equipment and tools

## Handrail. Internal mounting



**F017-30F**  
frame holder 30 mm

### Installation on "cold" profiles

F020-55

round plug 55 mm

S002

P00-033

pipe 55 mm

F017-30F  
holder

screw rivet M6  
+ screw M6x14 Socket Head

P00-033

pipe 55 mm

S002

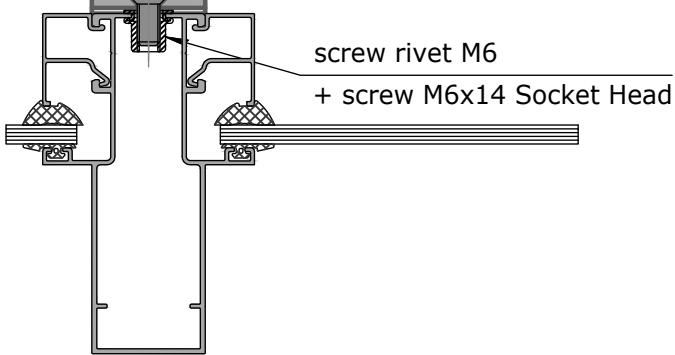
F017-30F  
holder

P00-033

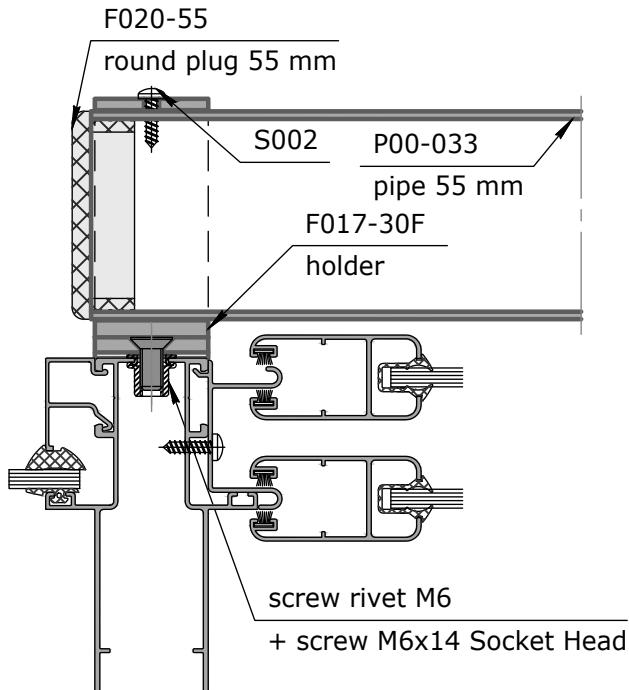
pipe 55 mm

S002

F017-30F  
holder

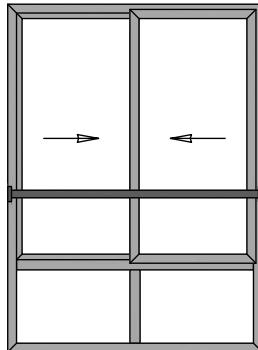
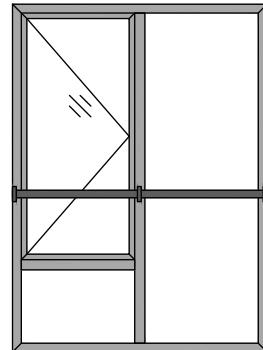


screw rivet M6  
+ screw M6x14 Socket Head

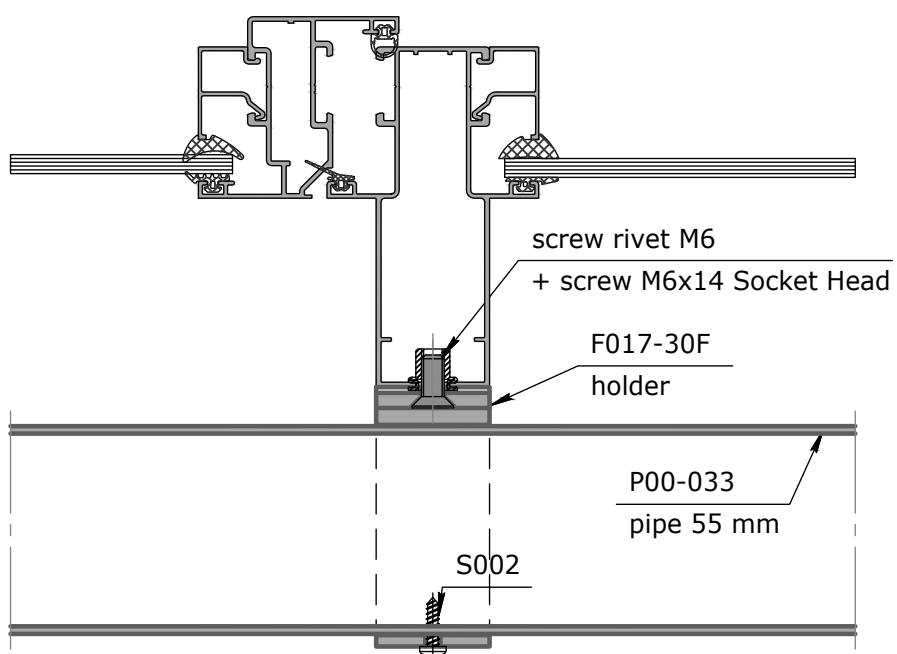
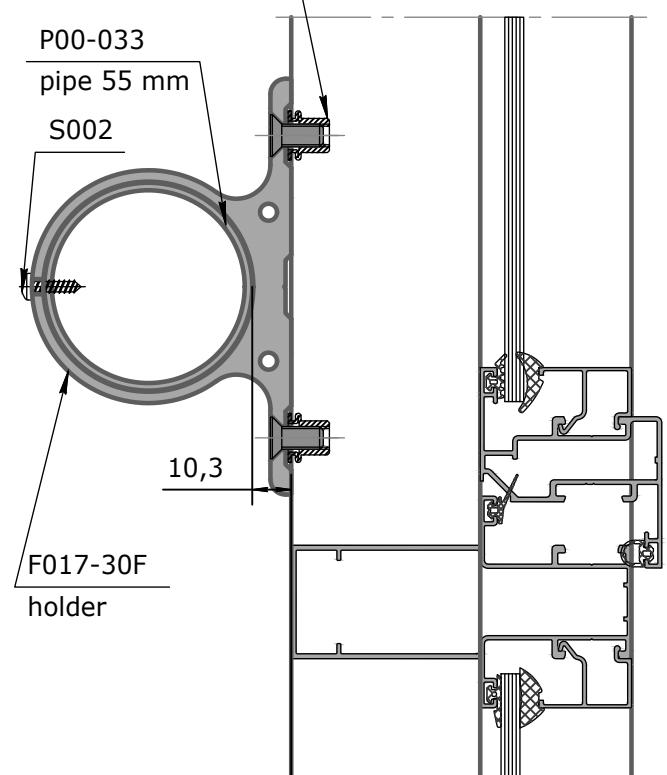
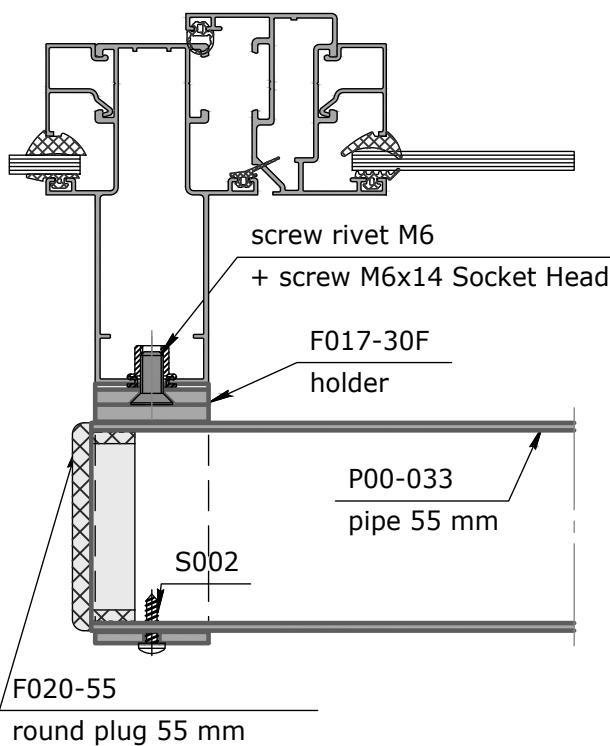


contents													
profiles													
scope of delivery													
profiles (1:1)													
sections													
glazing tables													
sub-assemblies													
glazing tables													
sub-assemblies													
stained glass insulation													
connections													
additional solutions													
fittings layout													
sub-assemblies													
stained glass insulation													
equipment and tools													

## Handrail. External mounting

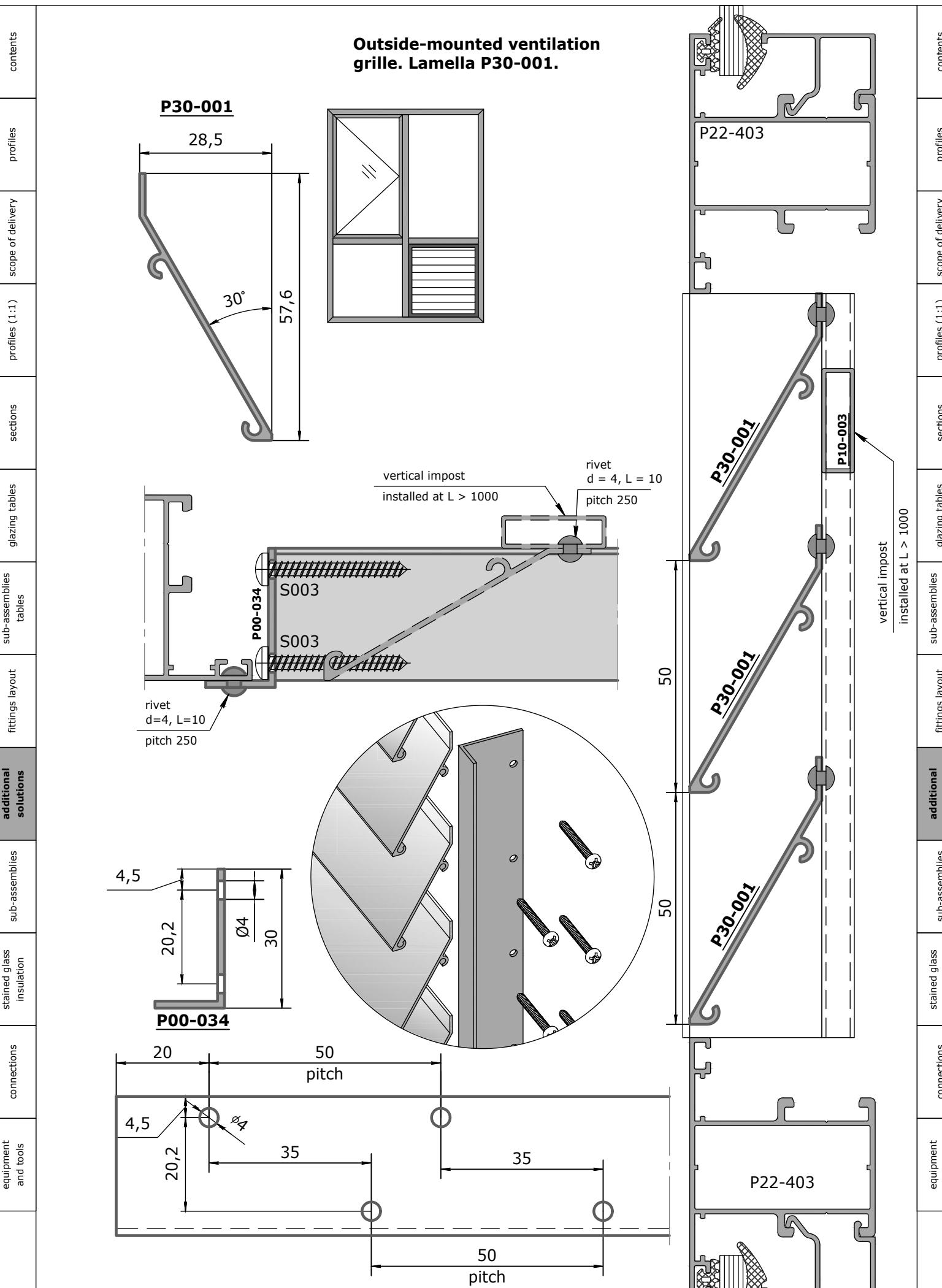


screw rivet M6  
+ screw M6x14 Socket Head





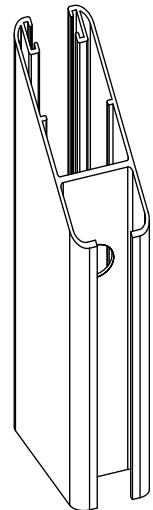
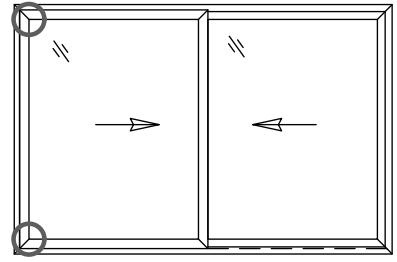
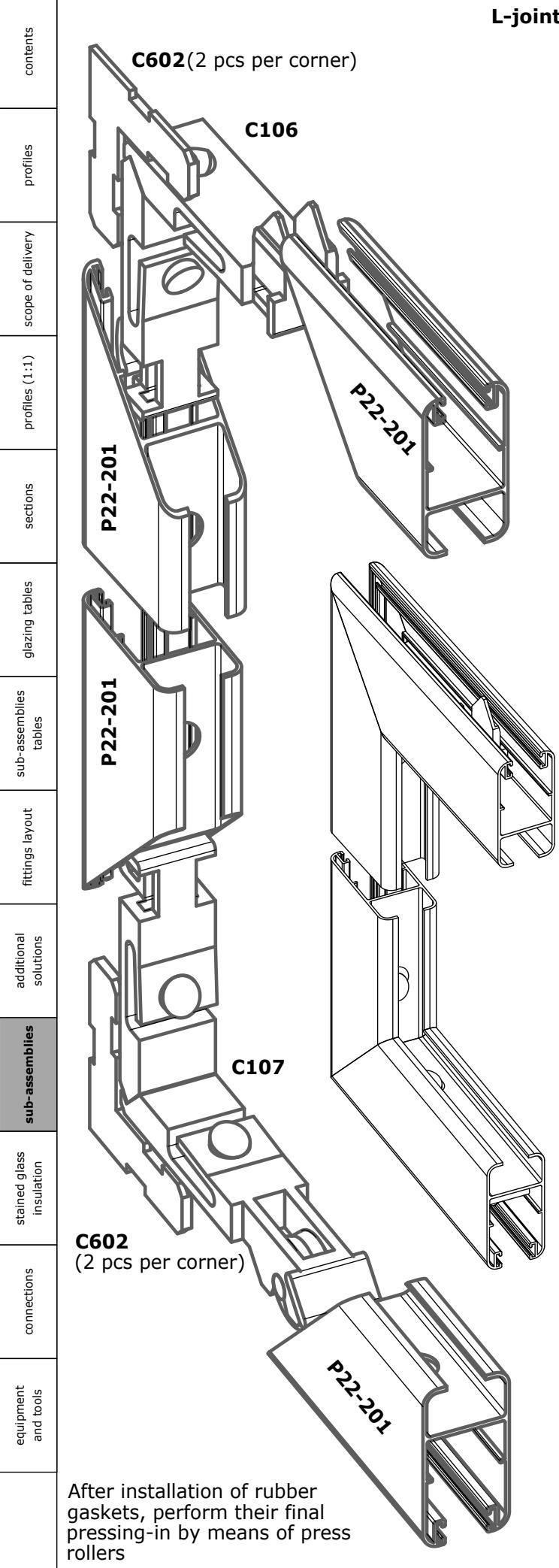




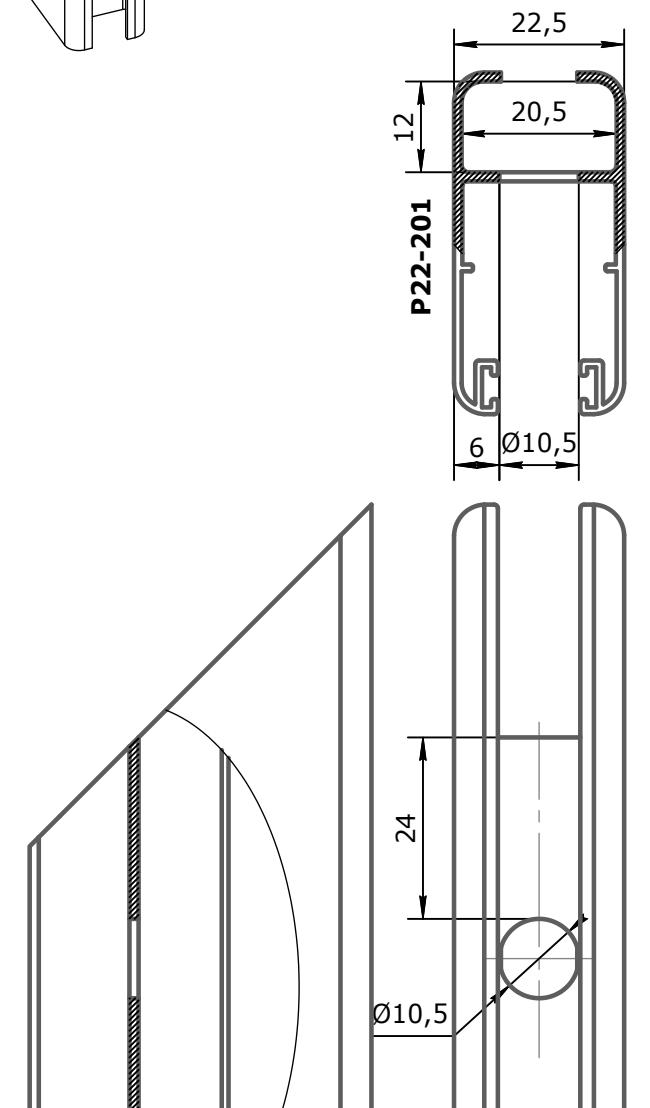




## L-joint. Sash P22-201



Screw torque in embedded element  
 C102: min – 3 N/m  
 max – 4 N/m  
 C114: min – 4.5 N/m  
 max – 5 N/m



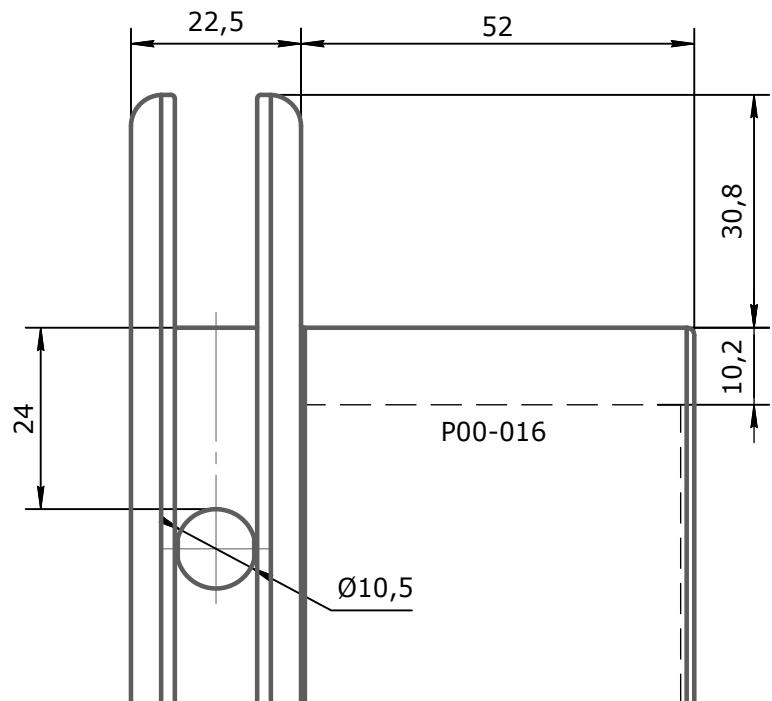
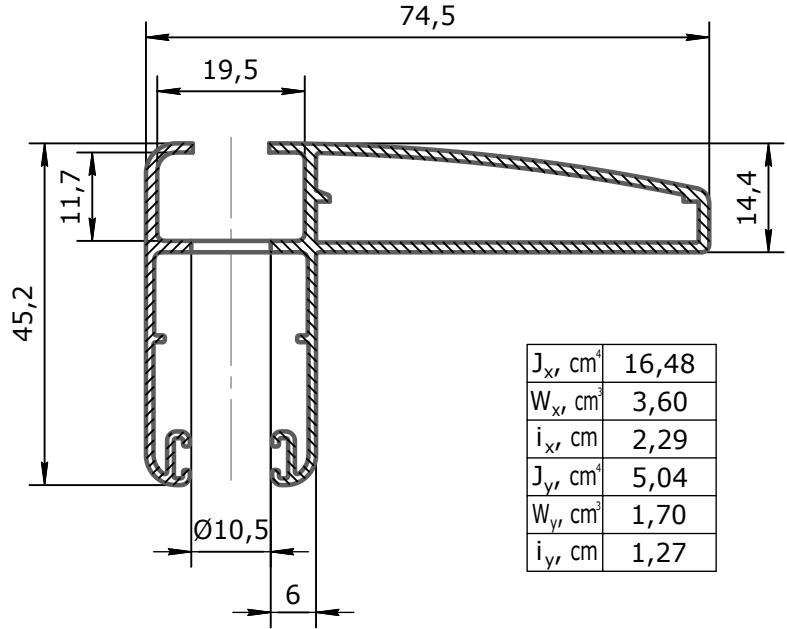
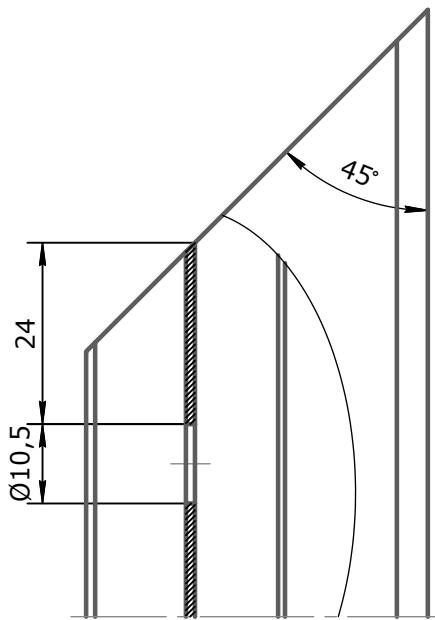
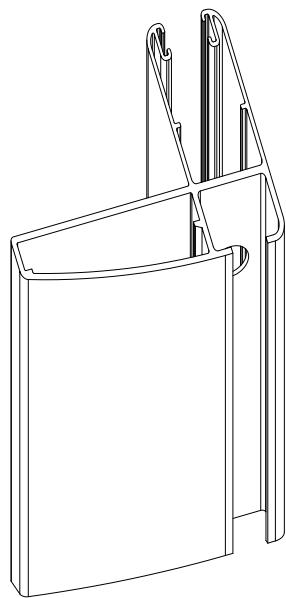
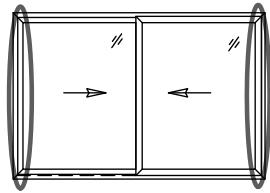
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents

		contents			contents		
		profiles	sections	scope of delivery	profiles (1:1)	sections	scope of delivery
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	additional solutions
<b>F721P</b> Plastic snail lock				<b>F721S</b> Snail lock (steel)			
<b>P22-002</b> P22-201				<b>P22-002</b> P22-201			
<b>F721P</b>				<b>F721S</b>			
<p>Plastic snail F721p with engagement plate 35 mm included in the scope of supply is used</p>							
<p>Add 40 mm engagement plate F718-40 to metal snail F721S</p>							



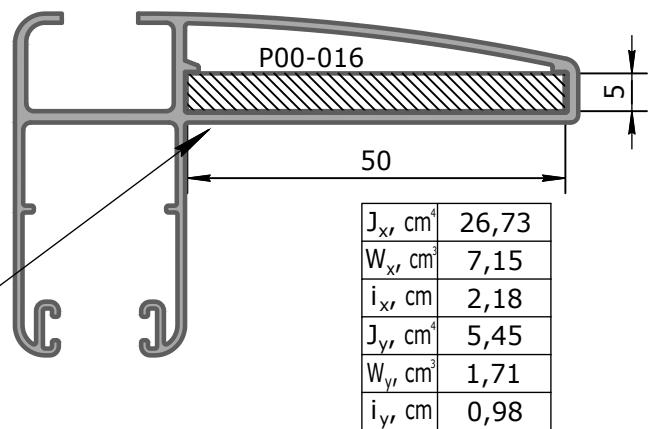
## L-joint. Sash P22-203-74

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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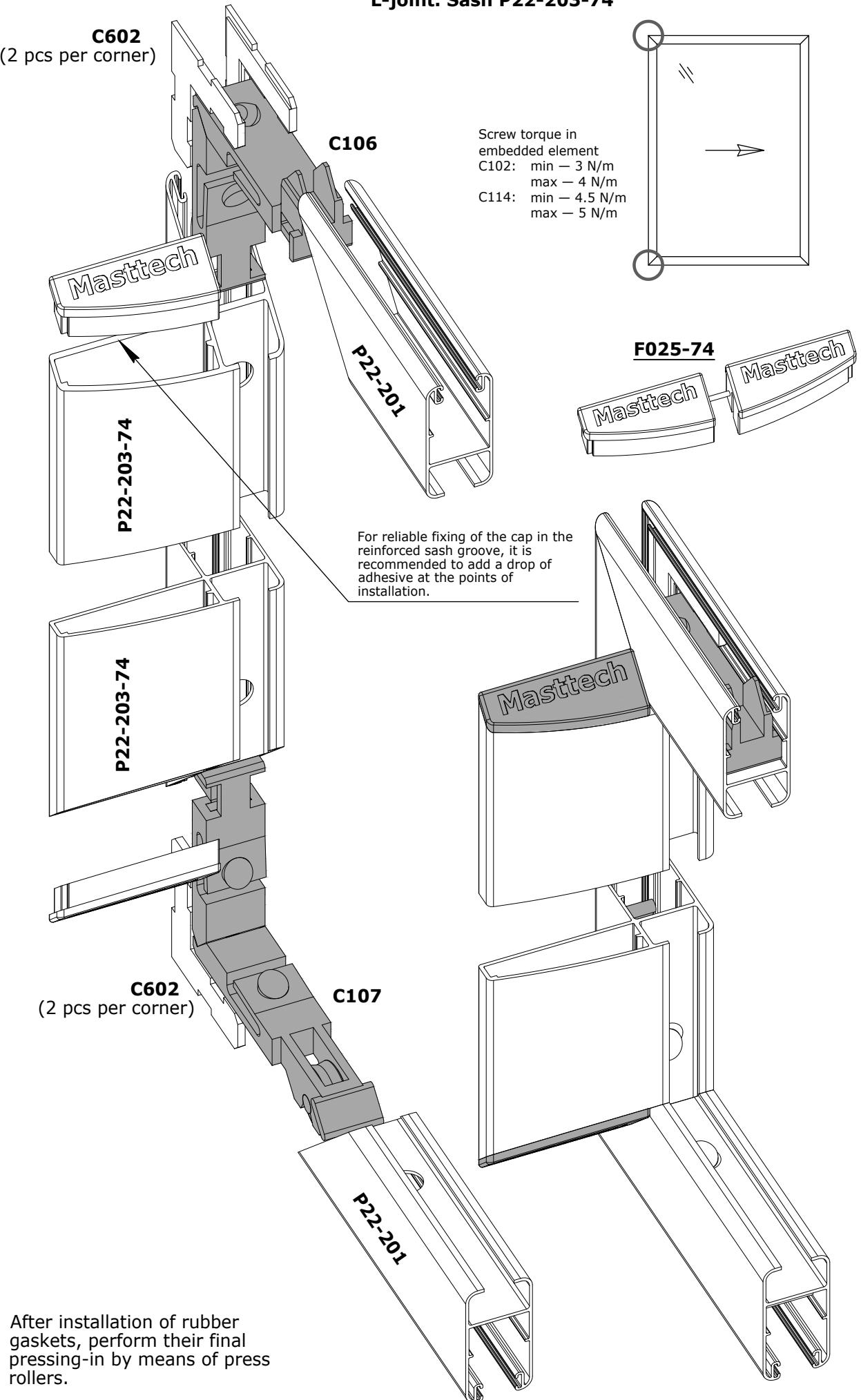
Additional reinforcement:  
sash P22-203-74

$$L^{P00-016} = L^{P22-203-74} - 82 \text{ mm}$$

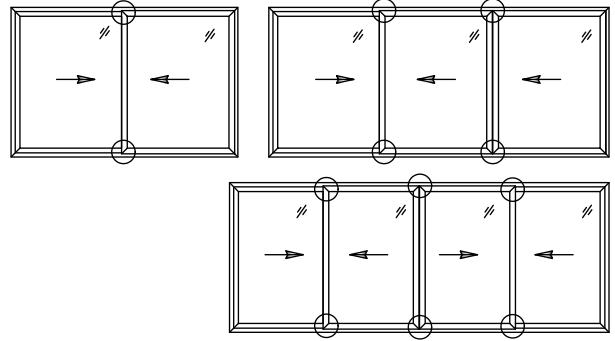
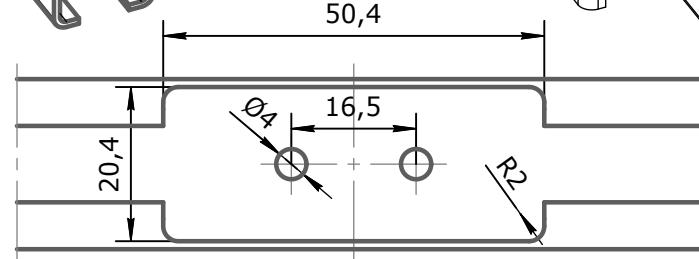
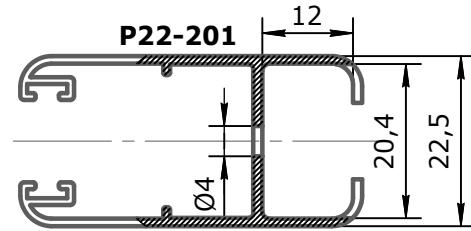
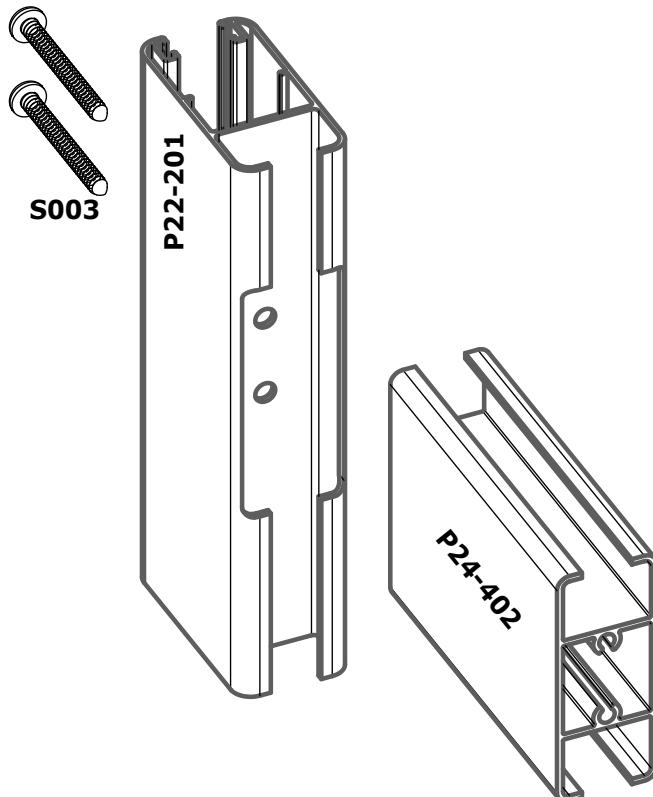
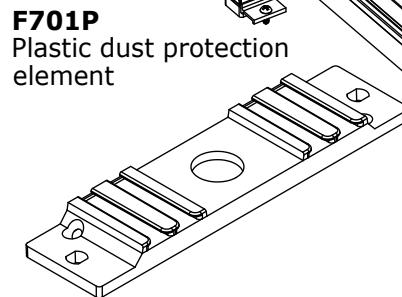
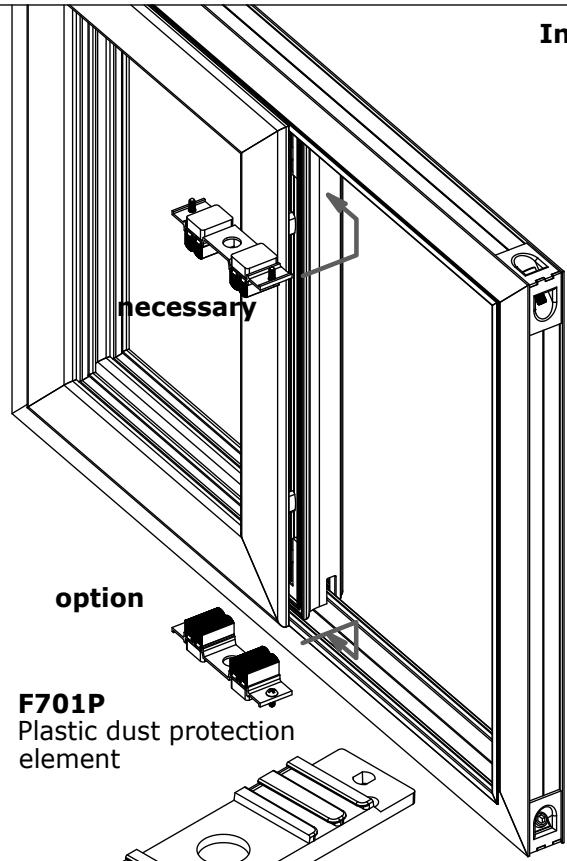
Before installation of P00-016 reinforcement element (5x50 aluminum strip), apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



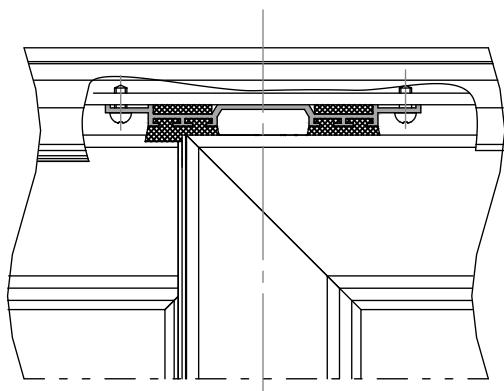
L-joint. Sash P22-203-74



## Installation of duct protection elements F701

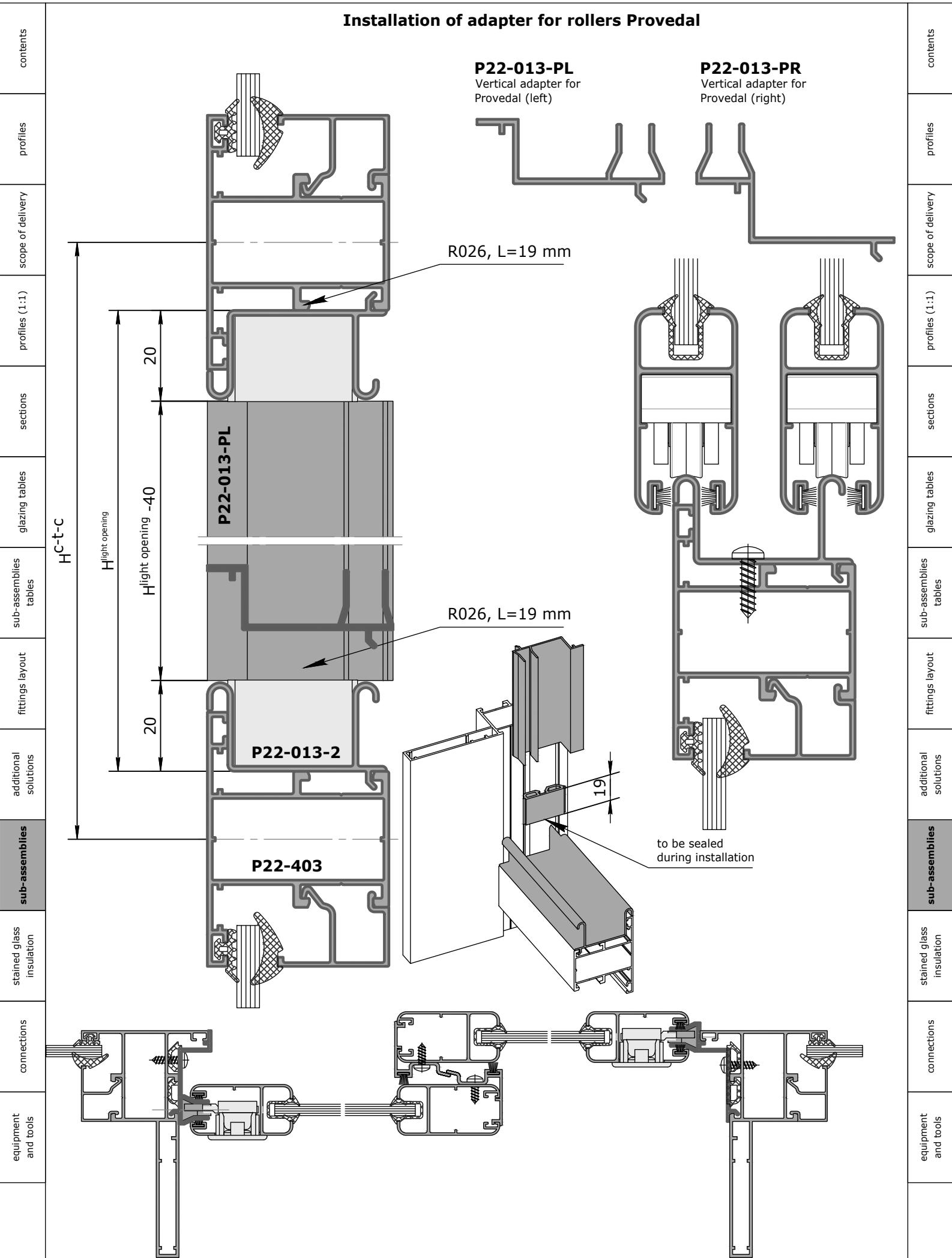


Dust protection elements F701p are installed in the article after mounting of sliding sashes — below and above each sash joint.  
After the F701p elements are secured, removal of the sash is impossible.  
Installation of "dusters" above sashes is OBLIGATORY because it impacts reliability of the structure.  
Installation of "dusters" below sashes is optional because it only impacts the degree of air blowing through the structure.

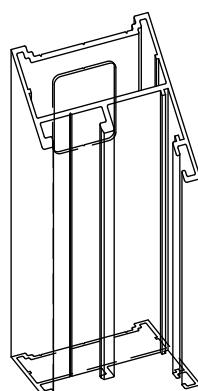
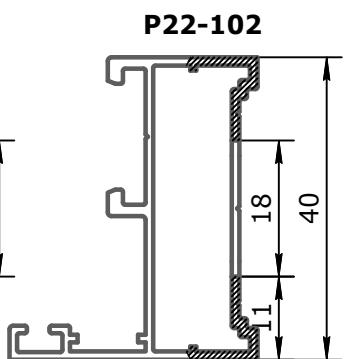
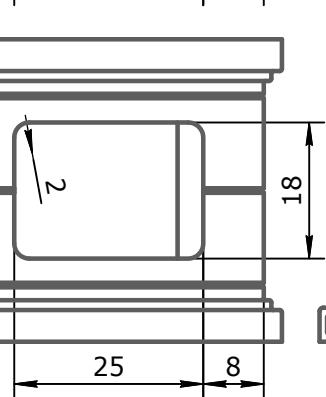
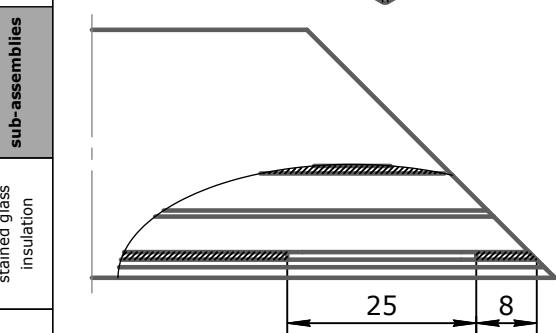
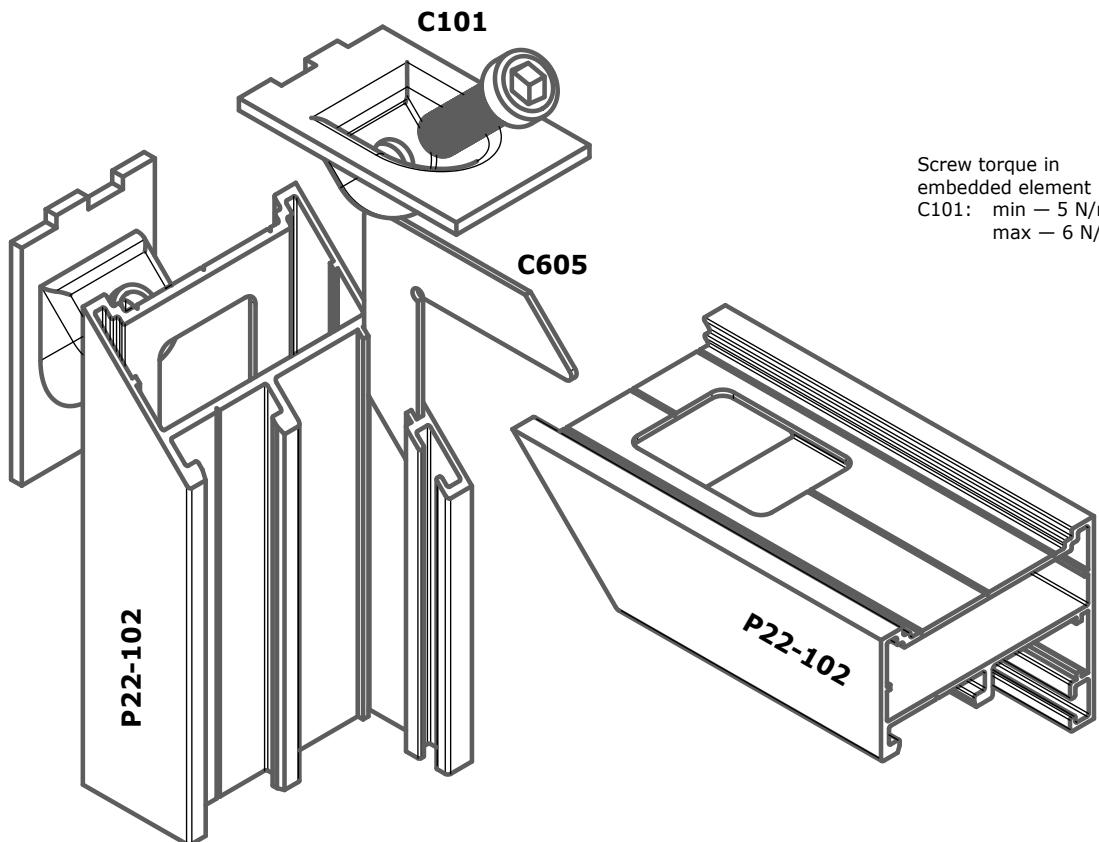
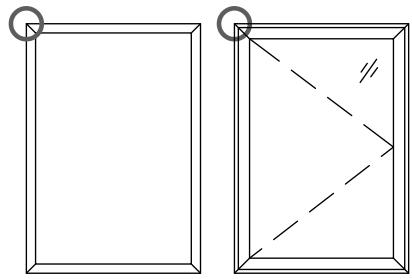
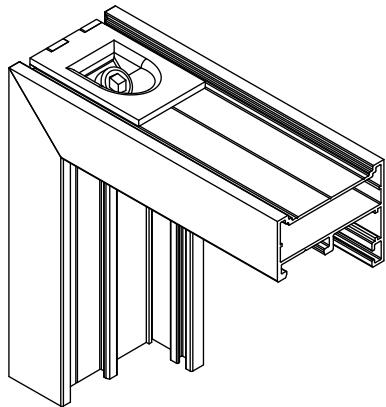


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	additional solutions	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	additional solutions	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	additional solutions	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	additional solutions	stained glass insulation

## Installation of adapter for rollers Provedal

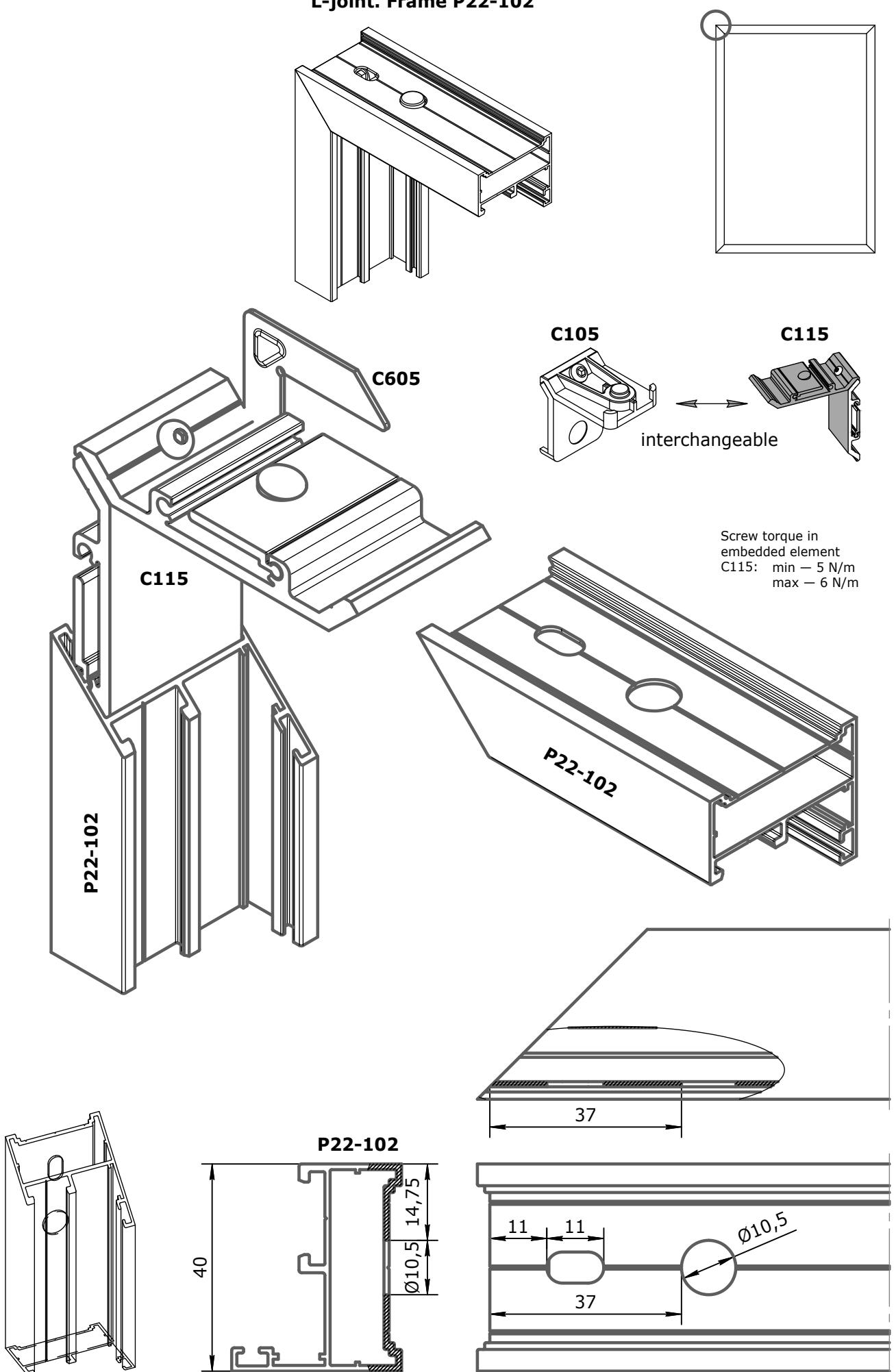


## L-joint. Frame P22-102

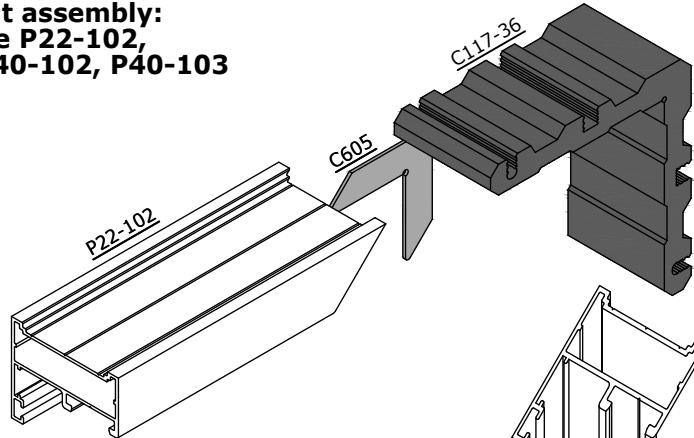
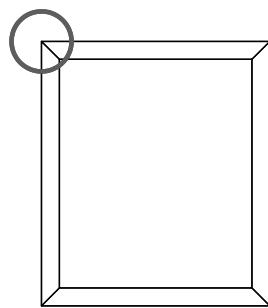


contents					contents
profiles					profiles
scope of delivery					scope of delivery
sections					sections
glazing tables					glazing tables
sub-assemblies					sub-assemblies
additional solutions					additional solutions
fittings layout					fittings layout
sub-assemblies					sub-assemblies
connections					connections
stained glass insulation					stained glass insulation
equipment and tools					equipment and tools

## L-joint. Frame P22-102

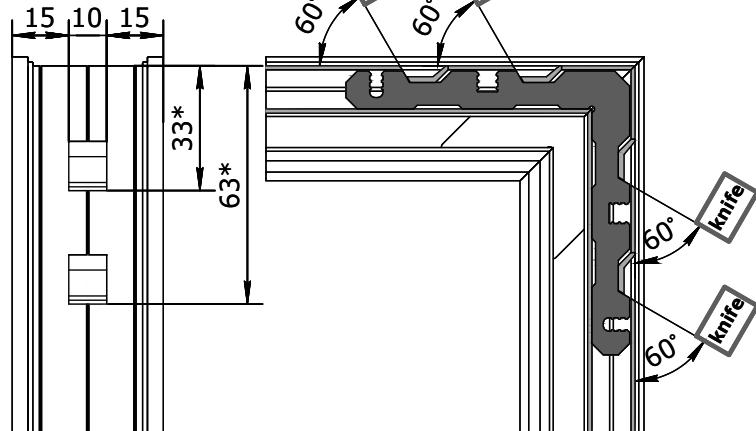
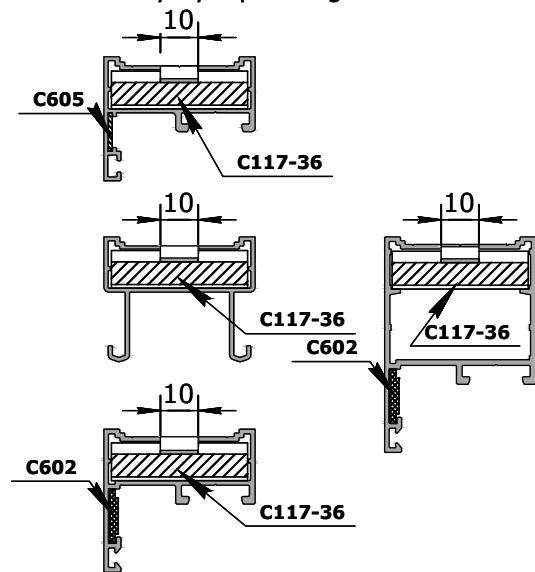


**L-joint assembly:**  
**Frame P22-102,**  
**P24-104, P40-102, P40-103**

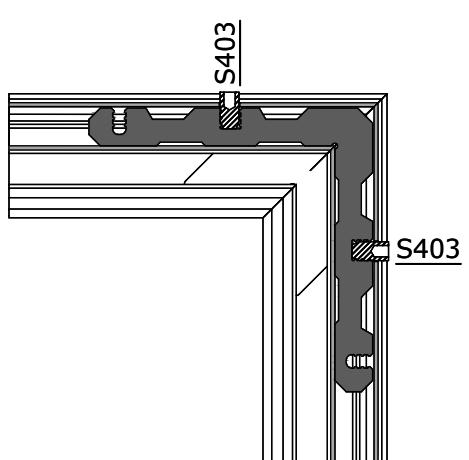
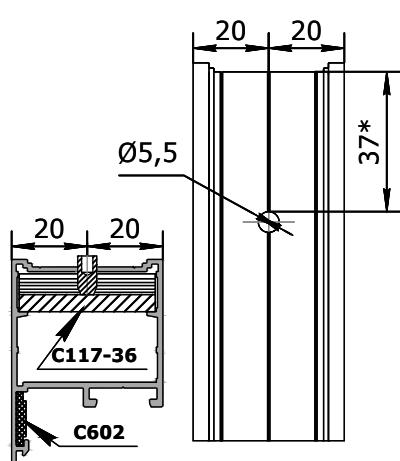
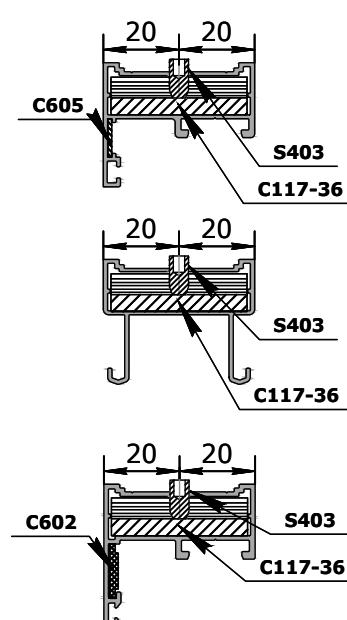


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

**Assembly by squeezing**

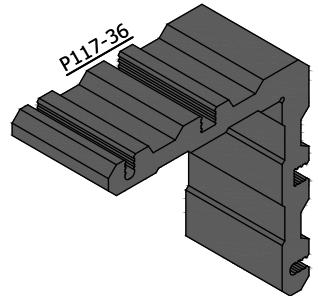
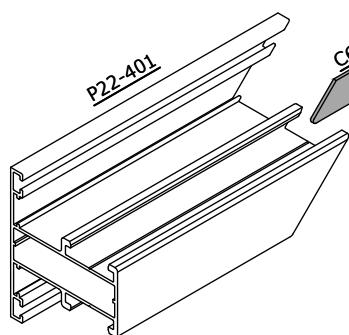
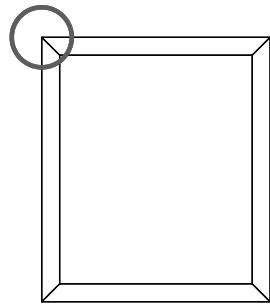


**Assembled on pins**



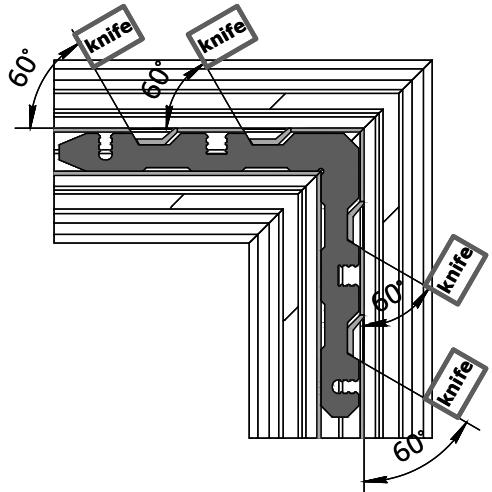
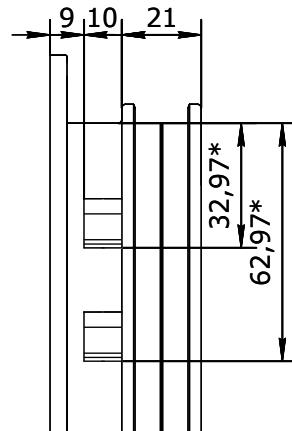
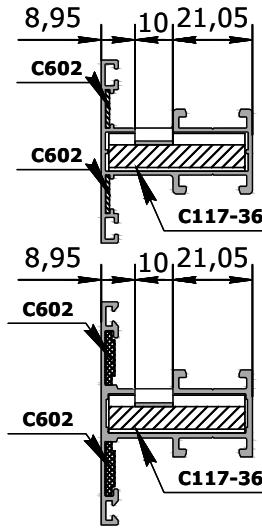
\* — depends on the specific equipment make and precision of its adjustment.

**L-joint assembly:**  
Frame P22-401, P40-401

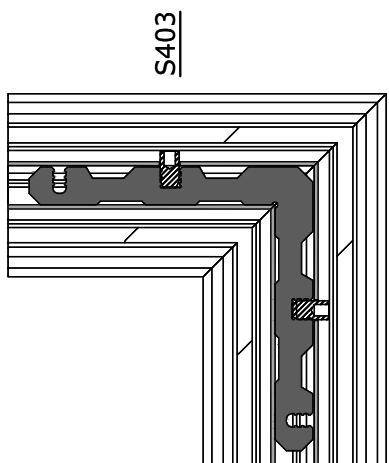
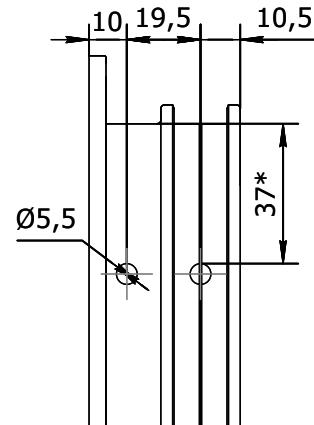
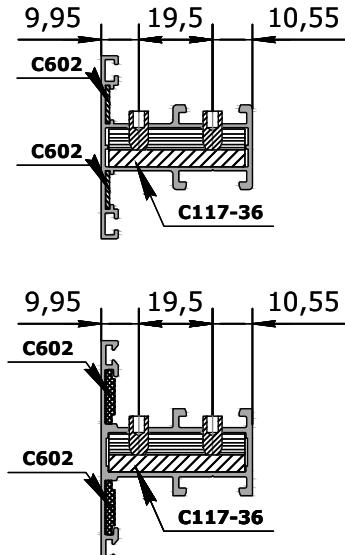


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

**Assembly by squeezing**



**Assembled on pins**

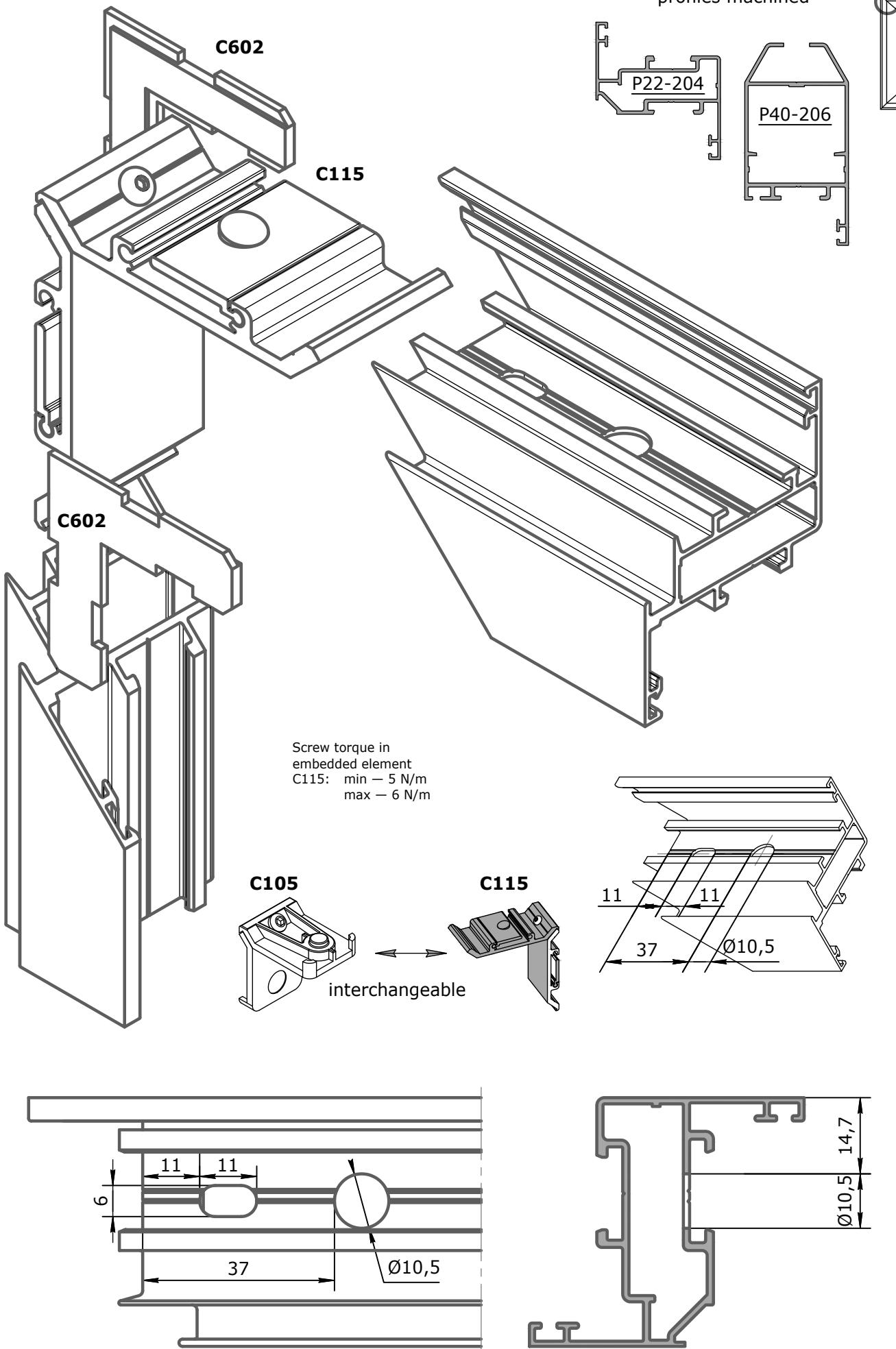


S403

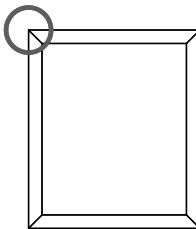
\* — depends on the specific equipment make and precision of its adjustment.

## L-joint. Sash P22-204

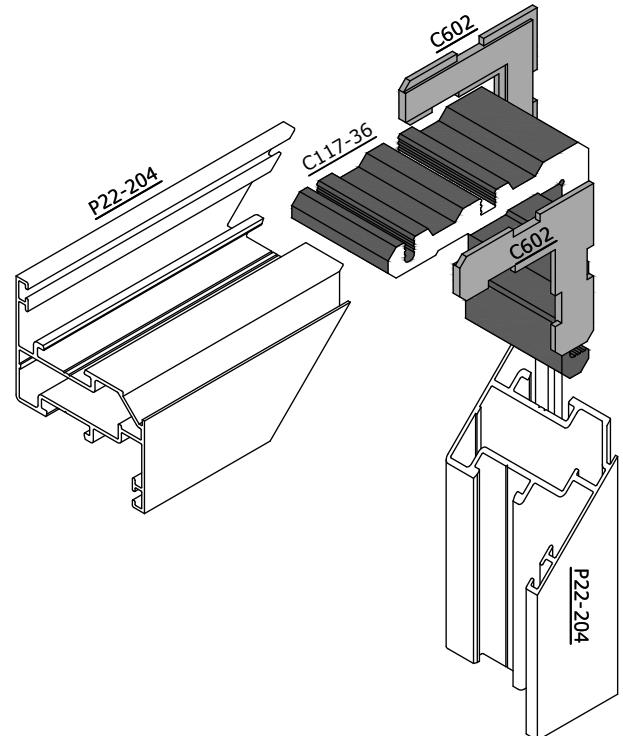
profiles machined



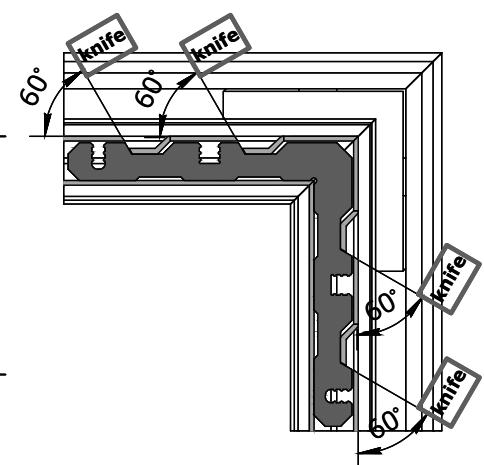
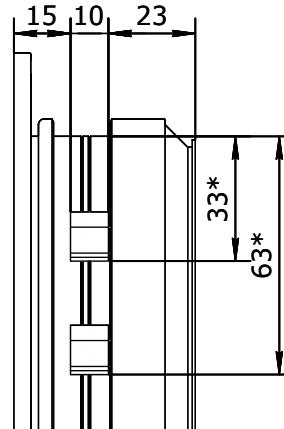
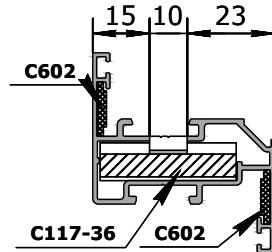
## L-joint assembly: Sash P22-204



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

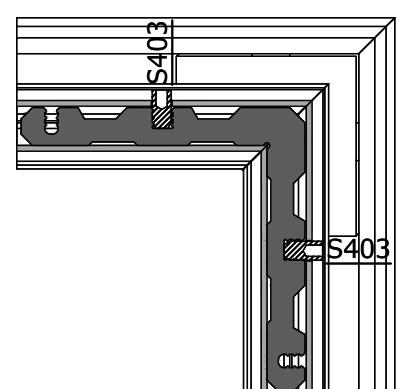
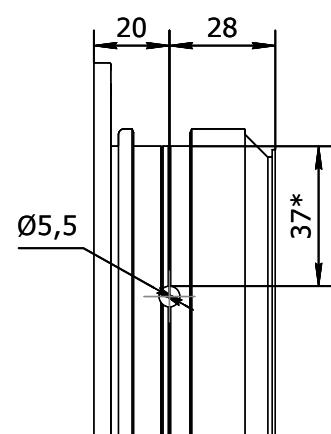
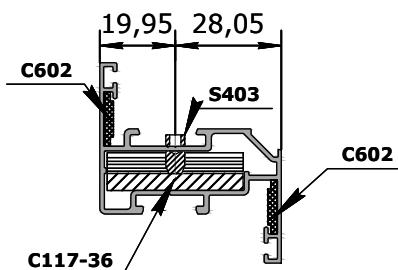


## Assembly by squeezing



\* — depends on the specific equipment make and precision of its adjustment.

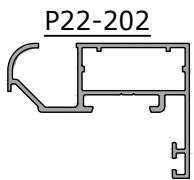
## Assembled on pins



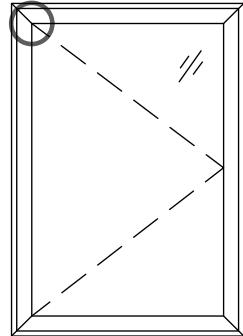
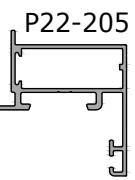
## L-joint assembly: Sash P22-202

profiles machined

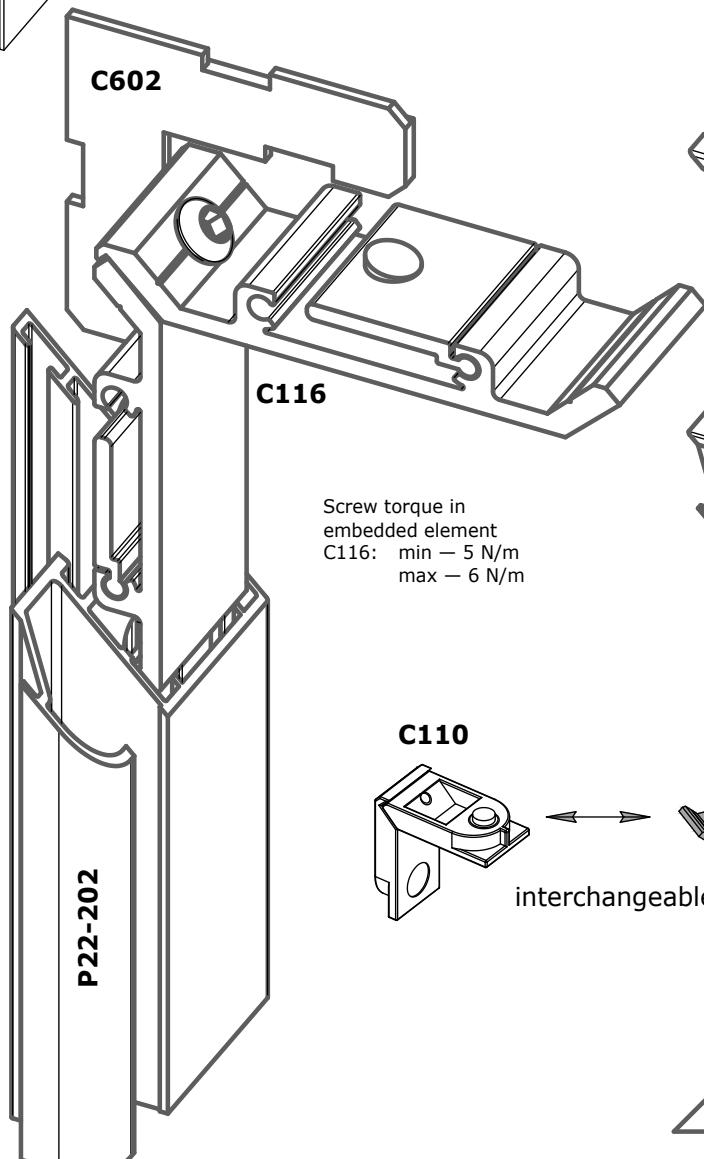
P22-202



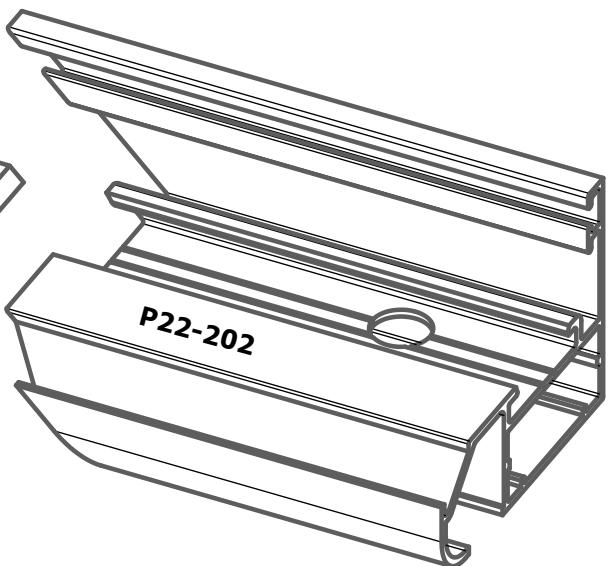
P22-205



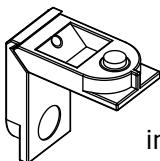
C602



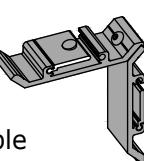
C116



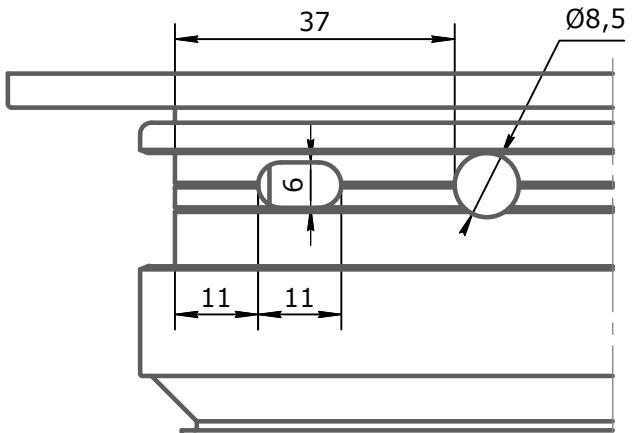
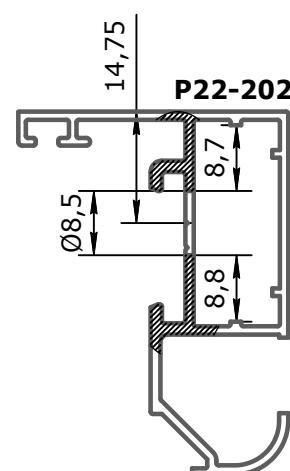
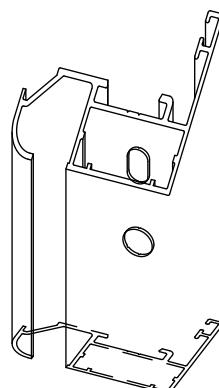
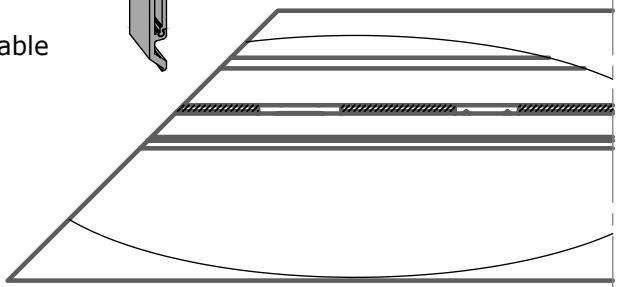
C110

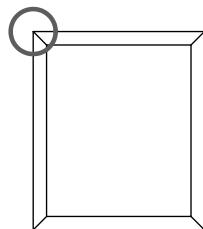


C116



interchangeable



**L-joint assembly:**  
**Sash P22-202, P40-202**


contents

profiles

scope of delivery

profiles (1:1)

sections

glazing tables

sub-assemblies

fittings layout

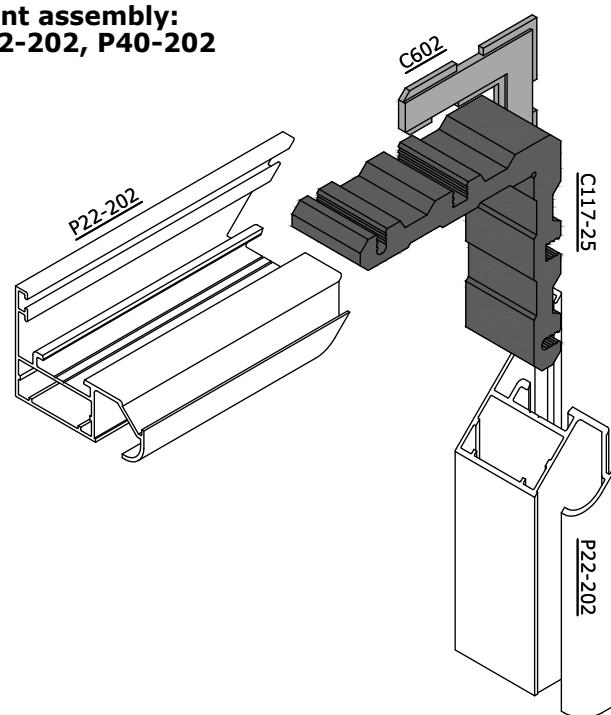
additional solutions

stained glass insulation

sub-assemblies

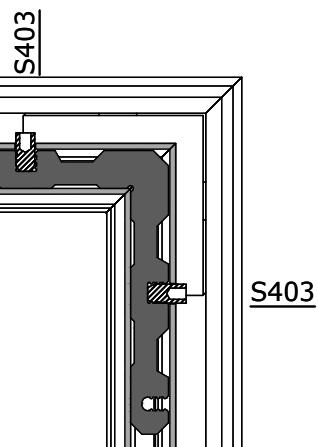
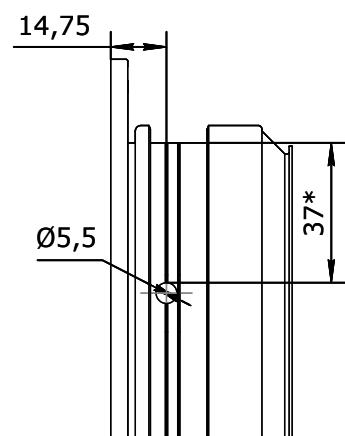
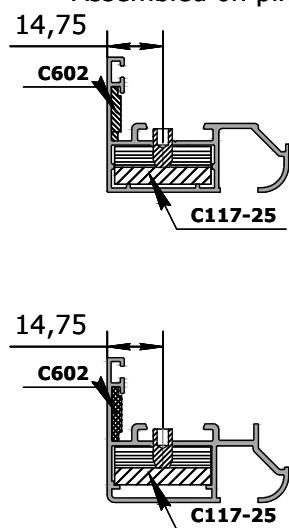
connections

equipment and tools



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Assembled on pins



\* — depends on the specific equipment make and precision of its adjustment.

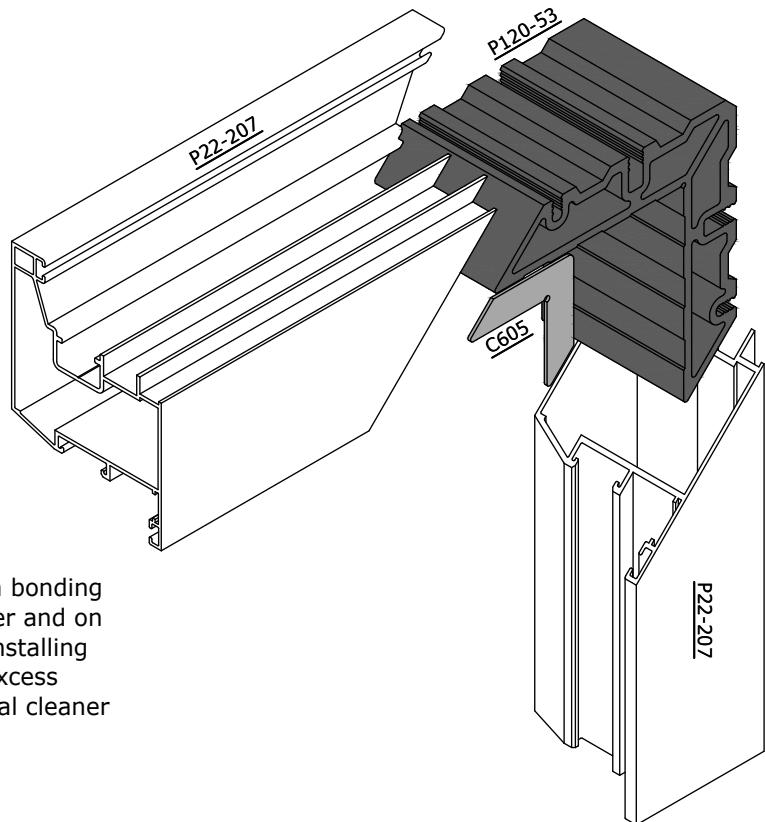
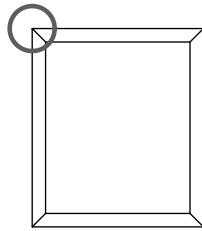


## L-joint assembly: Sash P22-207

contents  
profilesscope of delivery  
profiles (1:1)sections  
sub-assemblies

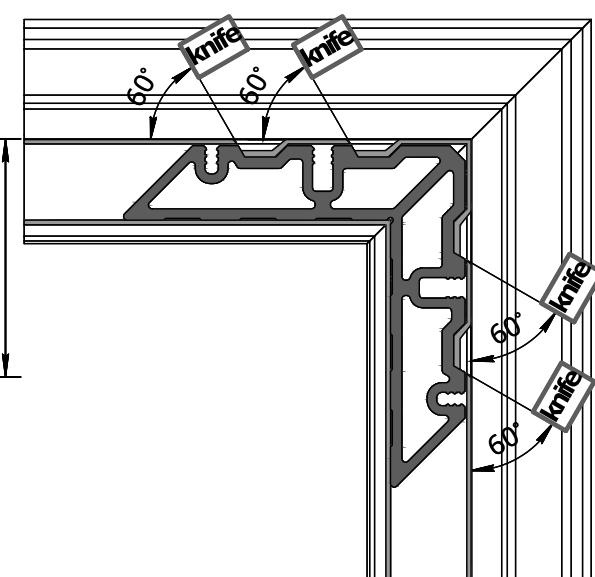
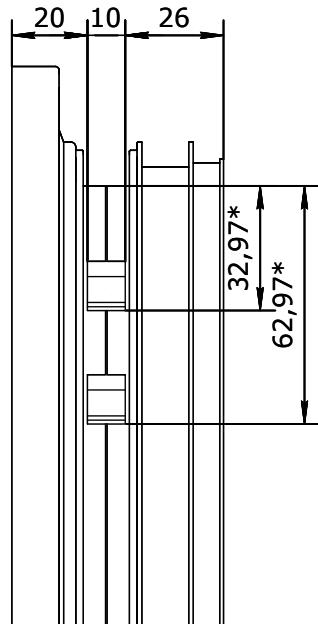
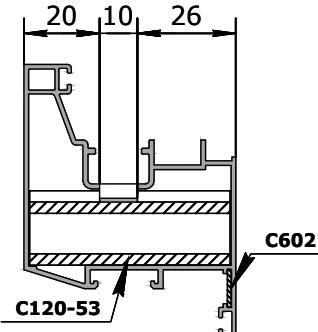
glazing tables

sub-tables

additional  
solutionsstained glass  
insulationequipment  
and tools

Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

## Assembly by squeezing



\* — depends on the specific equipment make and precision of its adjustment.

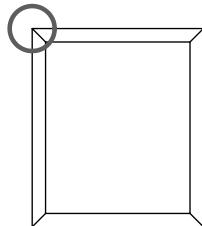
contents  
profilesscope of delivery  
profiles (1:1)sections  
sub-assemblies

glazing tables

sub-tables

additional  
solutionsstained glass  
insulationequipment  
and tools

## L-joint assembly: Sash P40-206



contents

profiles

scope of delivery

profiles (1:1)

sections

glazing tables

sub-assemblies

tables

additional solutions

sub-assemblies

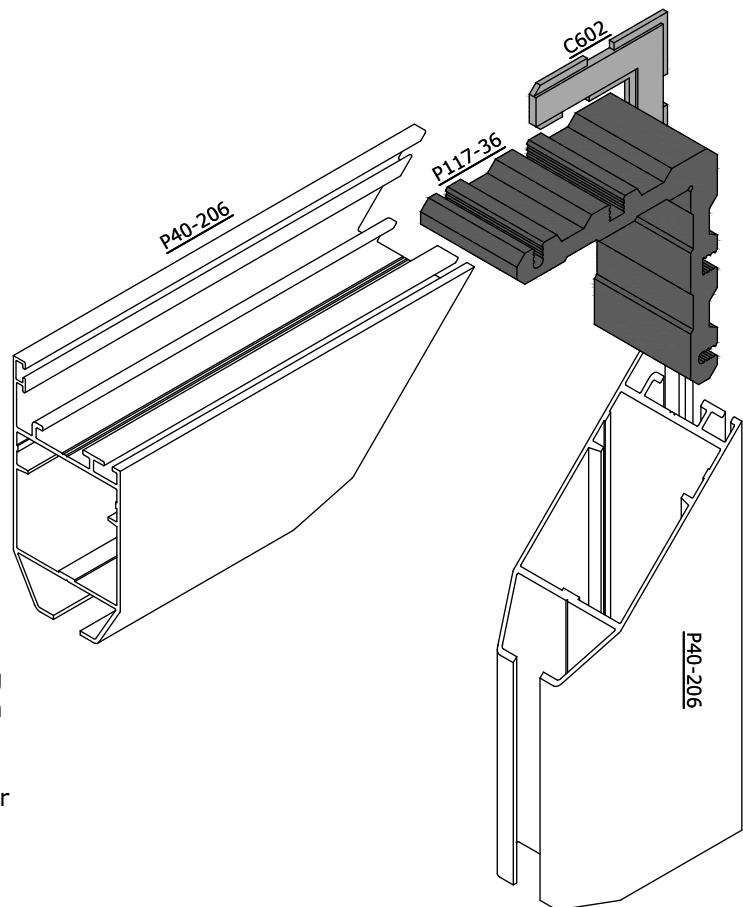
connections

stained glass insulation

fittings layout

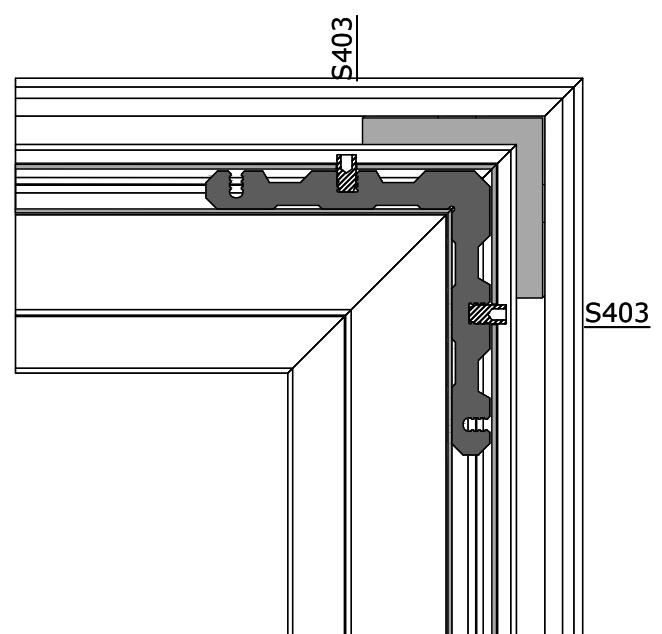
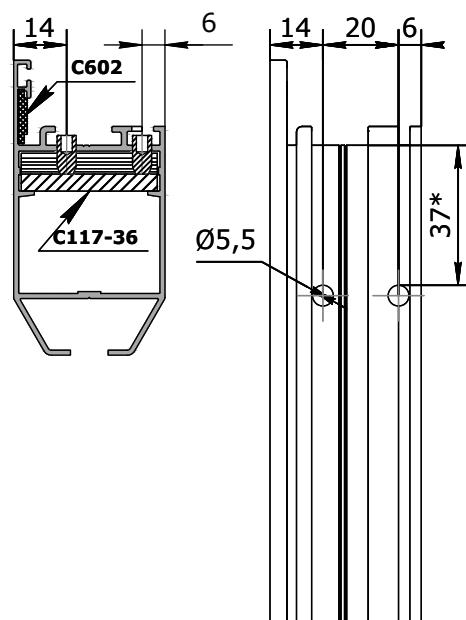
sub-assemblies

equipment and tools



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Assembled on pins



\* — depends on the specific equipment make and precision of its adjustment.

contents

profiles

scope of delivery

profiles (1:1)

glazing tables

sub-assemblies

connections

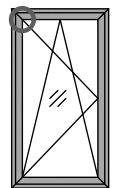
stained glass insulation

fittings layout

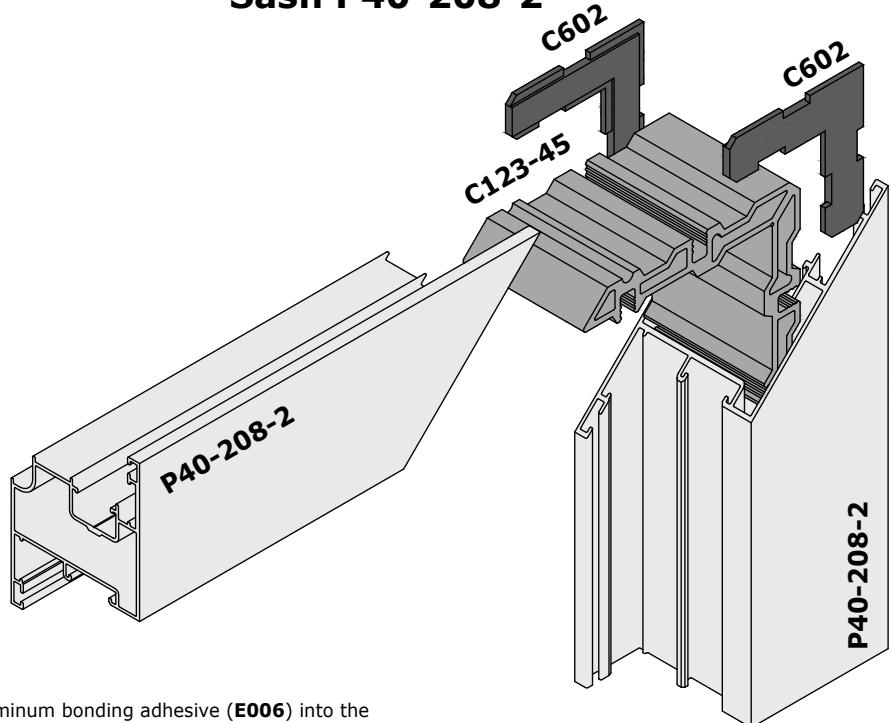
sub-assemblies

additional solutions

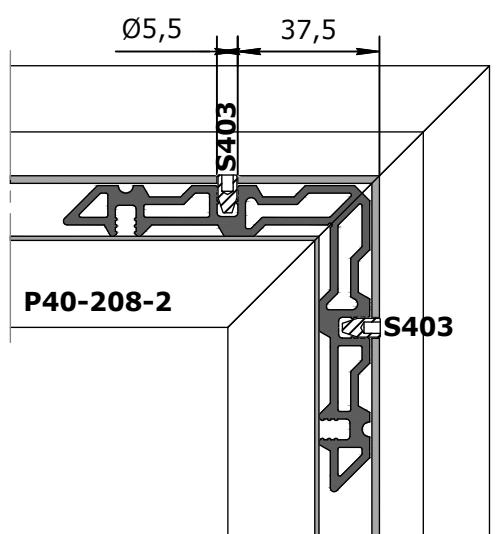
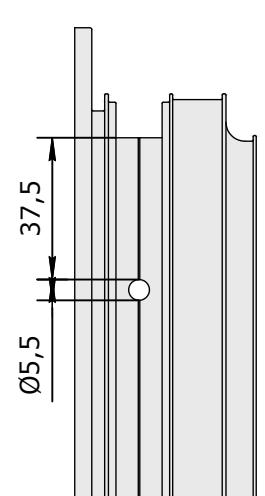
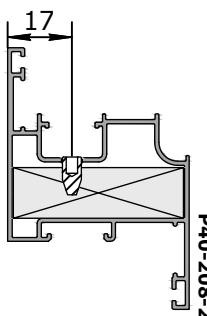
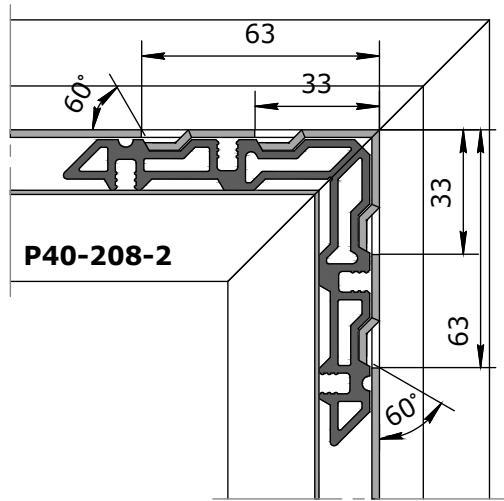
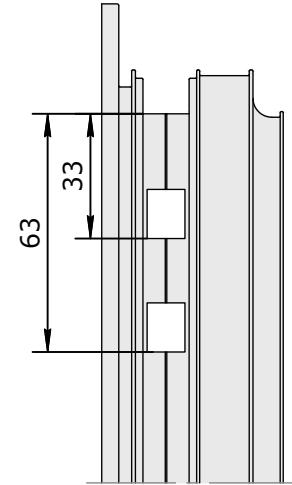
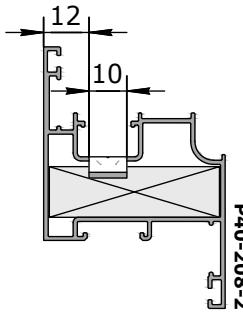
equipment and tools



## L-joint assembly Sash P40-208-2

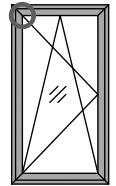


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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	equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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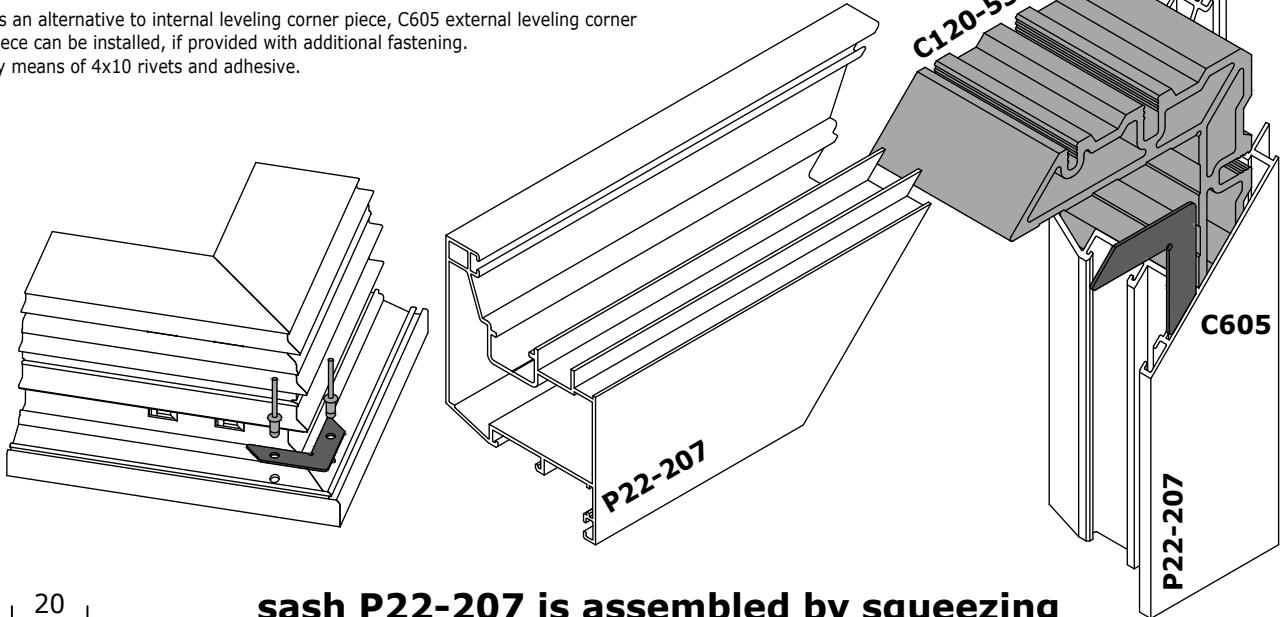


## L-joint assembly Sash P22-207

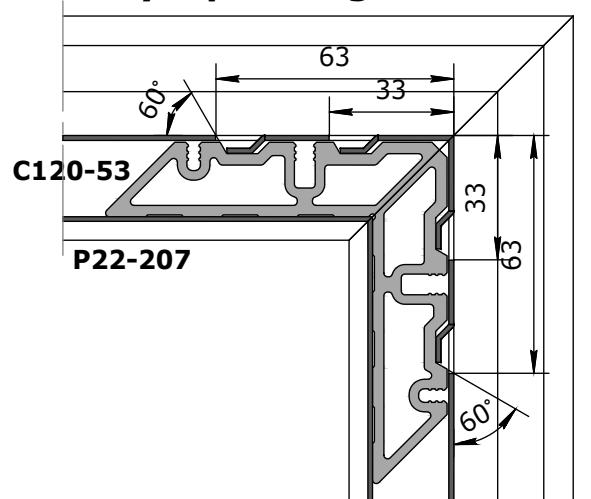
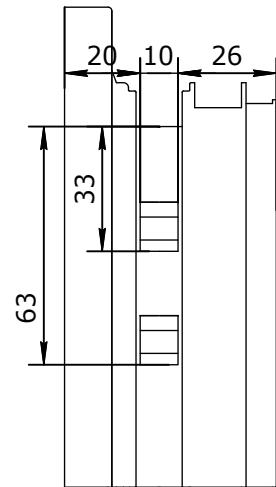
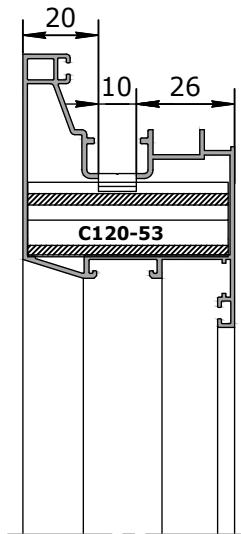
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Embedded element C121-06 functions as a leveling corner piece and is secured only with adhesive. All other embedded elements require additional fastening (besides the adhesive) by squeezing or fixing with pins.

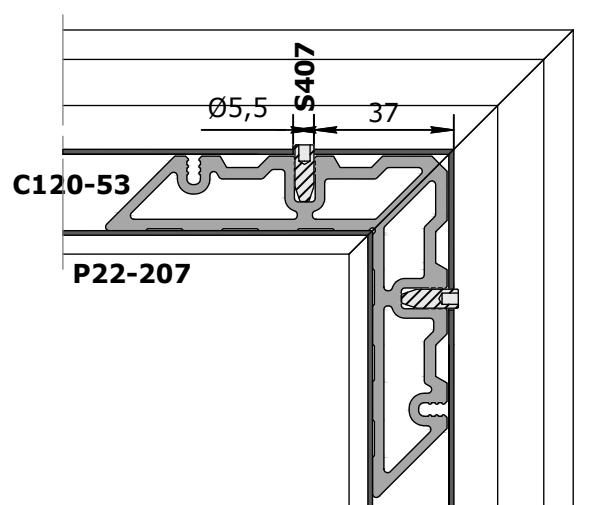
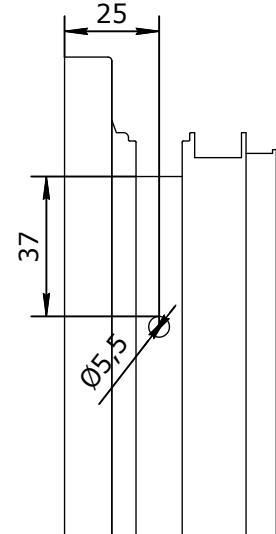
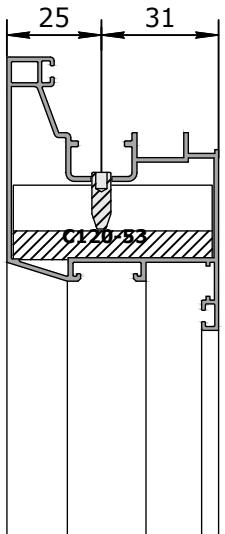
As an alternative to internal leveling corner piece, C605 external leveling corner piece can be installed, if provided with additional fastening. by means of 4x10 rivets and adhesive.



**sash P22-207 is assembled by squeezing**

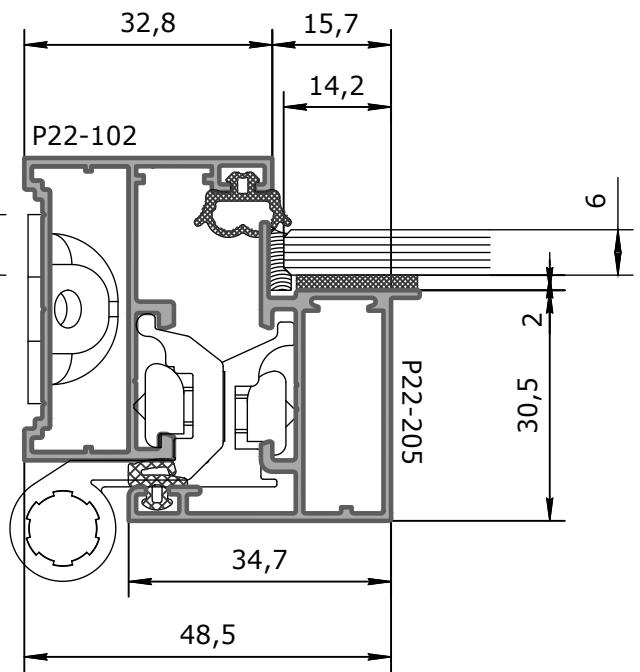
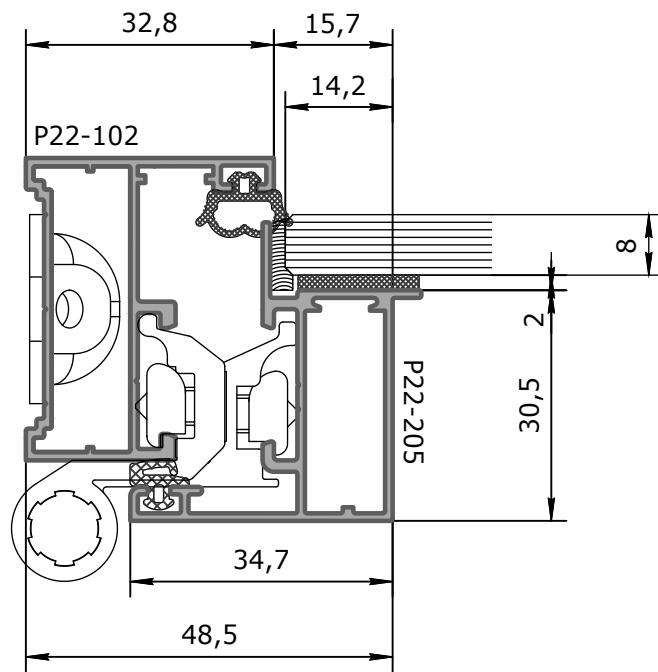
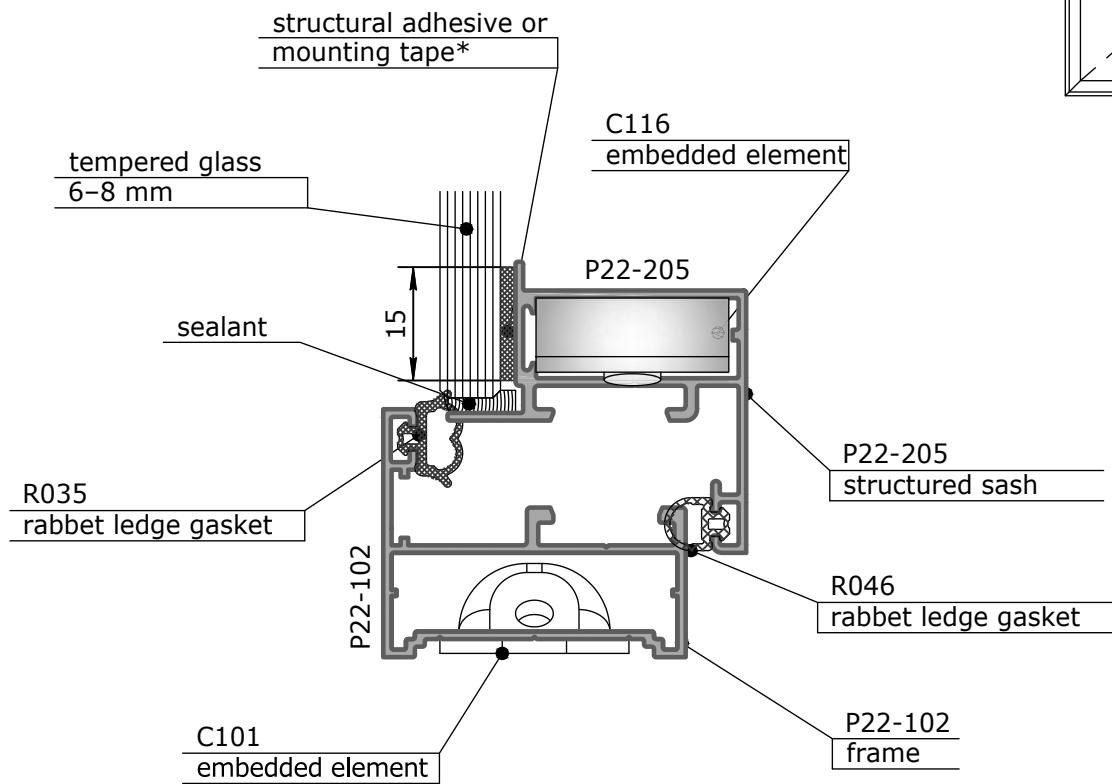


**sash P22-207 is assembled on pins**



contents	contents
profiles	profiles
scope of delivery	scope of delivery
profiles (1:1)	profiles (1:1)
sections	sections
glazing tables	glazing tables
sub-assemblies	sub-assemblies
glazing tables	glazing tables
sub-assemblies	sub-assemblies
additional solutions	additional solutions
fittings layout	fittings layout
sub-assemblies	sub-assemblies
stained glass insulation	stained glass insulation
connections	connections
sub-assemblies	sub-assemblies
equipment and tools	equipment and tools

## P22-205 – structured swing sash



\* - Mounting tape used to glue in the glass:

3M VHB G23F (gray) or 3M VHB B23F (black) –

double-faced mounting tape, base: foamed acryl, adhesive: acryl, thickness: 2.3 mm.

## Calculation of wind load rating for application of mounting tape

$$W_{\text{additional}} = \frac{85 * a}{0.5 * L_1}$$

a — width of mounting tape used to glue in the glass, mm  
 a = 15 mm (for sash P22-205)  
 L<sub>1</sub> — sash width, mm

wind load measurement units:

$$W: 1 \text{ kPa} = 1000 \text{ N/m}^2 = 101.97 \text{ kg/m}^2$$

### W values for wind regions

	I wind region	II wind region	III wind region
50 m from ground	0.47 kPa	0.62 kPa	0.79 kPa
100 m from ground	0.59 kPa	0.77 kPa	0.98 kPa
150 m from ground	0.67 kPa	0.88 kPa	1.11 kPa

The values are calculated for frontal installation (the row zone), terrain type B.

The exact value must be calculated on a separate basis for each particular site.

## Glass gluing-in instructions

### Materials and tools used.

1. VHB tape: 3M VHB G23F (gray) or 3M VHB B23F (black), width 15 mm. Double-faced mounting tape, base: foamed acryl, adhesive: acryl, thickness: 2.3 mm.
2. Primer: Primer 94EF — It is necessary to use Primer 94EF on powder coating, applying it in a thin layer after abrasive processing.
3. Silane glass primer: increases adhesive power of the tape by several times. Used in case of low temperatures or gluing of panels which are under voltage.
4. Abrasive: Scotch-Brite 07447. It is not recommended to use other abrasives because they can leave overly deep scratch marks on the surface which reduces the strength of adhesion.
5. Lint-free wipes
6. Plastic tape applicator. Ensures application of tape to the glass with minimum quantity of bubbles.
7. Sharp knife. To form a tight joint of tape on frame corners, it is necessary to cut through two layers of tape. A sharp knife is required for that.
8. Two-handed roll for pressing. Used for pressing of tape against the profile immediately after application and for subsequent pressing of glass against the profile with applied tape. Pressing should be performed with application of force, with both hands; quality pressing is necessary to ensure contact of tape with both surfaces and for strong and durable bonding.
9. Silicone. It is advisable to seal the sash perimeter with silicone sealant. Although VHB™ tape has strong resistance to external factors, it is necessary to close the joint where water can freeze thus creating pressure on glass.

### Frame preparation

1. Check availability of all required tools and materials.
2. Make sure that the temperature on the premises is minimum +15 °C.
3. Process the powder coated frame section intended for gluing with Scotch-Brite 7447 abrasive. Do not remove powder coating completely, it is sufficient just to remove top layer of the coating making it non-glossy.
4. Clean the processed surface with isopropyl alcohol/water mixture (1:1 by volume).
5. Apply 94EF primer with a slightly soaked wipe. The primer should be applied only in one layer, in minimum quantity.
6. The tape must be attached within 5 minutes after treatment of surface with adhesion enhancer.

### Glass surface preparation

1. Glass must be treated with silane glass primer: apply it in one layer in minimum quantity and let dry for at least 5 minutes before application of tape. Excessive quantities of primer, if any, must be promptly removed from the glass before drying with a dry and clean wipe.
2. If the glass is extremely dirty, prior to treatment with silane primer it must be cleaned using acetone, heptane or isopropyl alcohol/water mixture (1:1).
3. After treatment with silane primer, there should be no muddy streaks remaining on the glass surface. If there are, the glass must be cleaned and the primer should be re-applied.

### Tape application

1. Apply tape on prepared frame by means of manual applicator. It is strongly advised to use an applicator because otherwise it is difficult to ensure quality application without air bubbles.
2. For even application of tape, make sure that it is placed inside the applicator groove; move the applicator along the edge of the frame pressing the projecting part on the lower side of the applicator to the rim of the glass.
3. On glass corners apply tape with an overlap in such a way that the second layer is placed on top of the first.
4. Without removing protective film, flatten the tape with a hard roll. Apply high pressure when working with the roll. Only that roll must be used.
5. Flatten the tape to the very end of the frame and at the ends on both sides. Quality of tape adhesion to the frame may be checked by removal of protective film on the frame edge. When you do so, the tape should remain in place. If the tape peels off, it must be flattened once again. If after that the tape continues to peel off the surface, it may indicate that the surface cleaning procedure was not performed properly. In this case the tape may have to be removed and surface preparation reperformed.

### Corner part of the frame — bevel at 90 degrees angle

1. Fasten the tape to the frame so that in each corner the second layer of tape would overlap the first layer.
2. Press the tape to the frame with the help of roll — if the tape is not pressed, it may peel off during other operations. Do not start pressing the tape with maximum effort, as it may lead to tape displacement. If the tape was eventually displaced, remove and reapply it.
3. In each corner cut through the upper layer of tape close to the inner edge of lower layer and remove the cut-off part. If the edge of the lower layer is curved upward and may hinder proper fitting of the glass, the excess tape should also be cut off and removed.
4. Gently smooth out and press the trimmed section of the tape with your thumb — the edges of the tape will fuse together when pressed, providing an extra seal.
5. Press the joint with the edge of the roll to ensure adhesion bonding. Make sure that both edges of the tape are in contact with each other.
6. Only after that protective film can be removed from the tape.

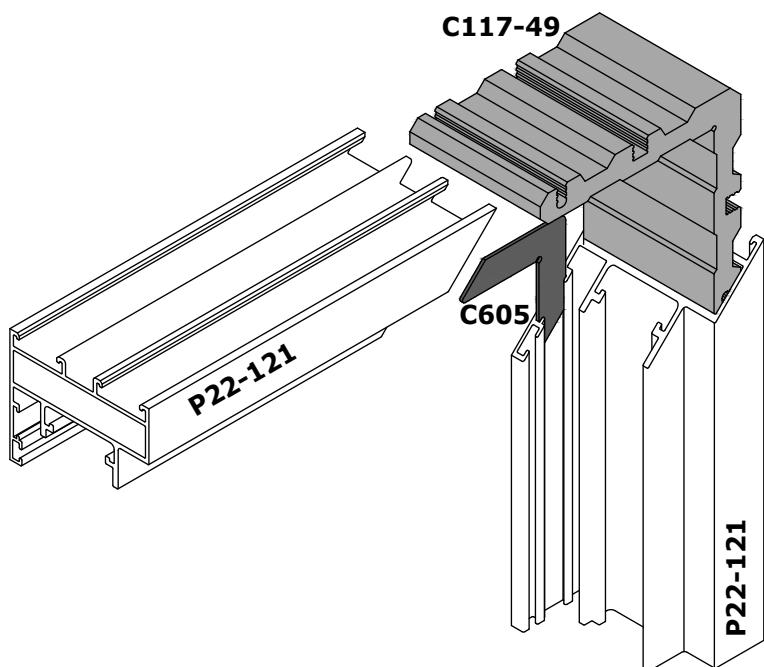
### Joining

1. For precise positioning of glass on the frame it is necessary to use guides ensuring the correct positioning from the first try. After connection positioning of the glass becomes impossible.
2. The glass should be moved by means of special devices (suction cups).
3. For connection, raise the glass, remove protective layer and lower the glass on the frame.
4. After connection, apply extra pressure to the tape by means of VULKAN manual pressing device or other similar equipment.
5. Final control of completed pressing: change of tape color. Good quality of adhesion: when looking at the tape through the glass, a uniform gray shade is visible. Satisfactory quality of adhesion: when looking at the tape through the glass, a light gray shade is visible at certain points — additional pressing must be performed.

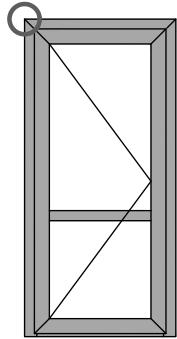
### Sealing

It is advisable to apply neutral silicone sealant over the glass perimeter to protect the joint against external factors and penetration of water into the gap between the frame and the glass.

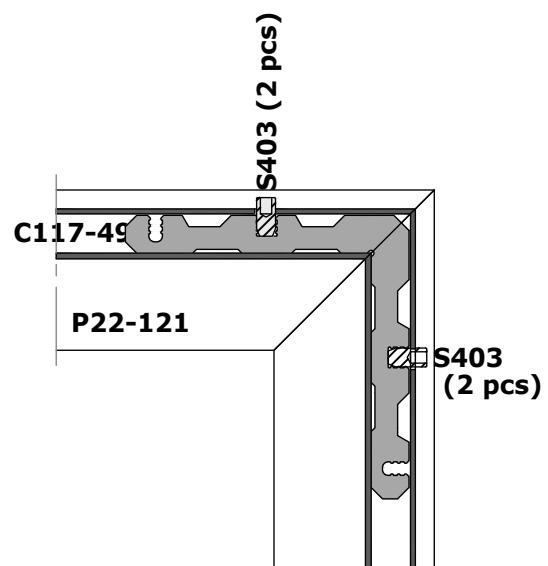
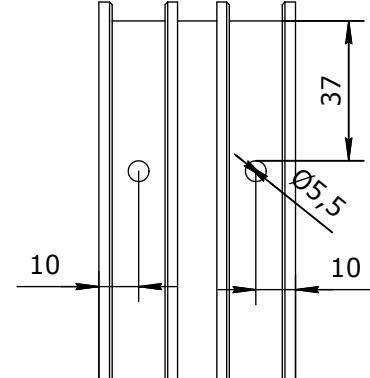
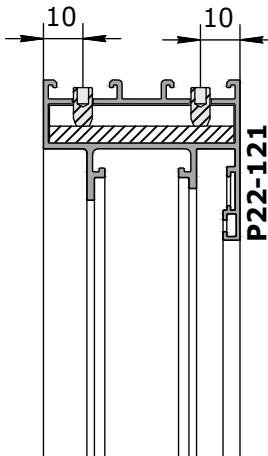
## L-joint. Frame P22-121



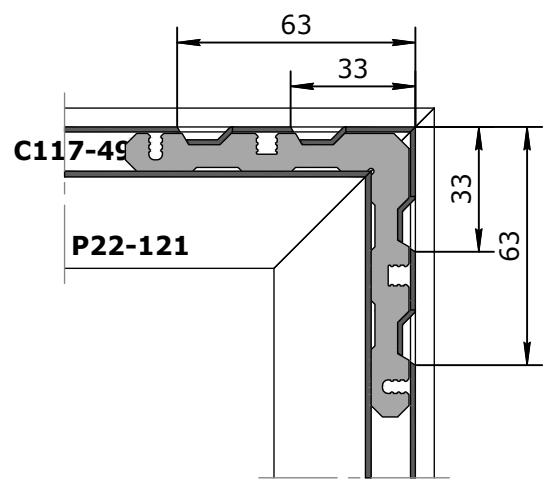
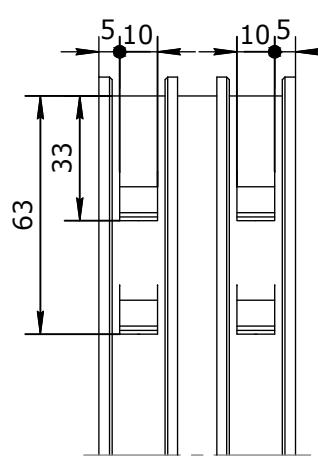
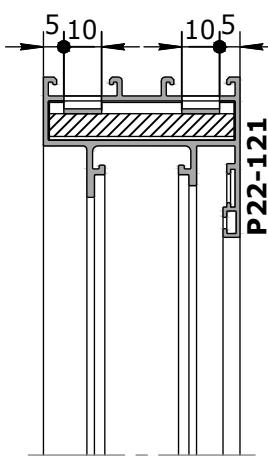
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

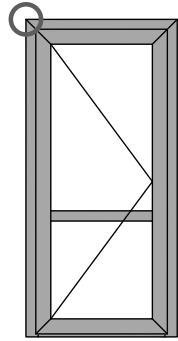
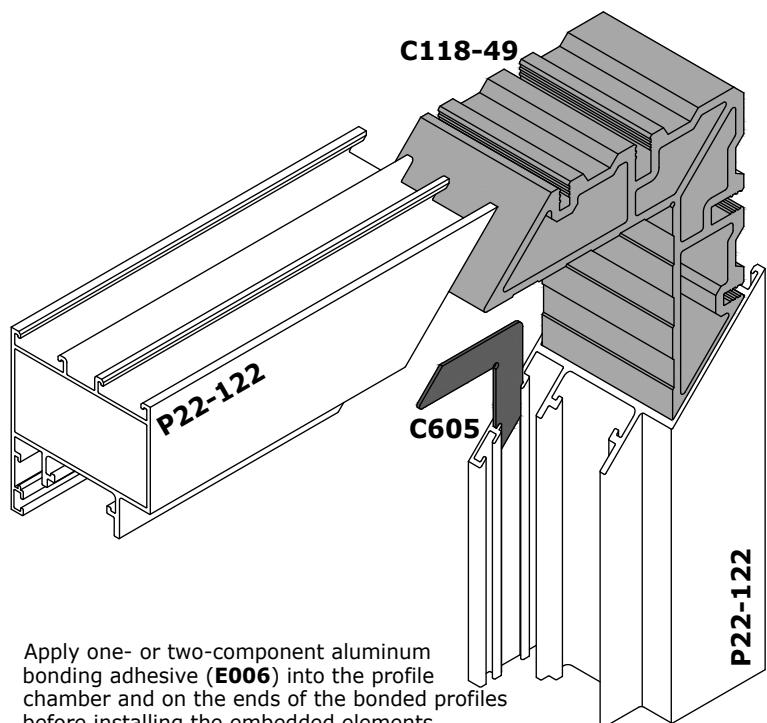
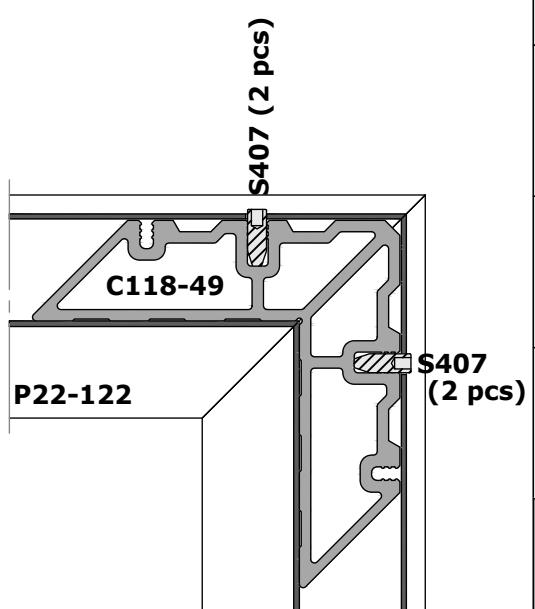
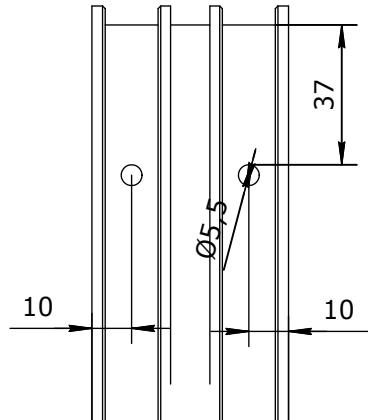
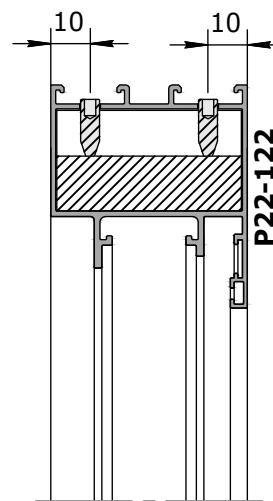
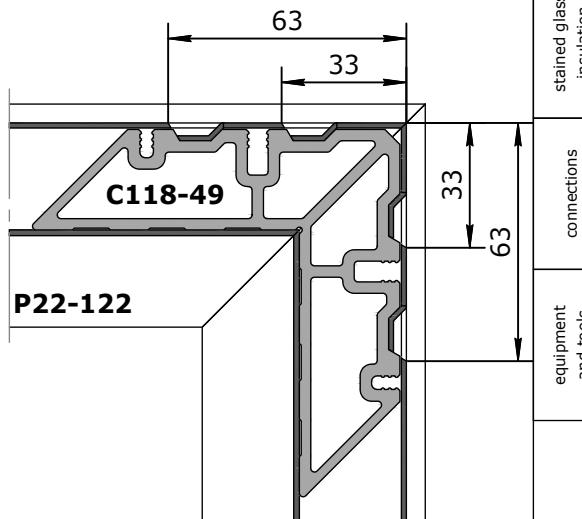
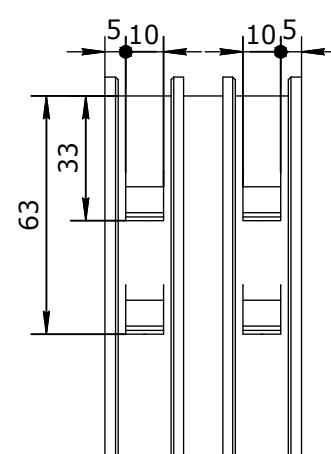
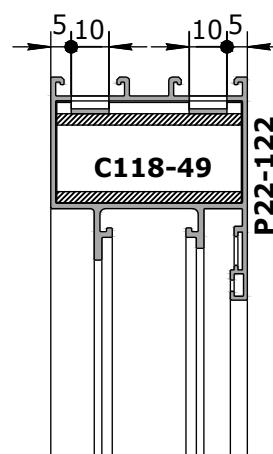


## Corner joints are assembled on pins



## Corner joints are assembled by squeezing

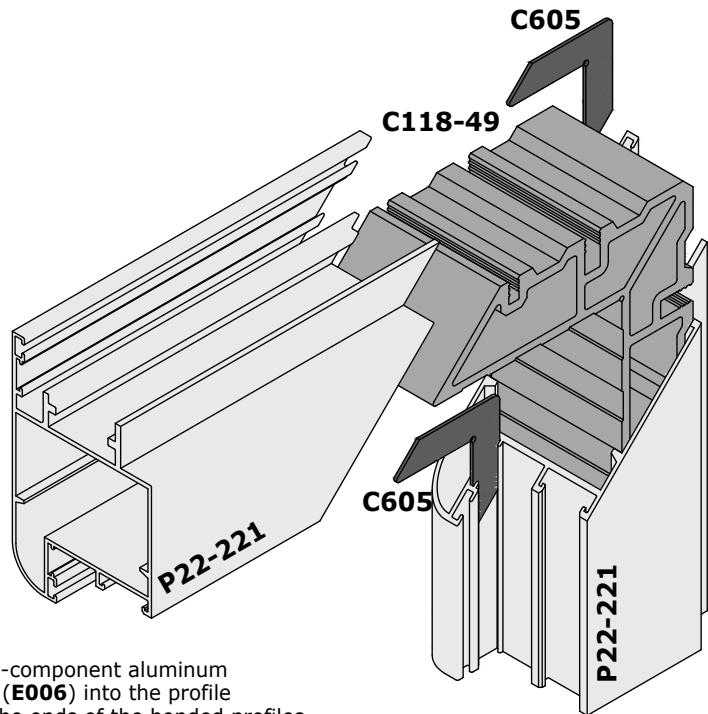


**L-joint. Frame P22-122****Corner joints are assembled on pins****Corner joints are assembled by squeezing**

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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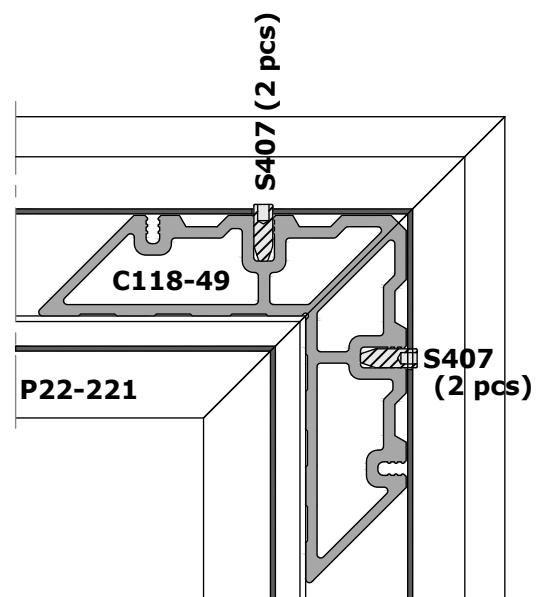
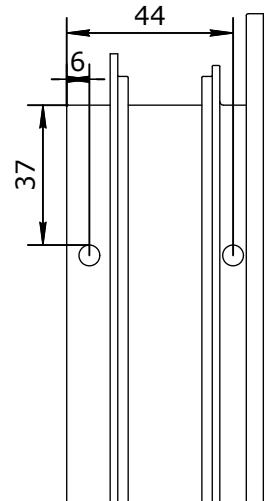
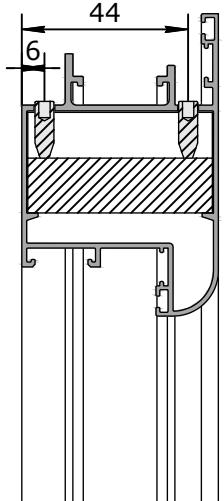
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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## L-joint. Sash P22-221

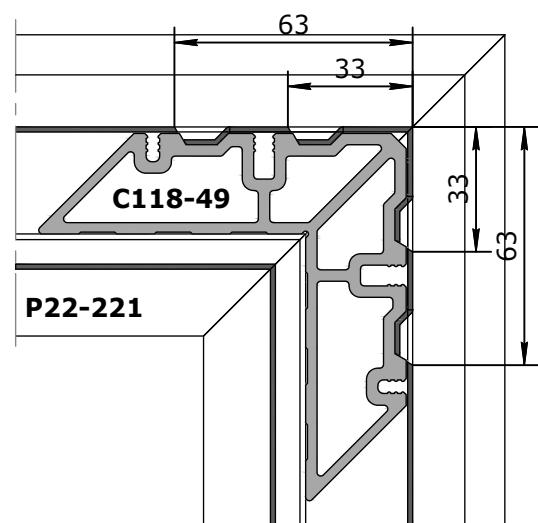
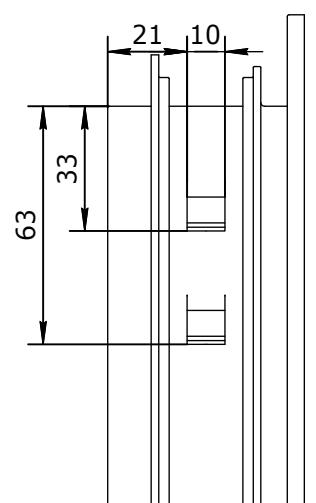
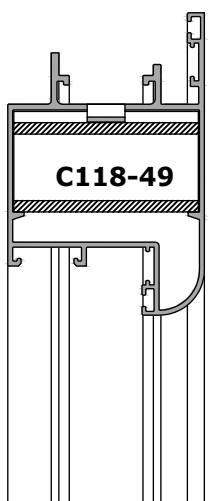


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

## Corner joints are assembled on pins



## Corner joints are assembled by squeezing



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	stained glass insulation
contents	contents	contents	contents	contents	contents	contents	contents

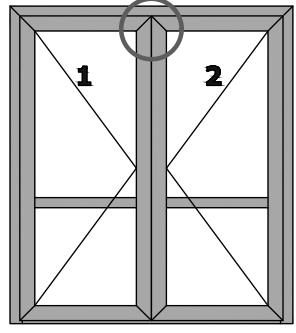
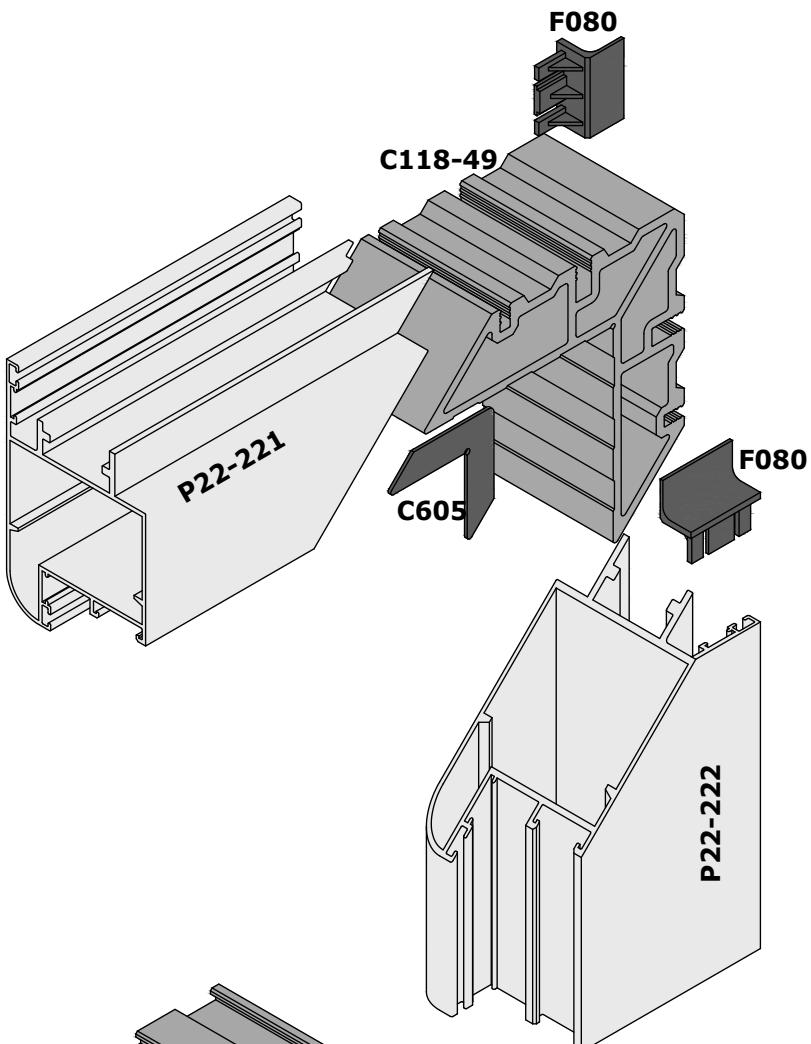
**Sill installation**

contents					
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout
profile	scope of delivery	glazing tables	sub-assemblies	sections	profiles (1:1)
contents	glazing tables	sub-assemblies	sections	glazing tables	sub-assemblies
profile	scope of delivery	sub-assemblies	sections	glazing tables	sub-assemblies
contents	glazing tables	sub-assemblies	sections	glazing tables	sub-assemblies

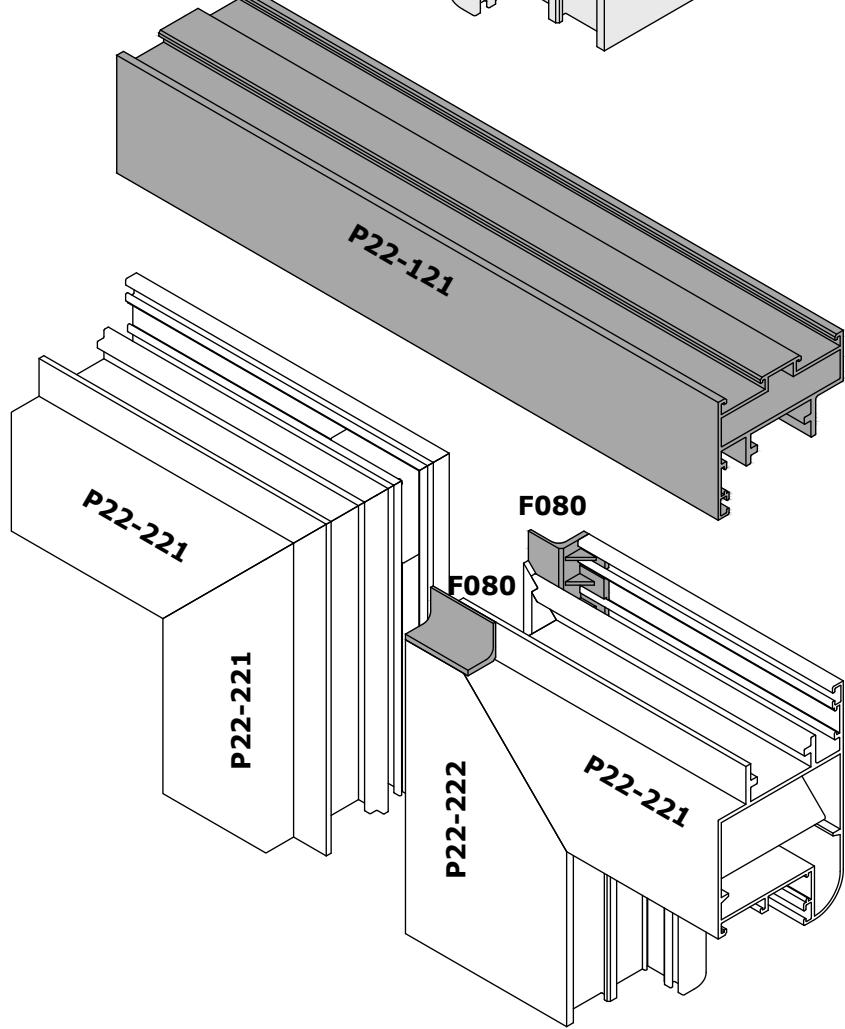
To prevent moisture leakage, seal the joints between the imposts and the vertical profile with a neutral sealant. Classic (complex) milling is preferred when machining the imposts.

To prevent moisture leakage, seal the joints between the imposts and the vertical profile with a neutral sealant. Classic (complex) milling is preferred when machining the imposts.

## L-joint. Sash P22-221+P22-222



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



contents

profiles

scope of delivery  
profiles (1:1)

sections

glazing tables  
sub-assembliesfittings layout  
additional solutions

sub-assemblies

stained glass insulation

equipment and tools

connections

contents

profile

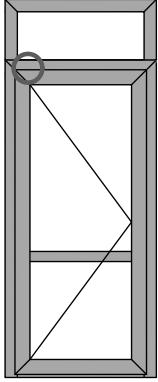
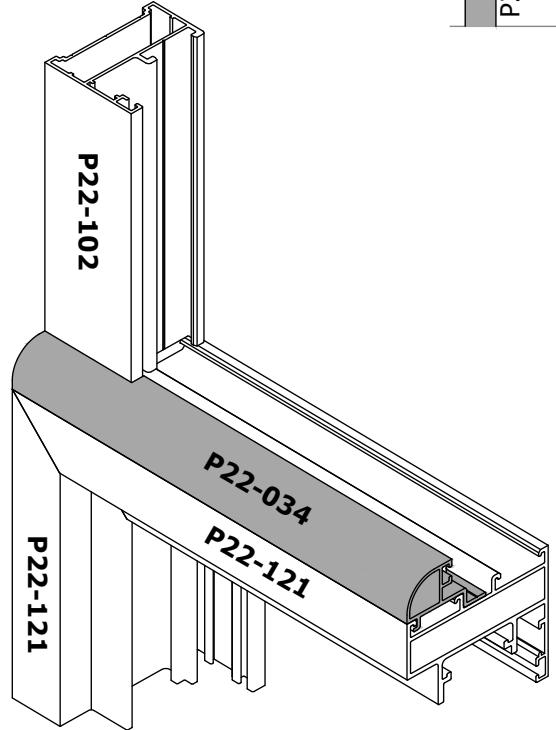
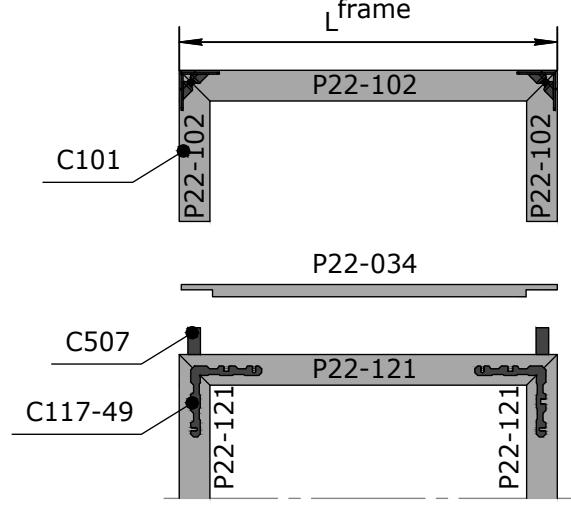
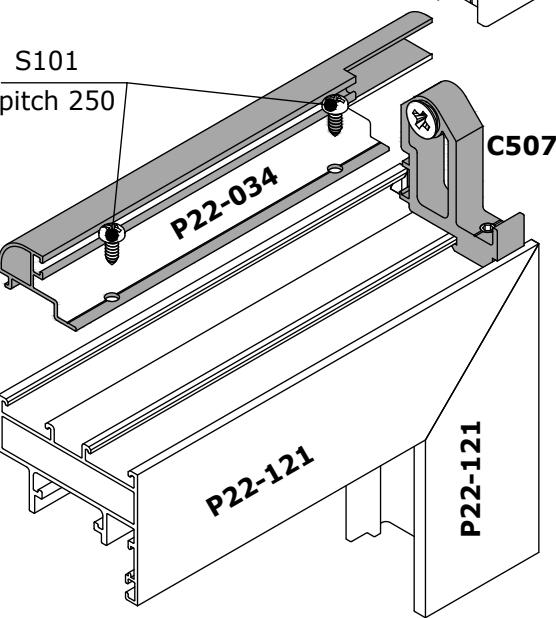
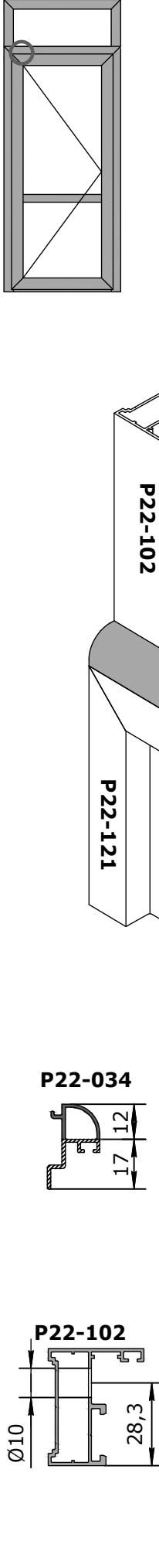
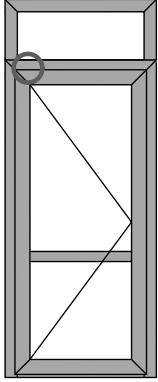
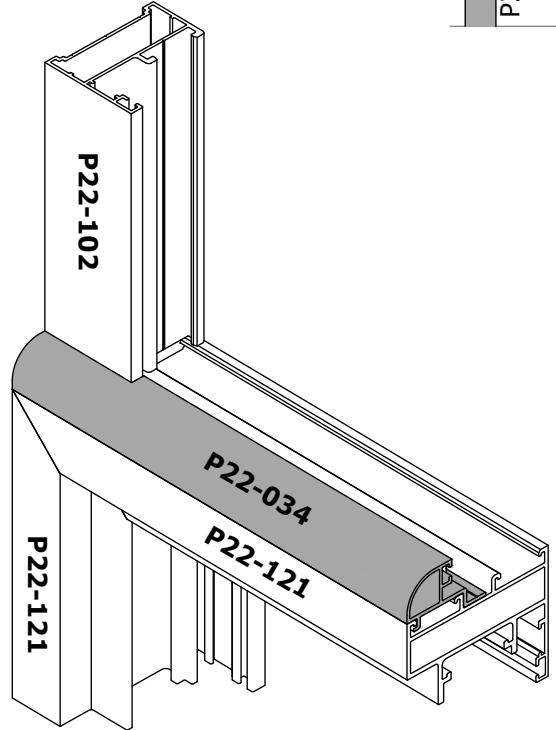
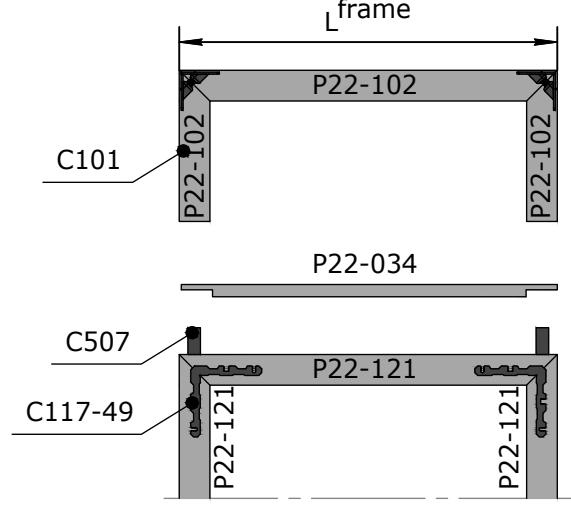
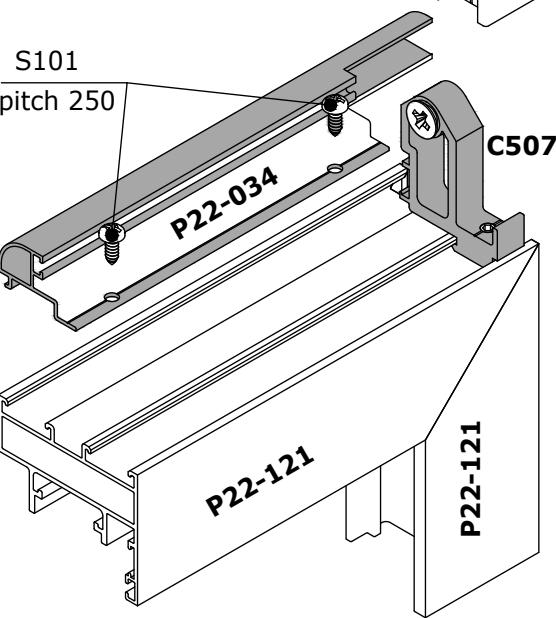
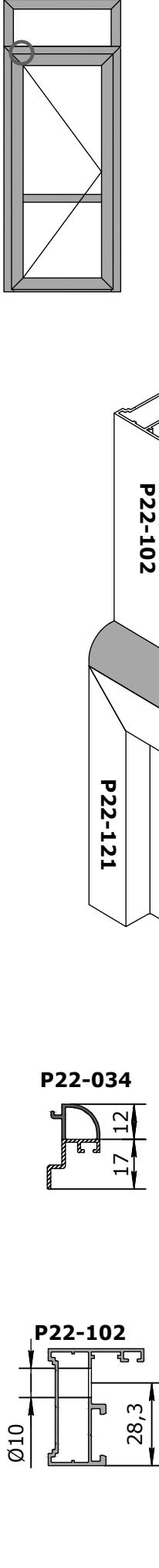
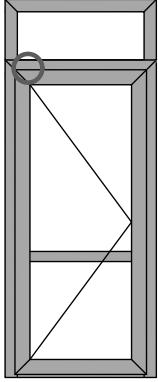
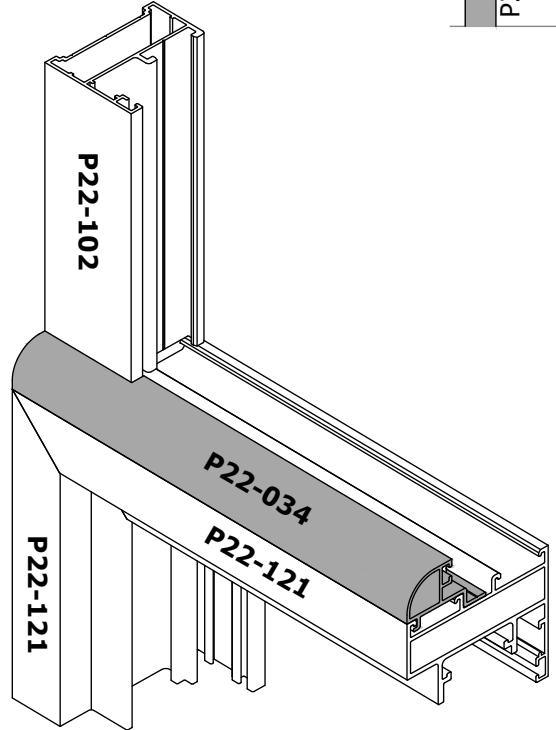
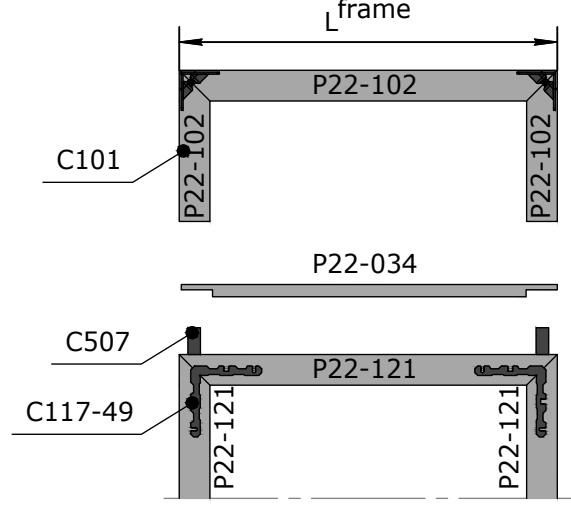
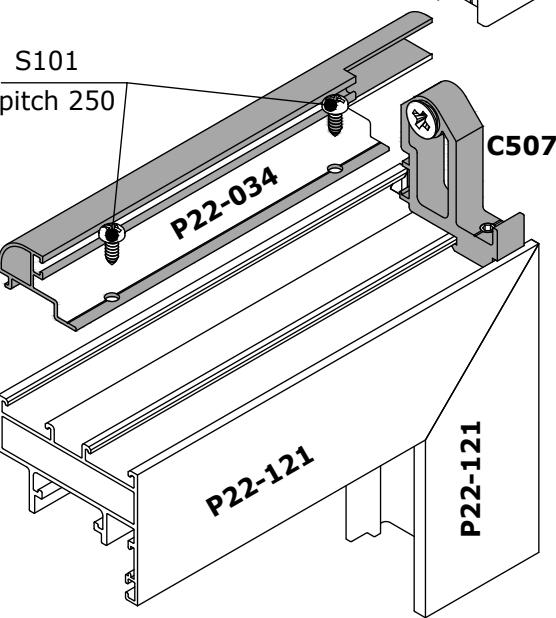
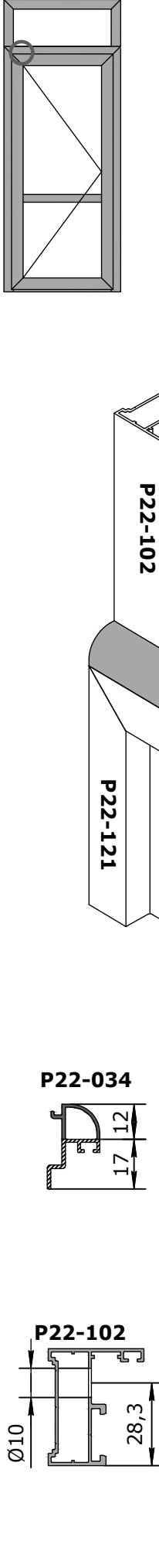
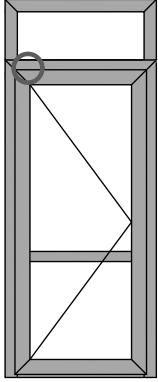
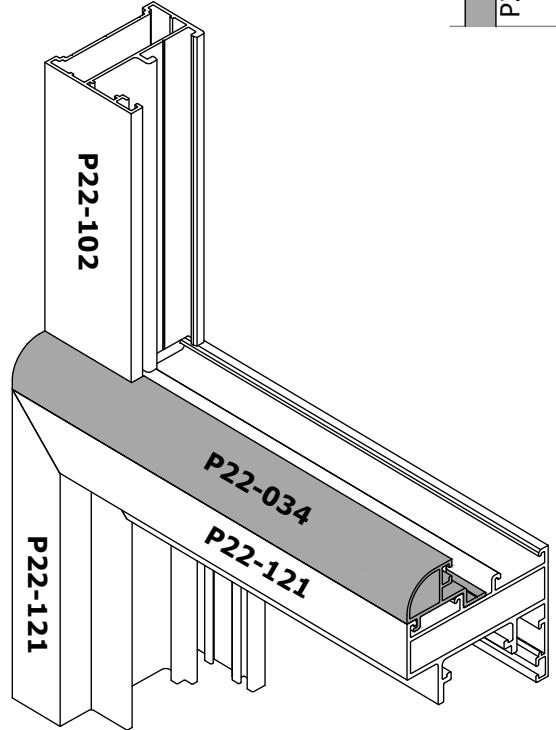
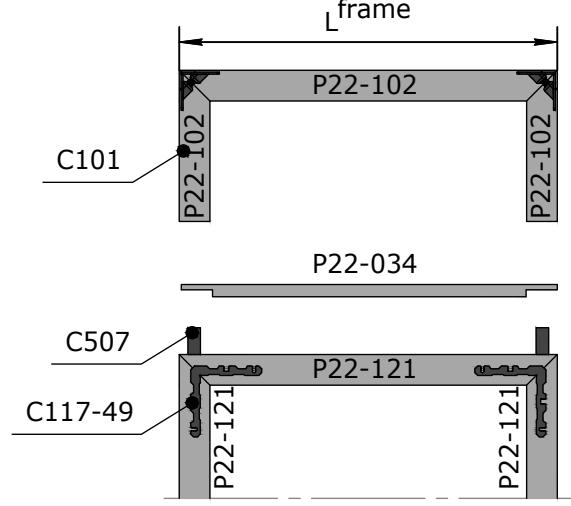
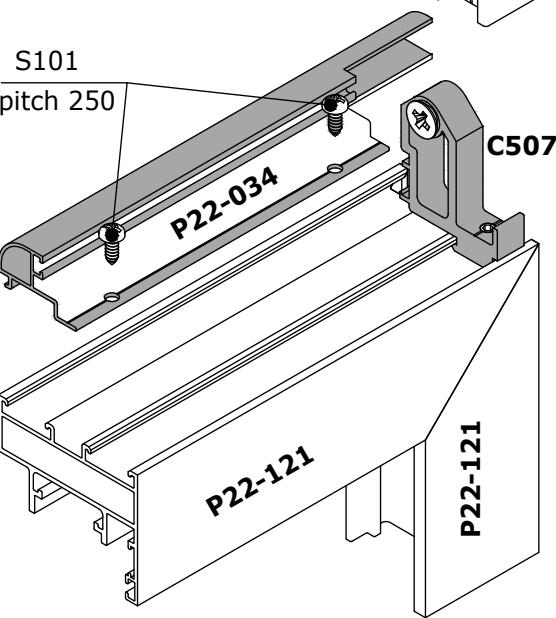
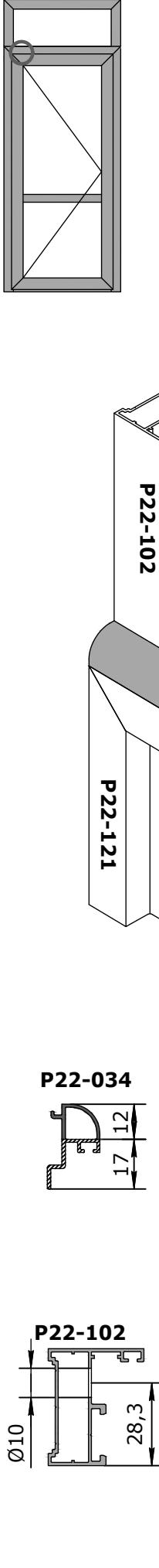
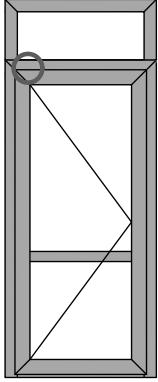
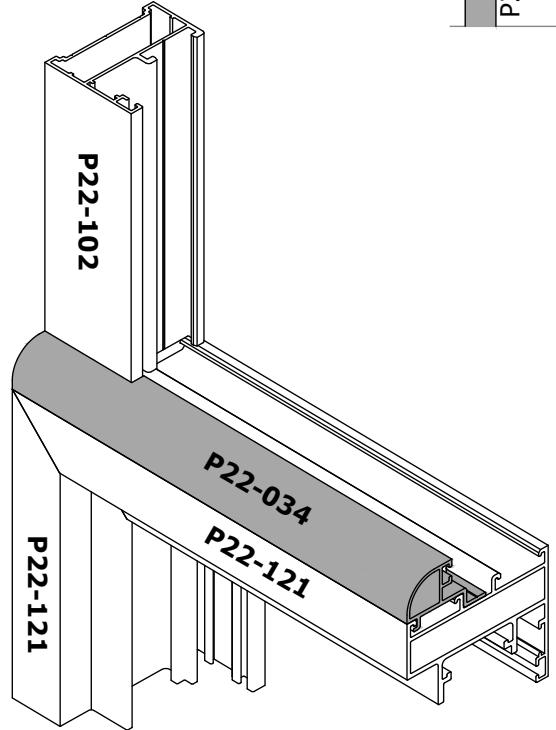
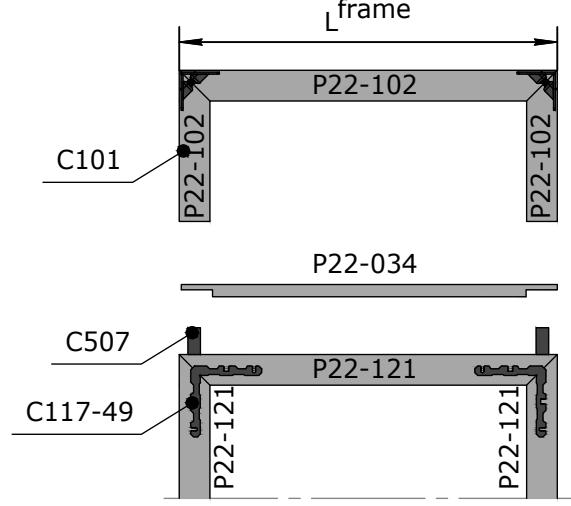
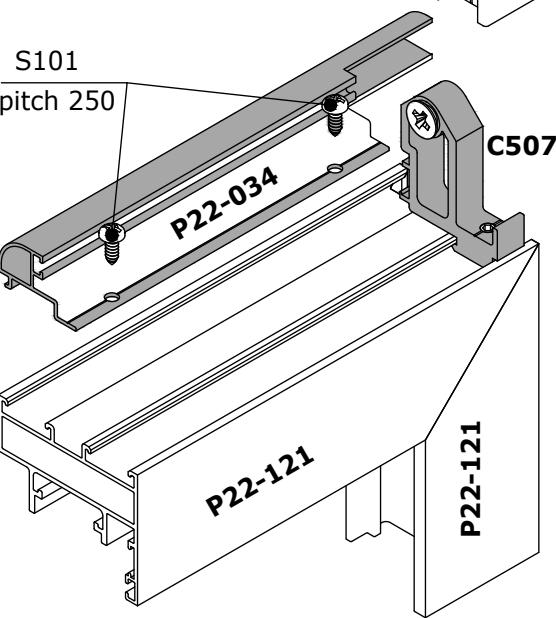
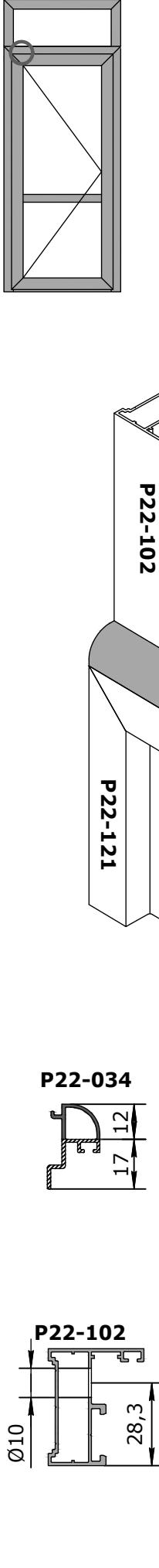
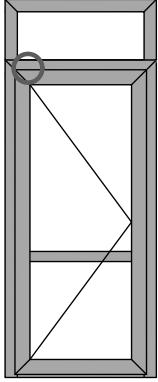
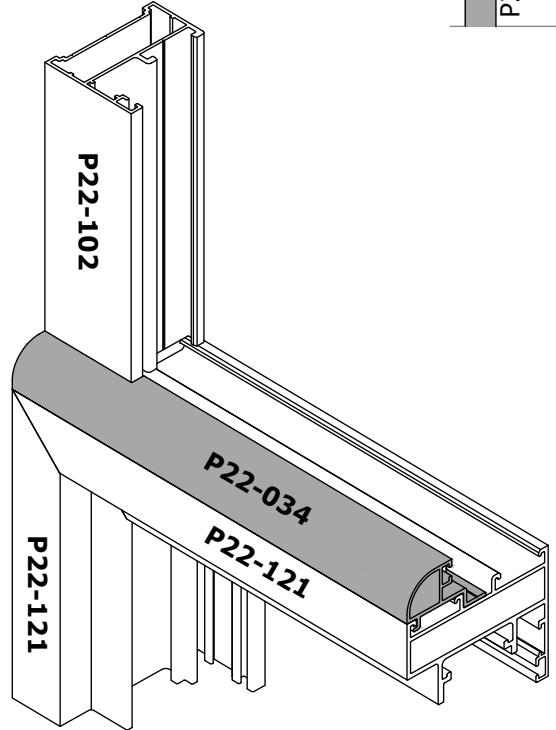
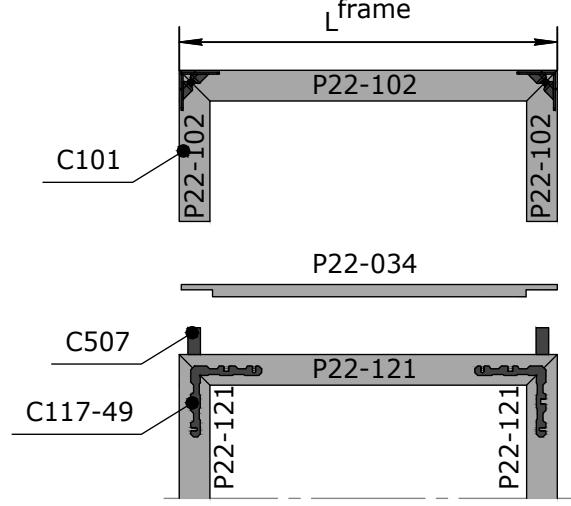
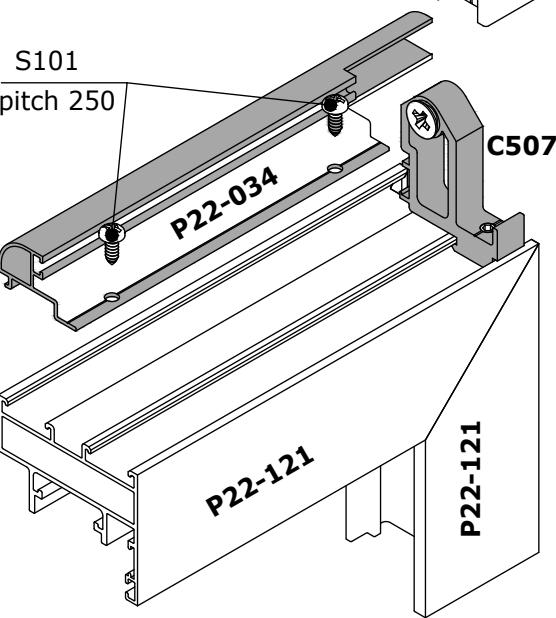
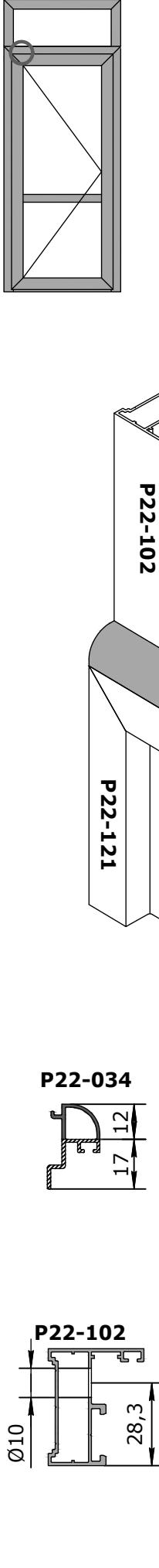
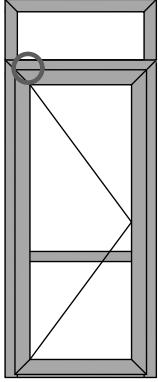
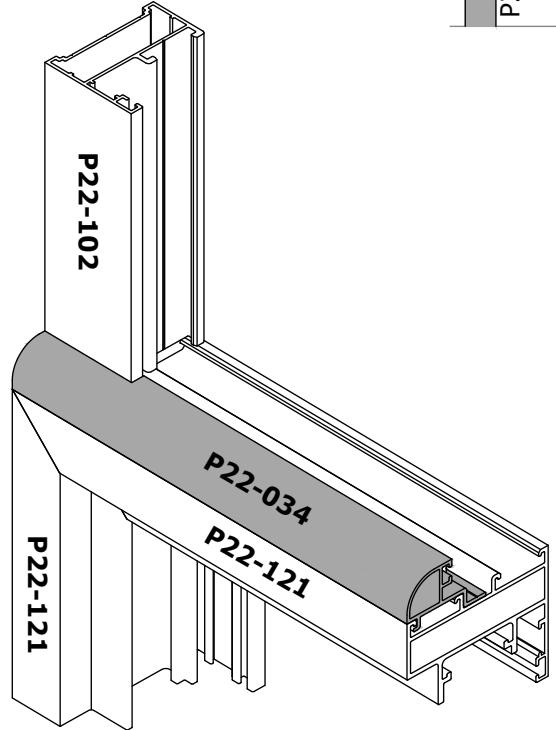
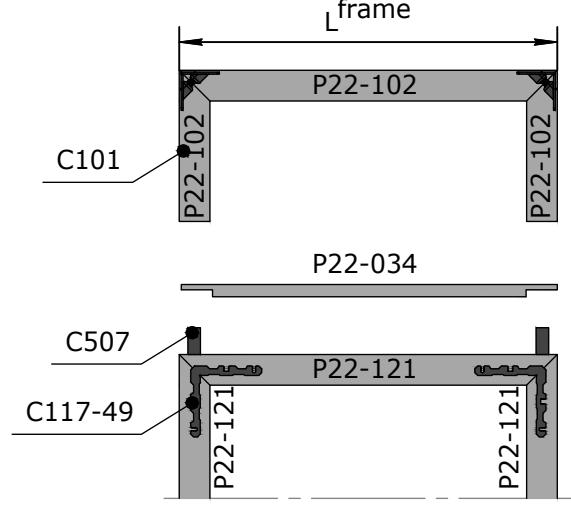
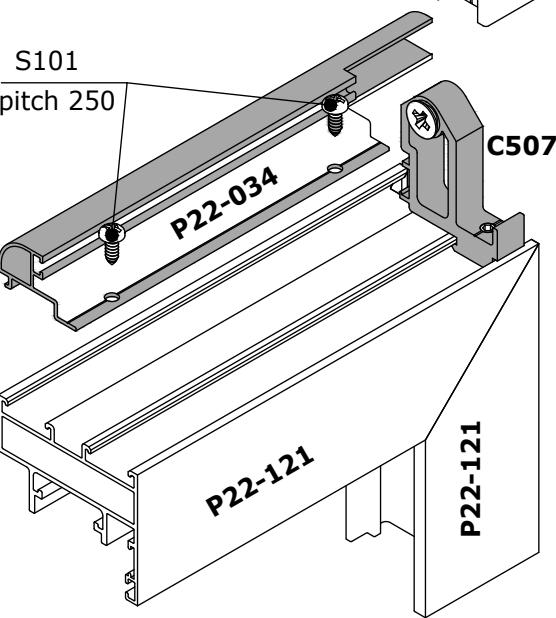
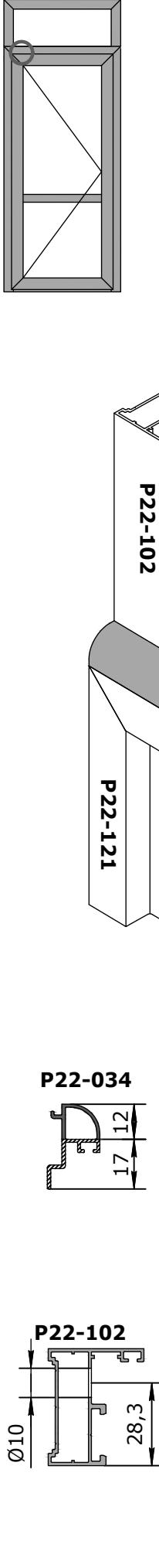
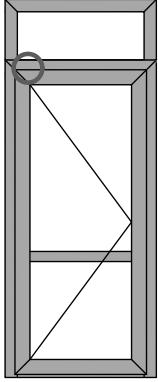
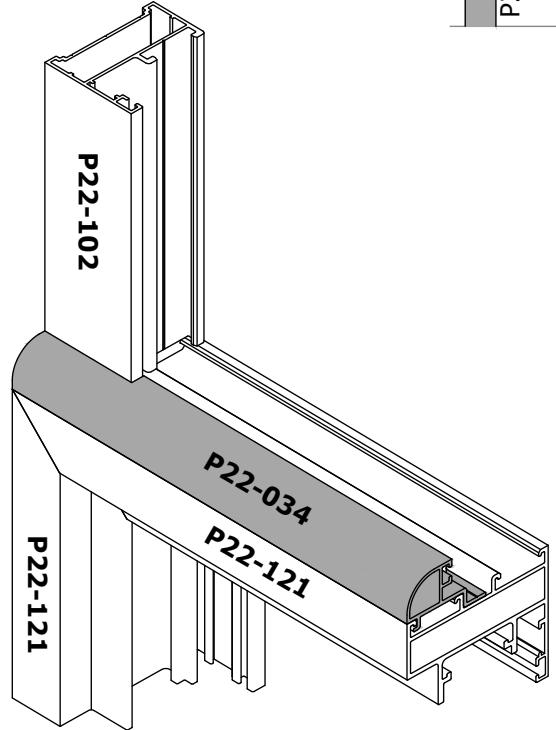
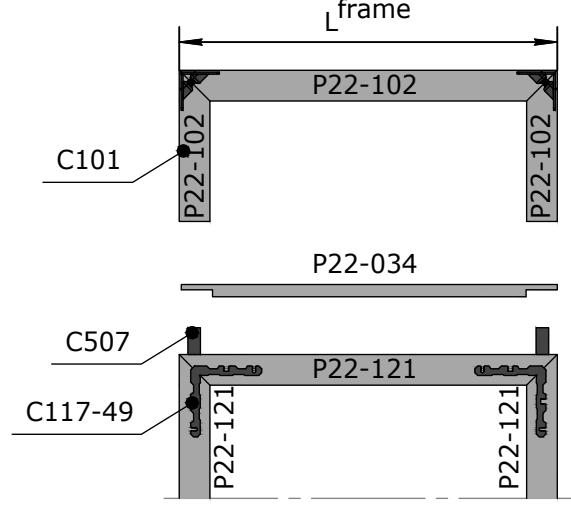
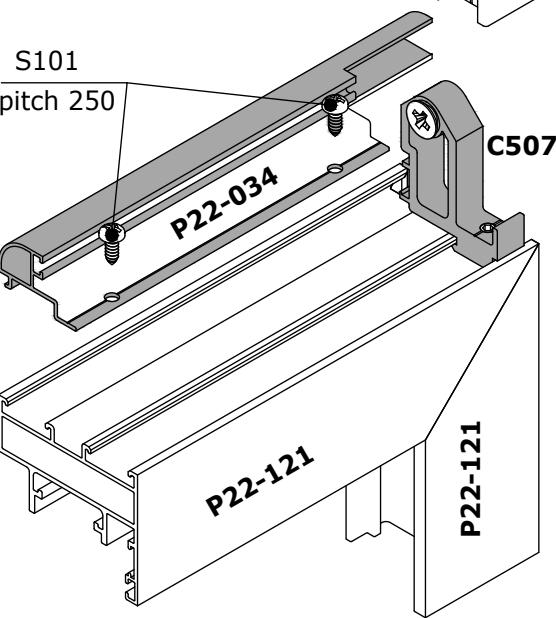
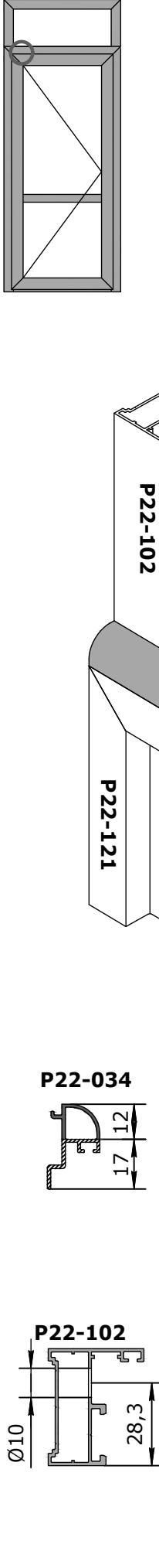
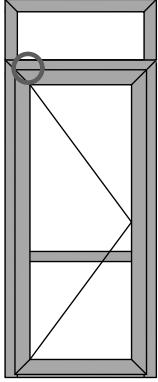
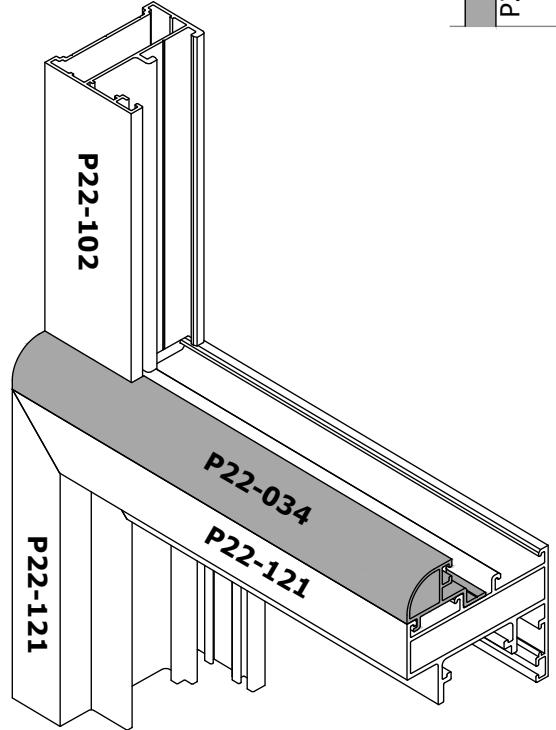
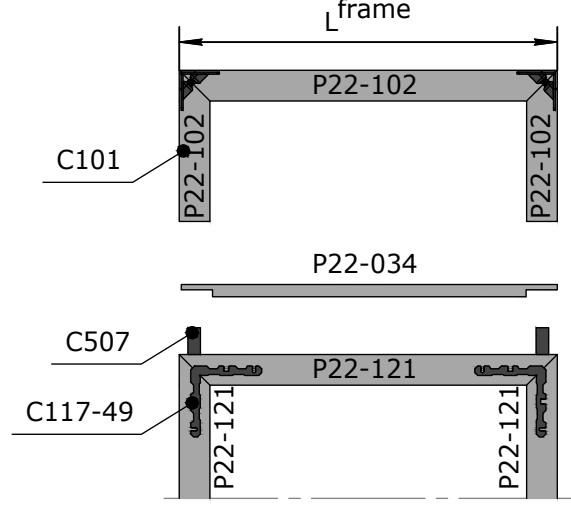
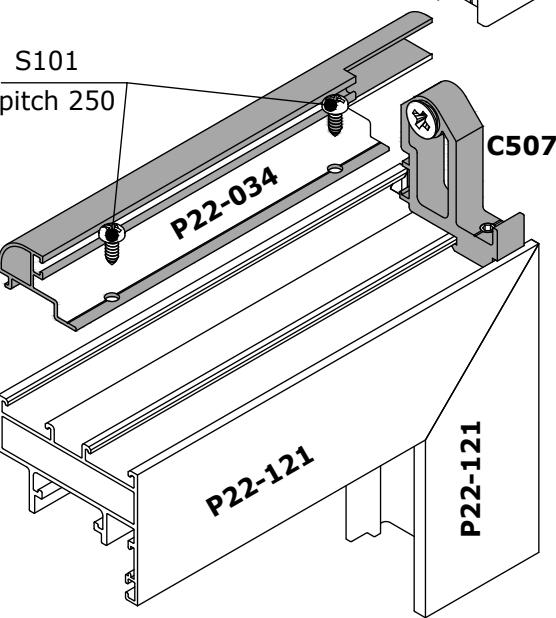
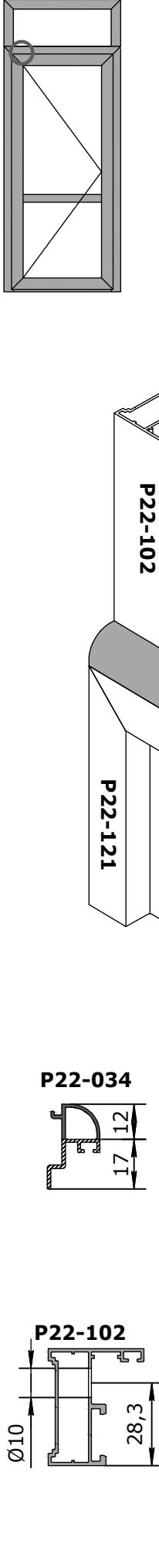
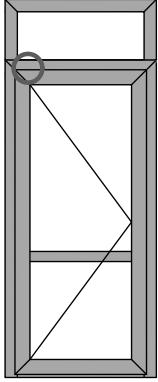
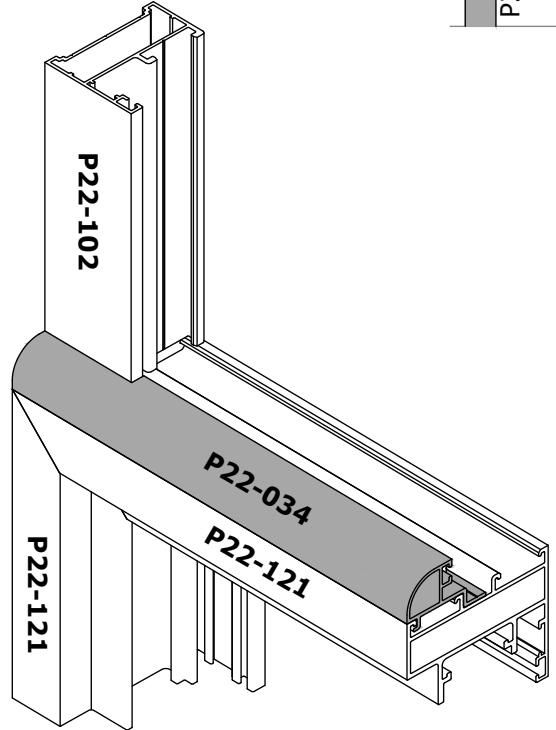
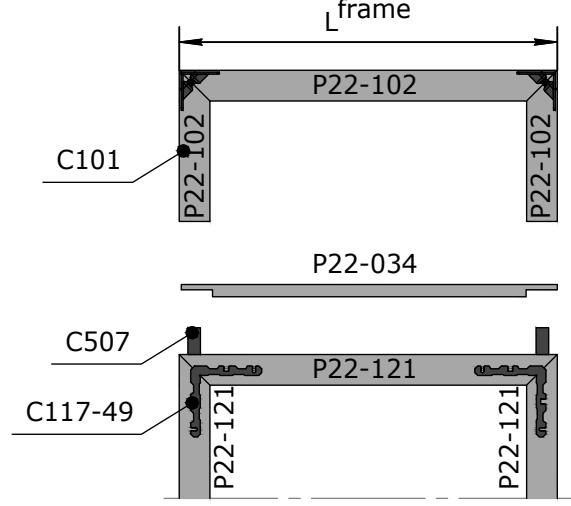
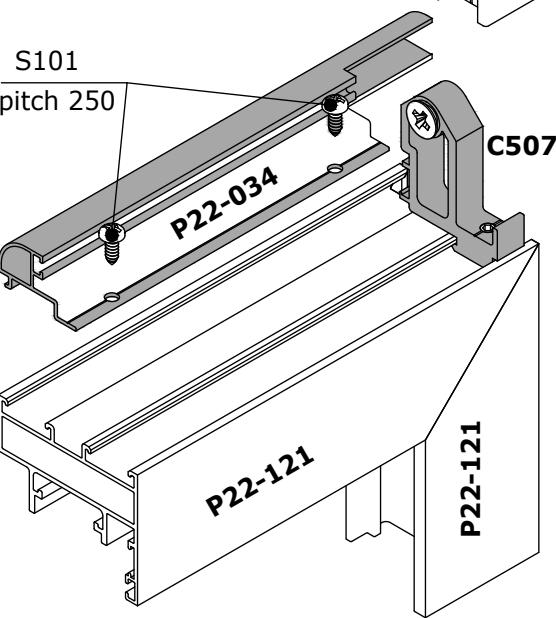
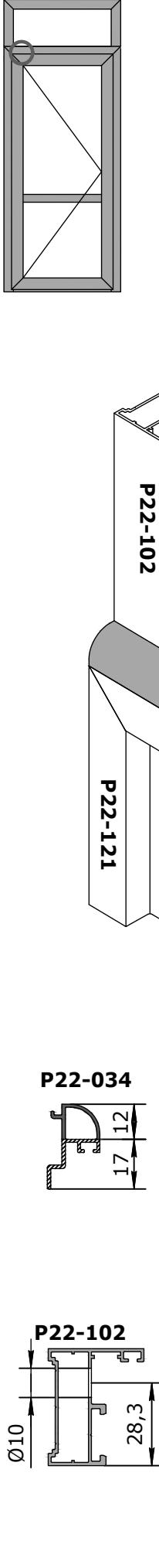
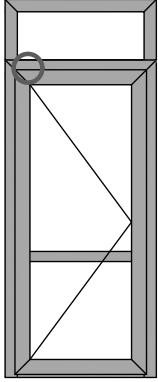
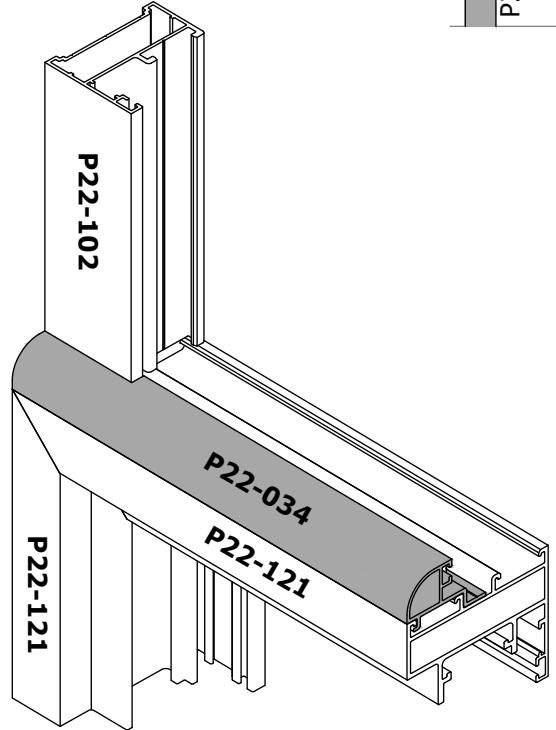
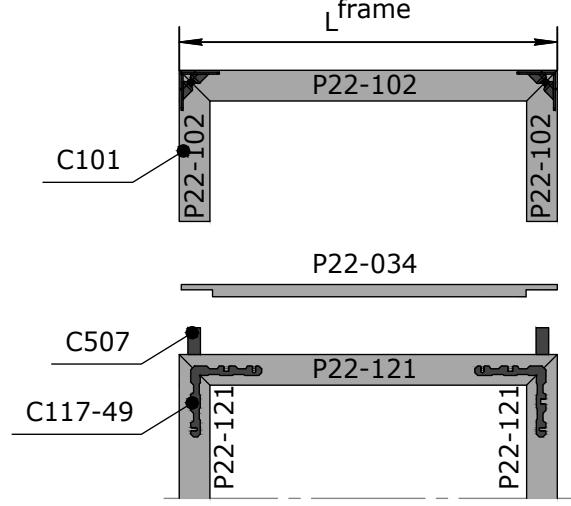
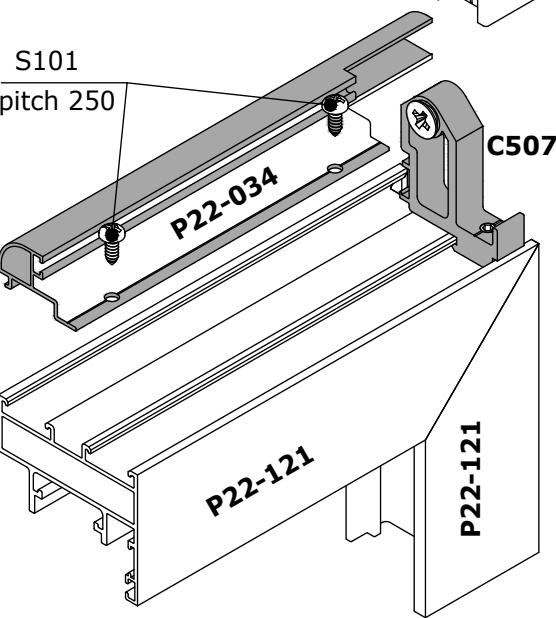
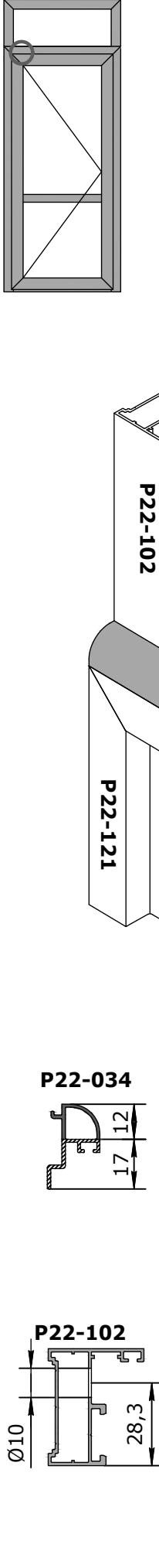
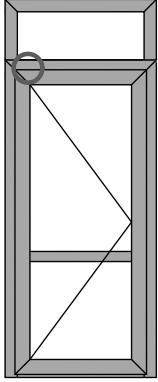
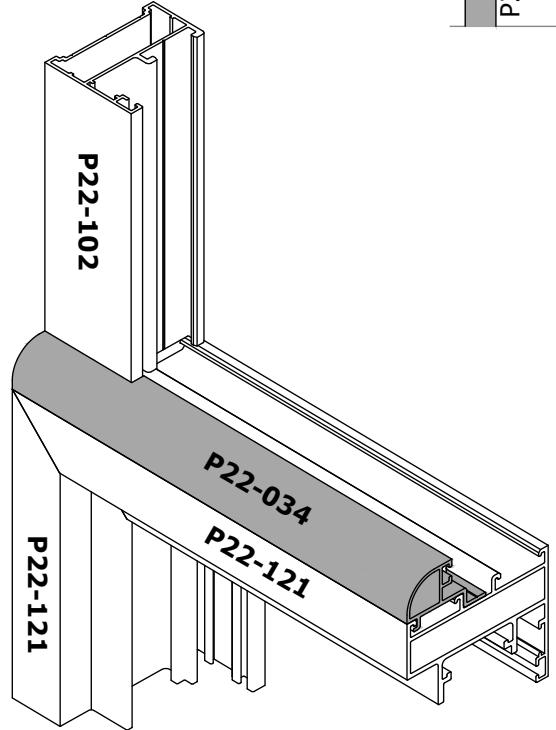
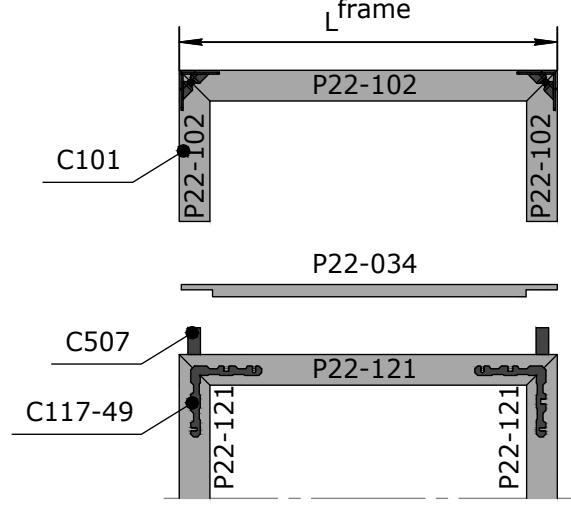
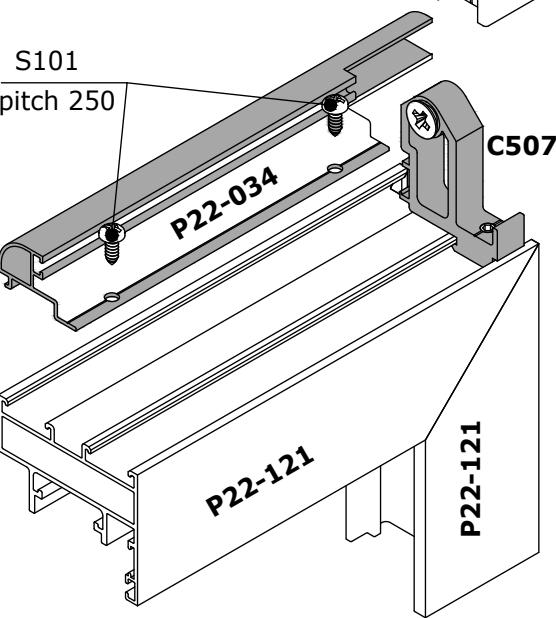
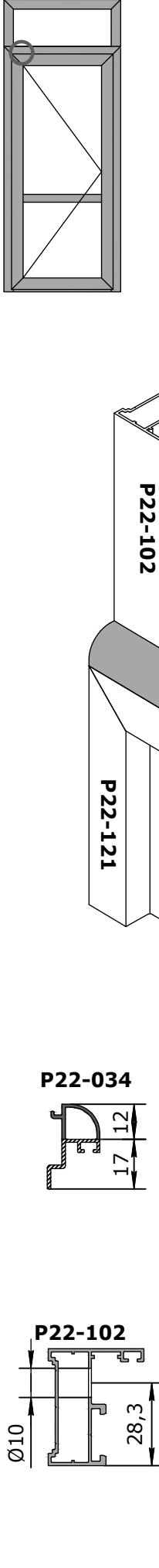
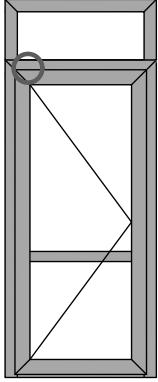
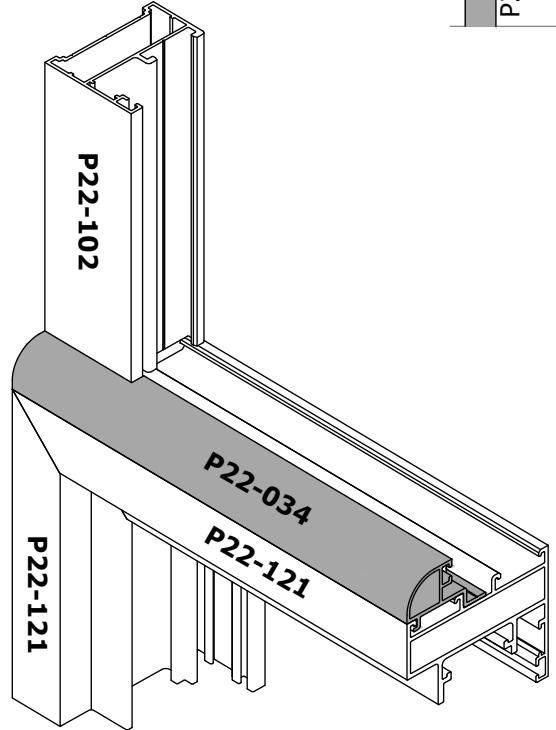
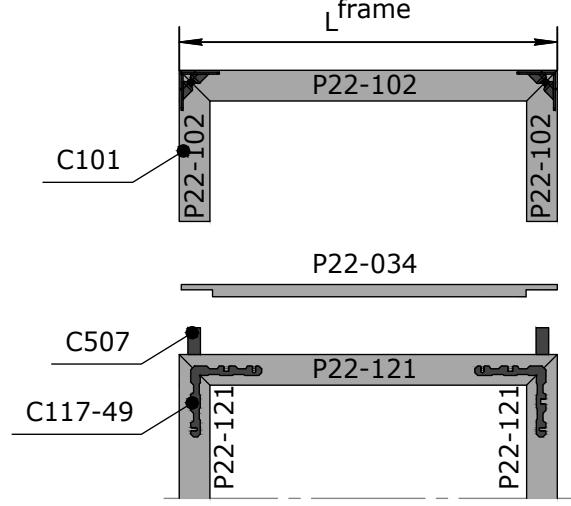
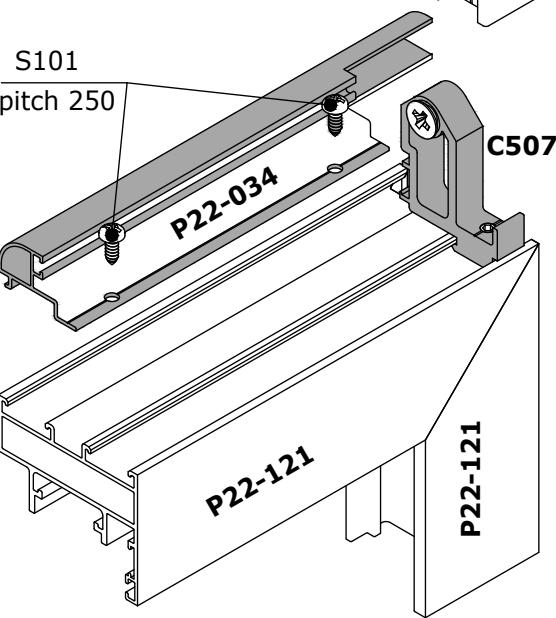
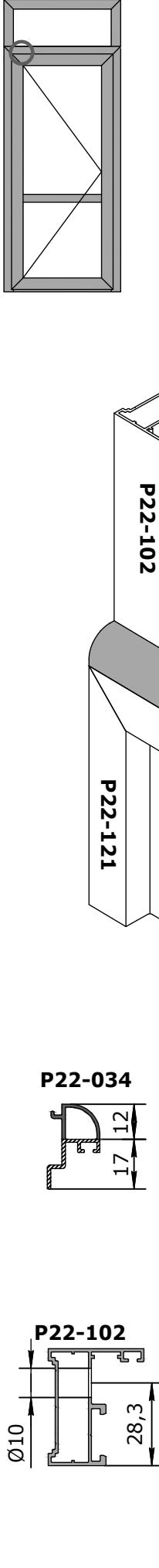
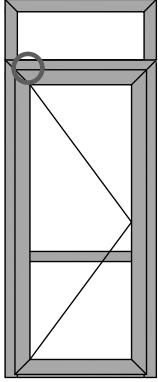
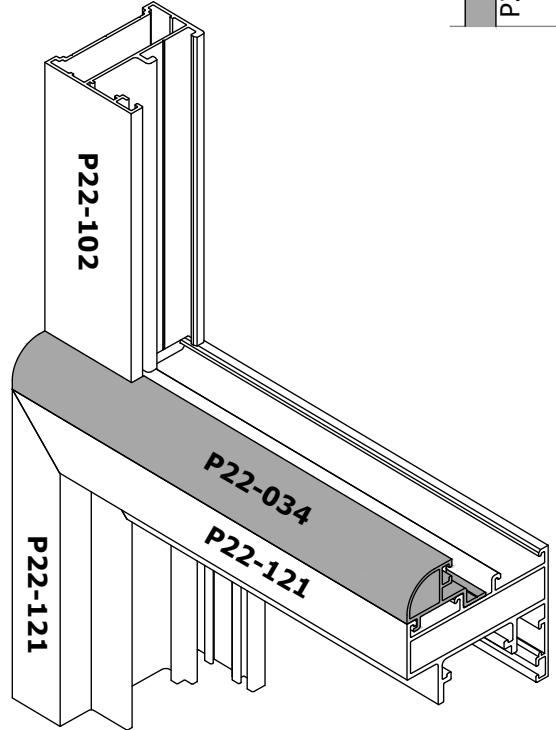
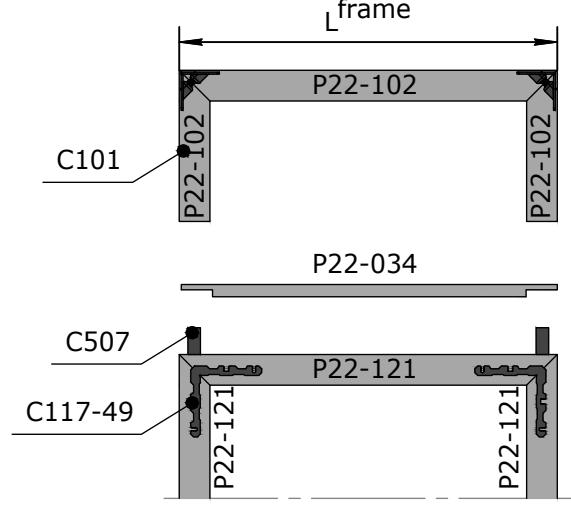
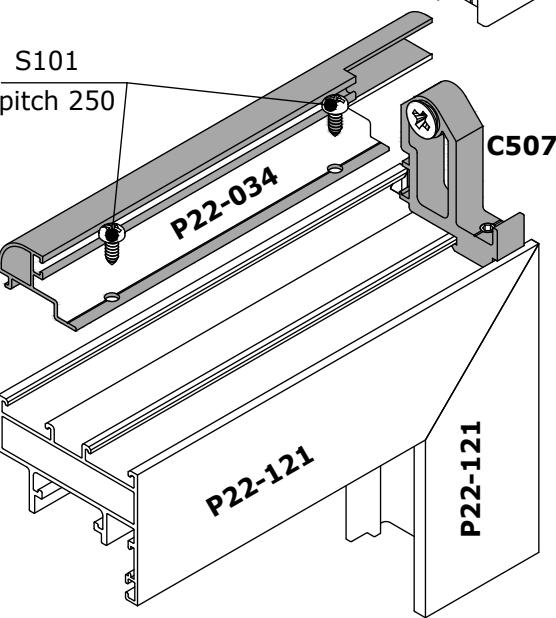
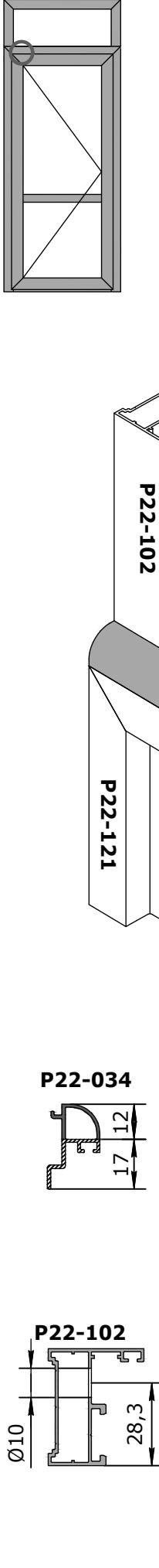
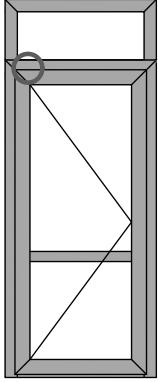
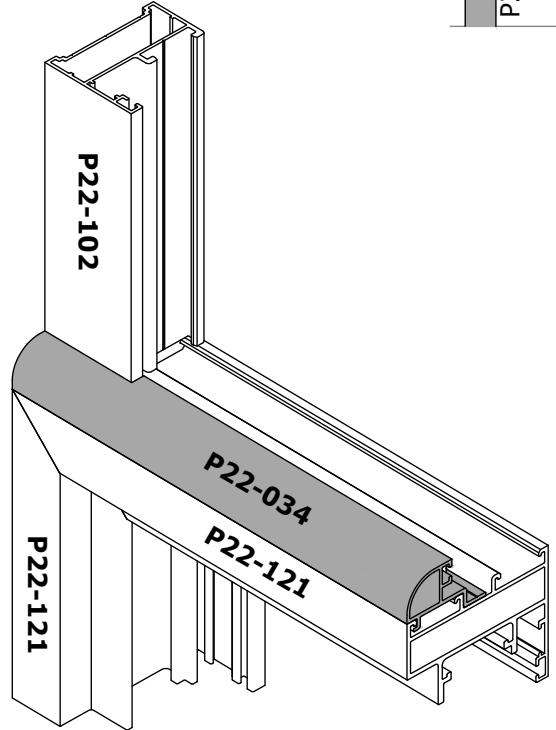
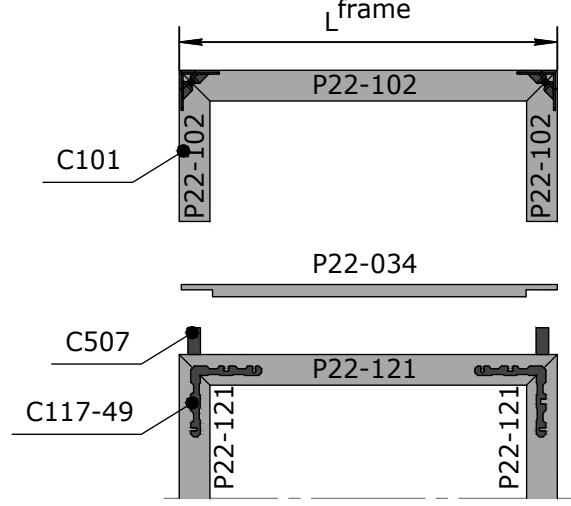
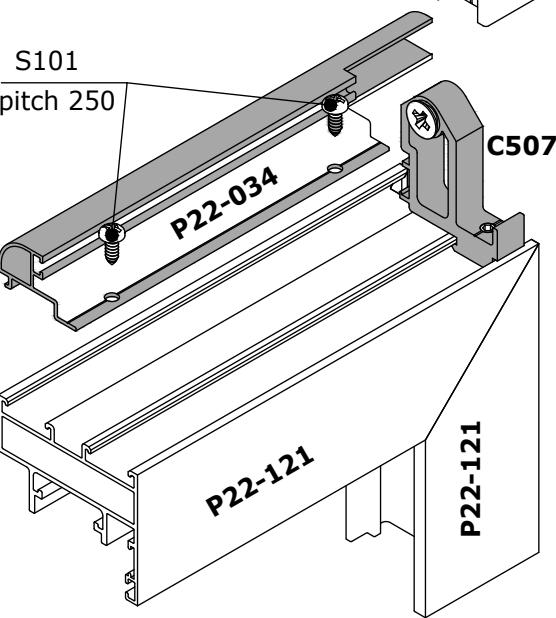
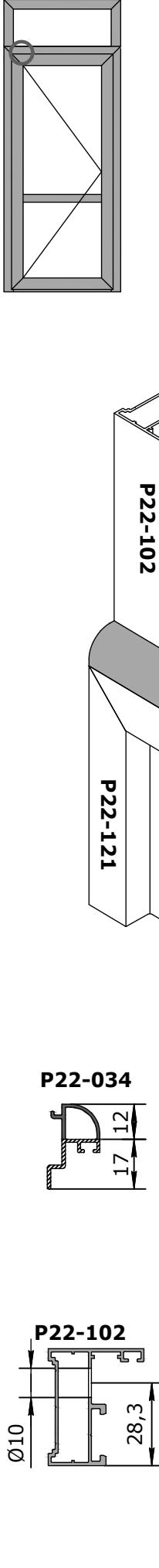
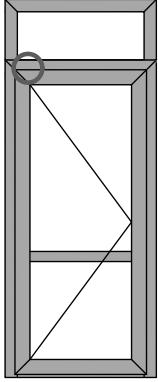
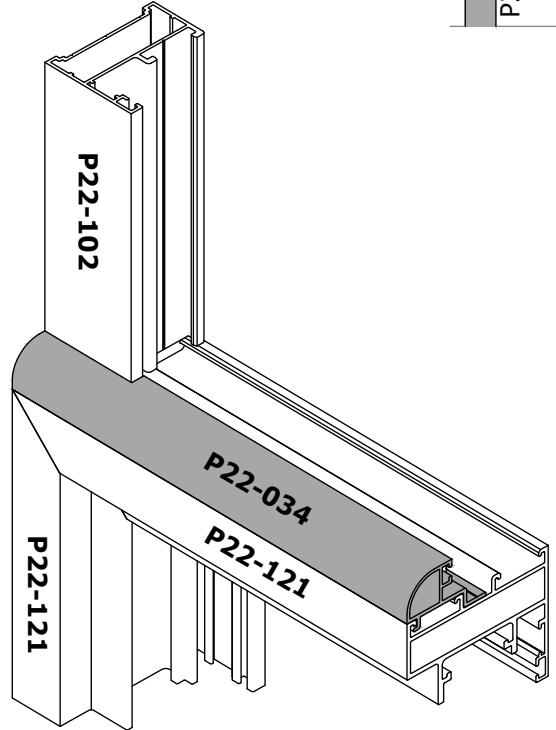
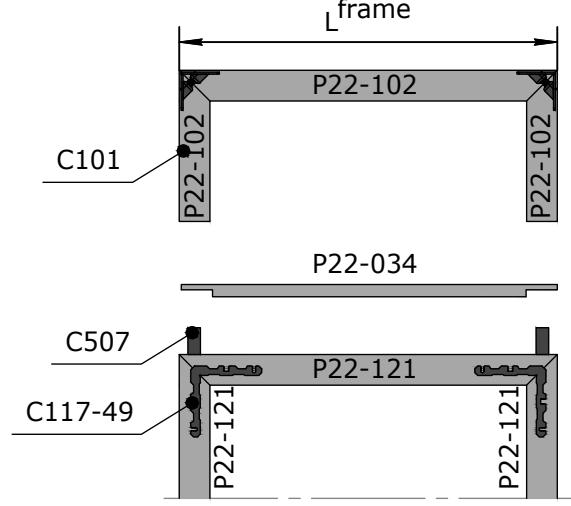
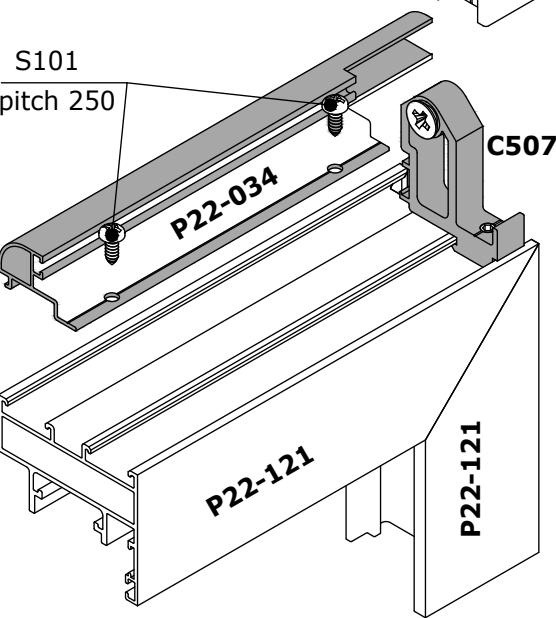
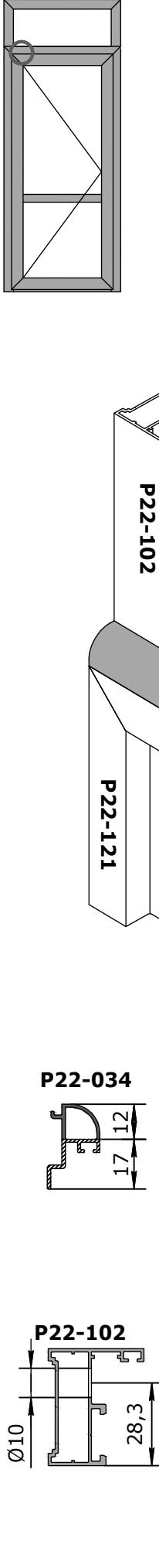
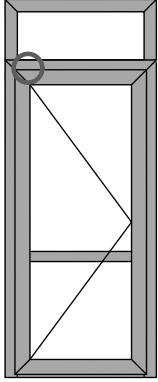
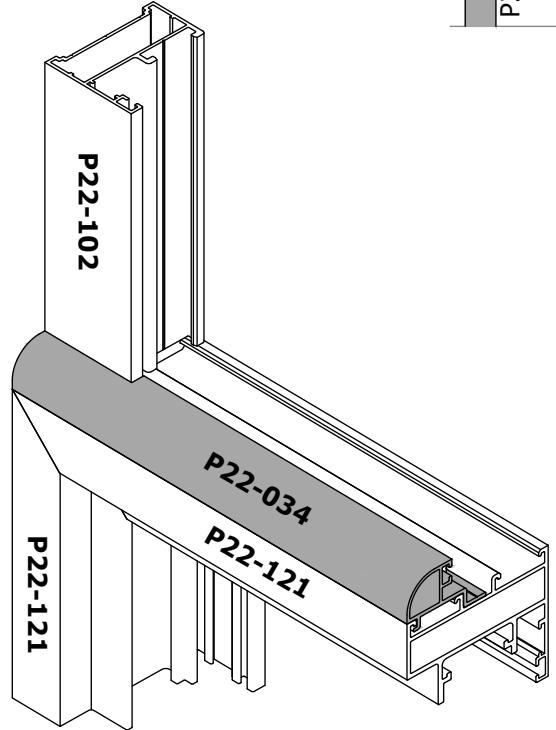
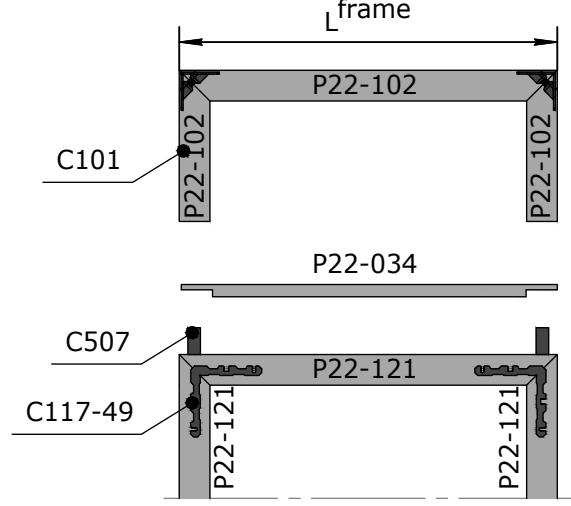
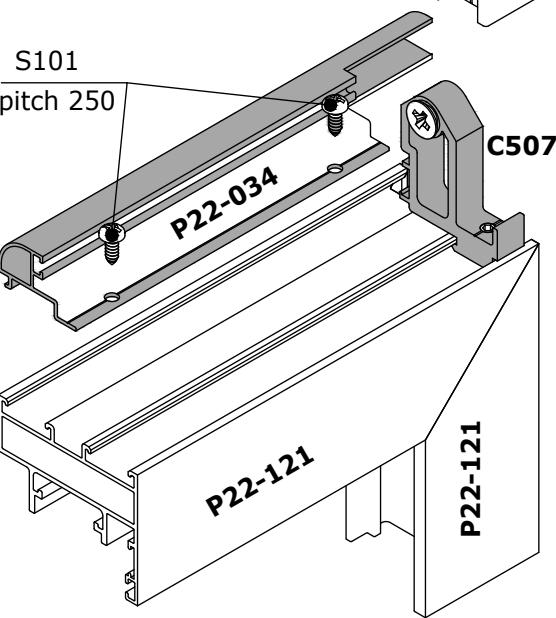
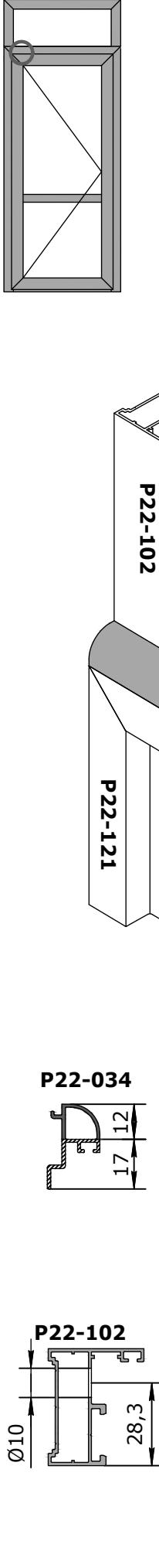
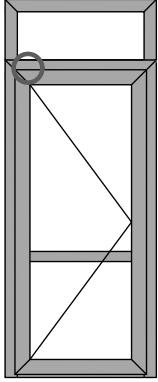
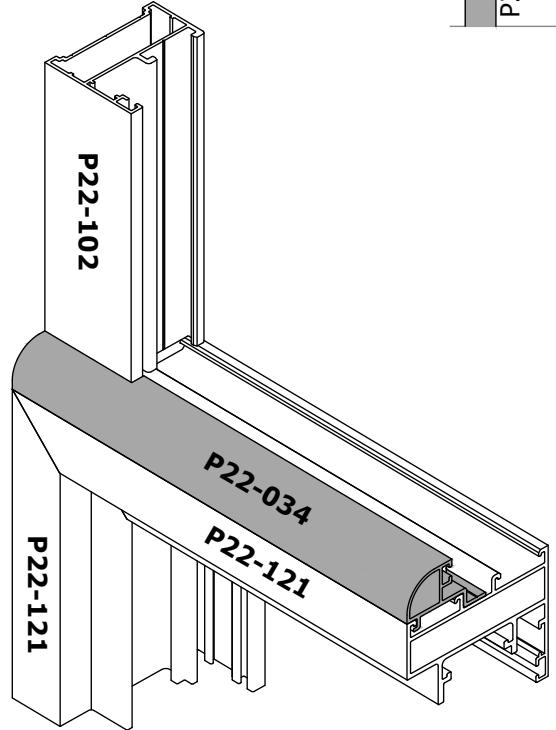
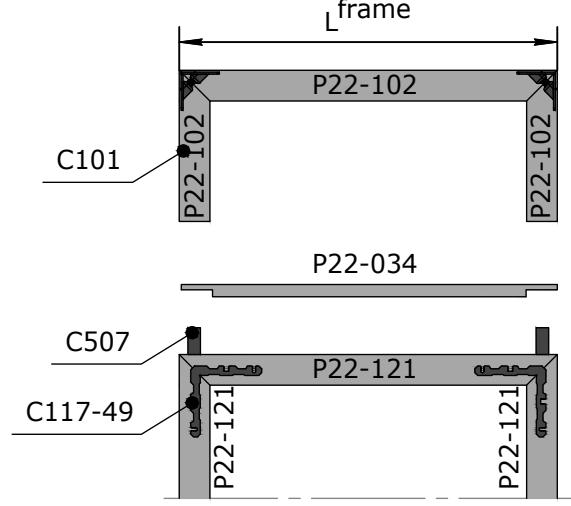
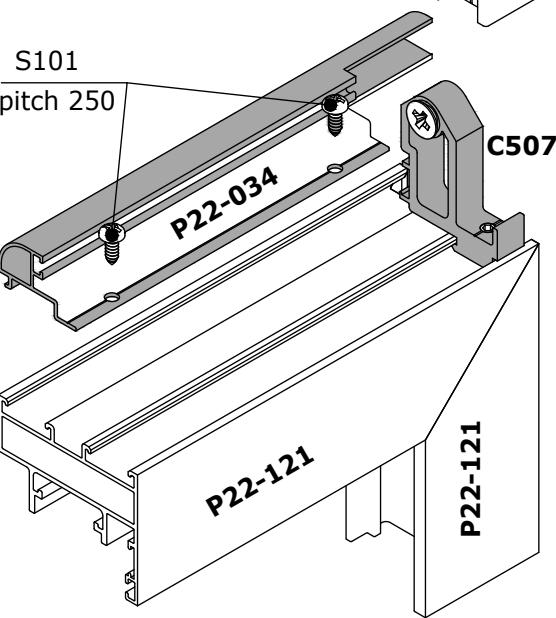
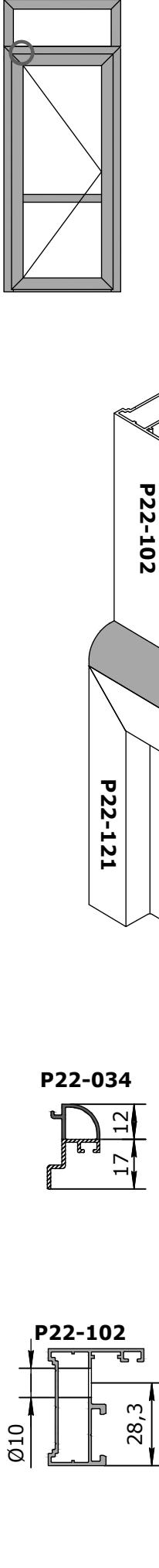
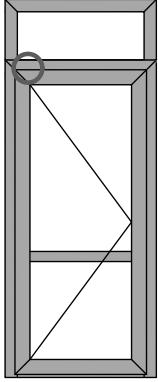
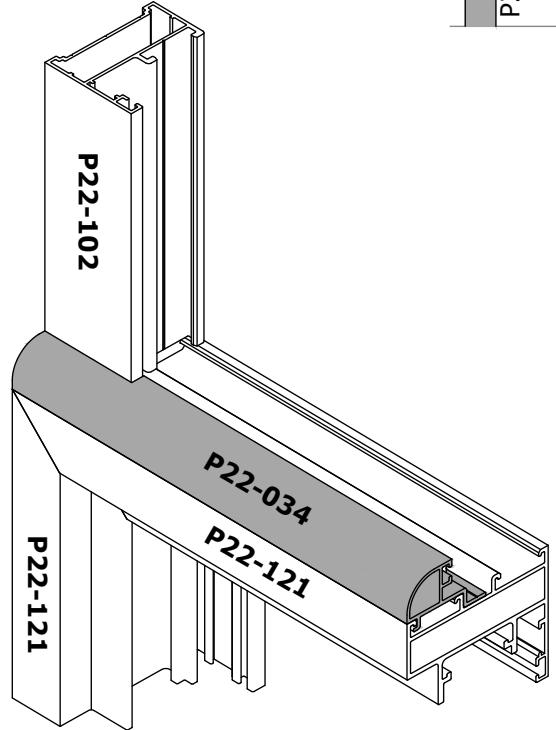
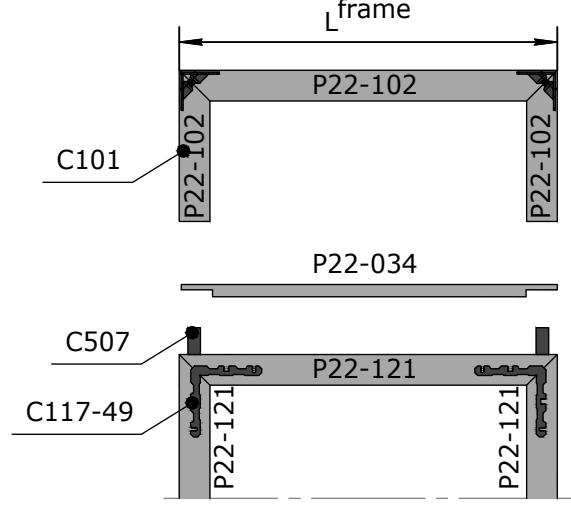
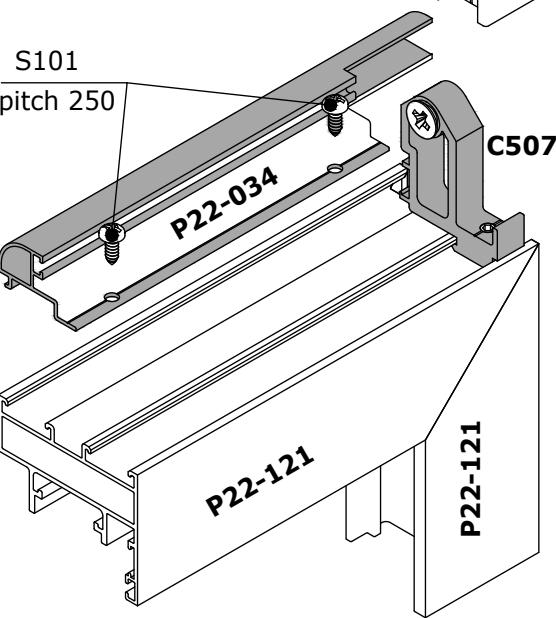
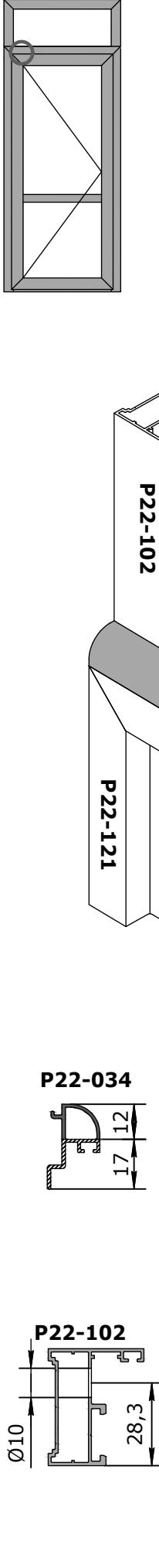
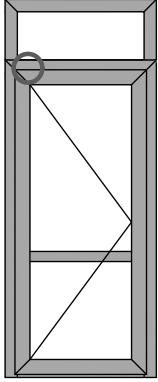
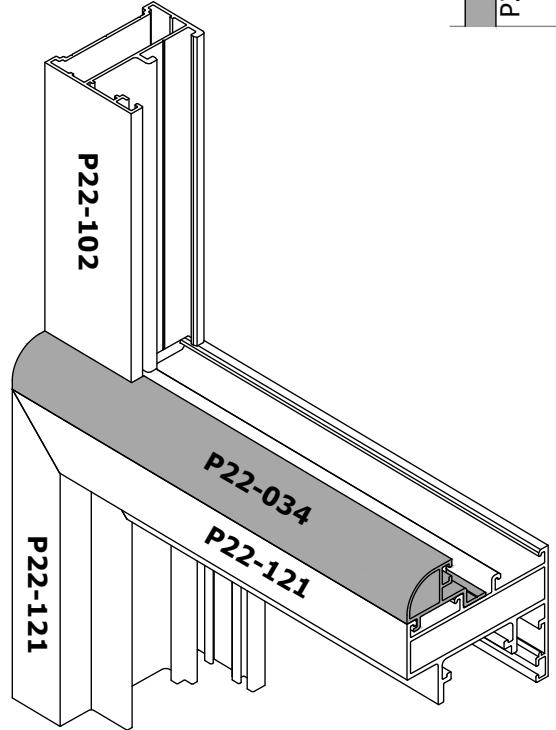
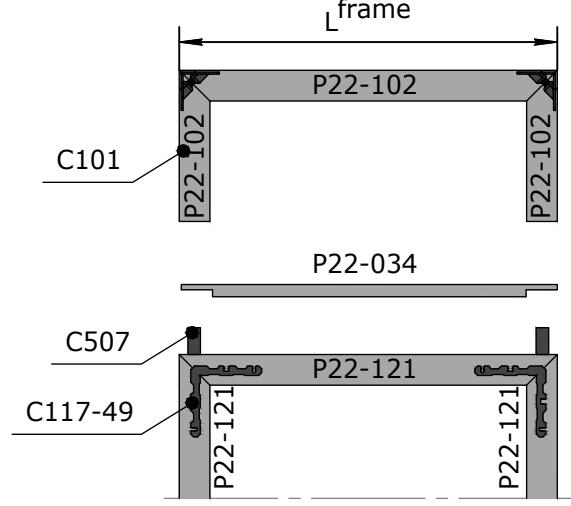
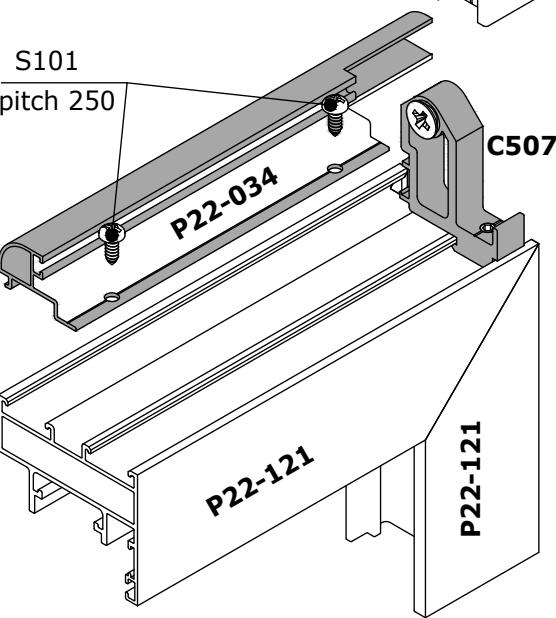
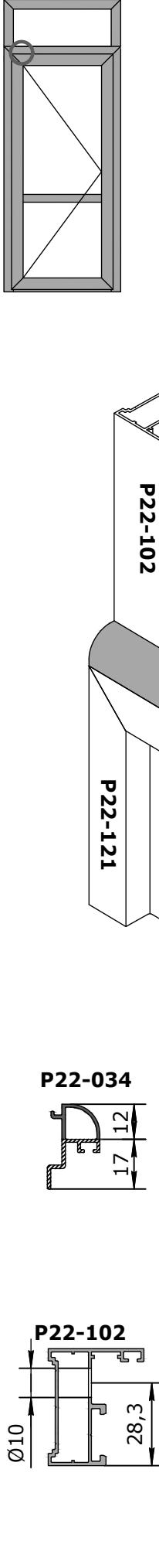
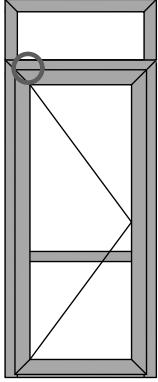
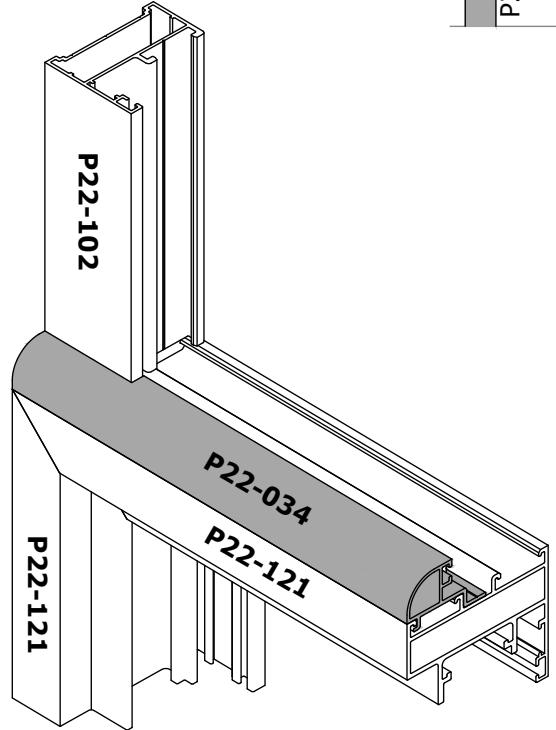
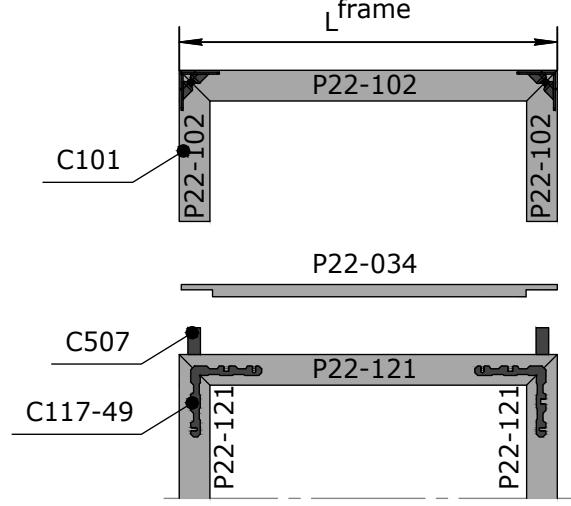
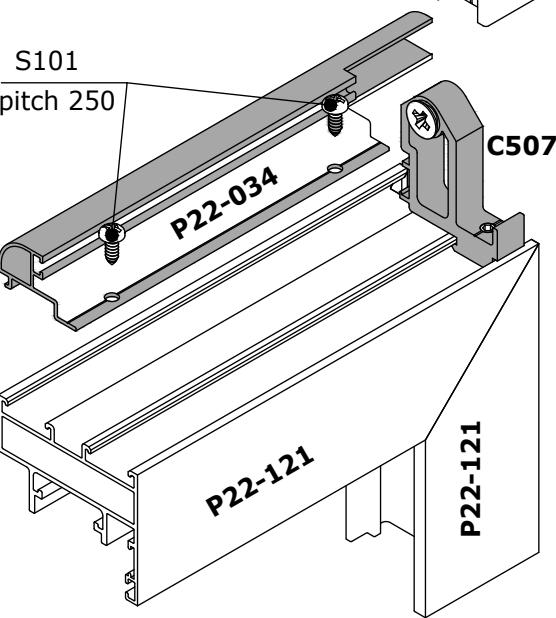
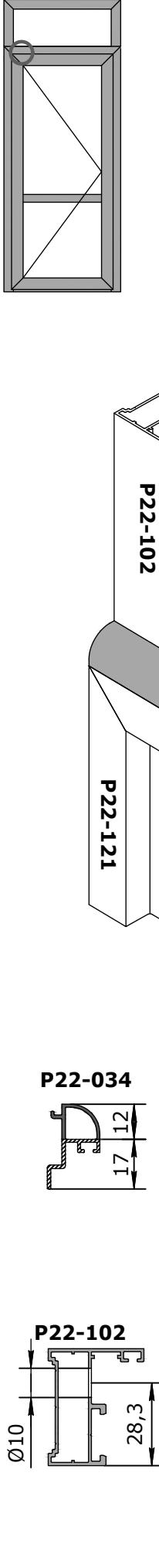
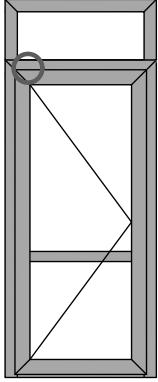
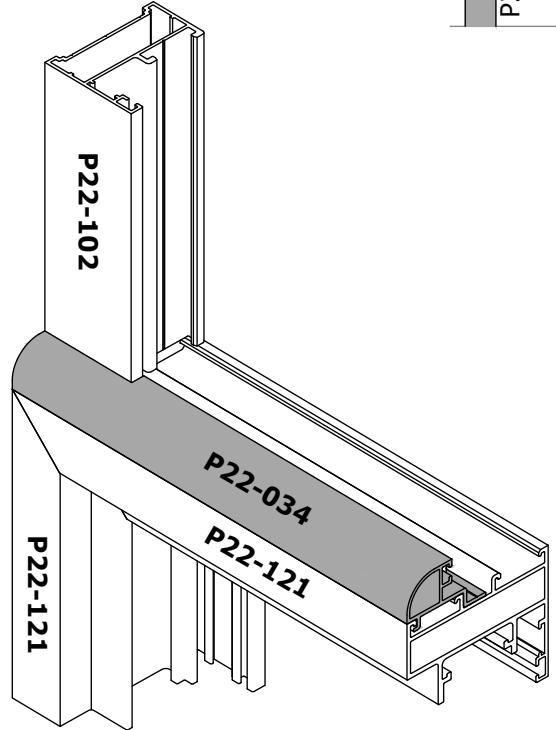
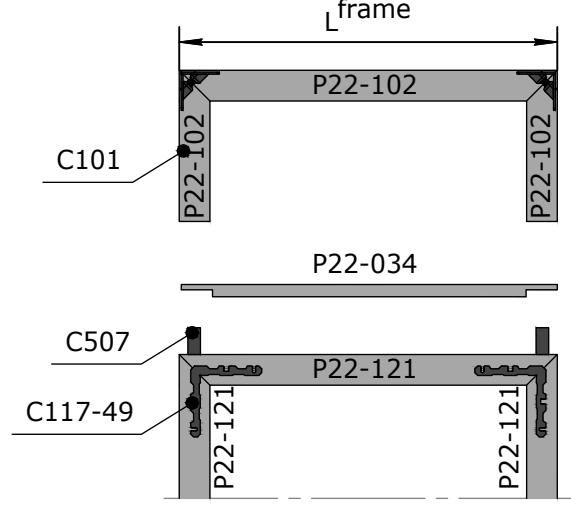
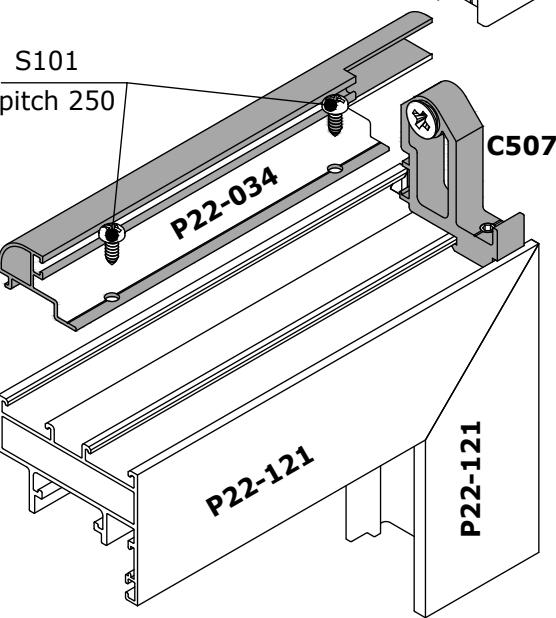
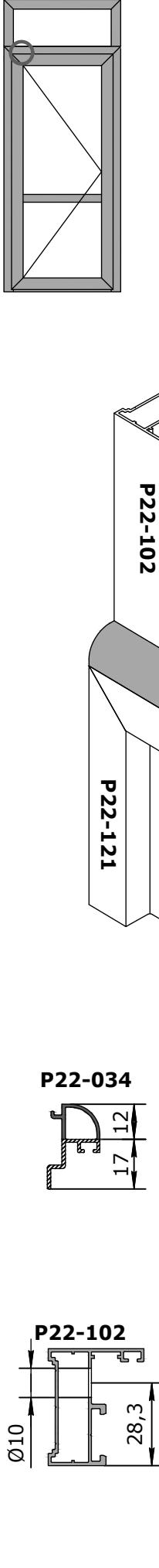
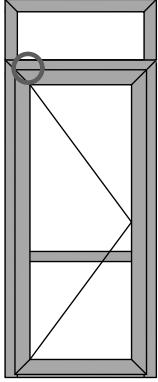
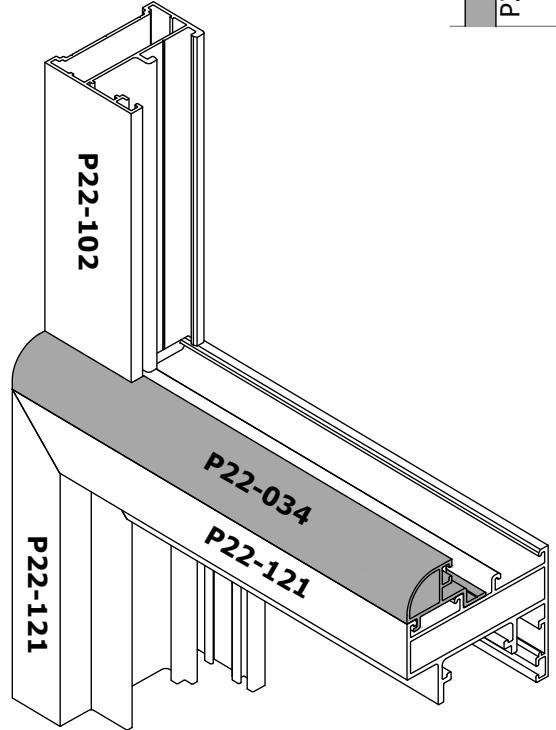
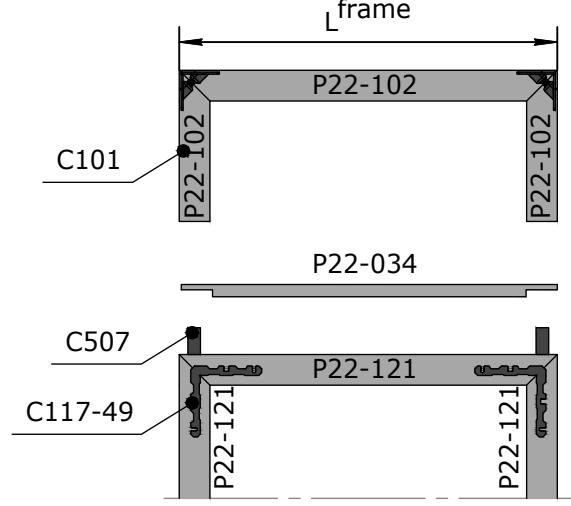
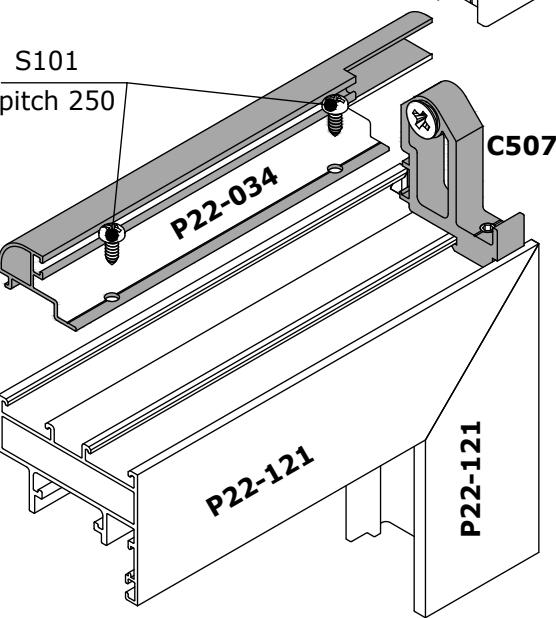
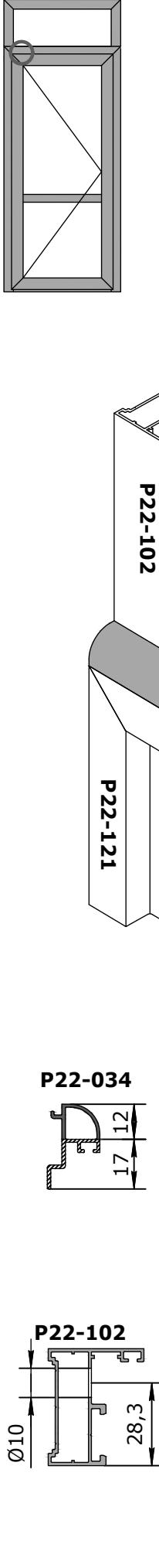
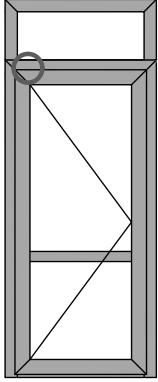
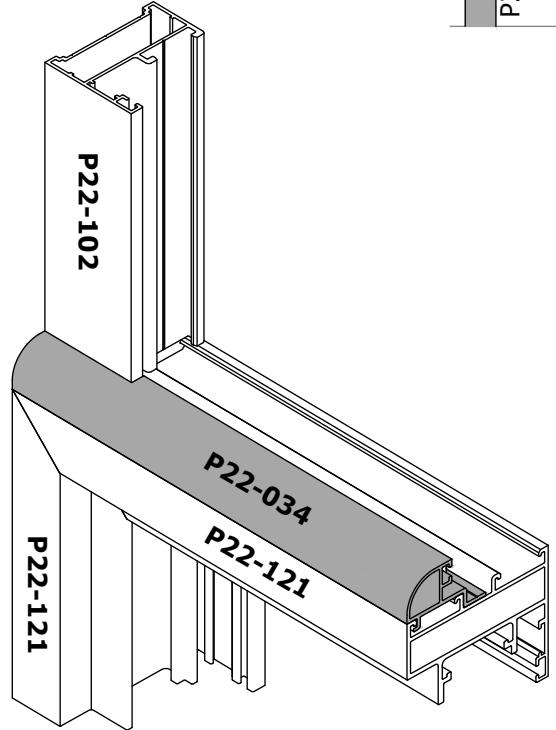
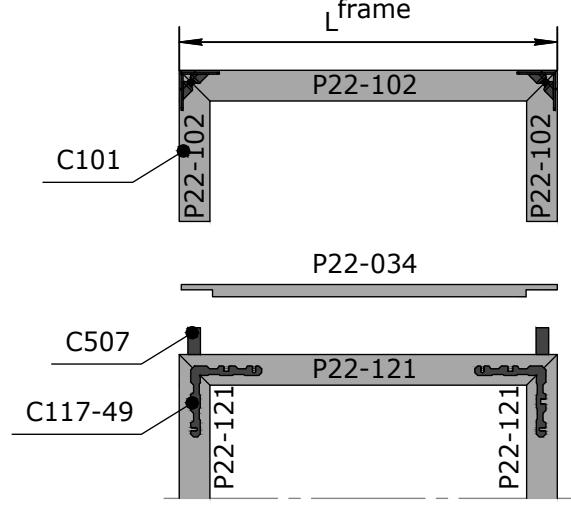
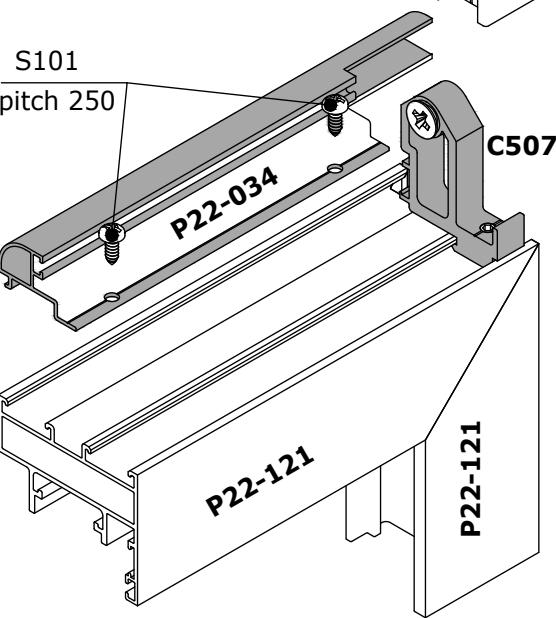
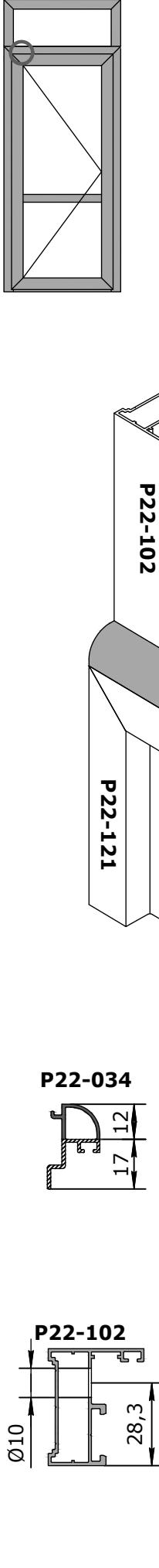
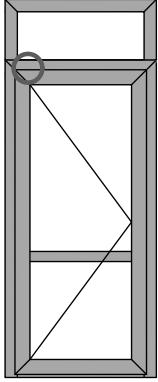
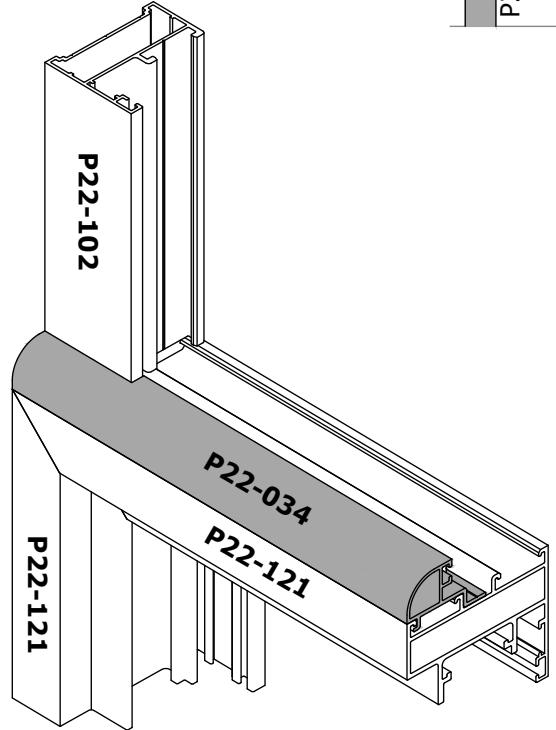
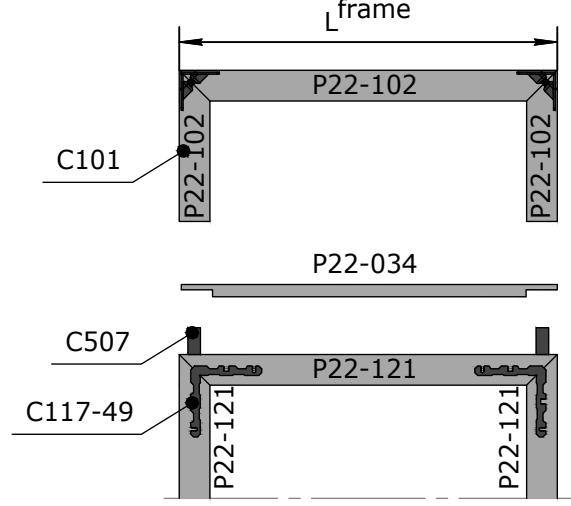
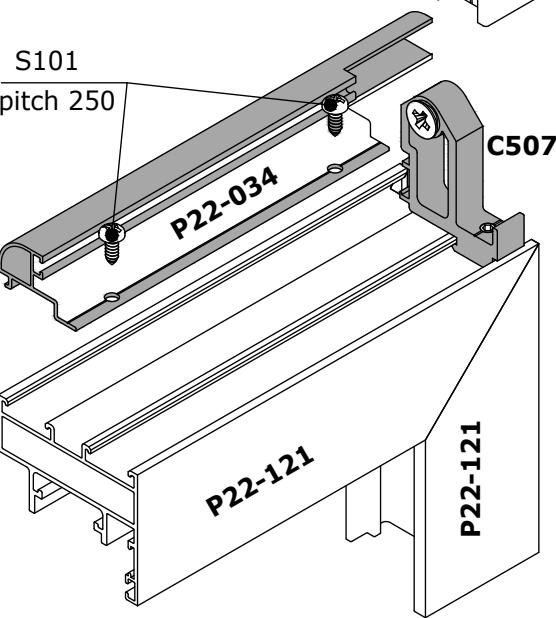
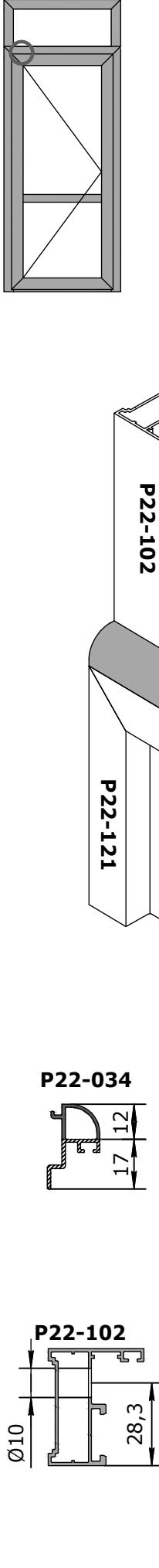
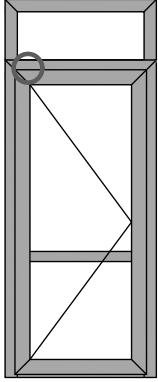
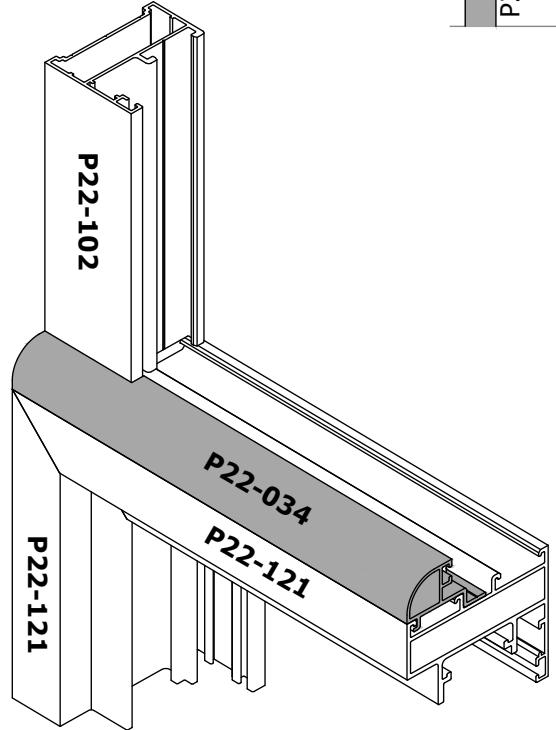
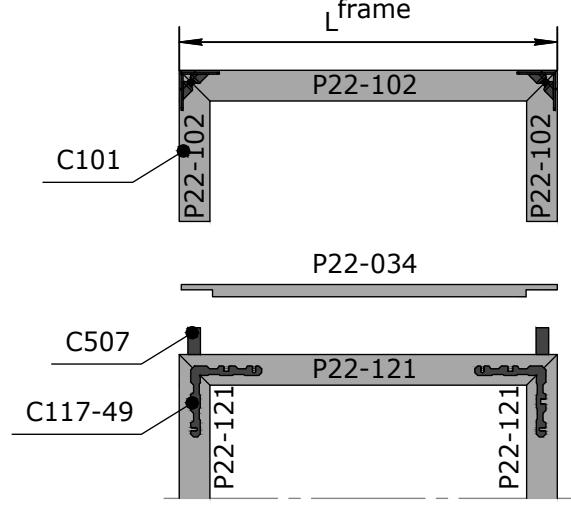
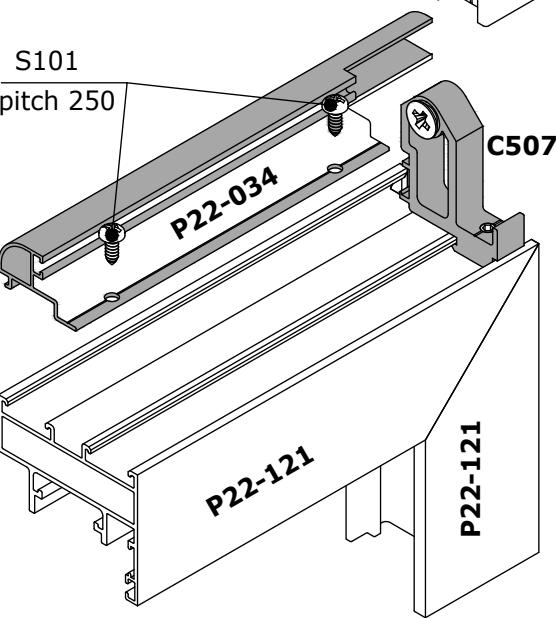
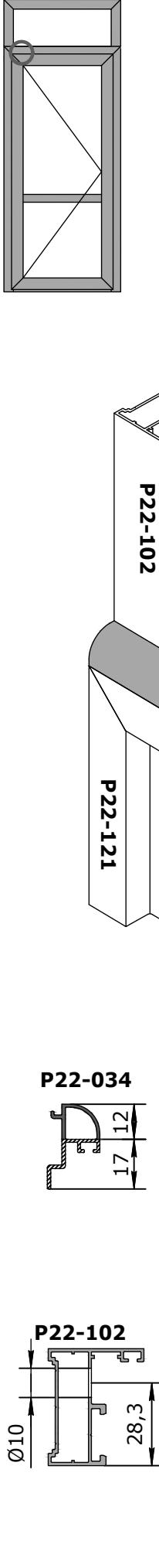
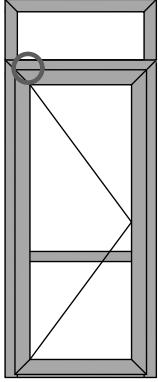
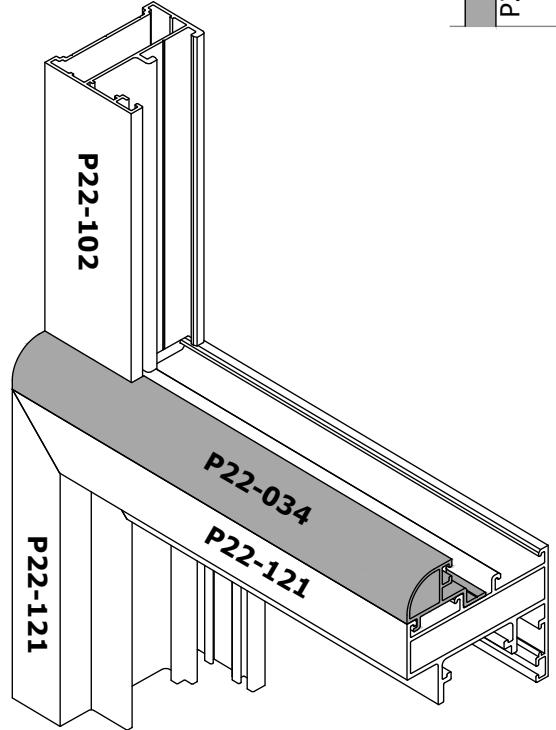
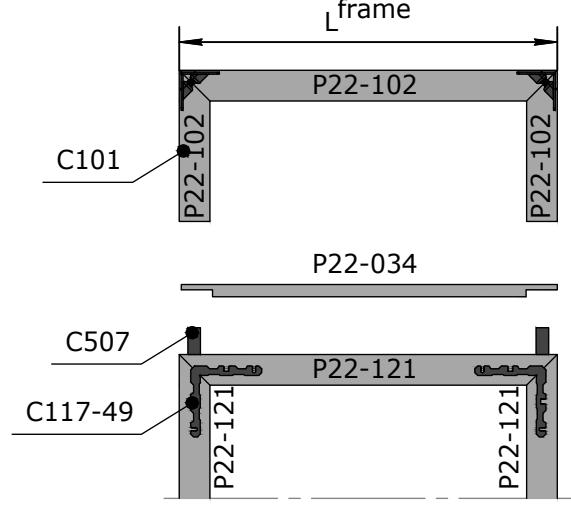
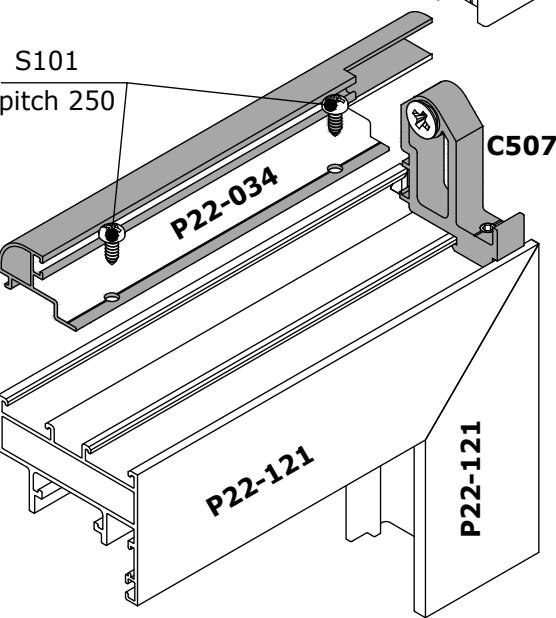
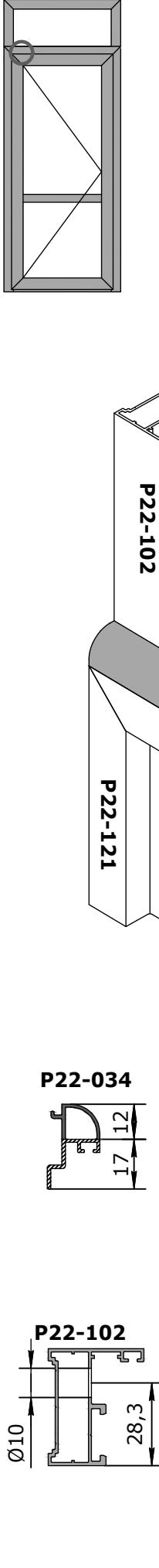
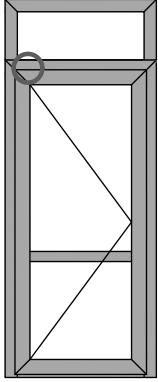
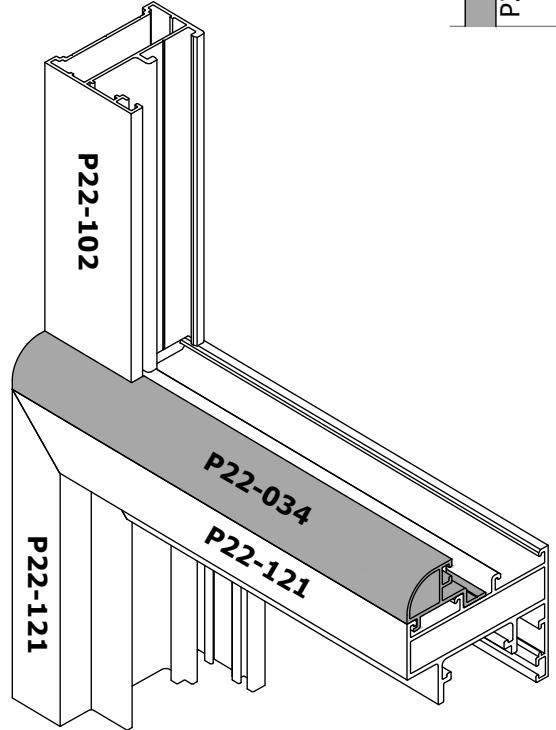
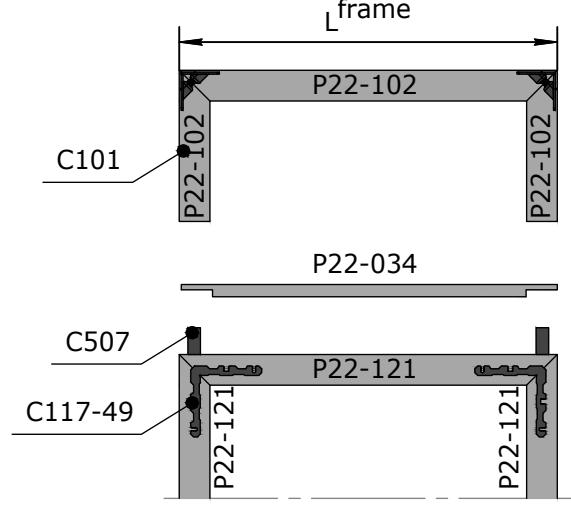
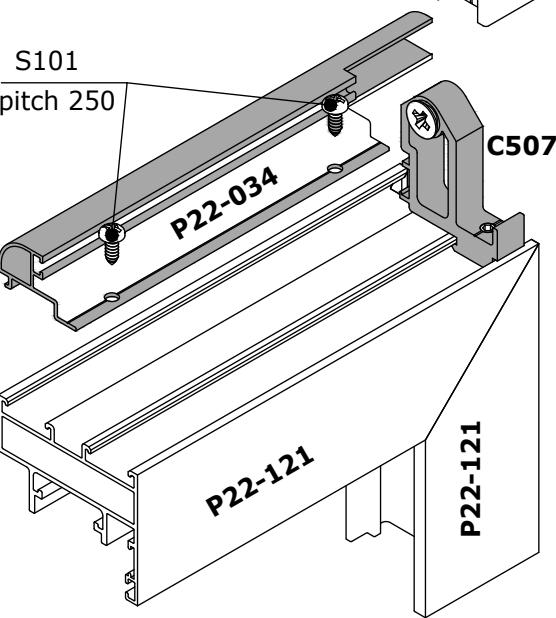
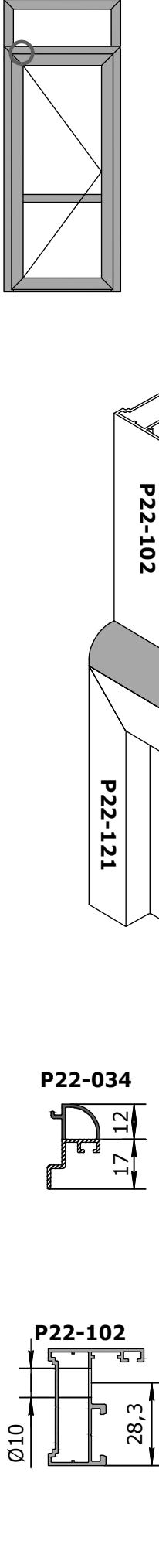
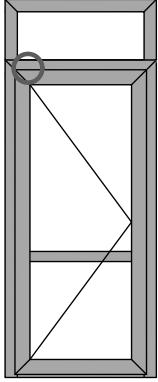
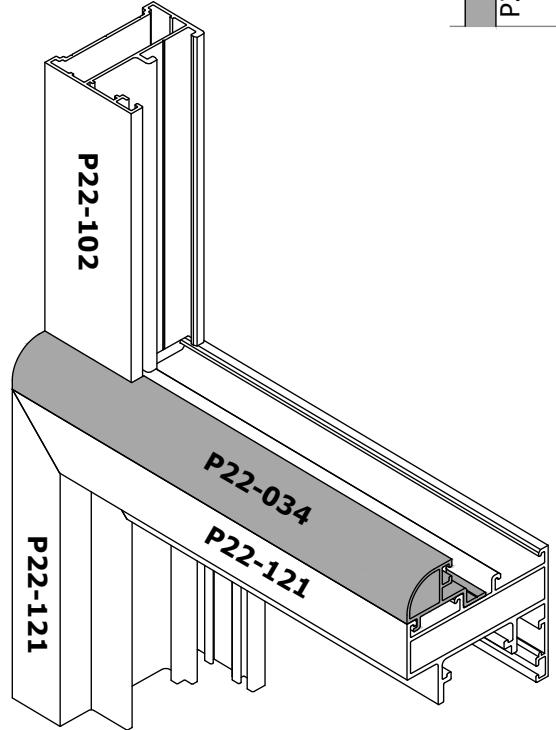
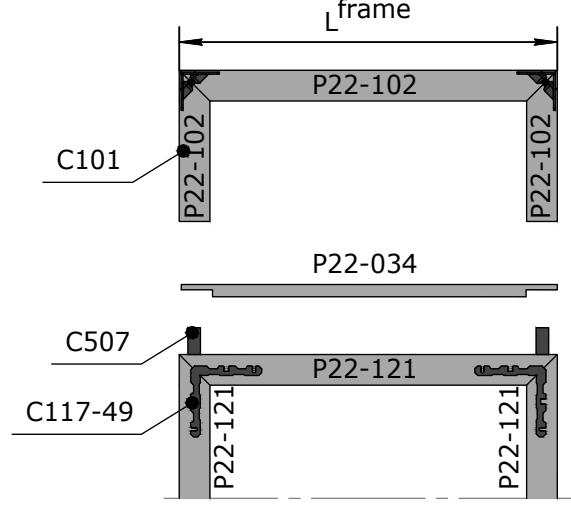
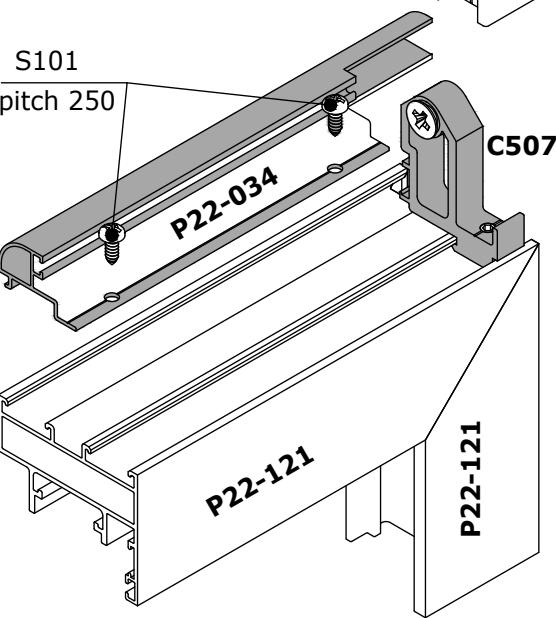
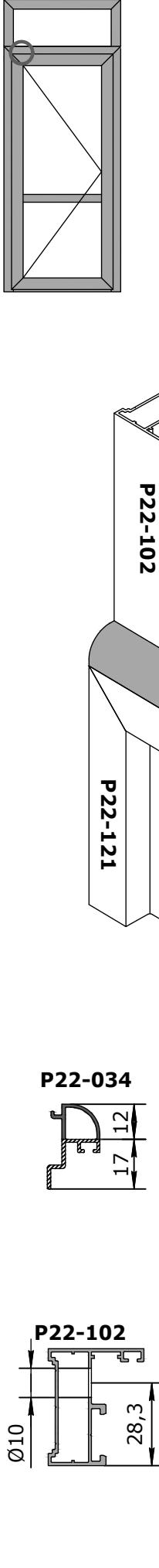
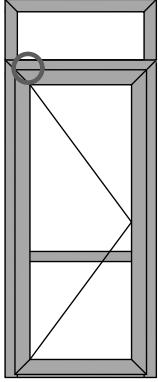
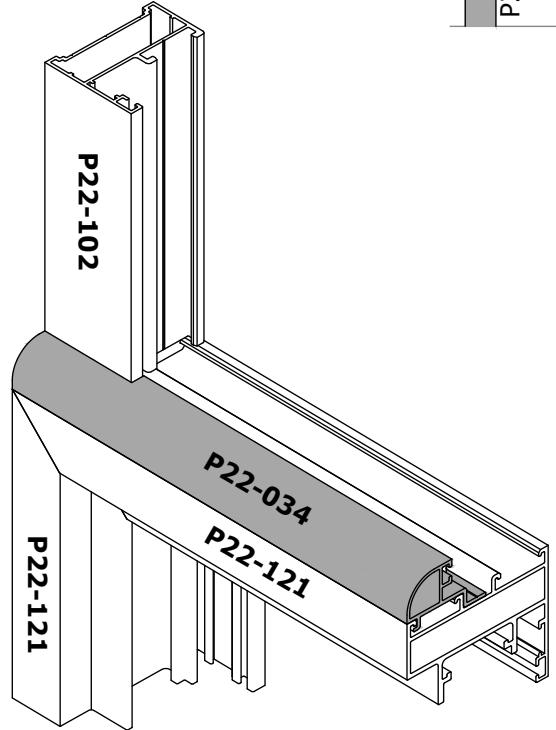
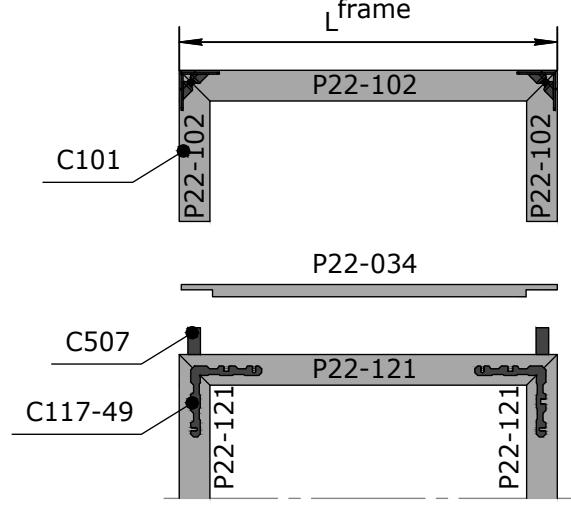
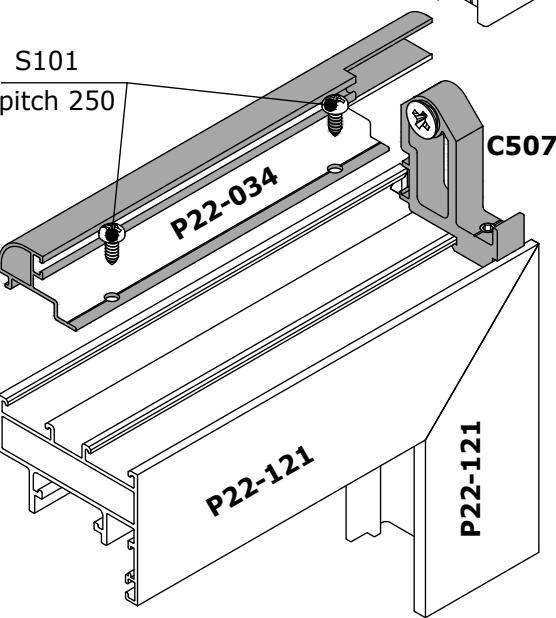
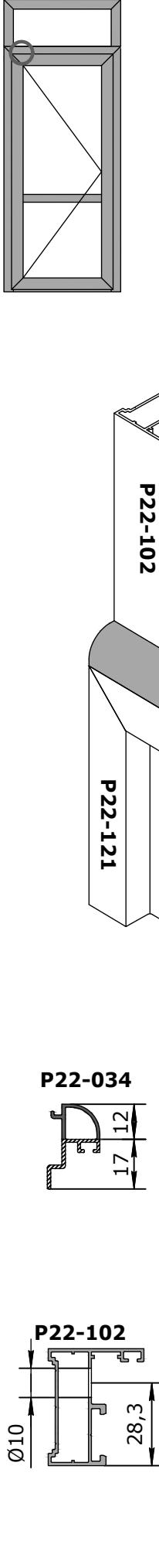
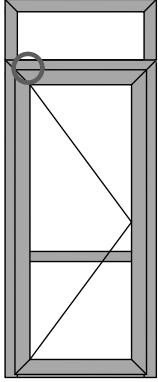
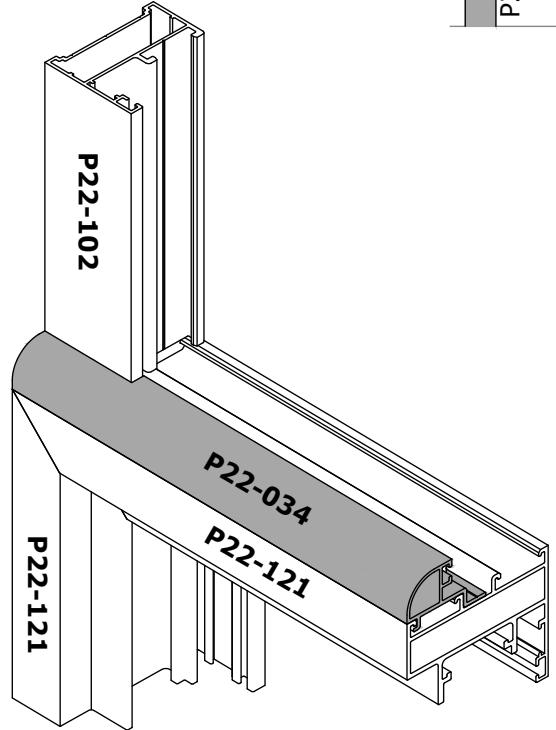
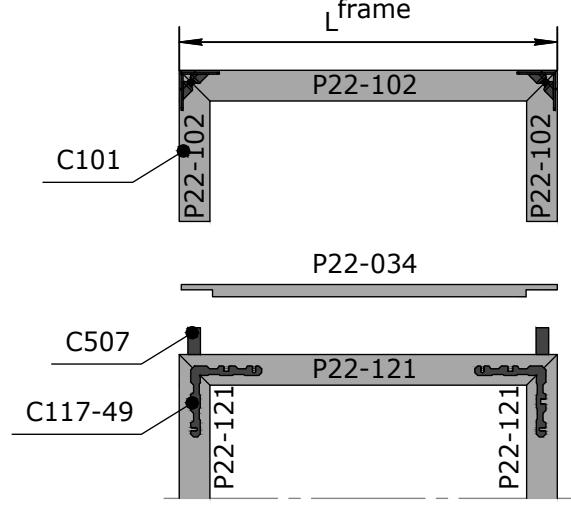
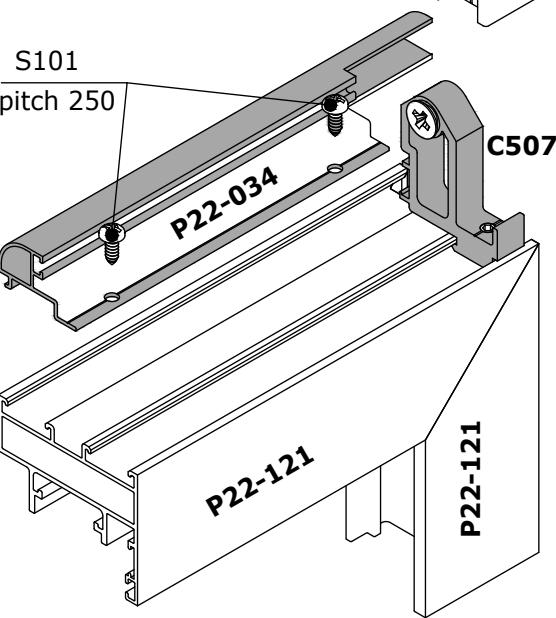
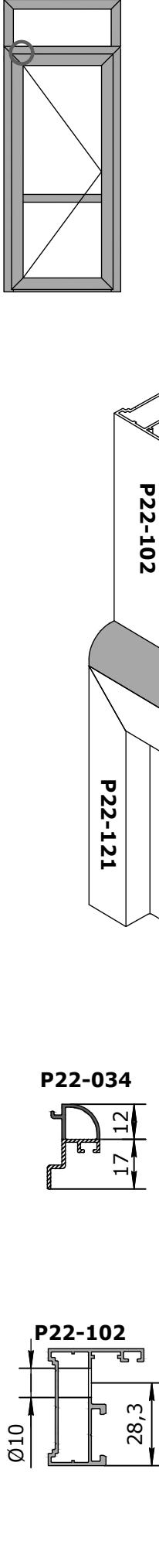
scope of delivery

contents

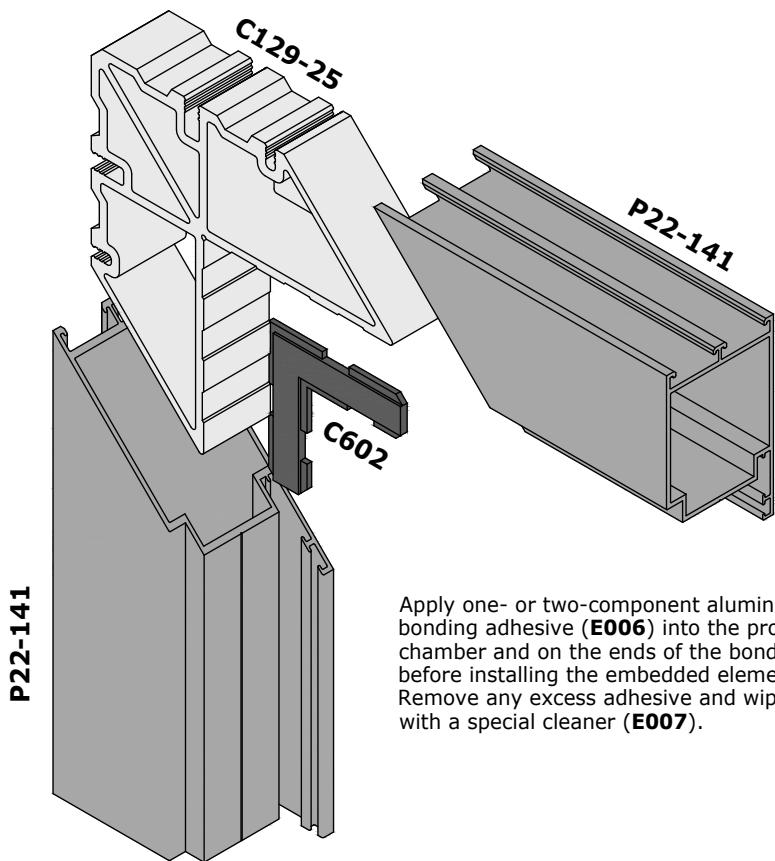


This technical diagram illustrates the assembly of a window frame, specifically focusing on the glazing and structural components. The diagram is organized into several sections:

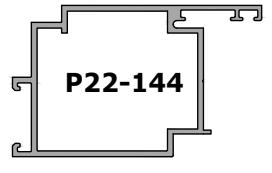
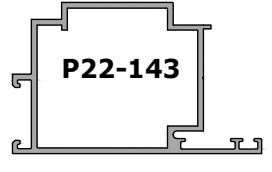
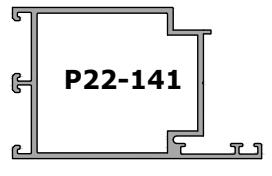
- Top Left Section:** Shows a cross-section of the frame with labels for 'P22-403' (top rail), 'P22-301\*' (mullion), and 'C117-25' (glazing channel). A note states: "Apply one- or two-component aluminum bonding adhesive (E006) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (E007)."
- Top Right Section:** A separate cross-sectional view of the frame structure.
- Middle Section:** A large cross-section showing the internal structure of the frame. Labels include 'P22-021' (bottom rail), 'C605' (glazing channel), and 'P22-403'. A note says: "Application of squeezing and fixing with pins is not necessary — the rigidity of adhesive and fastening with self-tapping screws to the mullion and impost is sufficient."
- Bottom Left Section:** A detailed view of the glazing connection. It shows 'P22-021' and 'P22-221' profiles, a 'S003' self-tapping screw, and a stained glass insulation panel. A note specifies: "self-tapping screw 3.5x32 with round head" and "installation pitch 250 mm".
- Bottom Right Section:** A large cross-section of the completed window frame assembly, showing the glazing and internal structure.
- Vertical Column Headers:**
  - contents
  - profiles
  - scope of delivery
  - profiles (1:1)
  - sections
  - glazing tables
  - sub-assemblies
  - tables
  - additional solutions
  - fittings layout
  - sub-assemblies
  - stained glass insulation
  - connections
  - equipment and tools
- Vertical Column Footers:**
  - contents
  - profiles
  - scope of delivery
  - profiles (1:1)
  - sections
  - glazing tables
  - sub-assemblies
  - stained glass insulation
  - connections
  - equipment

equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	additional solutions	fitting layout	sections	glazing tables	sub-assemblies
contents	contents	contents	contents	contents	contents	contents	contents	contents	contents	contents	contents	contents	contents
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													
													

## L-joint assembly: Frame P22-141

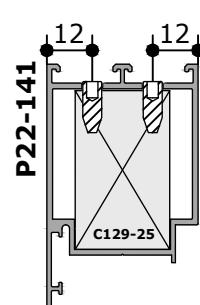
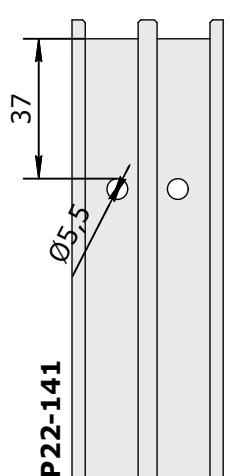
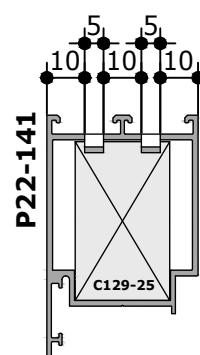
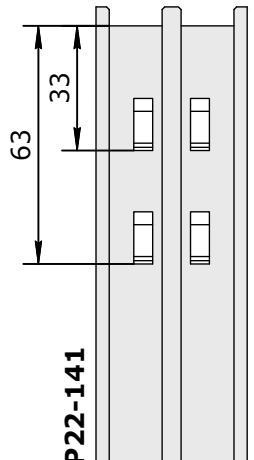
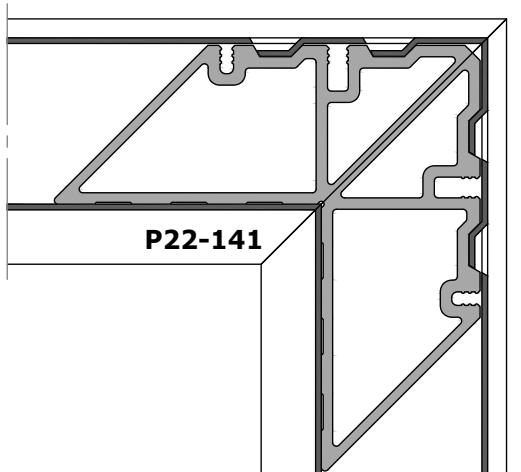


This assembly is valid for corner joints of the following profiles:

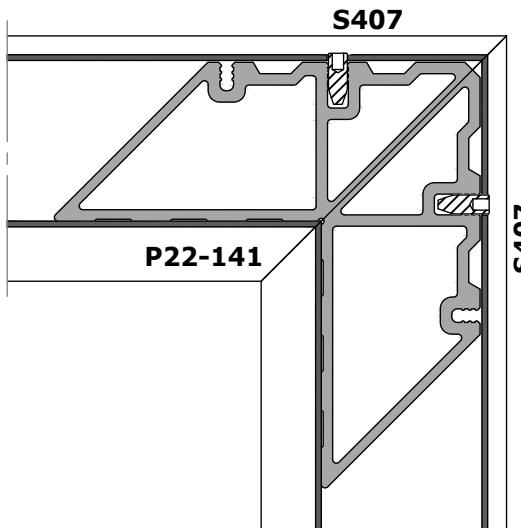


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

## Assembly by squeezing



## Assembled on pins



contents

profiles

scope of delivery  
profiles (1:1)

sections

glazing tables

sub-assemblies

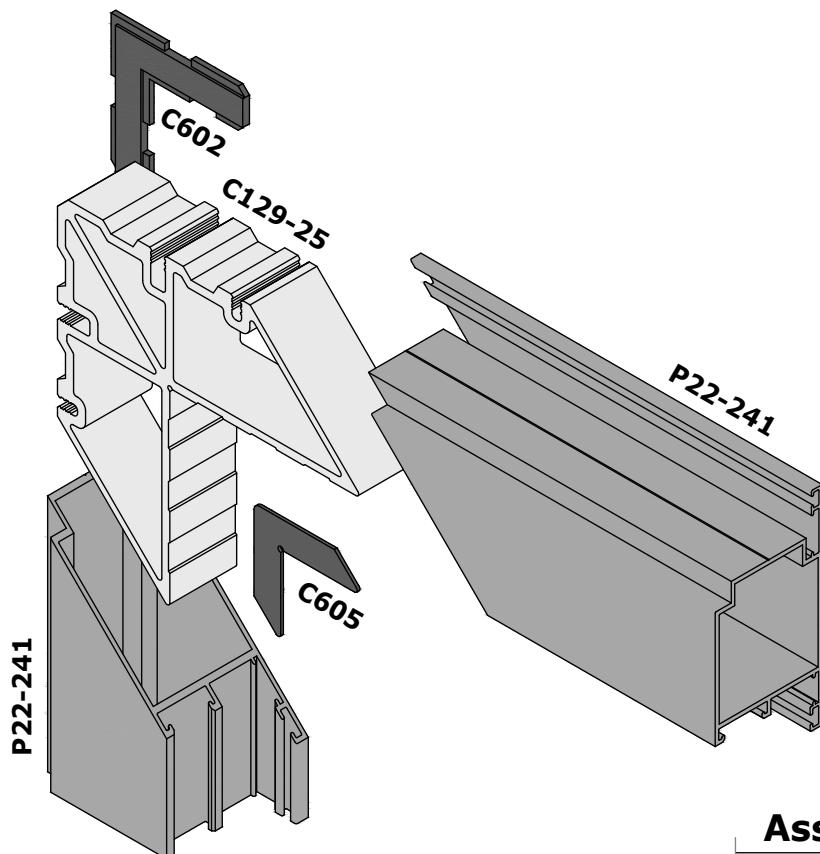
additional solutions

stained glass insulation

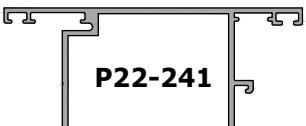
connections

equipment and tools

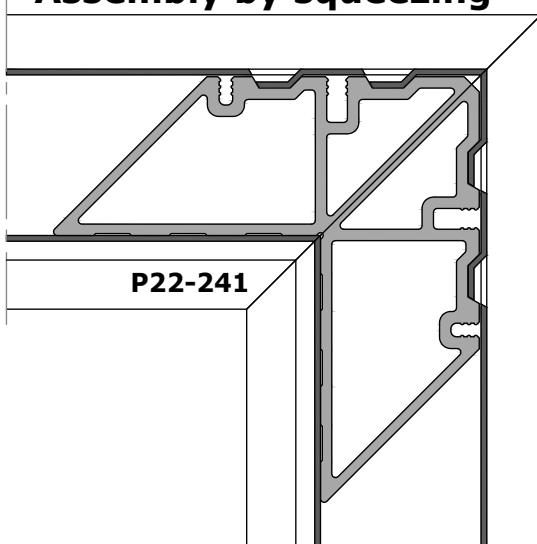
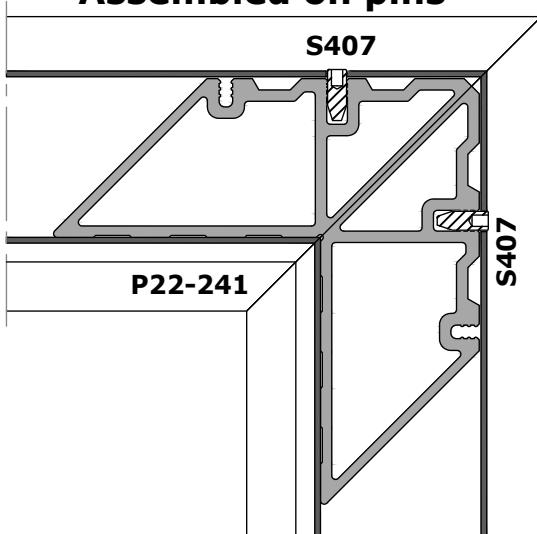
contents

**L-joint assembly: Sash P22-241**

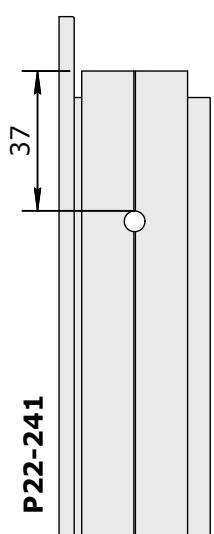
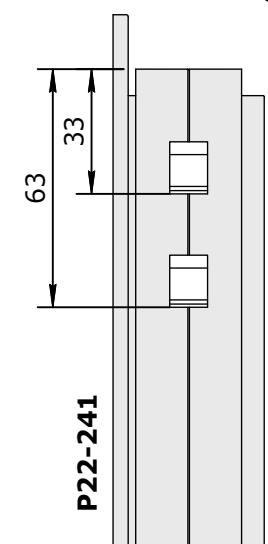
This assembly is valid for corner joints of the following profiles:



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

**Assembly by squeezing****Assembled on pins**

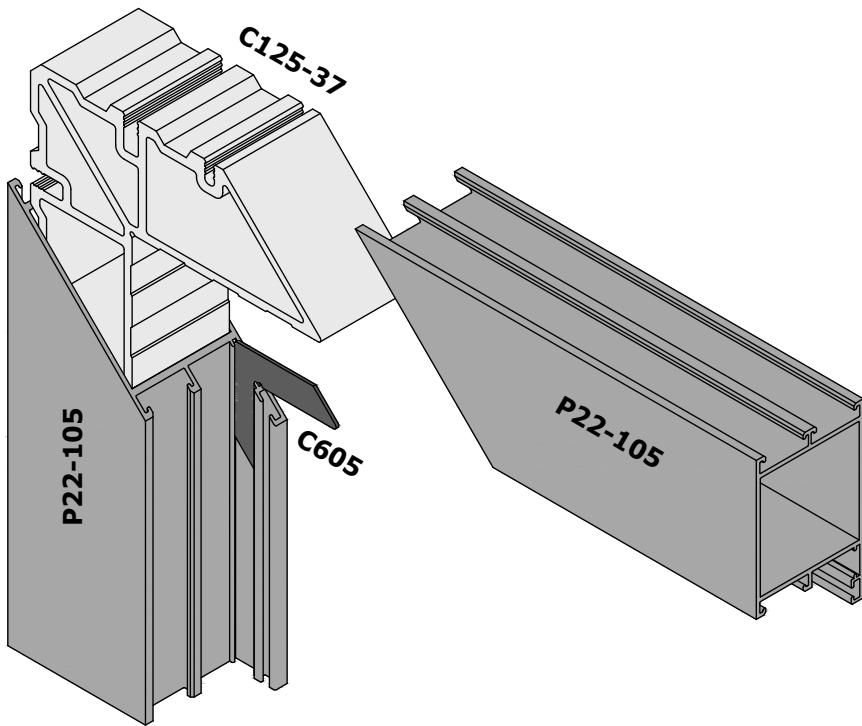
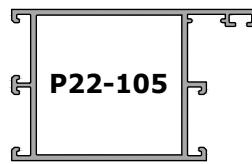
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	contents
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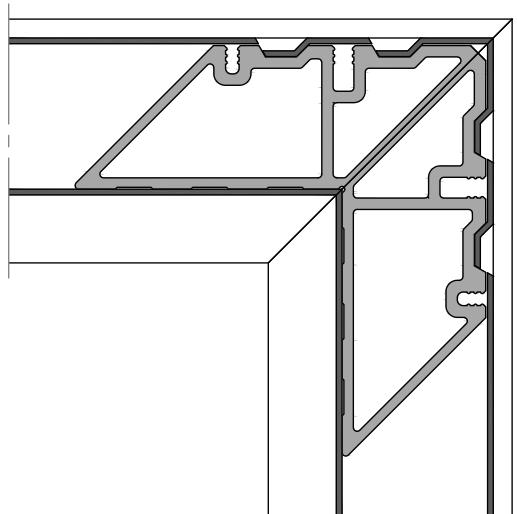
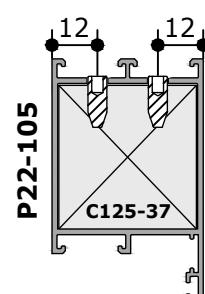
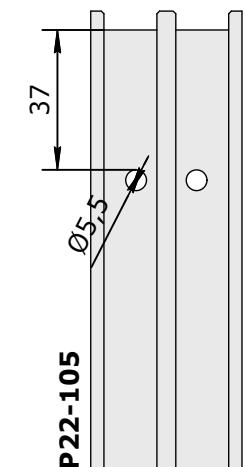
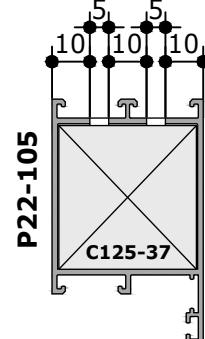
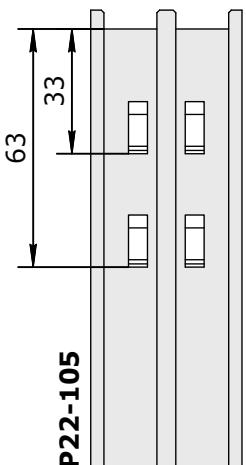
## L-joint assembly: Frame P22-105

This assembly is valid for corner joints of the following profiles:

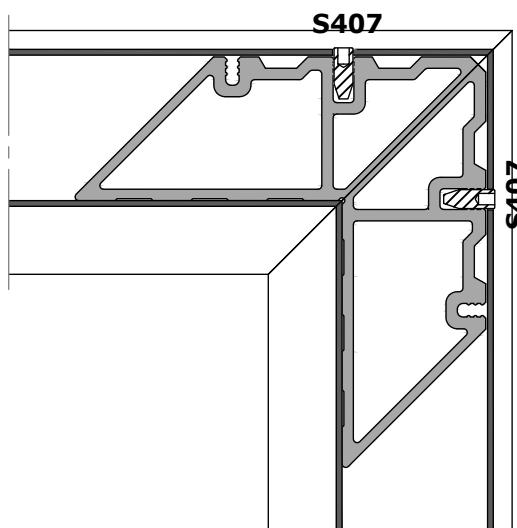


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

## Assembly by squeezing

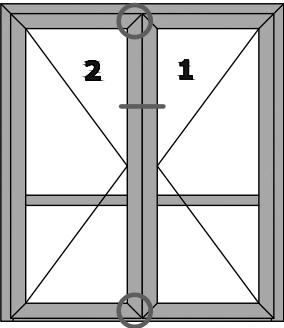


## Assembled on pins



contents							contents
profiles							profiles
scope of delivery							scope of delivery
sections							sections
glazing tables							glazing tables
sub-assemblies							sub-assemblies
fittings layout							fittings layout
additional solutions							additional solutions
stained glass insulation							stained glass insulation
connections							connections
sub-assemblies							sub-assemblies
equipment and tools							equipment and tools

**L-joint assembly:**  
**Joint of sashes P22-241 and P22-242**



contents

profiles

scope of delivery  
profiles (1:1)

sections

glazing tables

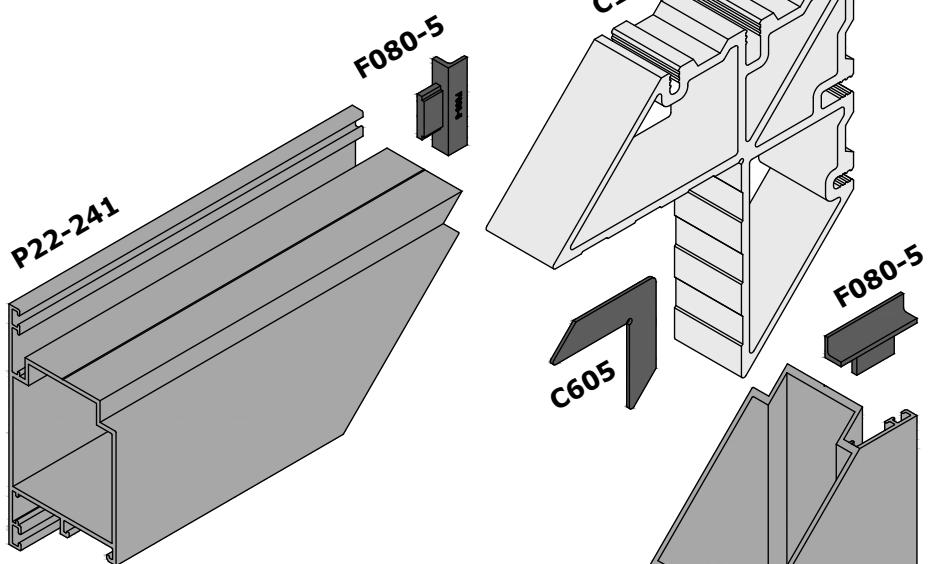
sub-assemblies

fittings layout

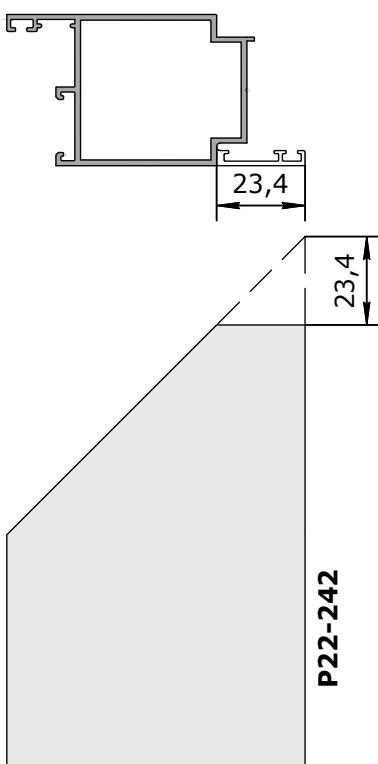
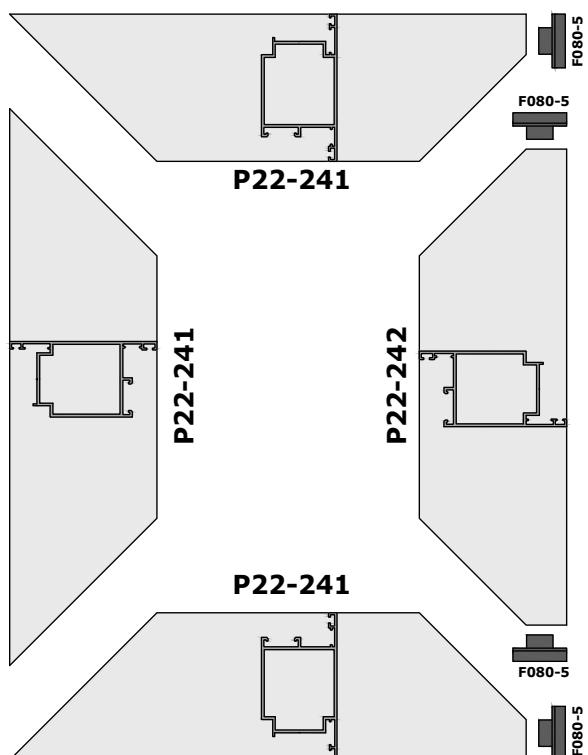
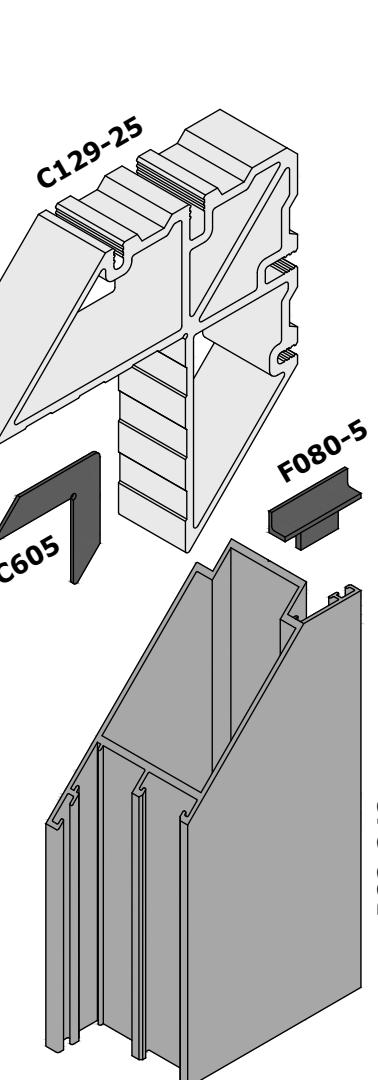
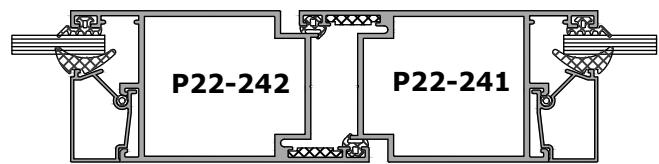
additional solutions

stained glass insulation

equipment and tools



Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



Secure **F080-5** caps with adhesive during installation.

contents

profiles

scope of delivery  
profiles (1:1)

sections

glazing tables

sub-assemblies

fittings layout

additional solutions

stained glass insulation

equipment and tools

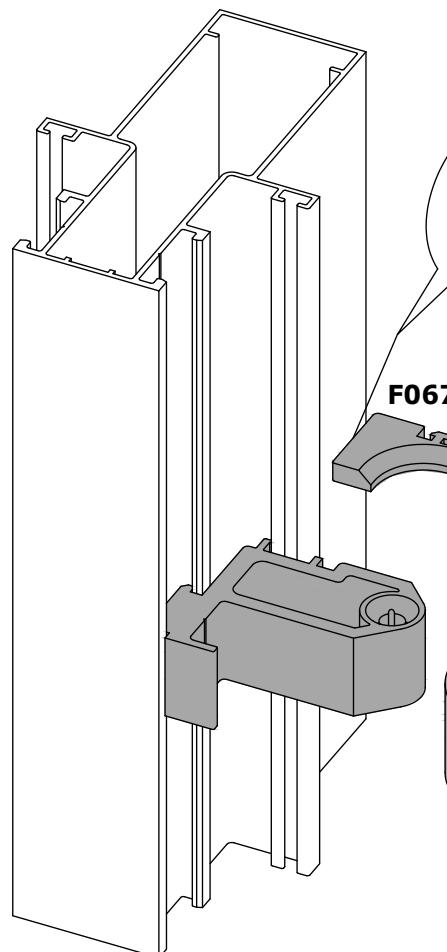
contents

The technical drawing illustrates the assembly of a window frame P22-141. The main components shown include:

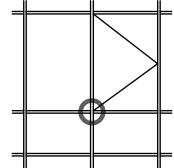
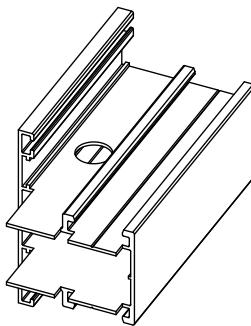
- P22-105**: Main window frame.
- C125-37**: Glazing bar.
- C508-38**: Glazing bar.
- C129-25**: Glazing bar.
- P22-003**: Bottom glazing bar.
- P22-141**: Bottom glazing bar.
- S001**: Fitting layout, with a note "pitch 250".
- C605**: Additional solution component.
- P22-105**: Side view of the frame.
- P22-105**: Top view of the frame.
- P22-105**: Front view of the frame.
- P22-141**: Front view of the frame.
- P22-141**: Side view of the frame.
- P22-141**: Bottom glazing bar detail with dimensions:  $\varnothing 10$ , 30, 28,3.
- P22-141**: Bottom glazing bar detail with dimensions:  $\varnothing 10$ , 30, 28,3.



### T-joint. installation of impost. Option 1

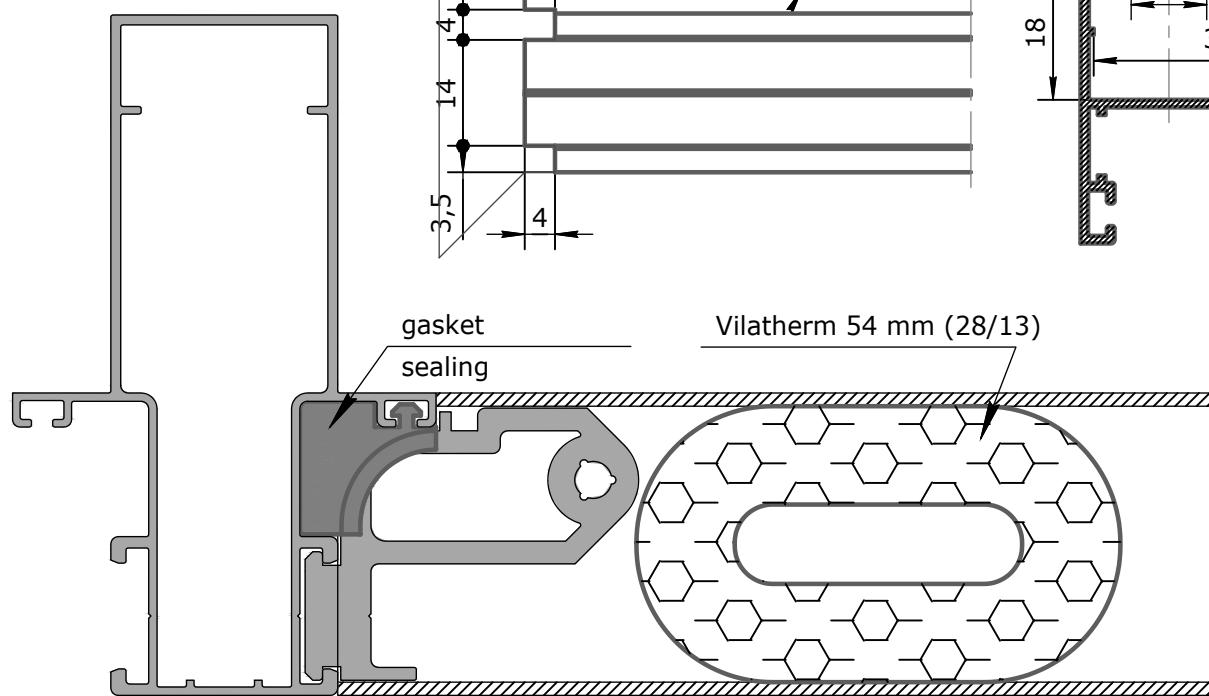
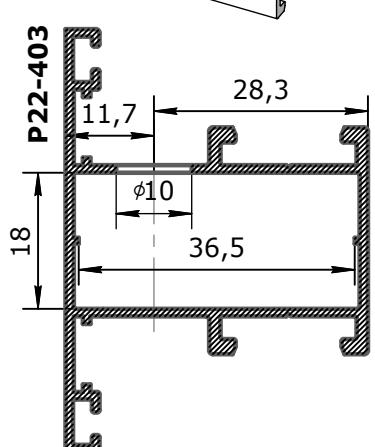
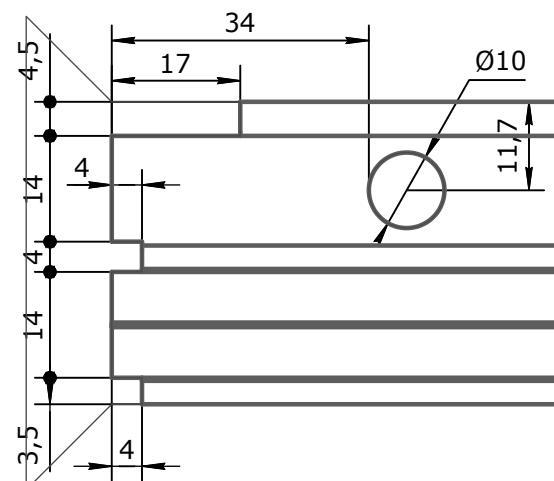
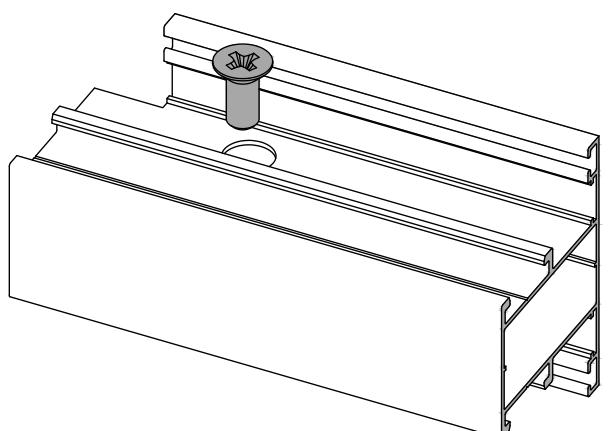


Vilatherm 54 mm  
(28/13) L=18 mm



Screw torque in embedded element C507(508):  
screw M6 with countersunk head min – 4.5 N/m  
max – 6 N/m  
screw M5 min – 2 N/m  
max – 2.5 N/m

The Vilatherm inserts are optionally installed inside the impost to increase moisture proofing — they prevent moisture from getting into the middle section through the impost block screw hole.  
In case a **F067-22** seal is installed, additional use of a neutral sealant is required.



To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant. **Classic (complex) milling** is preferred when machining the imposts.

contents		contents
profiles		profiles
scope of delivery		scope of delivery
profiles (1:1)		profiles (1:1)
sections		sections
glazing tables		glazing tables
sub-assemblies		sub-assemblies
tables		tables

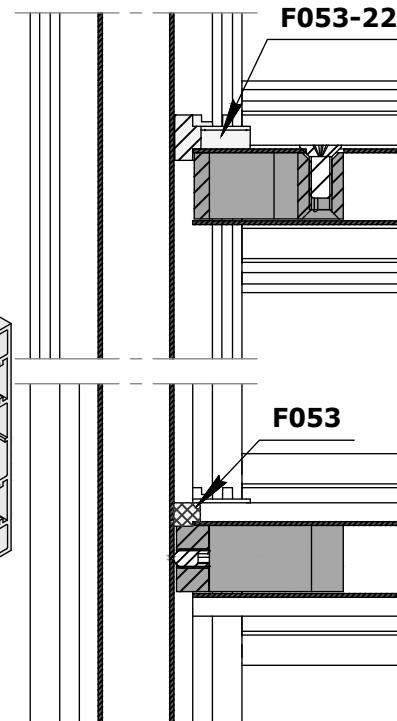
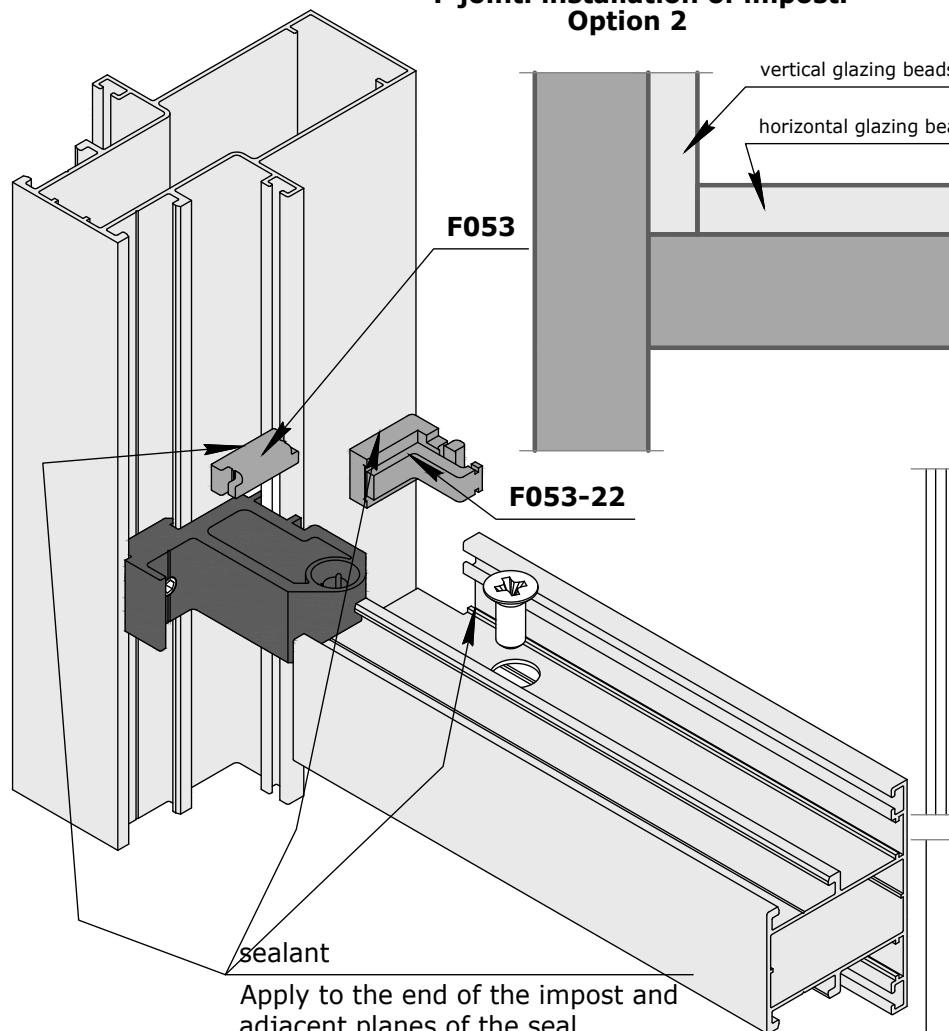
sections	
glazing tables	
sub-assemblies	
tables	

additional solutions	
sub-assemblies	
tables	

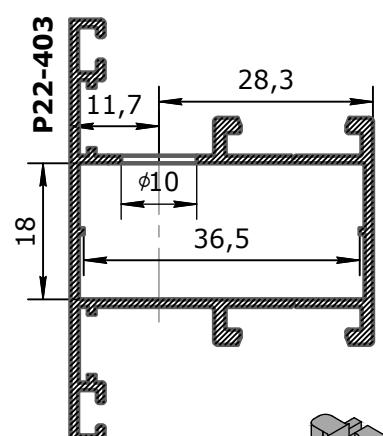
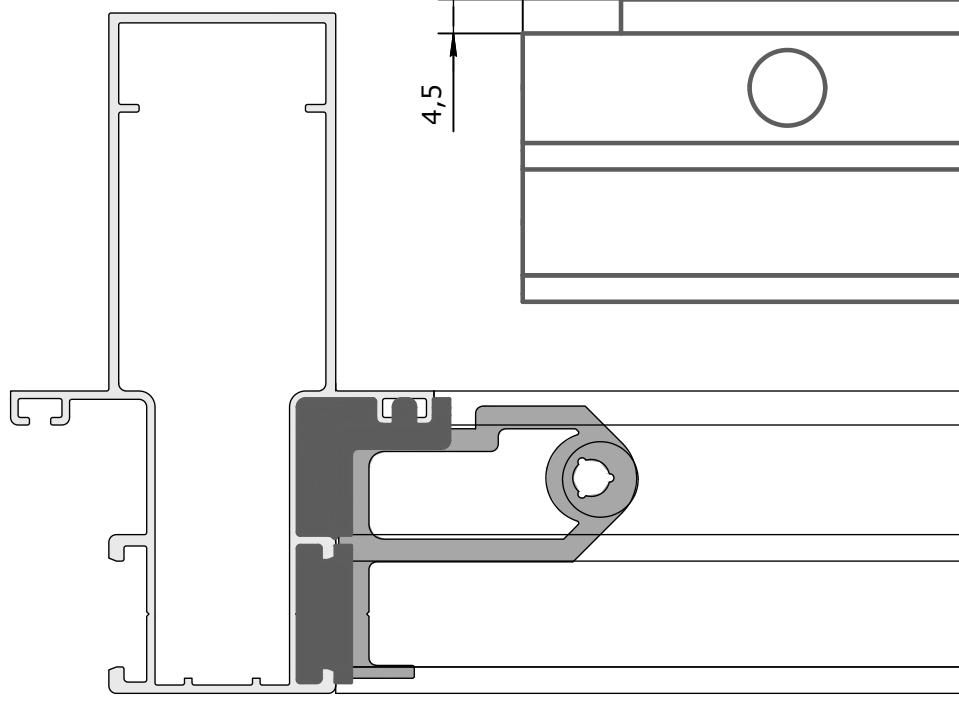
stained glass insulation	
sub-assemblies	
tables	

equipment and tools	
connections	

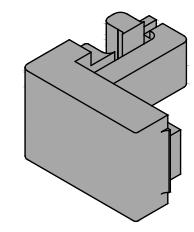
stained glass insulation	
sub-assemblies	
tables	



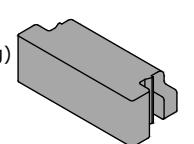
Screw torque in embedded element  
C507(508):  
screw M6 with min – 4.5 N/m  
countersunk head max – 6 N/m  
screw M5 min – 2 N/m  
max – 2.5 N/m



**F053-22**  
cap of Masttech-22  
external groove



**F053**  
cap of internal (fitting)  
groove



To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant. If **F053** and **F053-22** sealing gaskets are installed during machining of the imposts, **simple milling** must be used.

contents													
profiles													
scope of delivery													
profiles (1:1)													
sections													
glazing tables													
sub-assemblies													
additional solutions													
sub-assemblies													
stained glass insulation													
connections													
equipment and tools													
sub-assemblies													
stained glass insulation													
connections													
equipment and tools													
sub-assemblies													
stained glass insulation													

φ3  
drill holes for the block in situ

P30-401  
L=20 mm  
S003

rivet 4x10

C508

mullion

P30-401  
L=20 mm

S003

impost

**Machining of profile P30-401 for manufacture of the mullion external pylon embedded part**

Front view dimensions: 5, 16, 20, 21, 9, 8,5, 26,5

Side view dimensions: 20, 10, 8,5, 9

Top view dimensions: 10, 5, Ø4

Front view dimensions: 16, 13, 4,5, 35,5, 28,3, 30

Side view dimensions: 12\* (depends on the point of embedded element installation on the mullion)

**Impost machining**

To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install a 18 mm rubber cap made of R026 gasket material.



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P22-013

C508

P22-403

In the vertical and horizontal guide joining areas install a cap made of gasket material **R026** (**18 mm**).

P22-013

4,5

13

To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install a 18 mm rubber cap made of R026 gasket material.

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						contents
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stained glass insulation	connections	stained glass insulation	sub-assemblies	stained glass insulation	connections	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	stained glass insulation	connections	contents

**P22-022** assembly diagram showing internal components and installation steps.

Key components labeled:

- C524-22
- P22-020
- P22-022
- P22-023
- S001 (3.5x9.5)
- S006 (3.9X19)
- fix

Technical drawings of cross-sections for components:

- P22-020
- P22-021
- P22-023
- P22-403

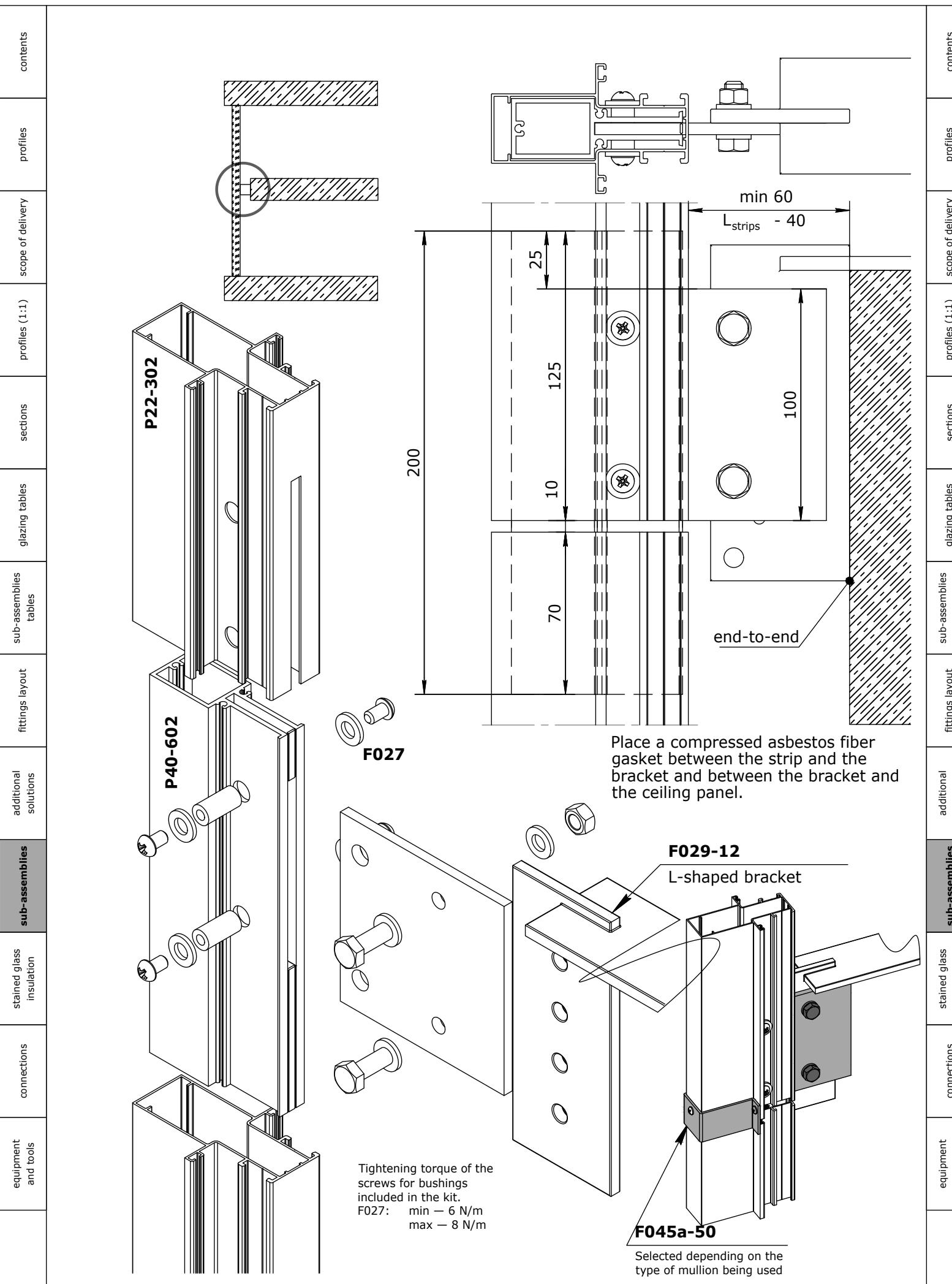
  

Technical drawing of the P22-302 assembly showing detailed internal connections and components.

Key components labeled:

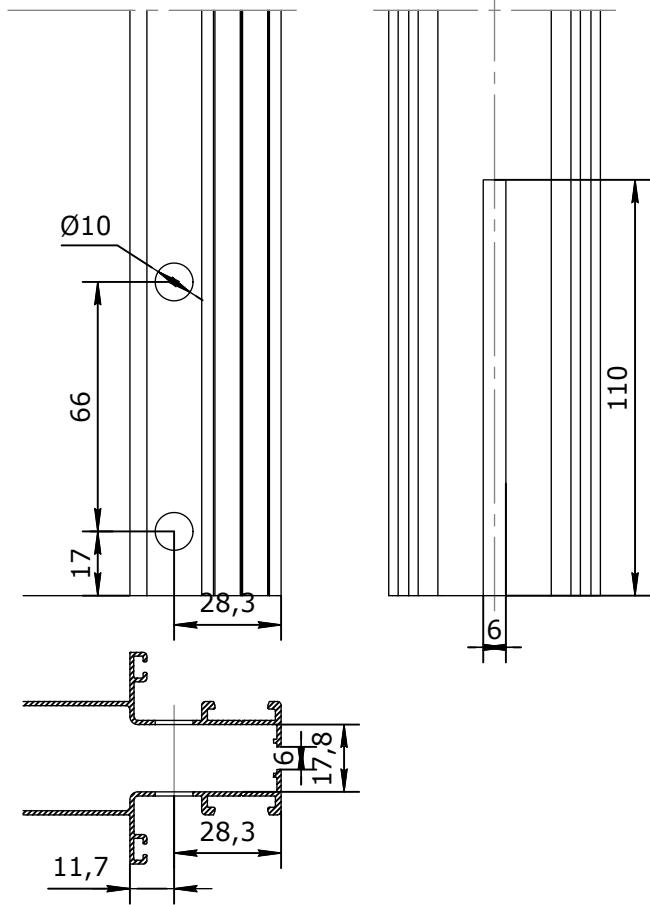
- P22-302
- P22-020
- P22-022
- P22-023
- P22-002
- P22-021



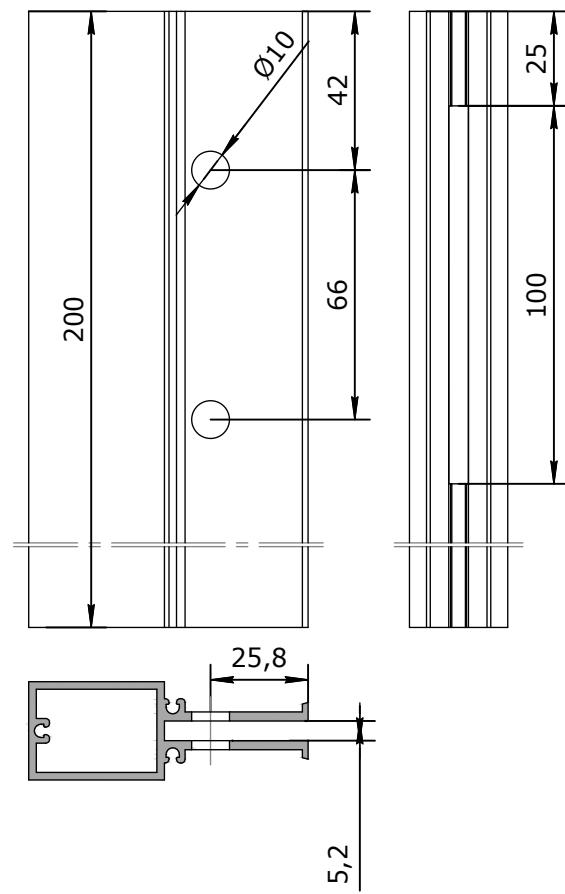


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	stained glass insulation
contents																

## Mullion machining P22-301, P22-302



## Machining of mullion block P40-602



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	stained glass insulation
contents																

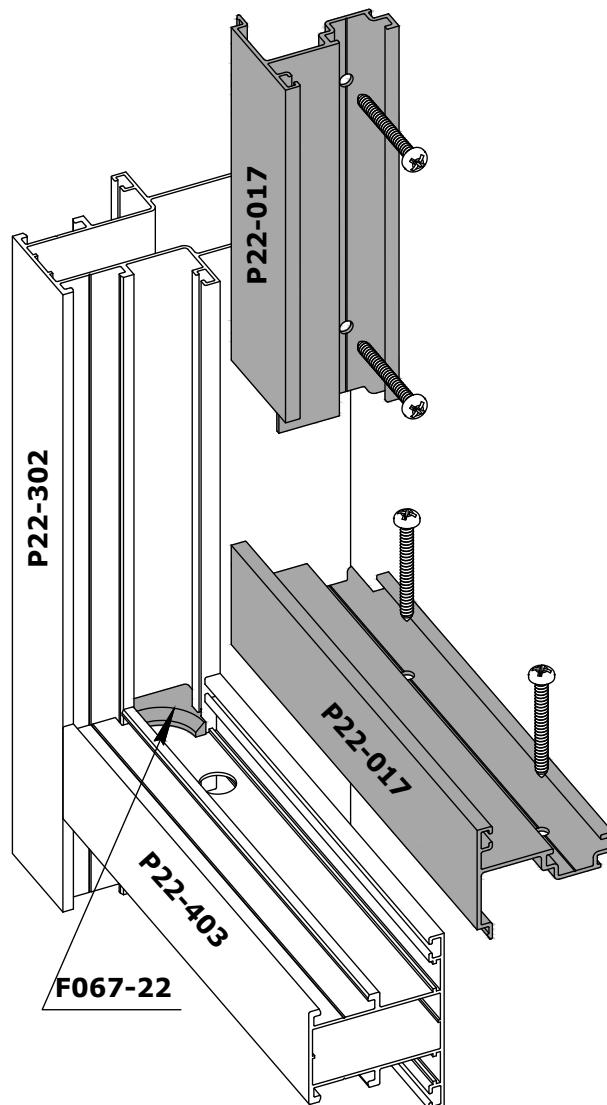
This technical drawing illustrates a glass railing system with the following components and details:

- P22-009**: A curved glass panel supported by a profile. It features a central vertical support and two horizontal supports labeled **S002**.
- P22-302**: A straight glass panel supported by a profile. It features a central vertical support and two horizontal supports labeled **S002**.
- P22-009**: A curved glass panel supported by a profile. It features a central vertical support and two horizontal supports labeled **S002**.
- C508**: A bracket or connector component.
- P22-403**: A rectangular glass panel supported by a profile.
- Glazing tables**: A section view of the glass railing assembly.
- Sub-assemblies**: A section view of the glass railing assembly.
- sections**: A section view of the glass railing assembly.
- scope of delivery**: A section view of the glass railing assembly.
- profiles (1:1)**: A section view of the glass railing assembly.
- profiles**: A section view of the glass railing assembly.
- contents**: A section view of the glass railing assembly.

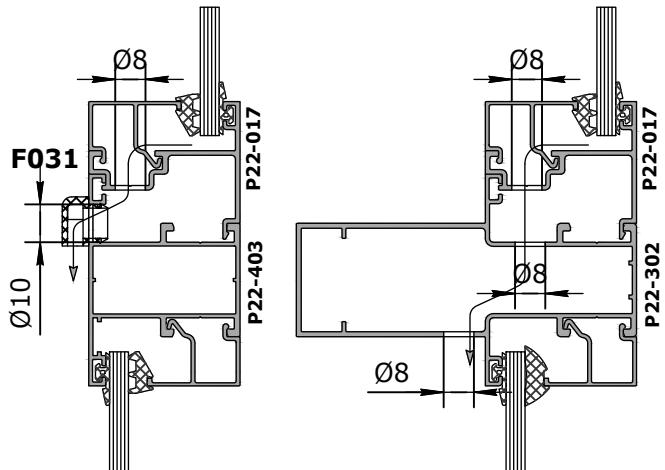
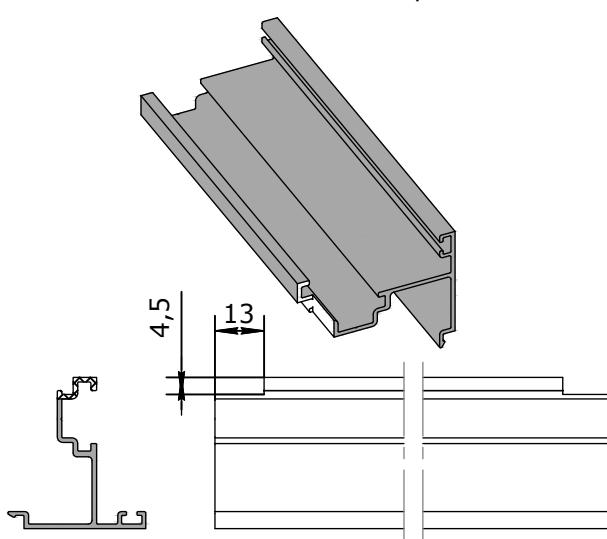
Additional views include:

- A top-down view of a curved glass panel with dimensions: width 20, height 15.
- A side view of a glass railing assembly with dimensions: pitch 350, height 10, and a circular feature labeled **R5**.

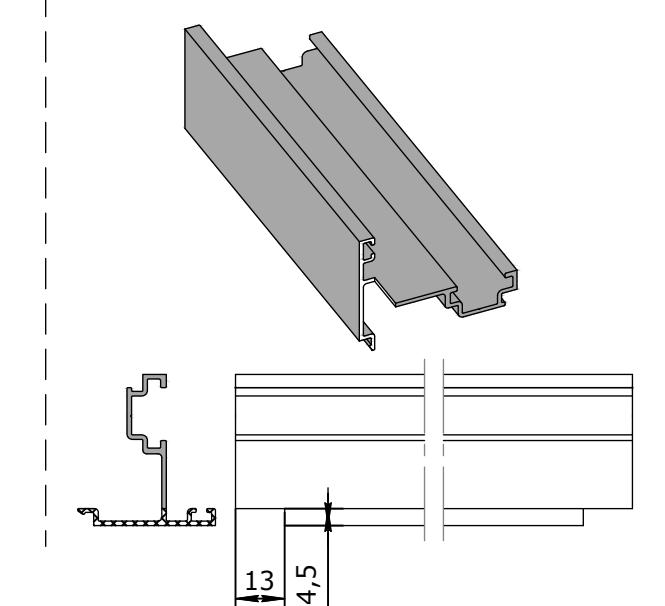
## Installation of turning adapter



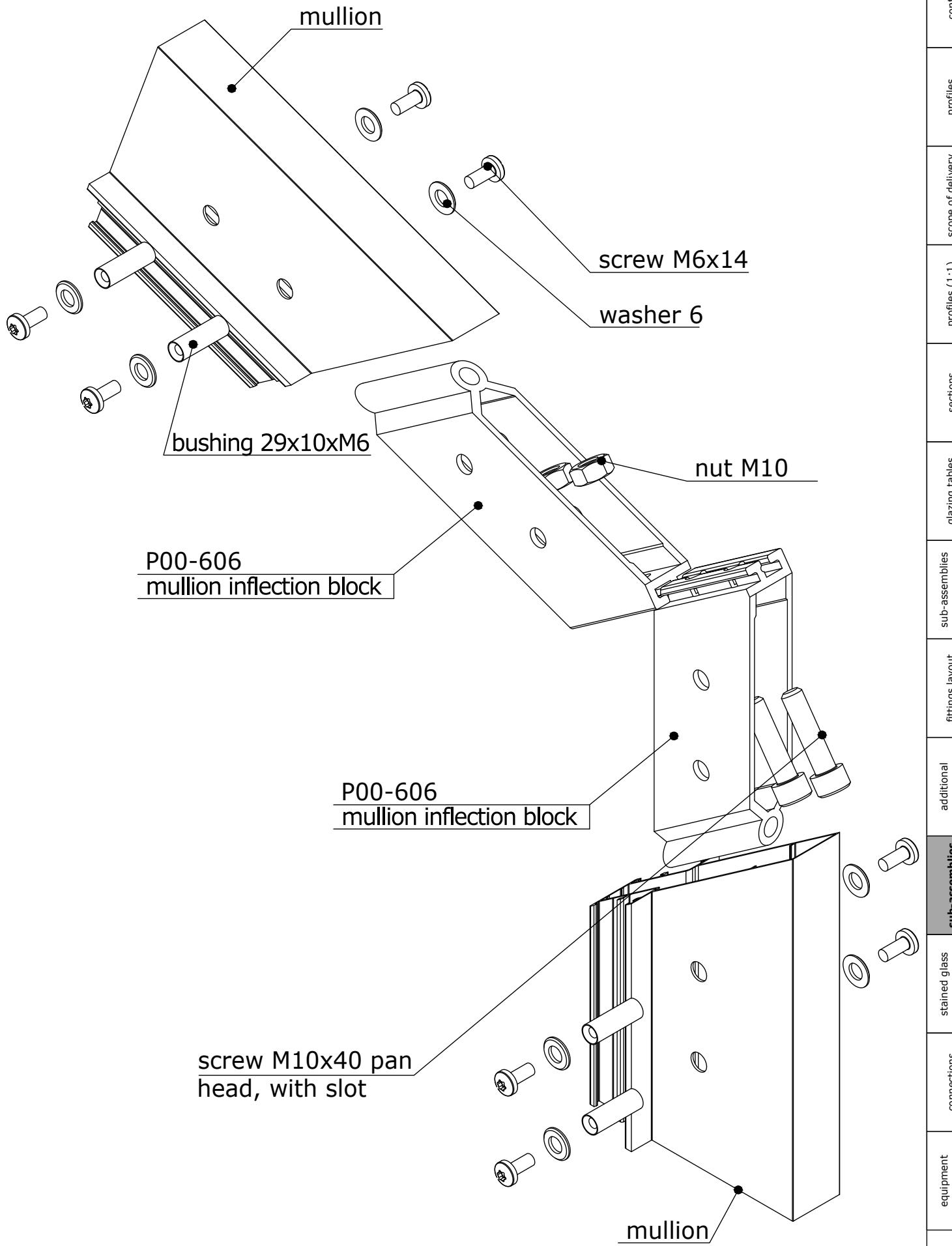
Horizontal adapter



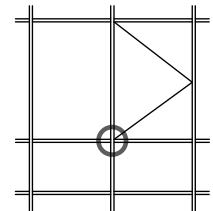
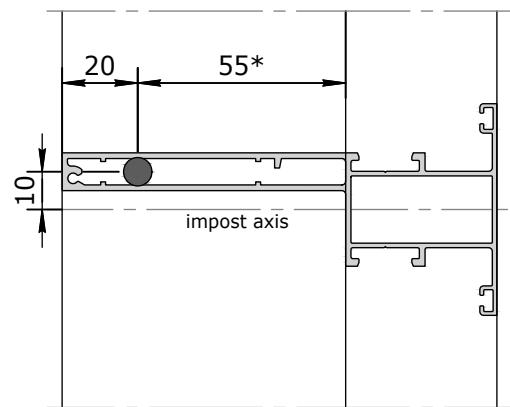
Vertical adapter



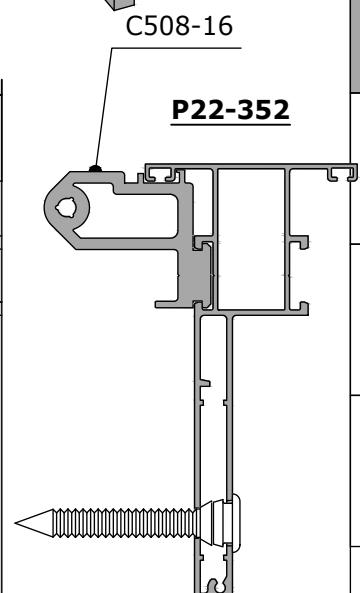
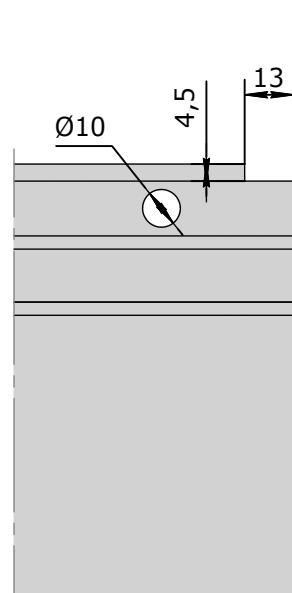
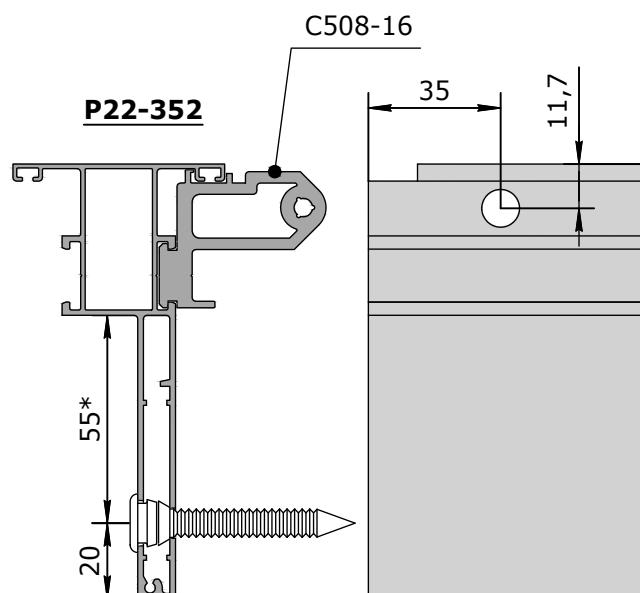
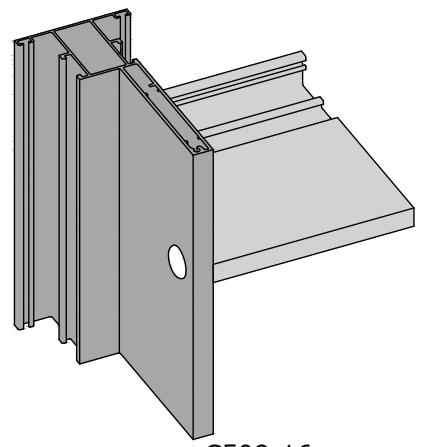
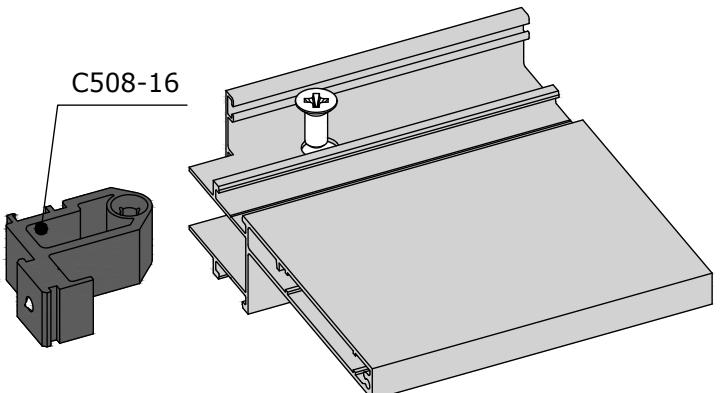
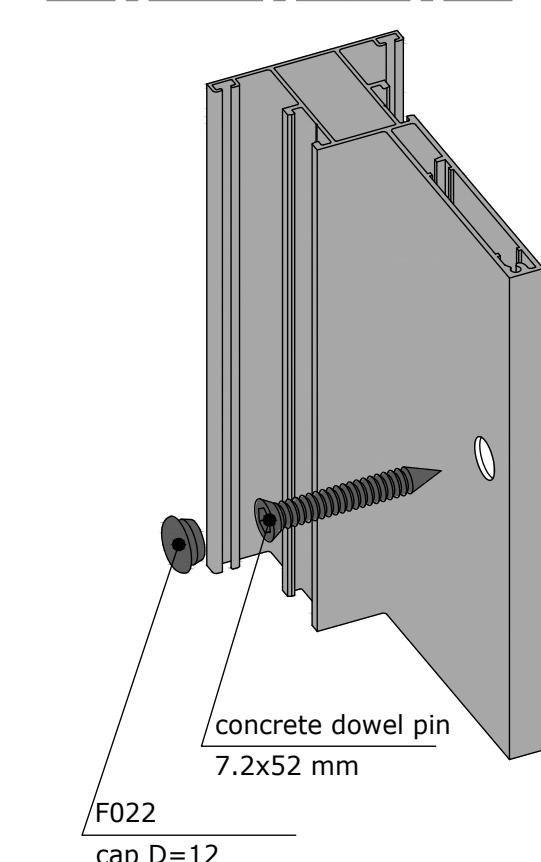
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant. Classic (complex) milling is preferred when machining the imposts.



## Fastening of reinforced impost to mullion with inward reinforcement



To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals F053 and F053-22 (omitted for clarity on the diagram).

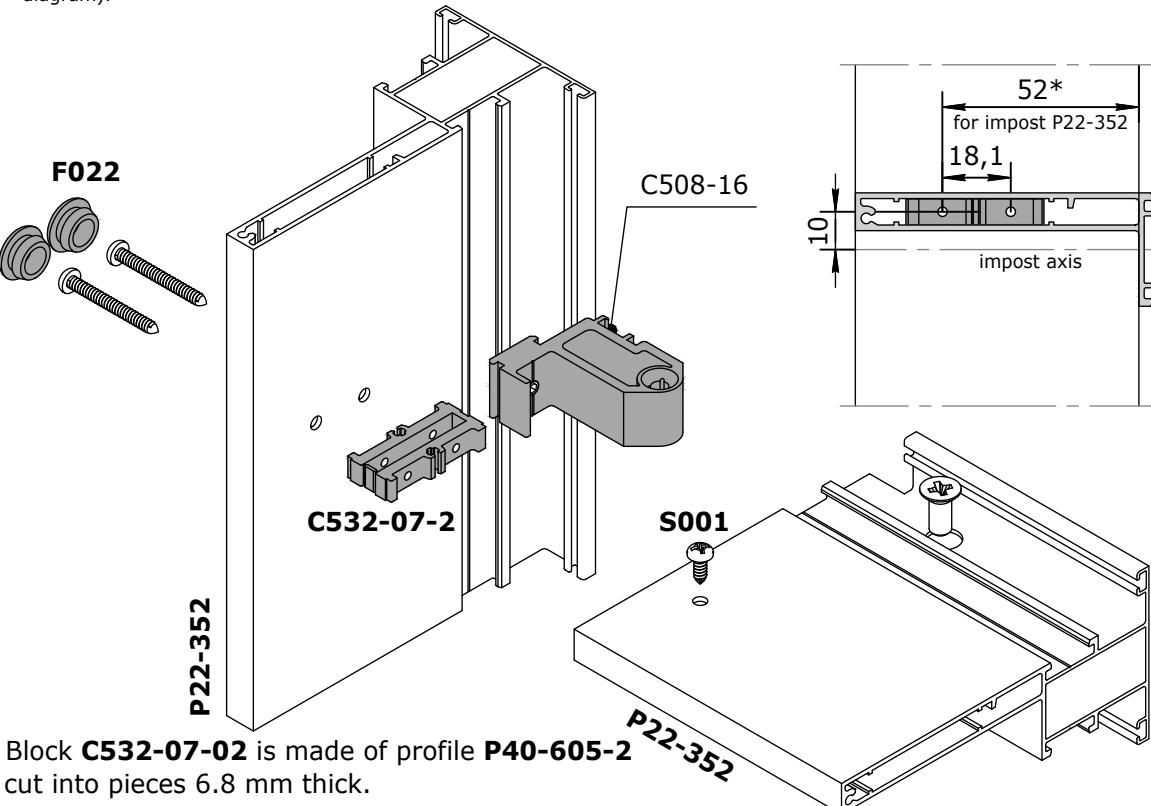
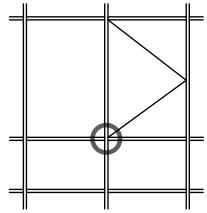


\* — depends on size of mullion

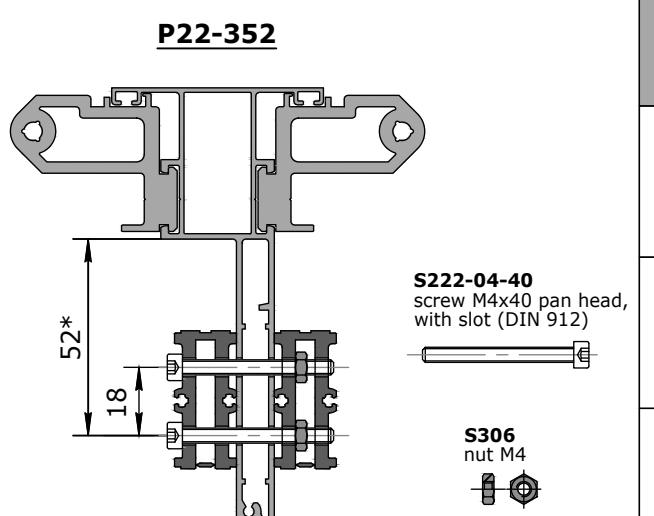
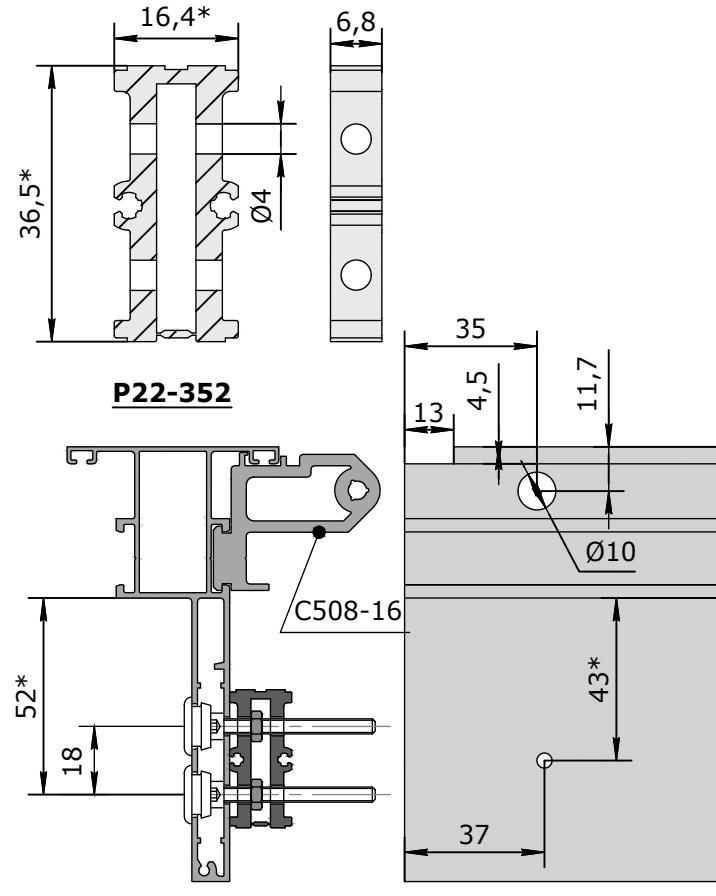
All profiles with inward reinforcement are assembled on C508-16

## Fastening of reinforced impost to mullion with inward reinforcement

To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals **F053** and **F053-22** (omitted for clarity on the diagram).



Block **C532-07-02** is made of profile **P40-605-2** cut into pieces 6.8 mm thick.



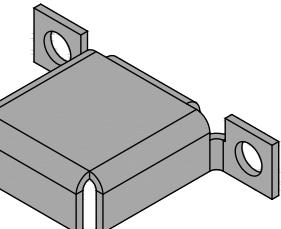
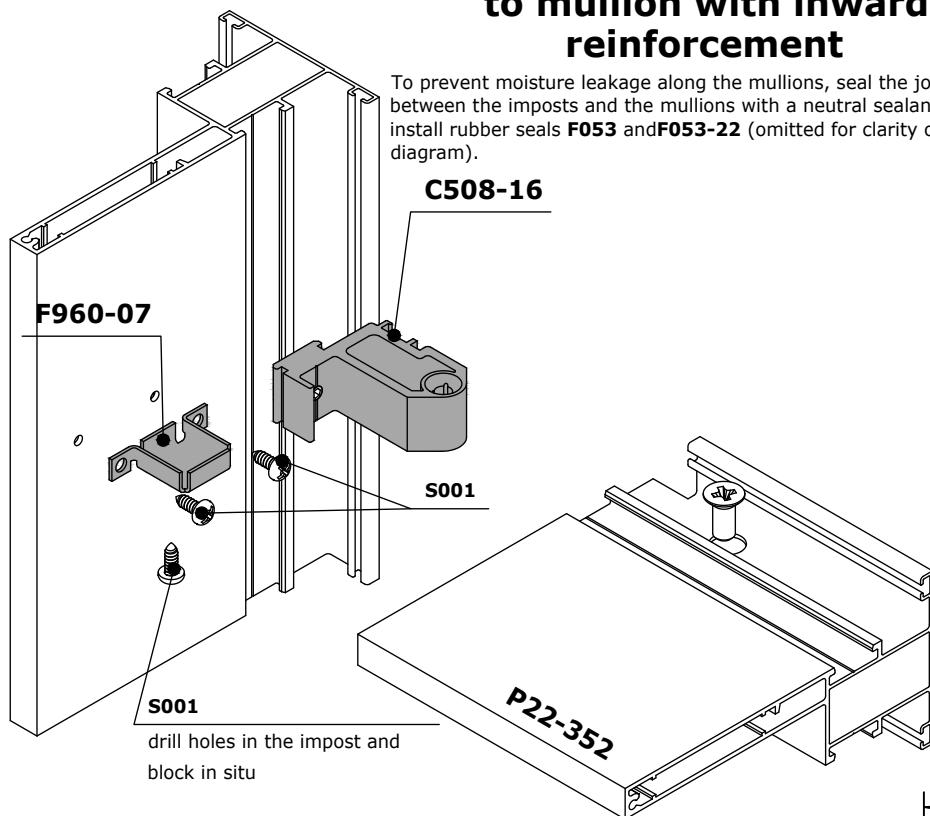
\* — depends on the mullion/impost size

All profiles with inward reinforcement  
are assembled on C508-16

## Fastening of reinforced impost to mullion with inward reinforcement

To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals F053 and F053-22 (omitted for clarity on the diagram).

P22-352



**F960-07**  
impost block 7 mm  
(steel, cold forming)

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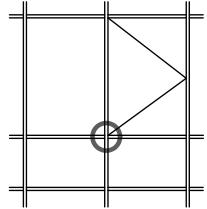
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equipment and tools

\* — depends on the mullion/impost size

All profiles with inward reinforcement are assembled on C508-16



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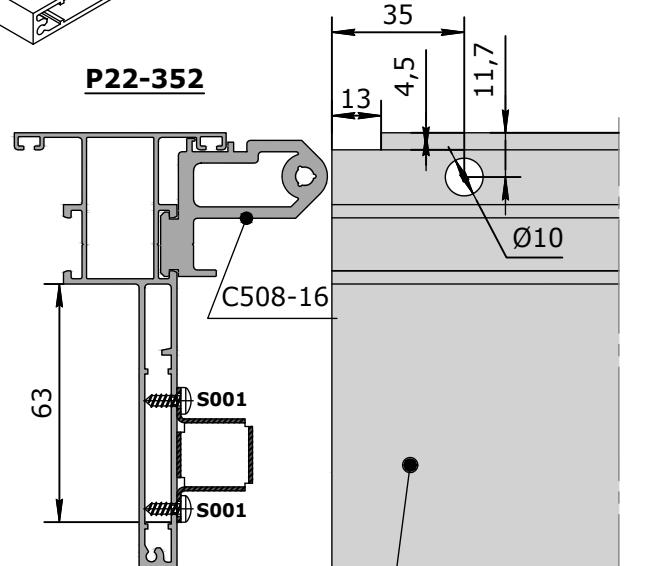
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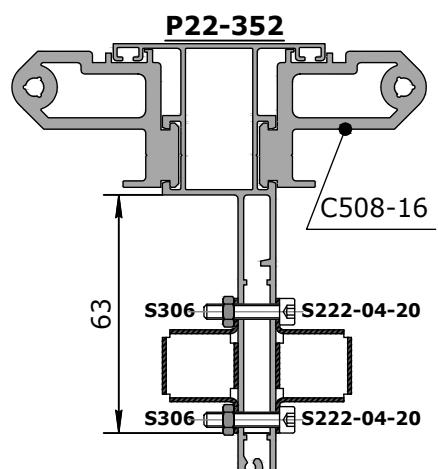
stained glass insulation

connections

equipment and tools

**P22-352**

drill holes in the impost and block in situ

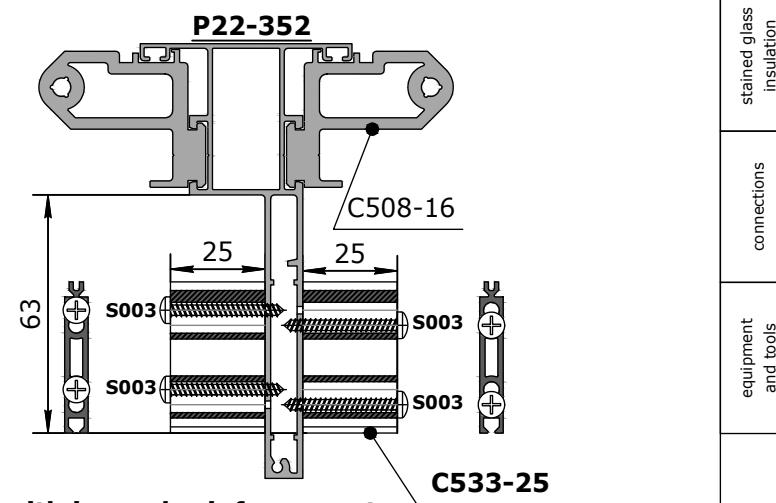
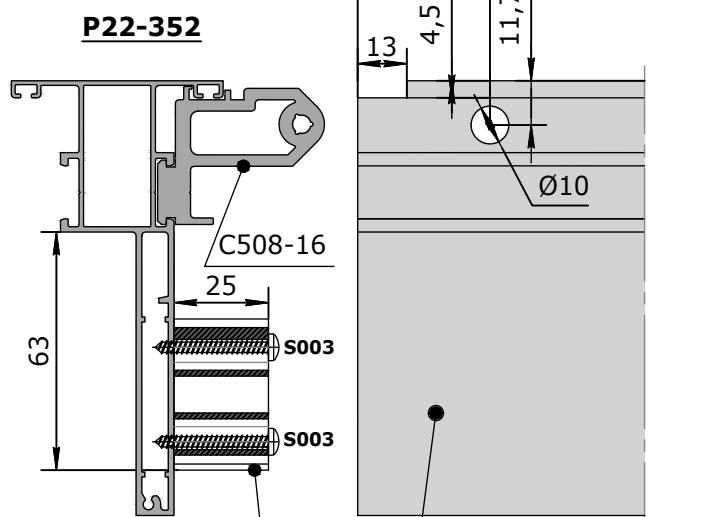
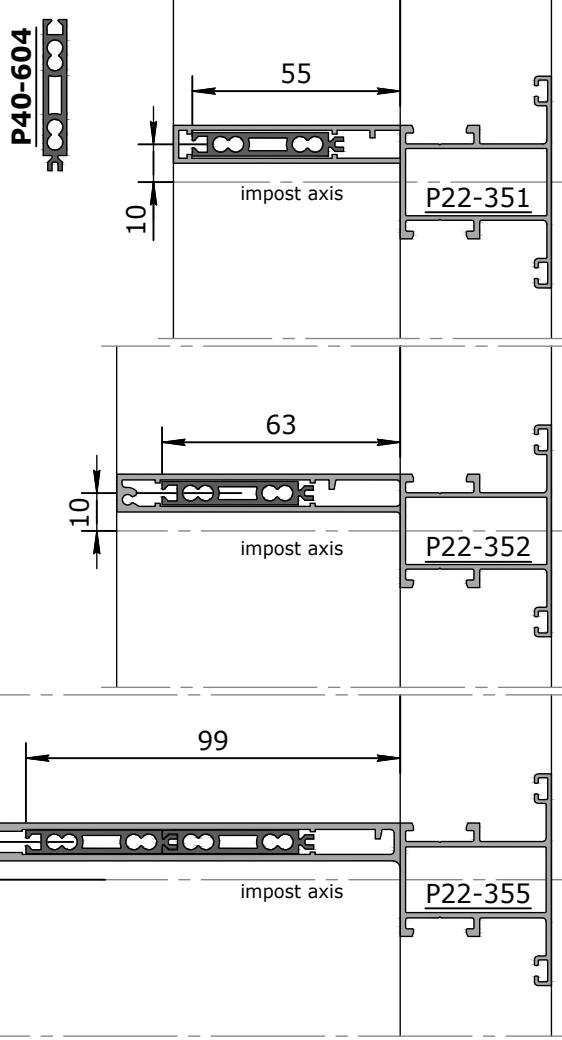
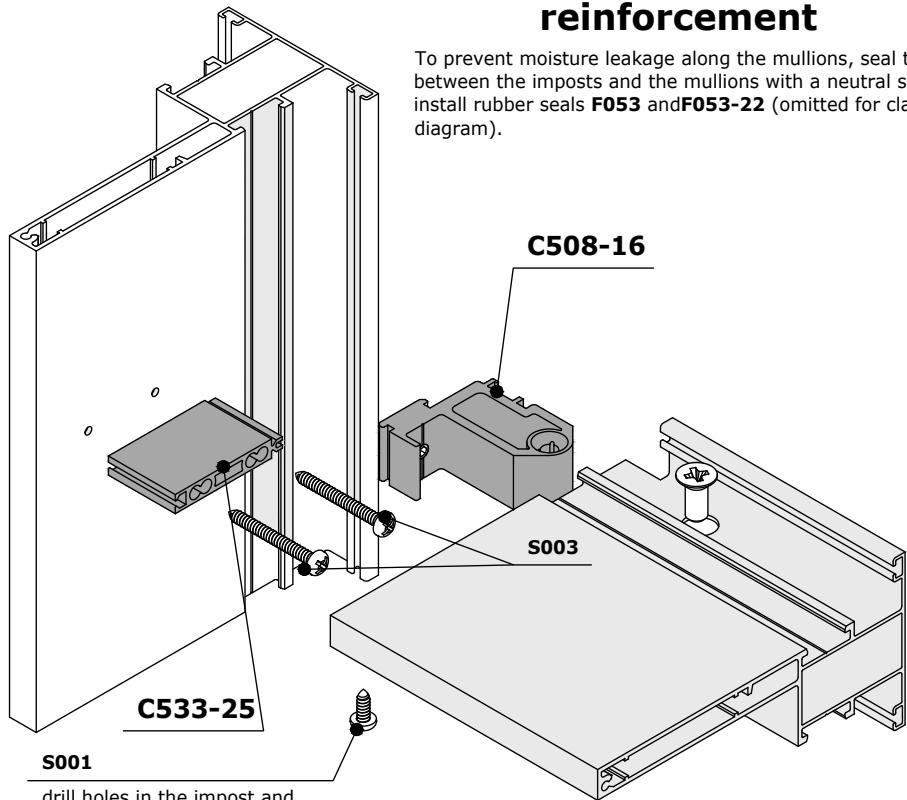


**S222-04-20**  
screw M4x20 pan head, with slot (DIN 912)



## Fastening of reinforced impost to mullion with inward reinforcement

To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals F053 and F053-22 (omitted for clarity on the diagram).



\* — depends on the mullion/impost size

**All profiles with inward reinforcement  
are assembled on C508-16**

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This technical drawing illustrates the assembly and installation of a window frame. The main diagram shows a cross-section of the frame with labels for P22-360, P22-352, P00-084-50, C508-16, S001, F960-07, and P00-084-50. Below this, a detailed view of the P22-352 component shows dimensions: 35, 11,7, and Ø10. A note indicates "drill holes in the impost and block in situ". To the right, a note states: "To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals F053 and F053-22 (omitted for clarity on the diagram)." Below the main diagram, two cross-sectional views of the P22-360 frame are shown, one with a single seal and one with double seals, labeled S001, F960-07, P00-630-75, and C508-16. The bottom right corner shows a label C533-25.

This technical drawing illustrates the assembly of a glass door system, featuring several key components and their installation details:

- Top Left:** A vertical profile labeled **P00-016** is shown being secured to a glass panel. It includes a horizontal slot labeled **S008** and two vertical slots labeled **S007-48-32**. The assembly is held in place by a bracket labeled **F027**.
- Middle Left:** A horizontal profile labeled **P00-016** is shown being secured to a glass panel. It includes a horizontal slot labeled **S008** and two vertical slots labeled **S007-48-32**. The assembly is held in place by a bracket labeled **F027**.
- Bottom Left:** A vertical profile labeled **P05-02-604020** is shown being secured to a glass panel. It includes a horizontal slot labeled **S008** and two vertical slots labeled **S007-48-32**. The assembly is held in place by a bracket labeled **F027**.
- Middle Center:** A long horizontal profile labeled **P00-016** is shown being secured to a glass panel. It includes a horizontal slot labeled **S008** and two vertical slots labeled **S007-48-32**. The assembly is held in place by a bracket labeled **F037-22-01**, which is described as a "steel footplate for MastTech-22 mullions".
- Bottom Right:** A detailed cross-section of a corner assembly labeled **P22-360** is shown. It features a central vertical profile labeled **P20-605-2** and a diagonal profile labeled **P00-630-75**.
- Right Side:** Three horizontal profiles labeled **P22-351**, **P22-352**, and **P22-355** are shown, each featuring a central vertical profile labeled **P20-605-2**.
- Top Right:** A small detail shows a vertical profile being secured to a horizontal surface.



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## Arrangement of moisture removal system

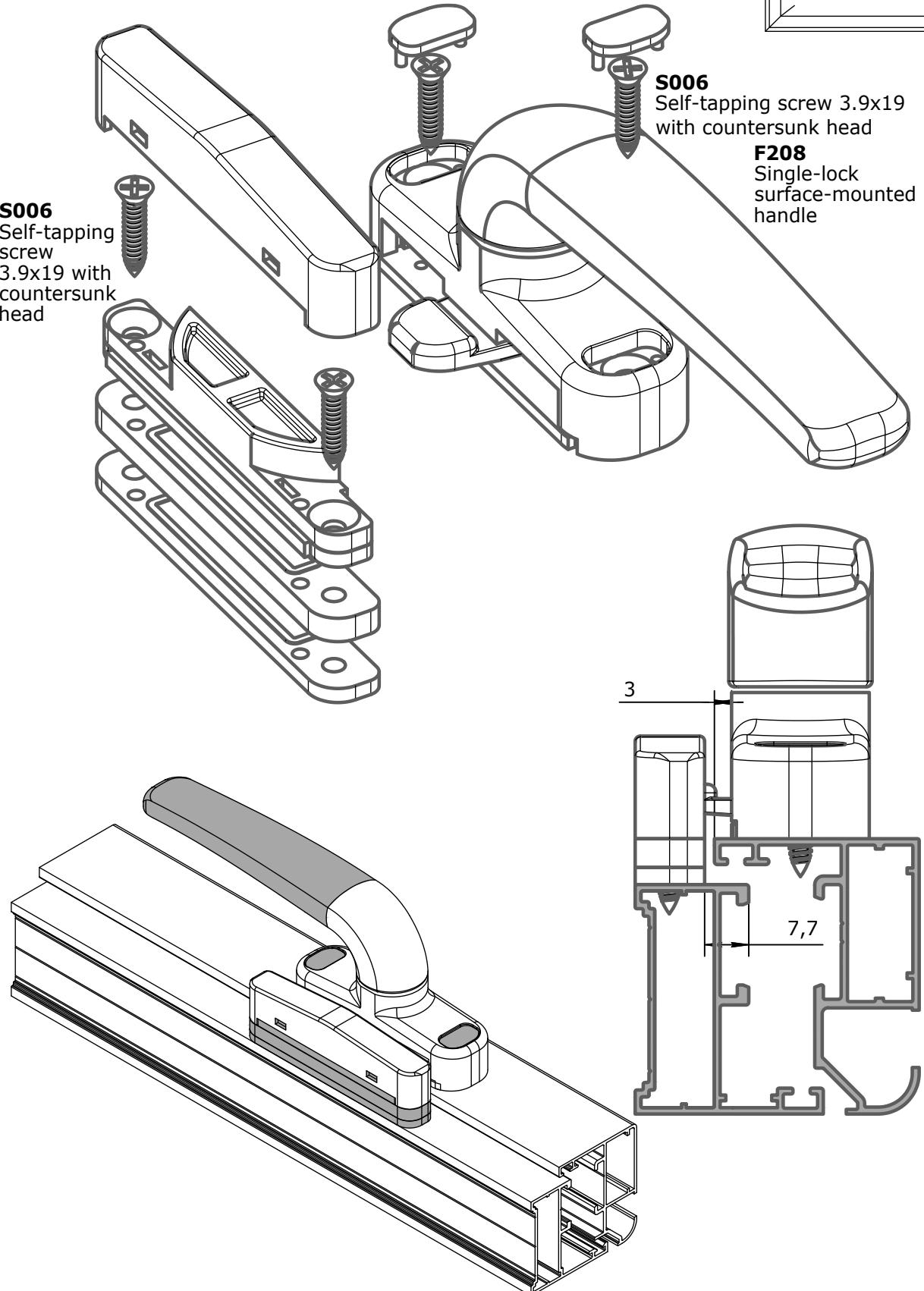
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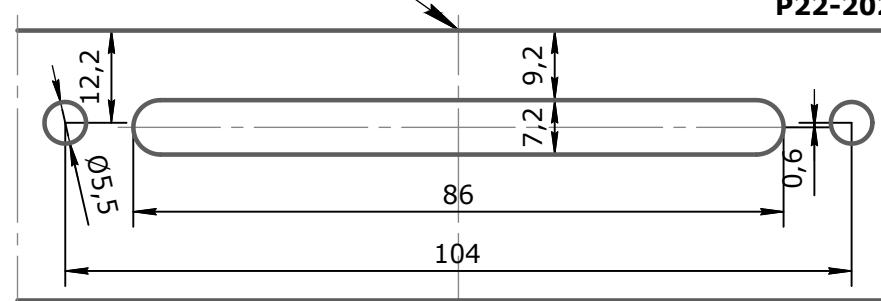
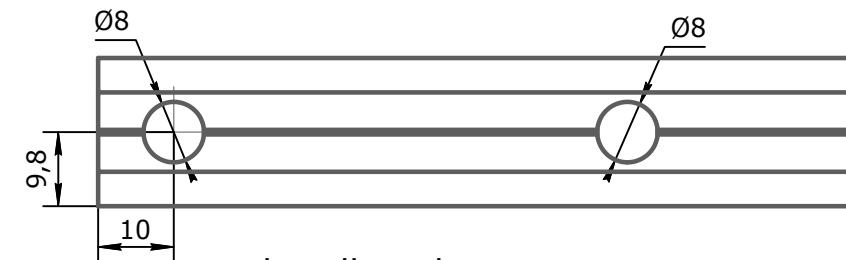
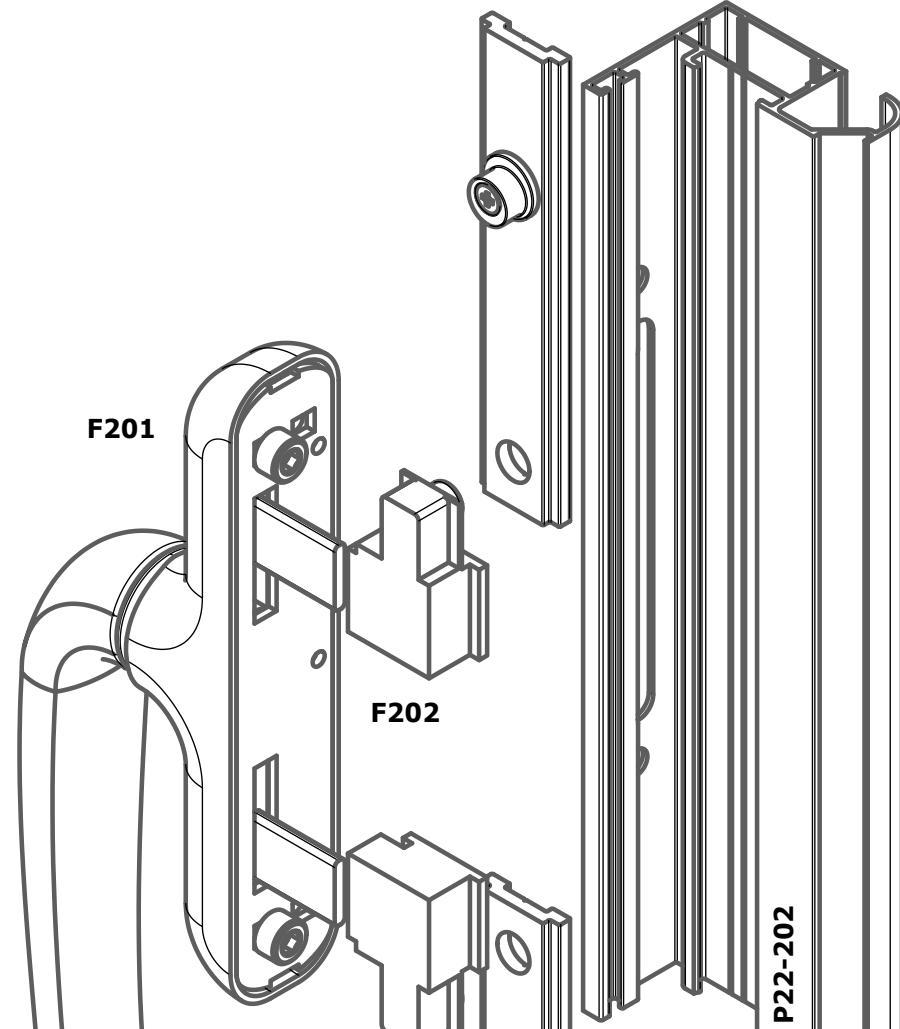
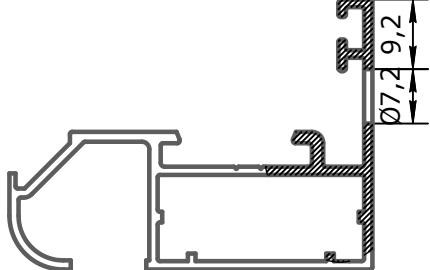
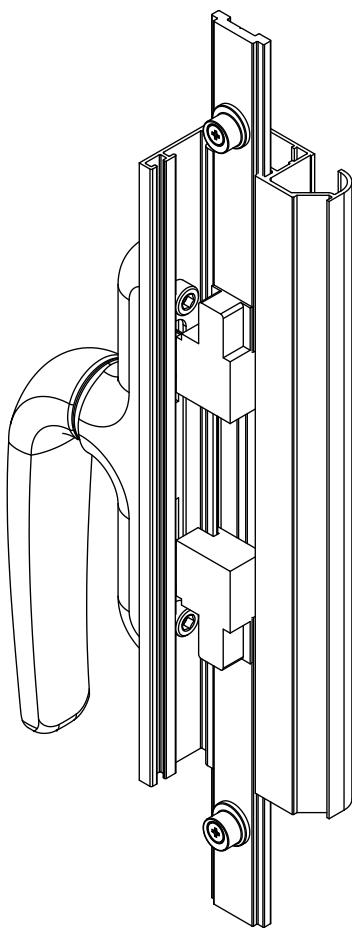
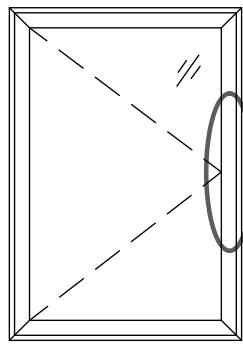




## Installation of F208 single-lock handle

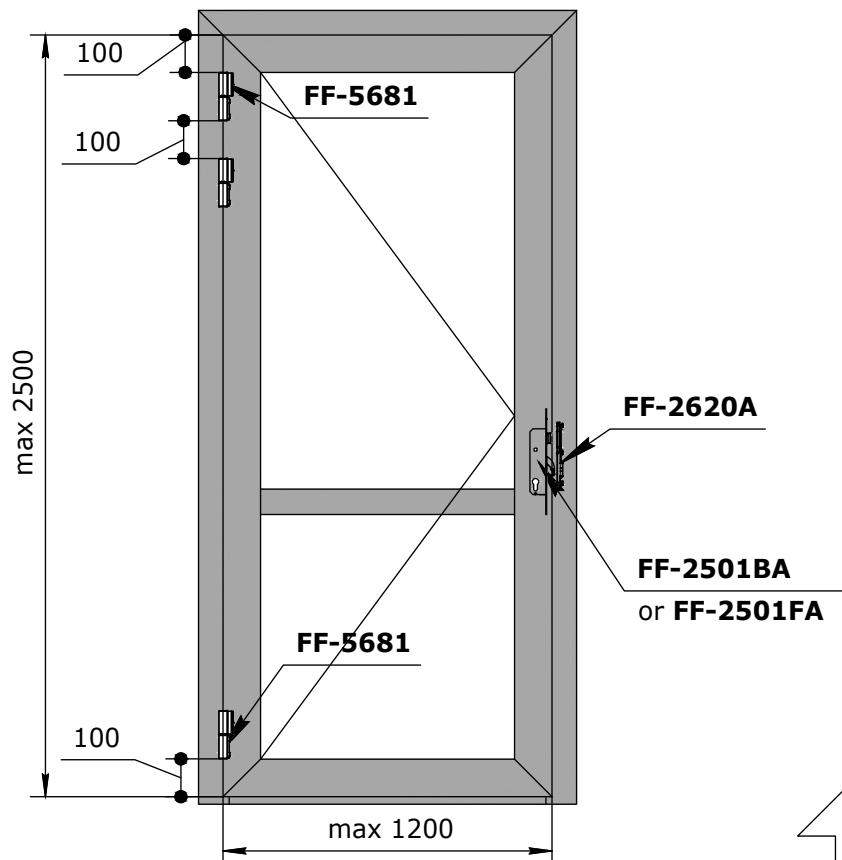


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation

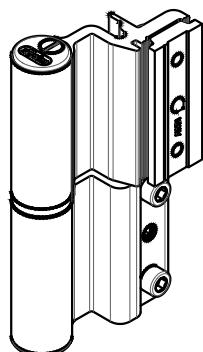


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation

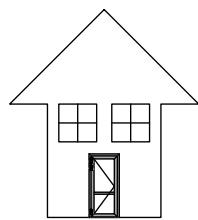
## Fittings installation diagram



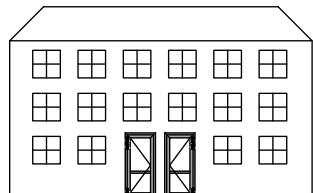
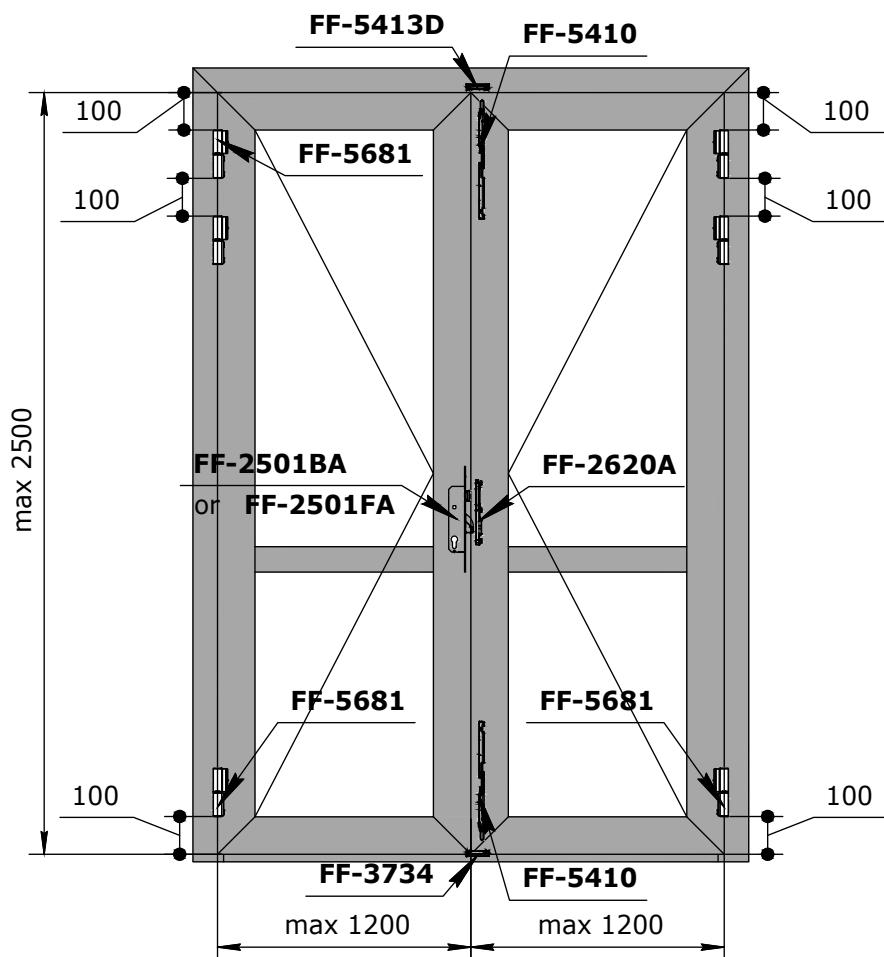
**FF-5681**  
double-section  
groove hinge



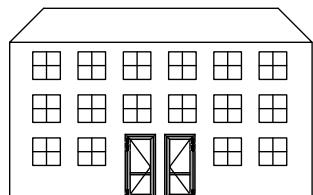
### Maximum load on hinges



for residential  
buildings  
2 hinges – 120 kg  
3 hinges – 138 kg



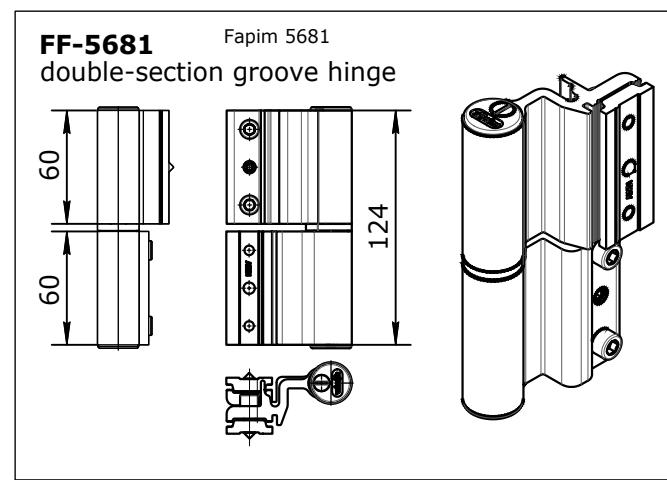
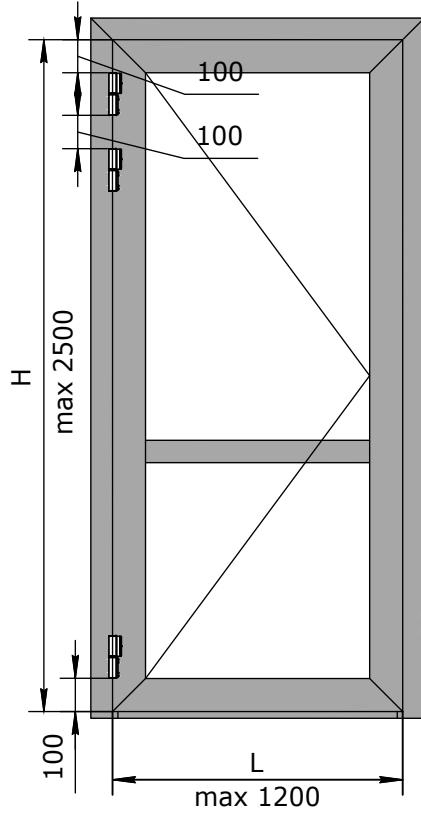
for public buildings  
2 hinges – 110 kg  
3 hinges – 126 kg



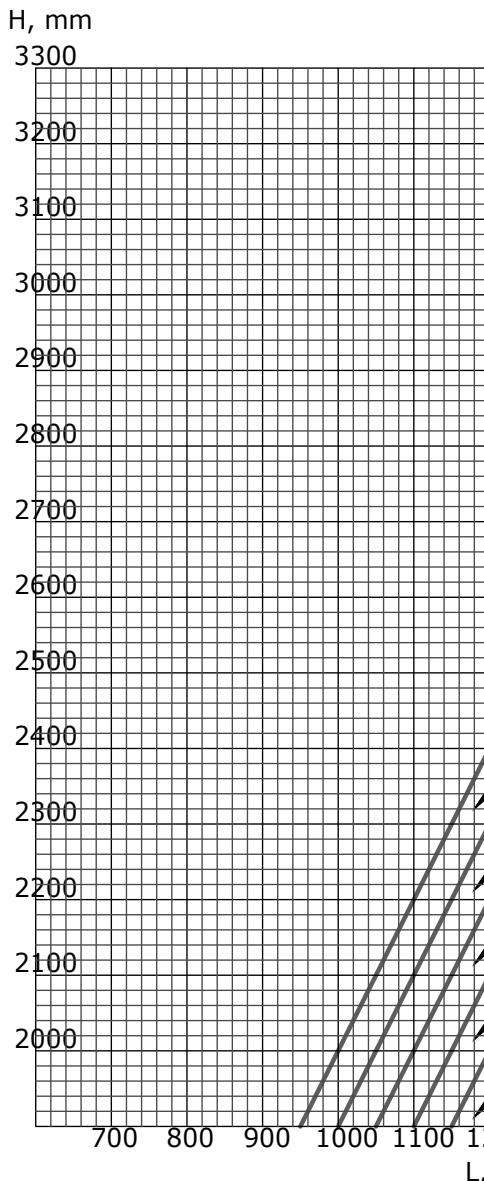
for public buildings, with  
closer  
2 hinges – 100 kg  
3 hinges – 115 kg

The sash weight should not exceed 126 kg

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- Maximum load **for two hinges** is **110 kg** (for public buildings, without installation of door closer).
- Maximum load on hinges is indicated **for two hinges on a sash**, and for conditions when  $H/L \geq 2$ .
- In case  $H/L$  is below 2, maximum load is reduced by 10% for each value of the relation with a pitch of 0.1:
  - $H/L \geq 2 \rightarrow P^{\max}=100\%$
  - $H/L=1.9 \rightarrow P^{\max}=90\%$
  - $H/L=1.8 \rightarrow P^{\max}=80\%$
  - ...
- If a third hinge is installed next to the top hinge, the maximum load is increased by 15%.

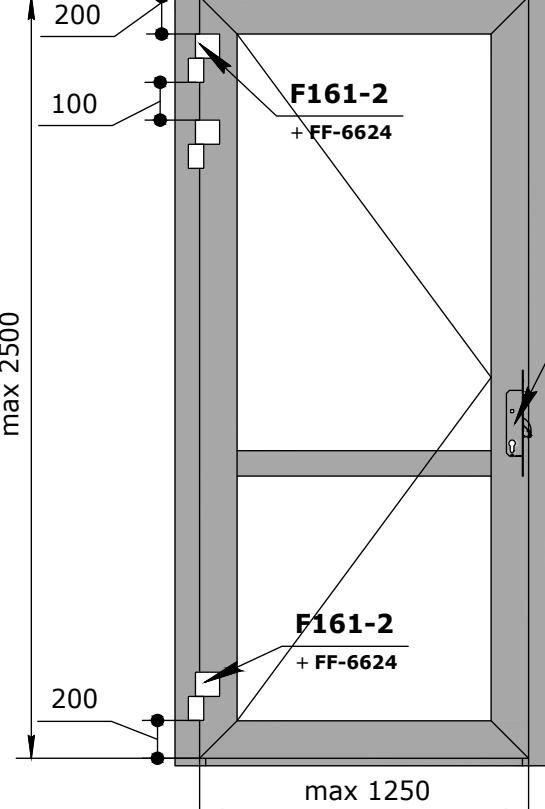


H/L	800	900	1000	1100	1200
	H/L=2.5	H/L=2.2	H/L=2	H/L=1.82	H/L=1.66
2000	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 88 kg 3 hinges < 101 kg	2 hinges < 66 kg 3 hinges < 76 kg
2100	H/L=2.6	H/L=2.3	H/L=2.1	H/L=1.9	H/L=1.75
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 99 kg 3 hinges < 114 kg	2 hinges < 77 kg 3 hinges < 88 kg
2200	H/L=2.75	H/L=2.4	H/L=2.2	H/L=2	H/L=1.8
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 88 kg 3 hinges < 101 kg	
2300	H/L=2.87	H/L=2.5	H/L=2.3	H/L=2.1	H/L=1.9
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 99 kg 3 hinges < 114 kg	
2400	H/L=3	H/L=2.6	H/L=2.4	H/L=2.2	H/L=2
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
2500	H/L=3.1	H/L=2.7	H/L=2.5	H/L=2.3	H/L=2.08
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
2600	H/L=3.25	H/L=2.8	H/L=2.6	H/L=2.3	H/L=2.17
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
2700	H/L=3.37	H/L=3	H/L=2.7	H/L=2.4	H/L=2.25
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
2800	H/L=3.5	H/L=3.1	H/L=2.8	H/L=2.5	H/L=2.3
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
2900	H/L=3.6	H/L=3.2	H/L=2.9	H/L=2.6	H/L=2.4
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
3000	H/L=3.75	H/L=3.3	H/L=3	H/L=2.7	H/L=2.5
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
3100	H/L=3.8	H/L=3.4	H/L=3.1	H/L=2.8	H/L=2.58
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
3200	H/L=4	H/L=3.55	H/L=3.2	H/L=2.9	H/L=2.66
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg
3300	H/L=4.125	H/L=3.33	H/L=3.3	H/L=3	H/L=2.75
	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg	2 hinges < 110 kg 3 hinges < 126 kg



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sections	glazing tables	sub-assemblies	contents							

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stained glass insulation														stained glass insulation	
contents														contents	



## Maximum load on hinges

for public buildings

double-section hinges

2 hinges — 145 kg

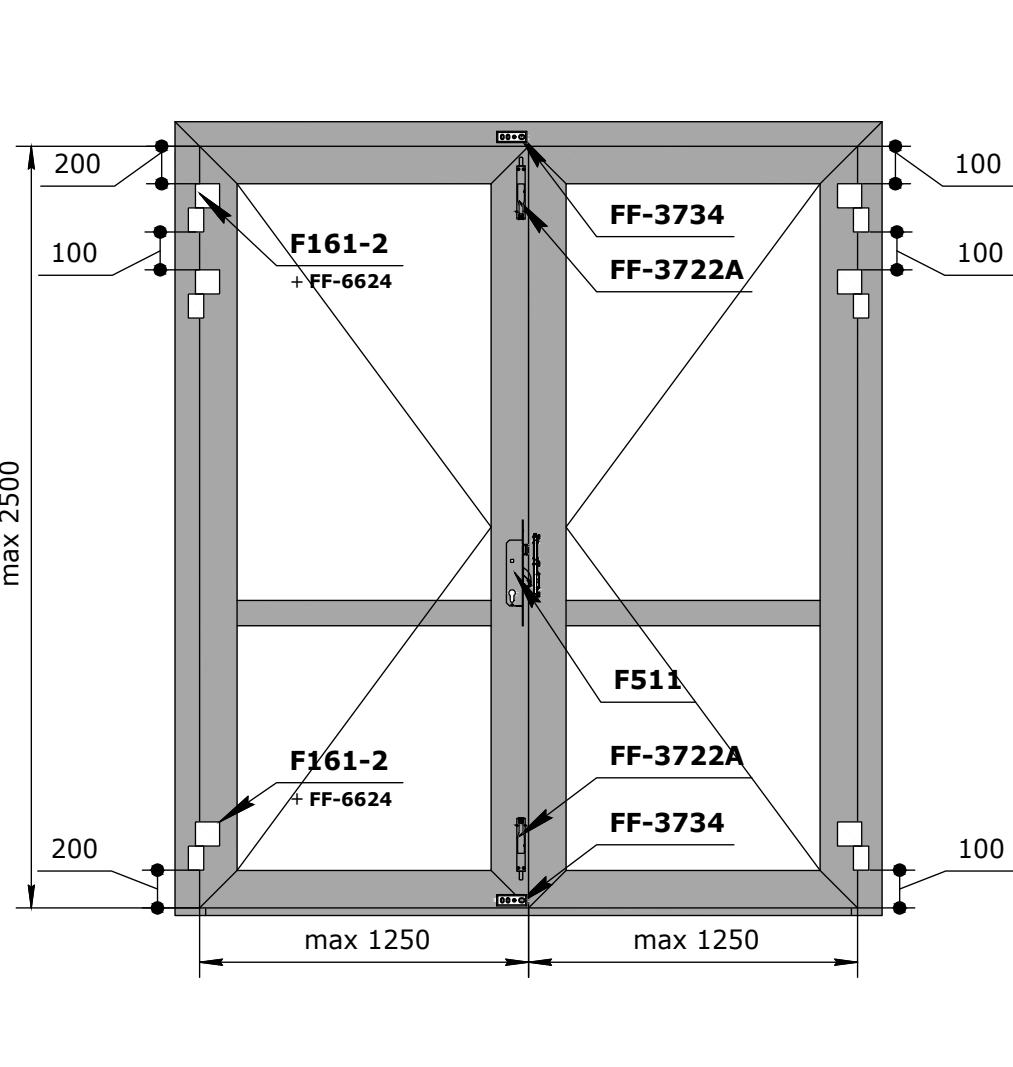
3 hinges — 165 kg

three-section hinges

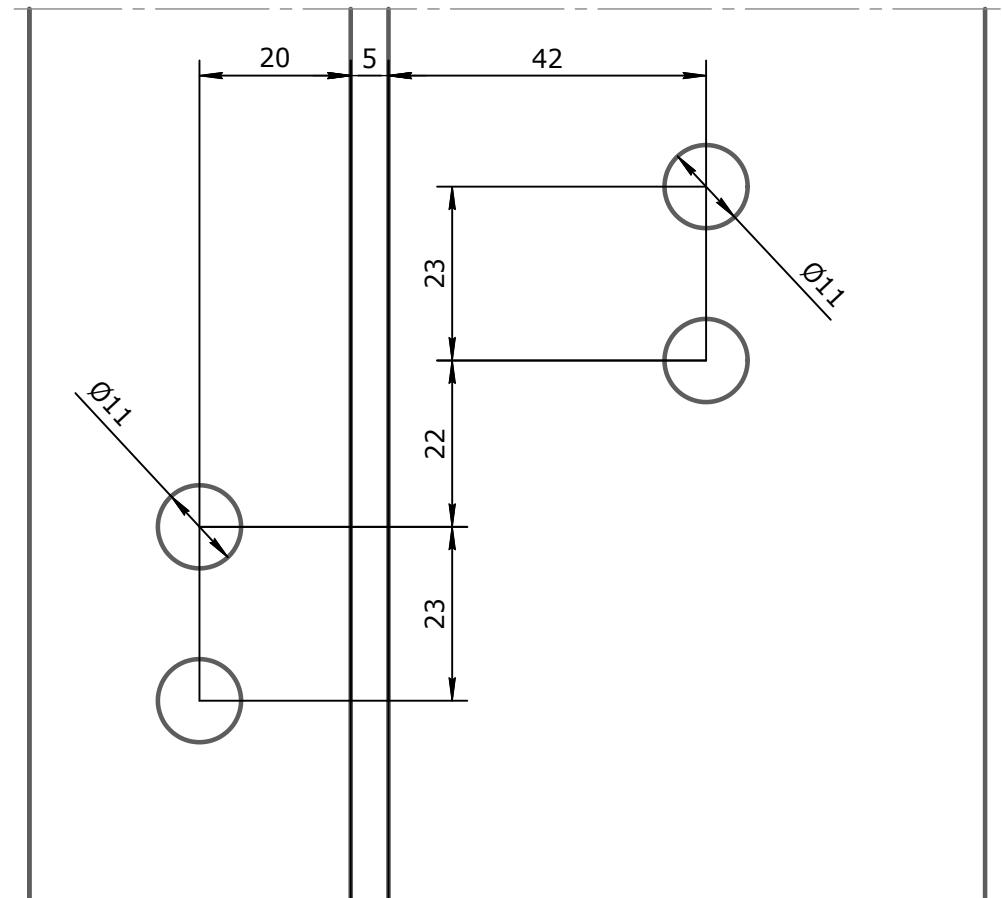
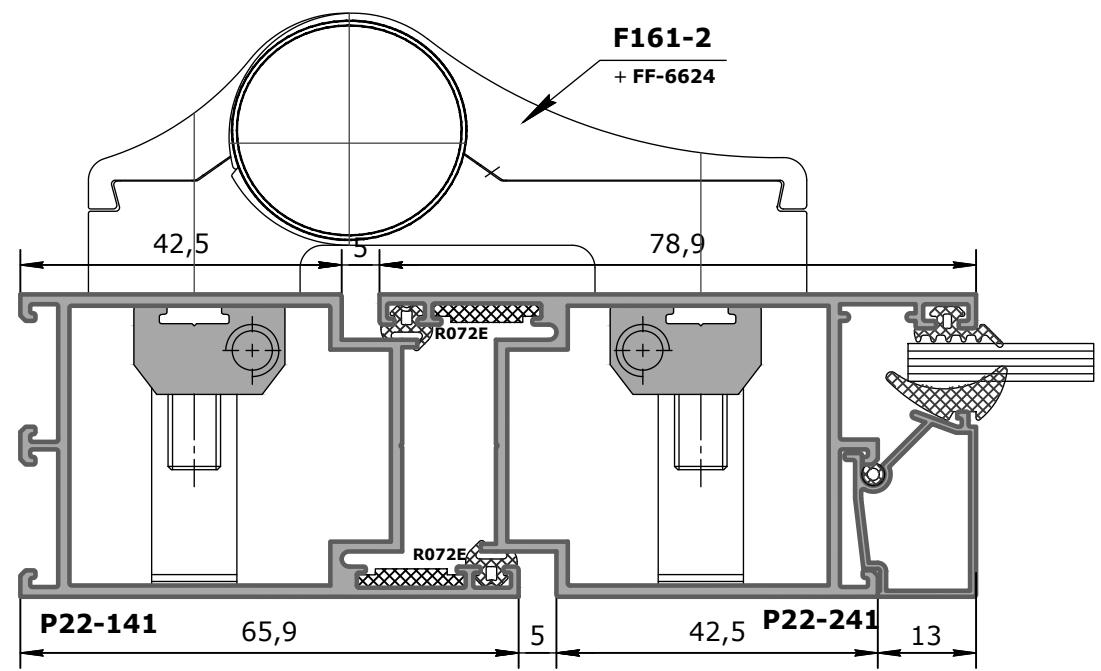
2 hinges — 150 kg

3 hinges — 170 kg

- Maximum load for two surface mounted 2-section hinges is **145 kg** (for public buildings, without installation of door closer).
- Maximum load on hinges is indicated for two hinges on a sash, and for conditions when  $H/L \geq 2$ .
- In case  $H/L$  is below 2, maximum load is reduced by 10% for each value of the relation with a pitch of 0.1:
- ...  
If a third hinge is installed next to the top hinge, the maximum load is increased by 15%.



contents							
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	contents
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fitting layout	sub-assemblies	contents



In case surface-mounted hinges are used, those can be of any make with center-to-center distance from 56 to 80 mm. Hinges must be used with embedded elements. Use of hinges on anchors is not allowed.

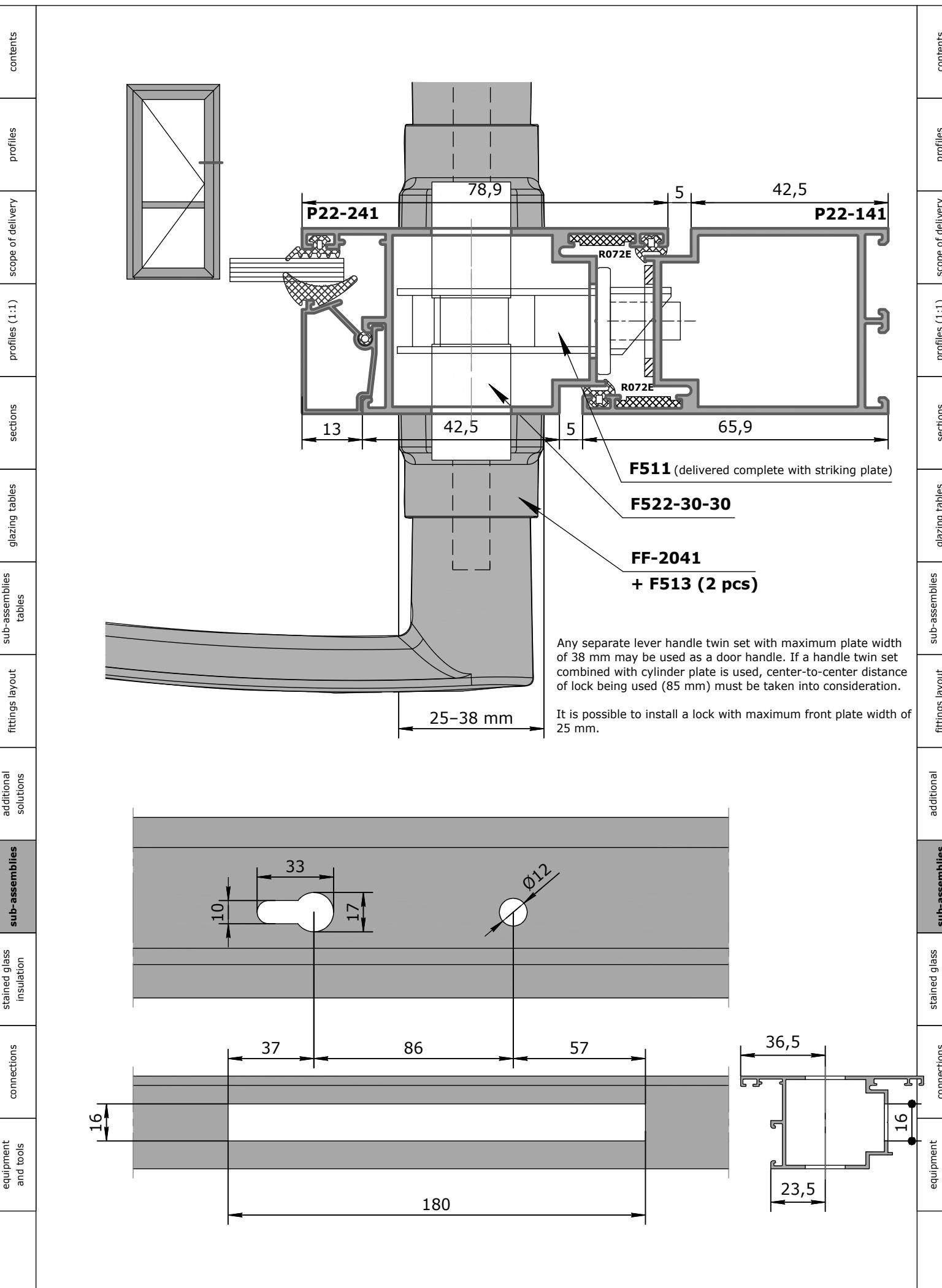
This technical diagram illustrates the assembly of a window handle mechanism, likely for a double-glazed unit. It consists of several parts shown in exploded view on the left and assembled in three-dimensional perspective on the right.

**Left Column (Exploded View):**

- Equipment and tools:** Shows the basic components required for assembly.
- Connections:** Shows how the handle is connected to the window frame.
- Stained glass insulation:** Shows the thermal sealant used between glass panes.
- additional solutions:** Shows alternative component configurations.
- sub-assemblies:** Shows the internal structure of the handle mechanism.
- sub-assemblies tables:** Shows the dimensions and tolerances for the sub-assemblies.
- glazing tables:** Shows the dimensions and tolerances for the glazing operation.
- fittings layout:** Shows the layout of fittings on the handle.
- profile:** Shows the profile of the handle.
- scope of delivery:** Shows the scope of delivery for the handle.
- contents:** Shows the overall contents of the assembly.

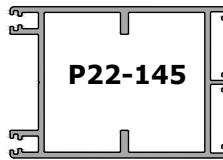
**Right Column (Assembly Instructions):**

- Step 1:** Shows the initial assembly of the handle mechanism. A dimension of  $+2,5$  and  $-2,5$  is indicated with arrows. A small icon shows a cross with arrows pointing in different directions.
- Step 2:** Shows the handle being rotated. Dimensions  $-0,5$  and  $+0,5$  are indicated with arrows. Icons show a cross with arrows and a vertical arrow pointing up.
- Step 3:** Shows the handle fully rotated. A dimension of  $+4$  is indicated with an arrow. An icon shows a vertical arrow pointing up.
- Step 4:** Shows the handle being rotated back. A dimension of  $+2,5$  and  $-2,5$  is indicated with arrows. An icon shows a cross with arrows.
- Step 5:** Shows the handle being rotated again. Dimensions  $-0,5$  and  $+0,5$  are indicated with arrows. Icons show a cross with arrows and a vertical arrow pointing up.
- Step 6:** Shows the handle fully rotated. A dimension of  $+4$  is indicated with an arrow. An icon shows a vertical arrow pointing up.

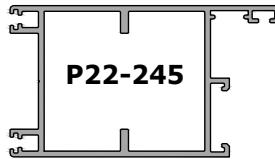


## L-joint assembly: Sash P22-245

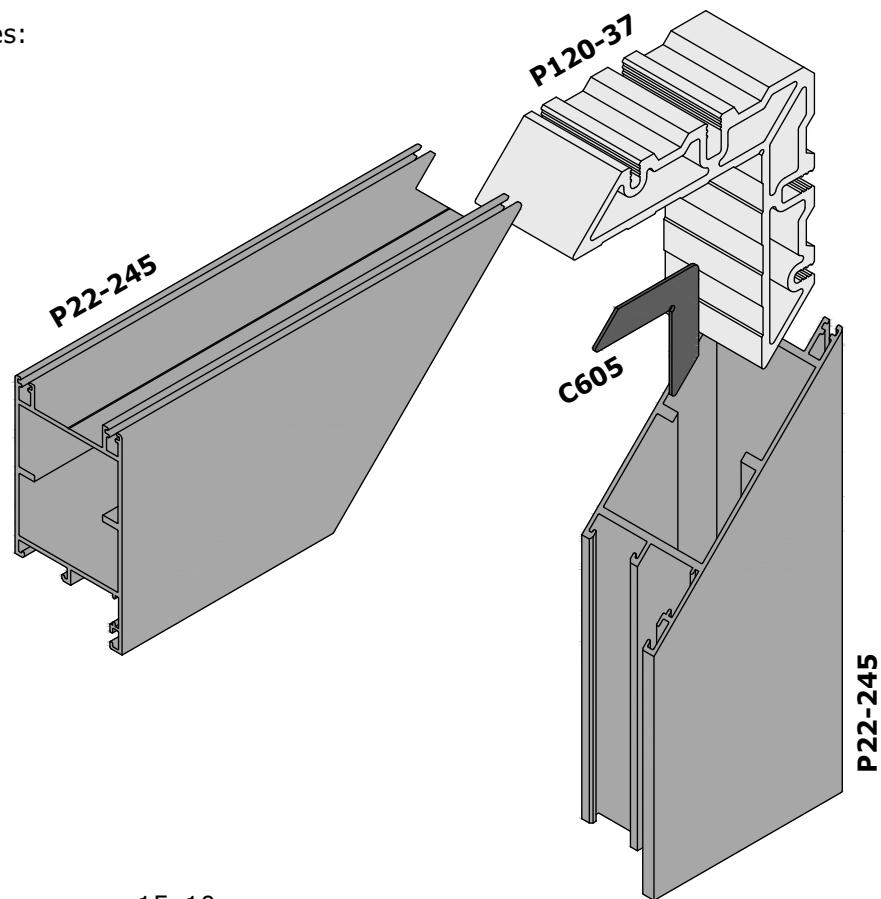
This assembly is valid (with small changes) for corner joints of the following profiles:



P22-145

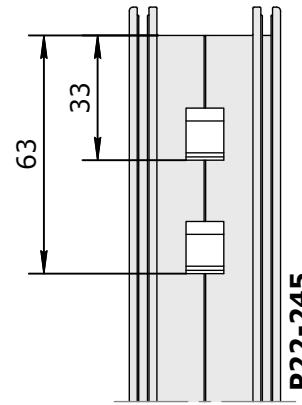


P22-245

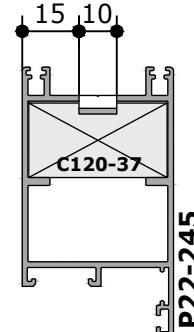


P22-245

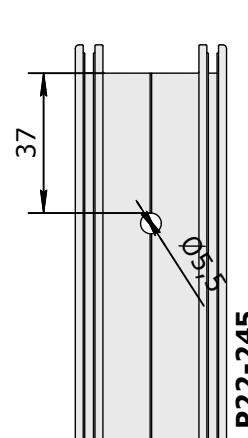
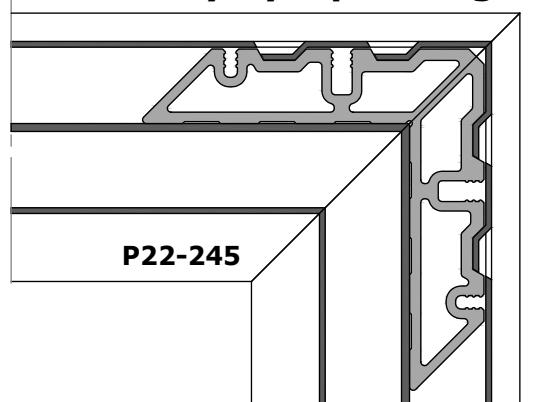
### Assembly by squeezing



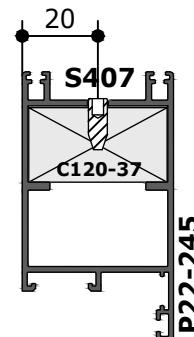
P22-245



P22-245

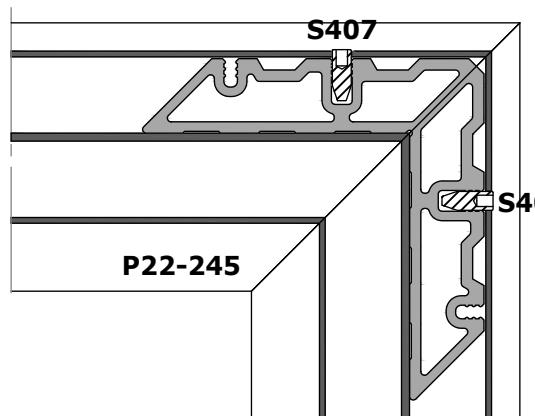


P22-245



P22-245

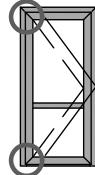
### Assembled on pins



S407

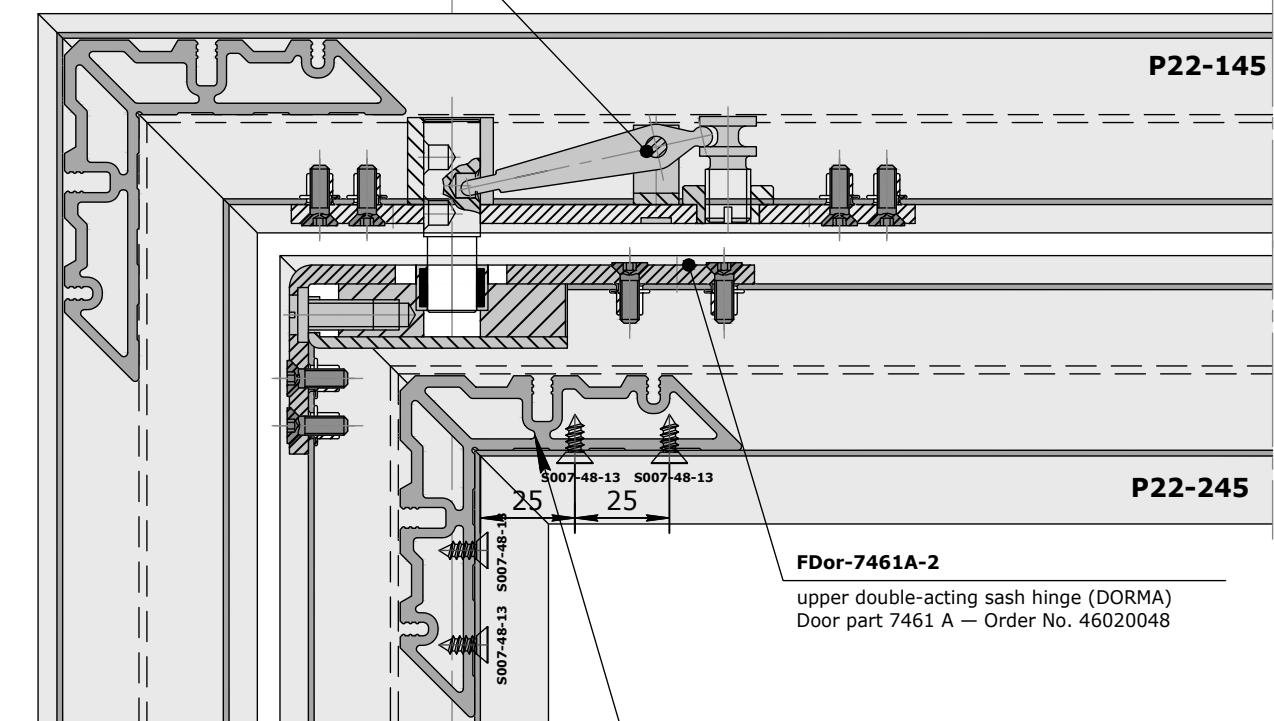
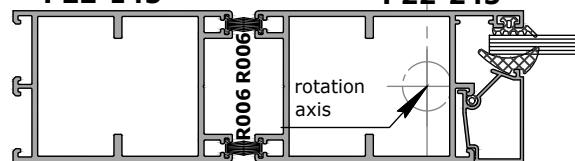
S407

## Installation of double-acting fittings

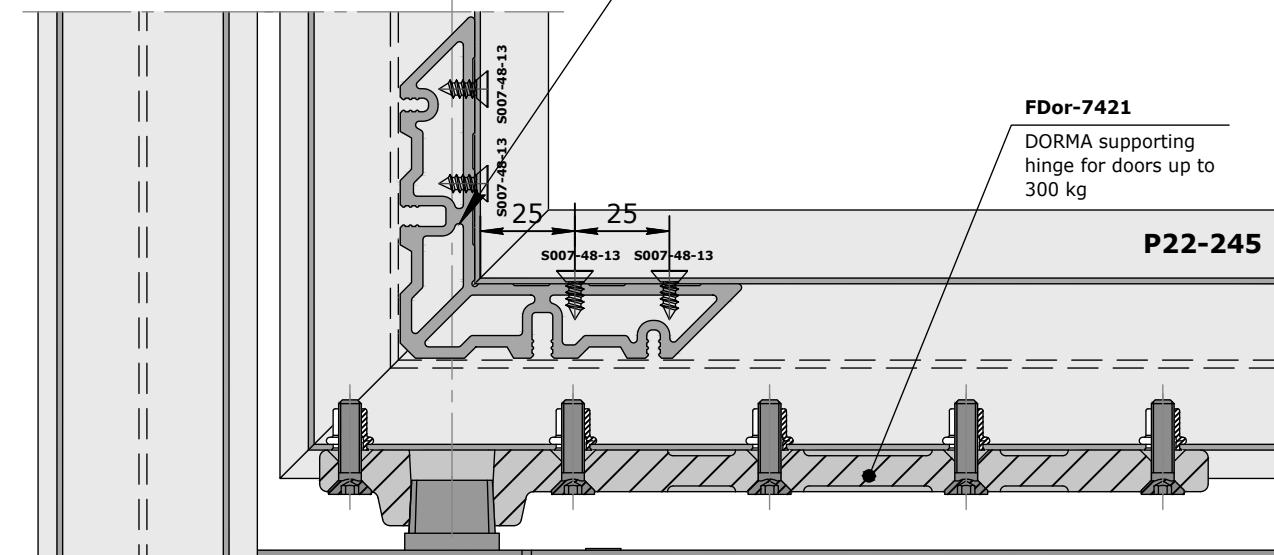
**FDor-7461A-1**

upper double-acting hinge  
(DORMA)

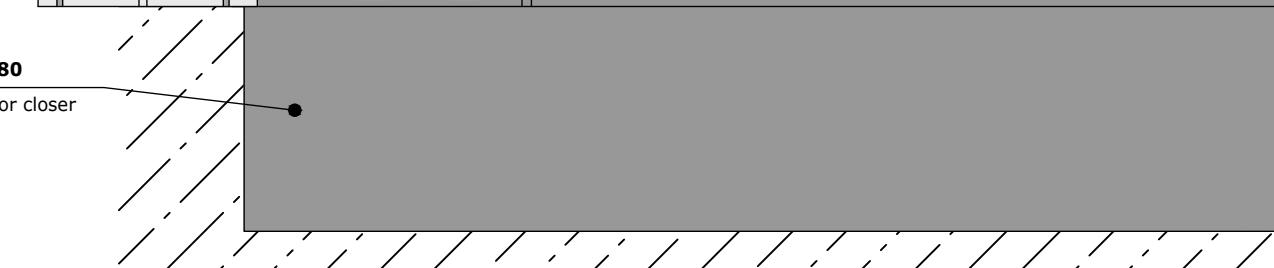
Frame part 7461 A — Order No. 46020050

**P22-145****P22-245**

Embedded element in the fittings installation area of the double-acting swing door sash is installed into the internal chamber and fastened with self-tapping screws and adhesive

**FDor-BTS80**

DORMA floor closer



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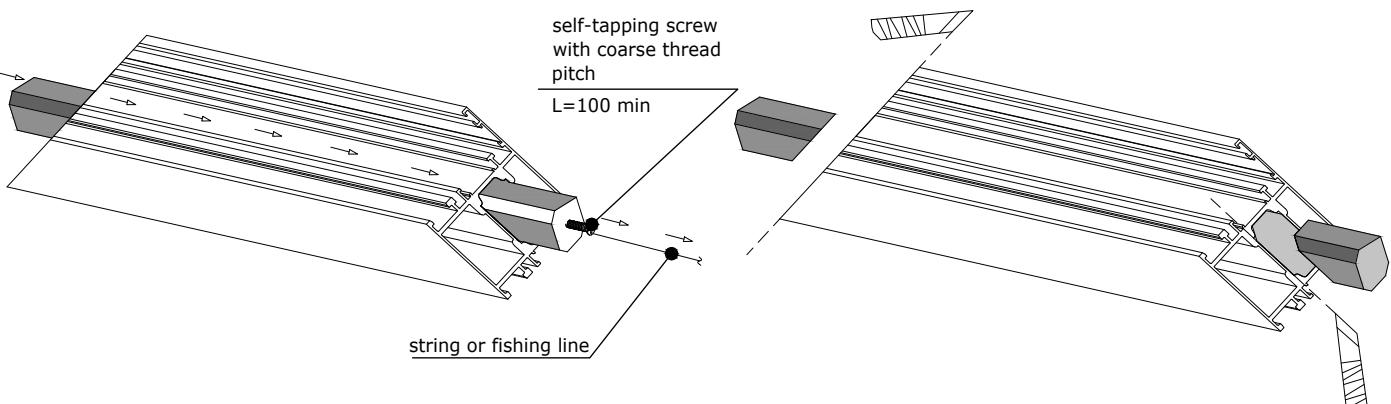
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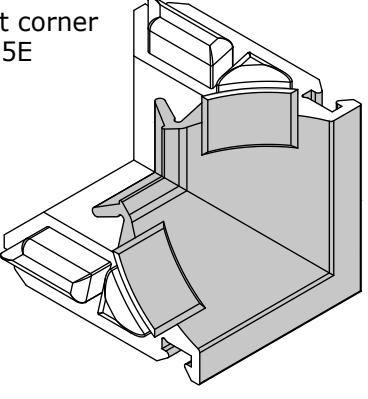
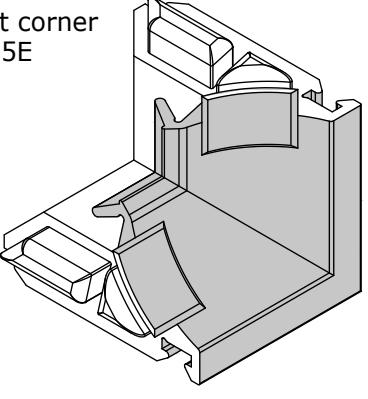
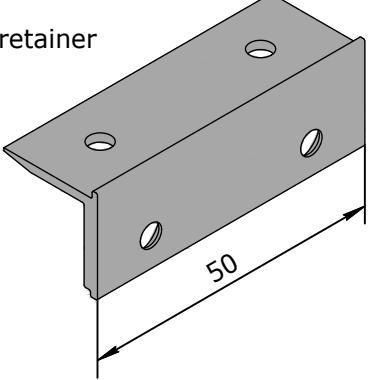
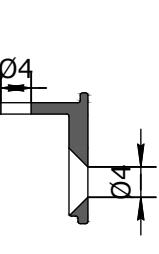
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		F068-75 Medium gasket corner connector R075E													
															
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scope of delivery		profiles (1:1)		sections		glazing tables		sub-assemblies tables		glazing tables		sub-assemblies tables			
contents		scope of delivery		profiles (1:1)		sections		glazing tables		sub-assemblies tables		glazing tables			
<b>F068-75</b> Medium gasket corner connector R075E								<b>S001</b> Self-tapping screw 3.5x9.5 flat head <b>S002</b> Self-tapping screw 3.5x13 flat head <b>S003</b> Self-tapping screw 3.5x32 flat head <b>S006</b> Self-tapping screw 3.9x19 socket head <b>S006-13</b> Self-tapping screw 3.9x13 socket head <b>S008</b> Self-tapping screw 3.9x32 socket head <b>S015</b> Self-tapping screw 5.5x45 socket head <b>Sd003</b> Bore-end self-tapping screw 3.9x19 socket head <b>Sd005-48-70</b> Bore-end self-tapping screw 4.8x70 flat head <b>Sd001</b> Bore-end self-tapping screw 3.9x32 socket head							
<b>F22-050</b> insulating material retainer						<b>S202</b> Screw M6x14 Socket Head <b>S205</b> setting screw M5x10 <b>S216</b> Screw M4x7 flat head <b>S330-06</b> screw rivet M6 <b>S402</b> round pin d5x15 <b>S403</b> round pin d5x10									
manufactured from profile P22-050															

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66													
R055E													
R019E													
P00-504-2													
68													
R055E													
R004E													
P00-503-25													
70													
R055E													
R065-2E													
P00-503-2													
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R055E													
R019E													
P00-503-2													
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78													
R055E													
R019E													
P00-502-2													
80													
R055E													
R004E													
P00-501-25													

Selection of gaskets to be used for installation of DGUs into aluminum structures regulated by the Masttech systems technical documentation is indicative and serves solely for drawing up of primary specification of materials used. Since regulatory documentation on glued double-glazed units (GOSTs, SP, TU, etc.) allows for fluctuation of their thickness within tolerance of +/- 1 mm, the selection of specific gaskets to be used must be performed by way of trial for each batch of DGUs. Otherwise connection between the gaskets and the may not be tight enough, which will lead to leaks and draughts. Company that installed aluminum structures will be responsible for that.

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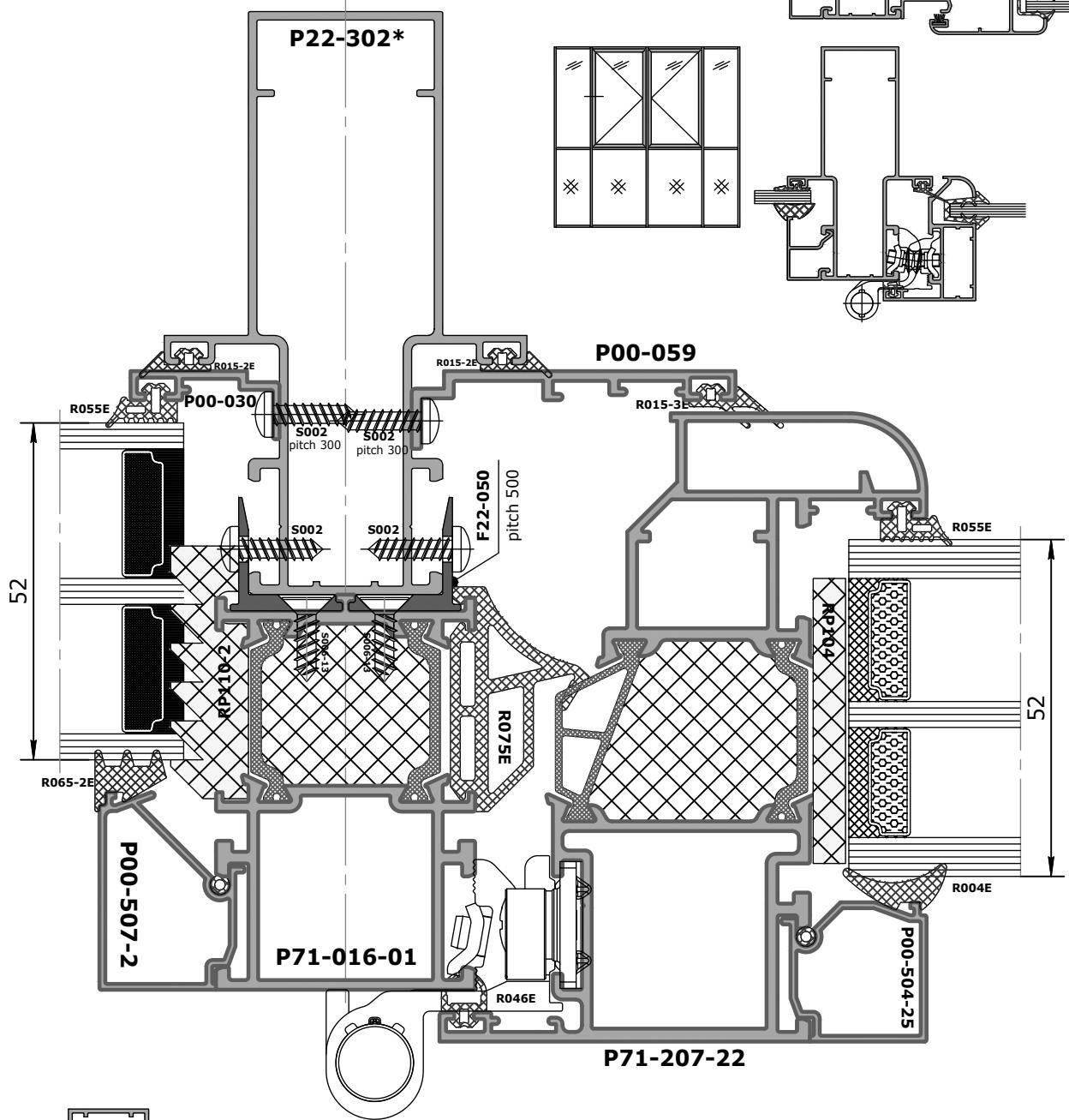
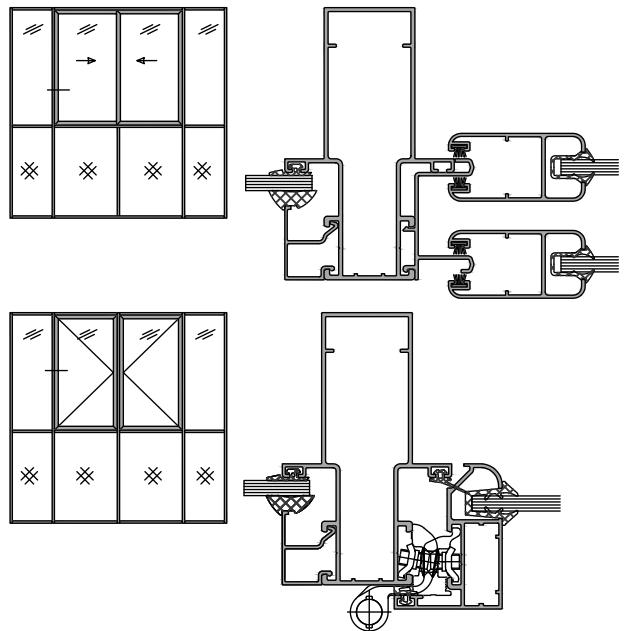


The exterior finish and connection are shown schematically.

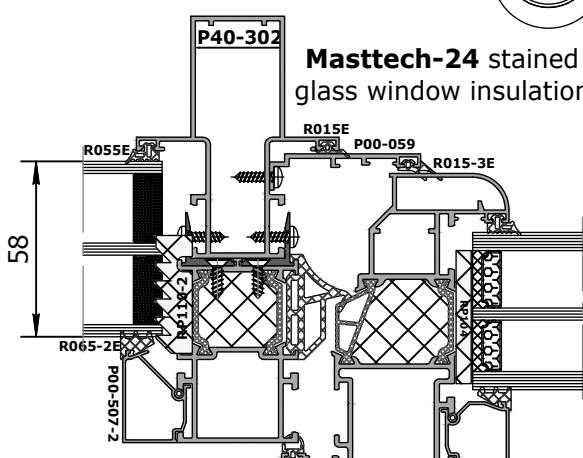


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	additional solutions	fittings layout	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	stained glass insulation

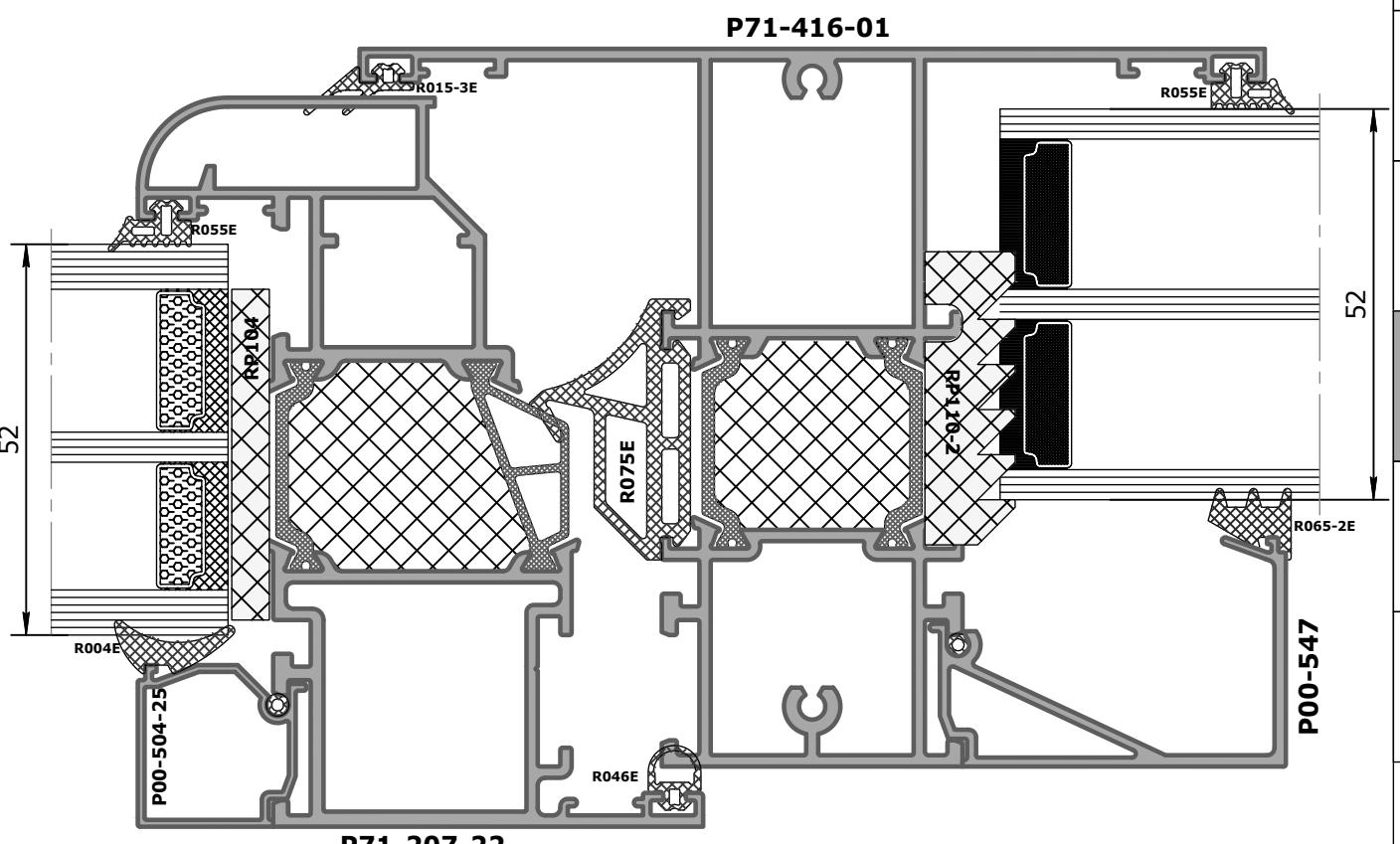
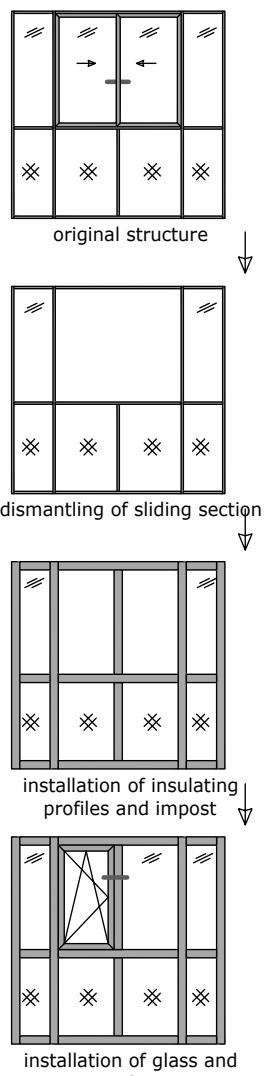
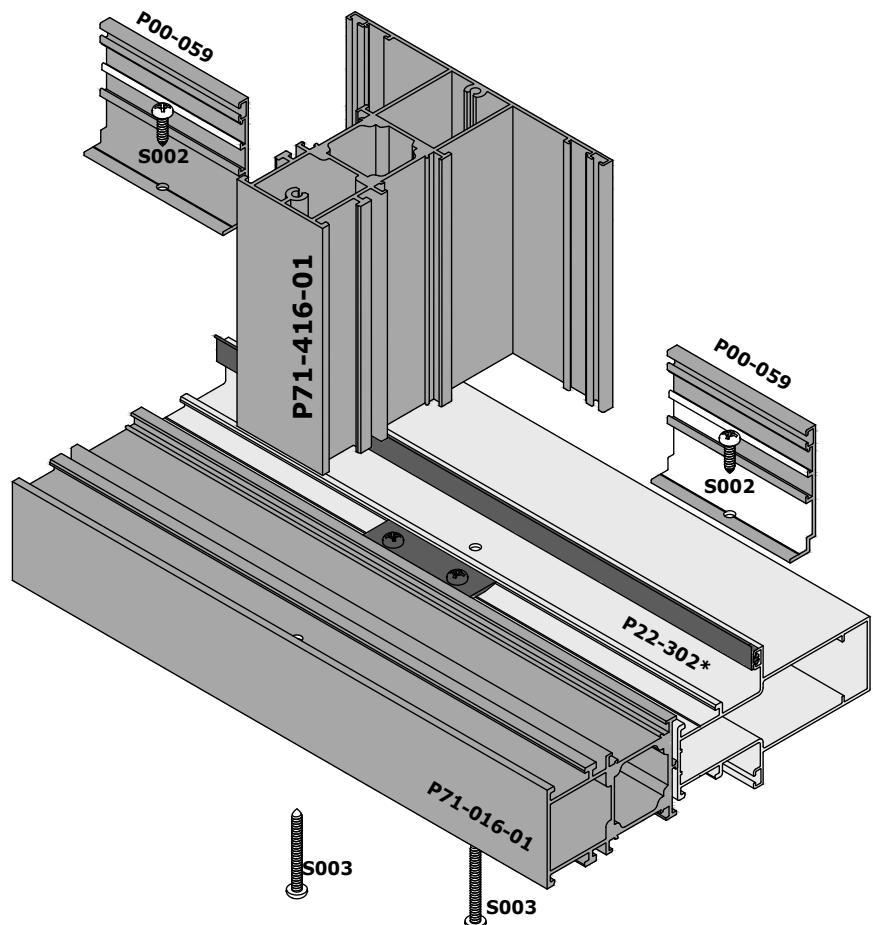
original assembly



Masttech-24 stained glass window insulation

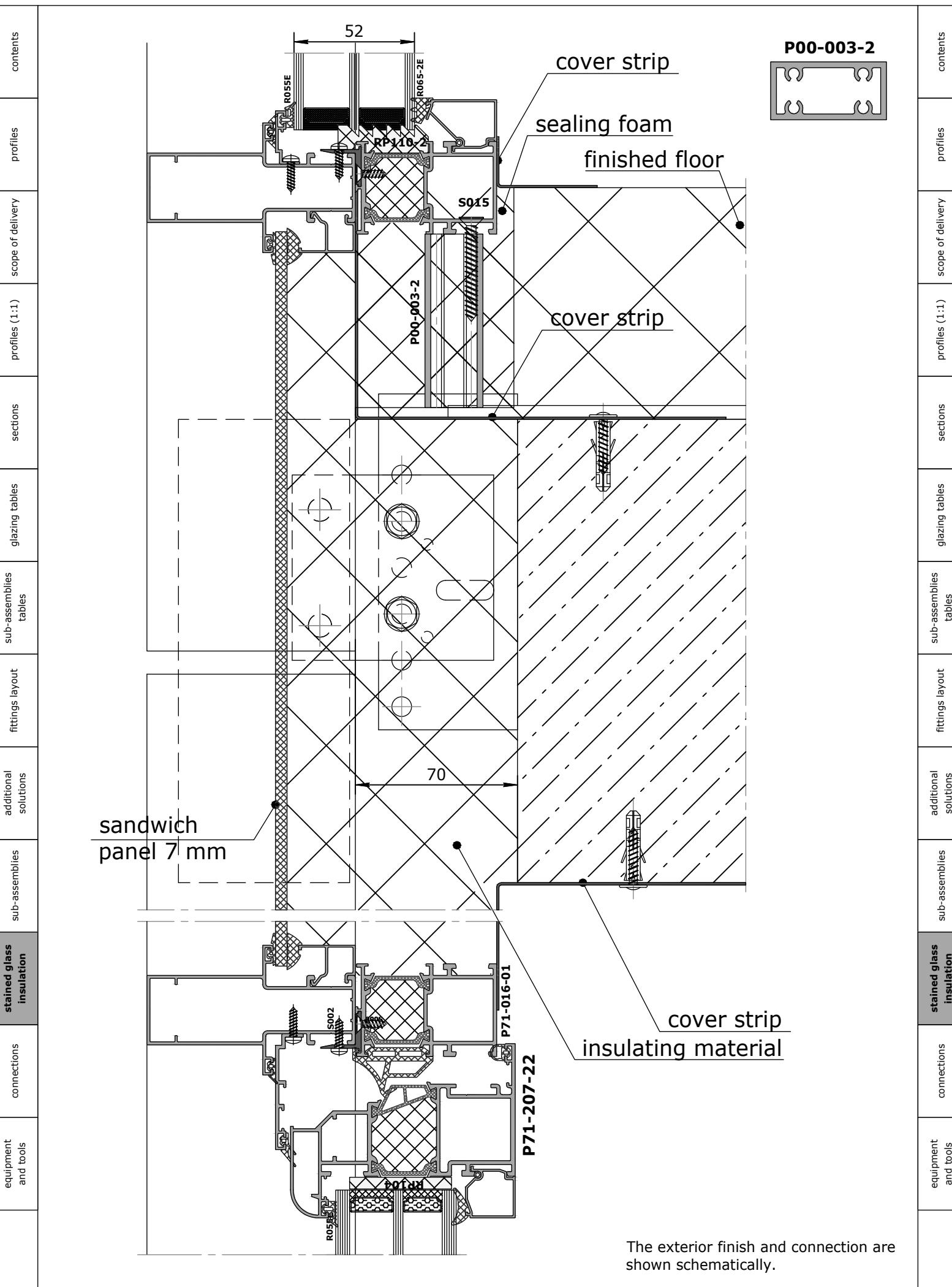






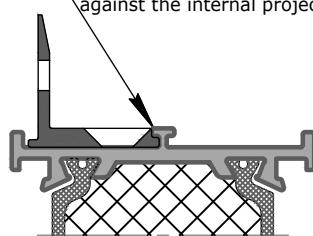
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents	contents



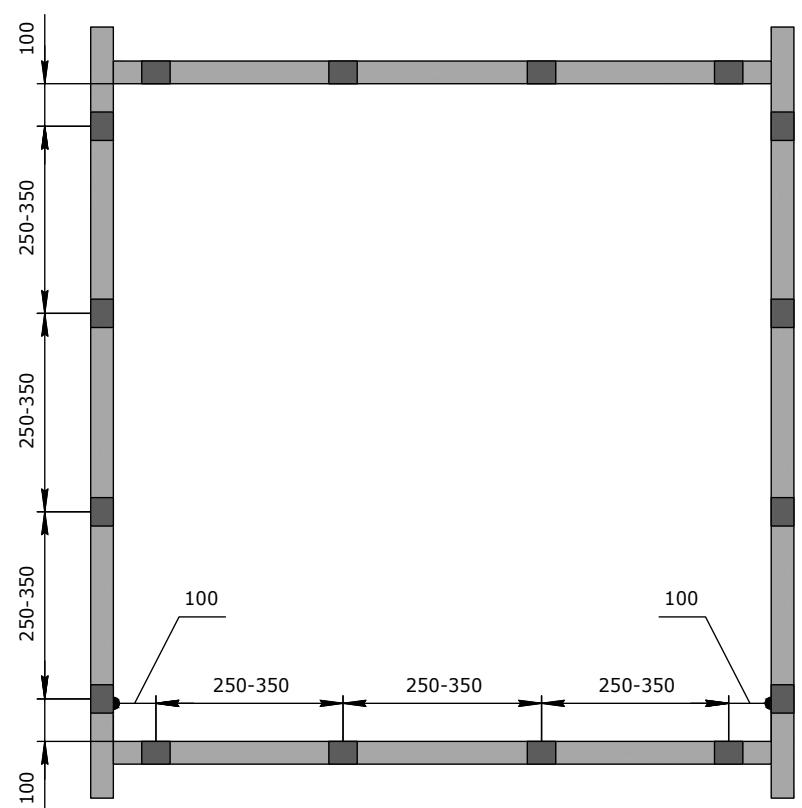
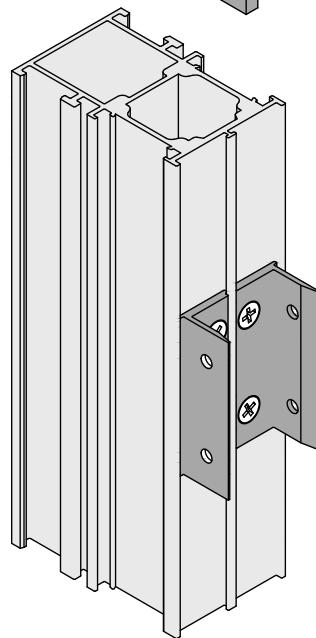
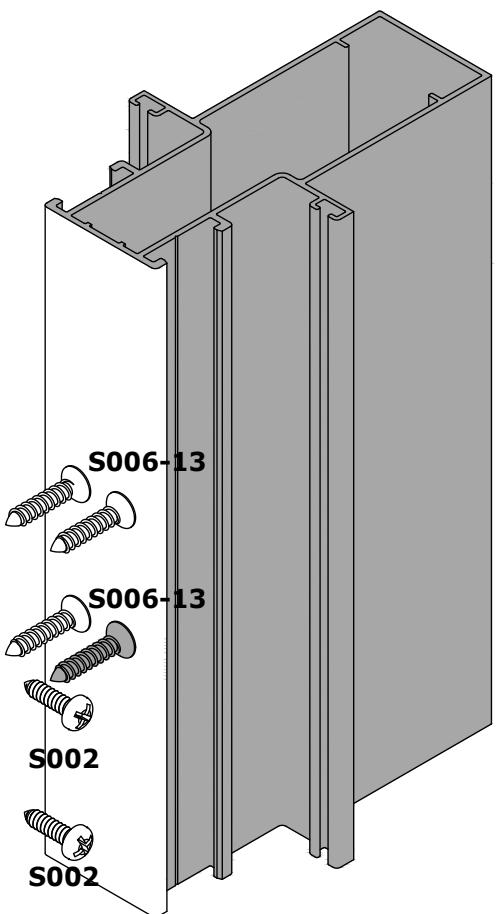
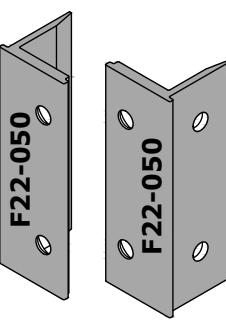
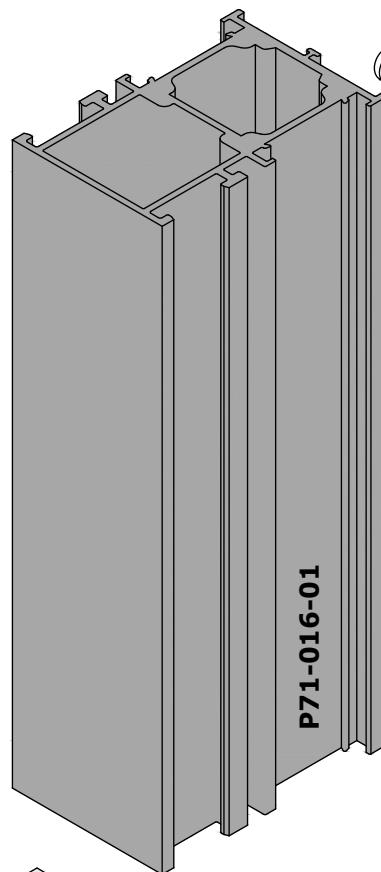
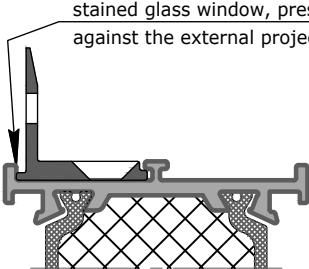


## Mullion plate installation area

For installation on a **Masttech-22** stained glass window, press against the internal projection.



For installation on a **Masttech-24** stained glass window, press against the external projection.



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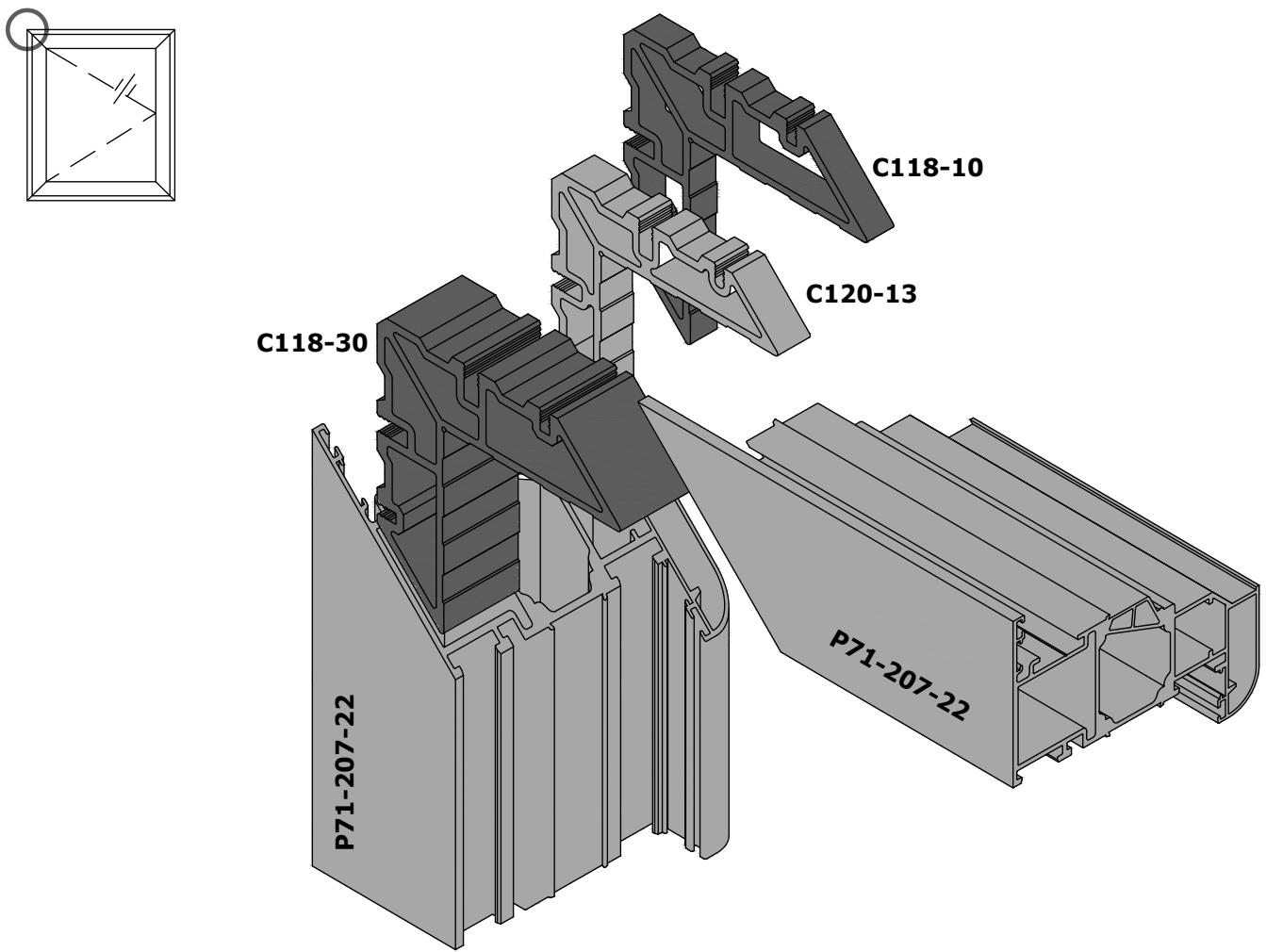
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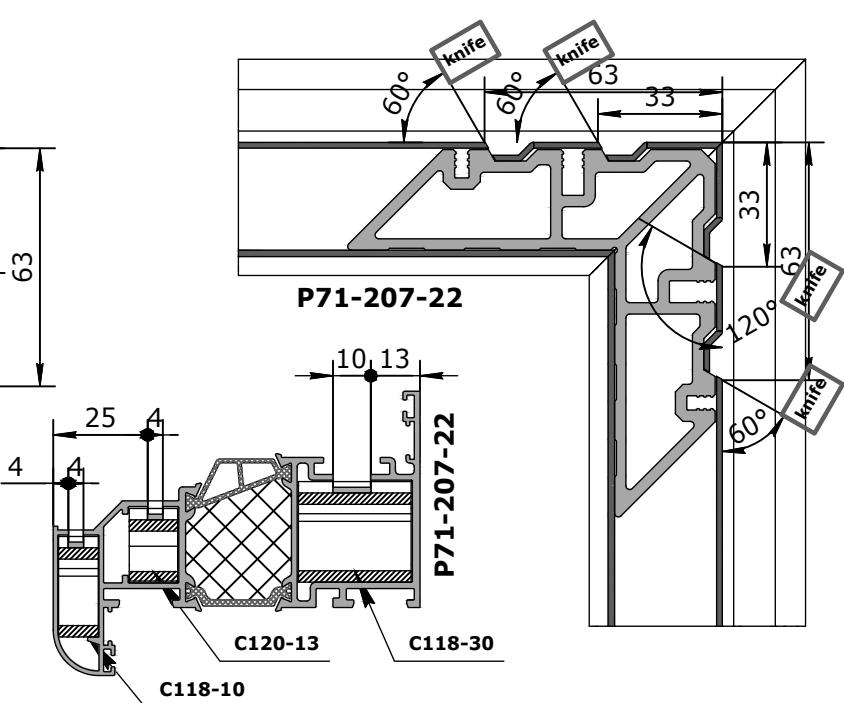
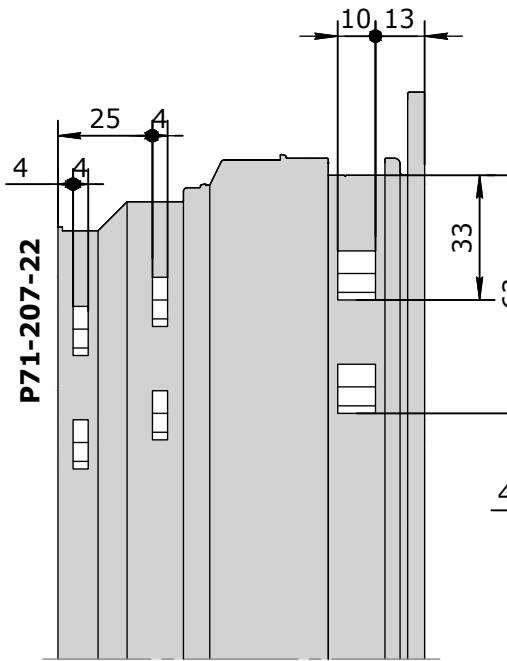
additional solutions

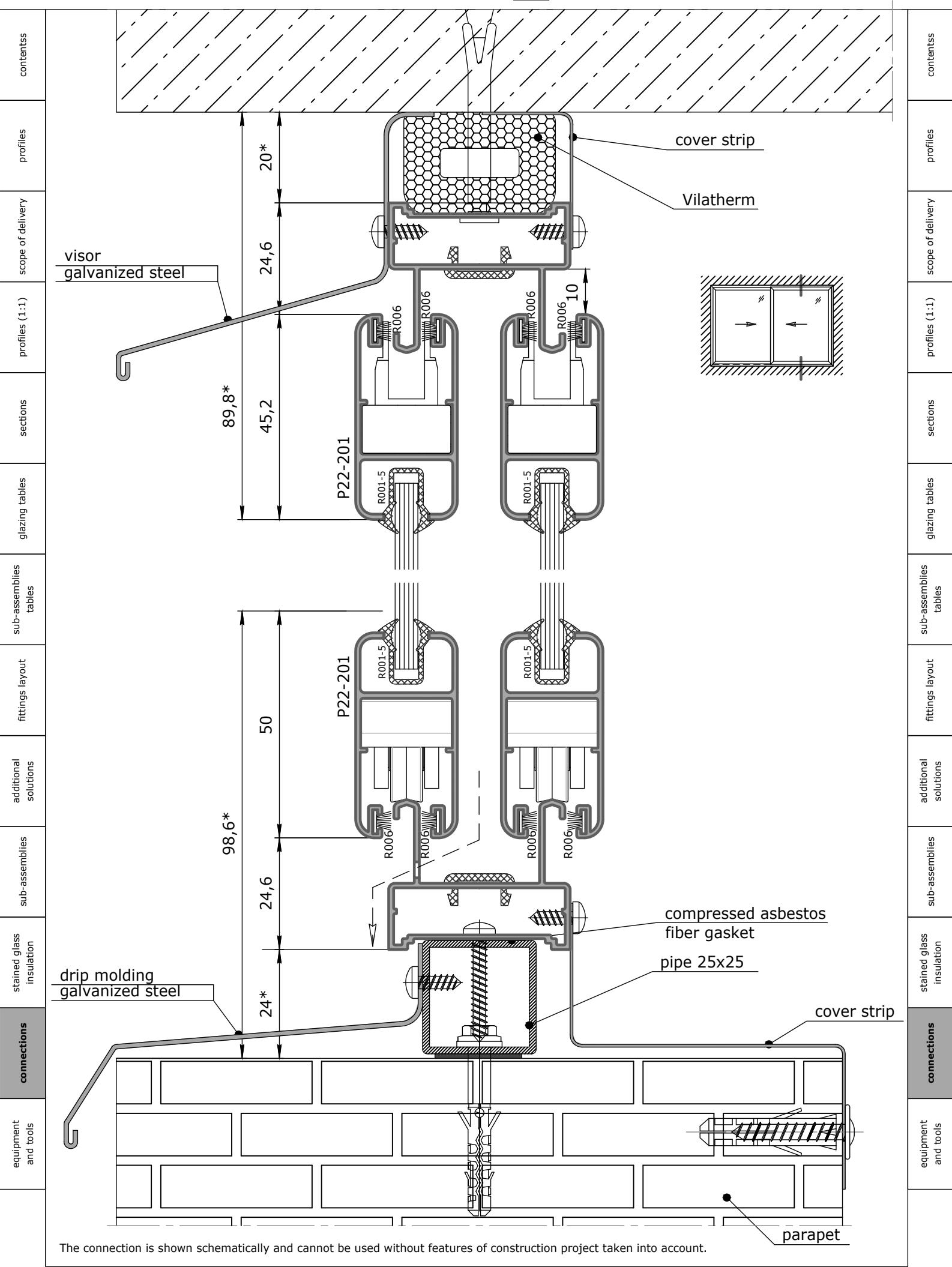
stained glass insulation

## L-joint assembly: sash P71-207-22

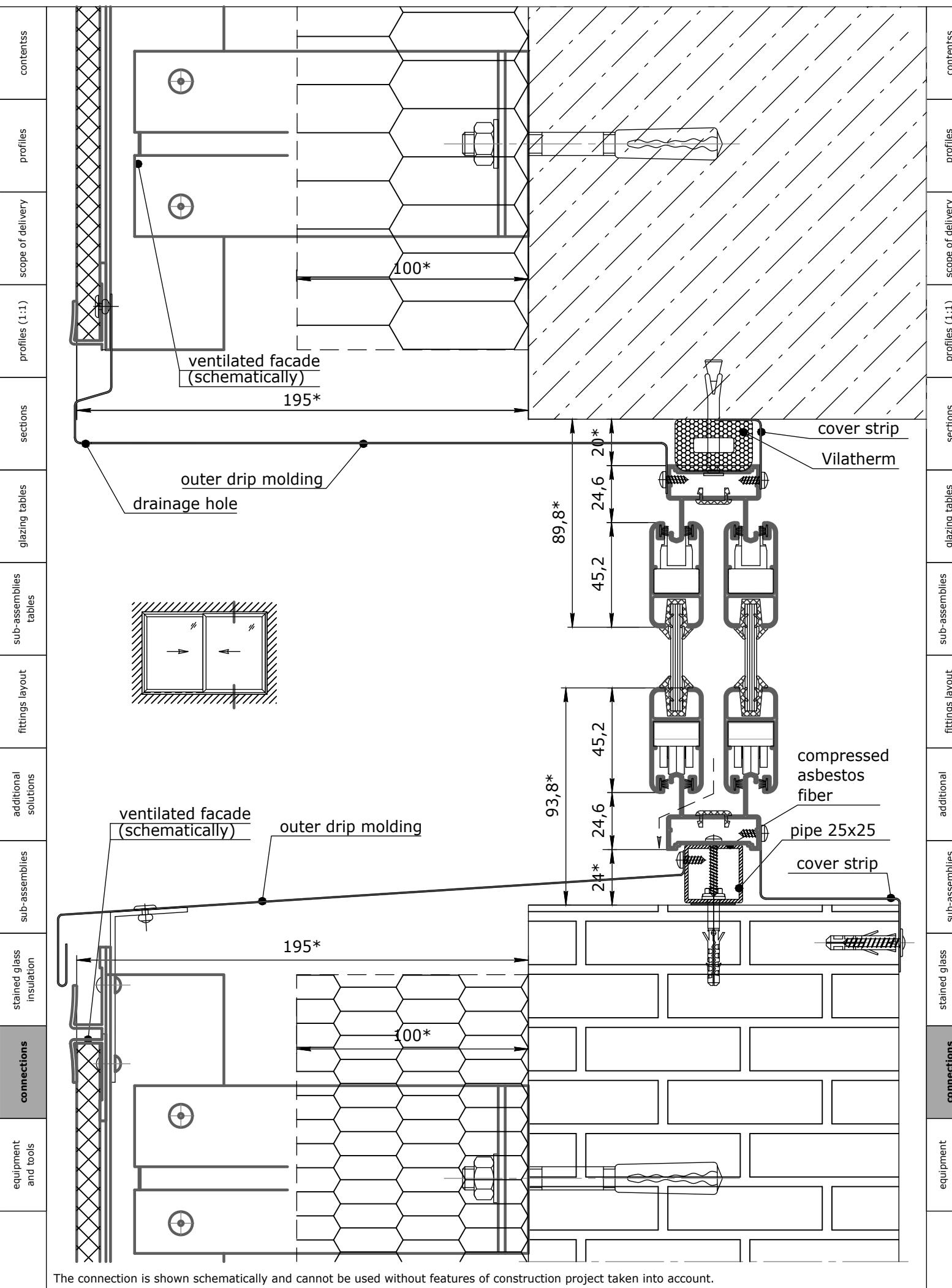


Before installation of embedded elements  
Apply single- or double-component adhesive  
for aluminum structures (**E006**) on the  
profile chamber and edges of profiles being  
glued together. Remove any excess adhesive  
and wipe the joint with a special cleaner  
(**E007**).

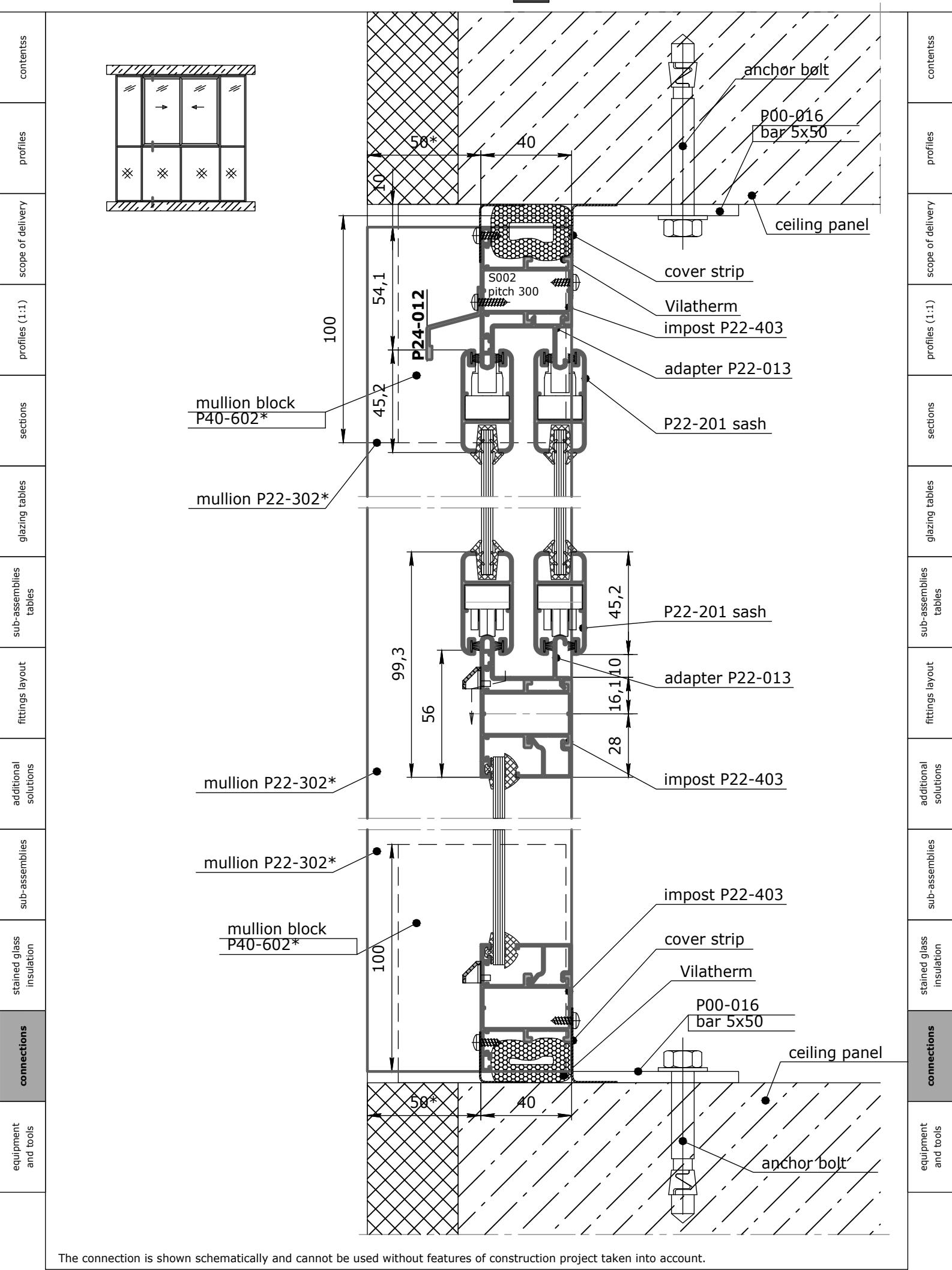


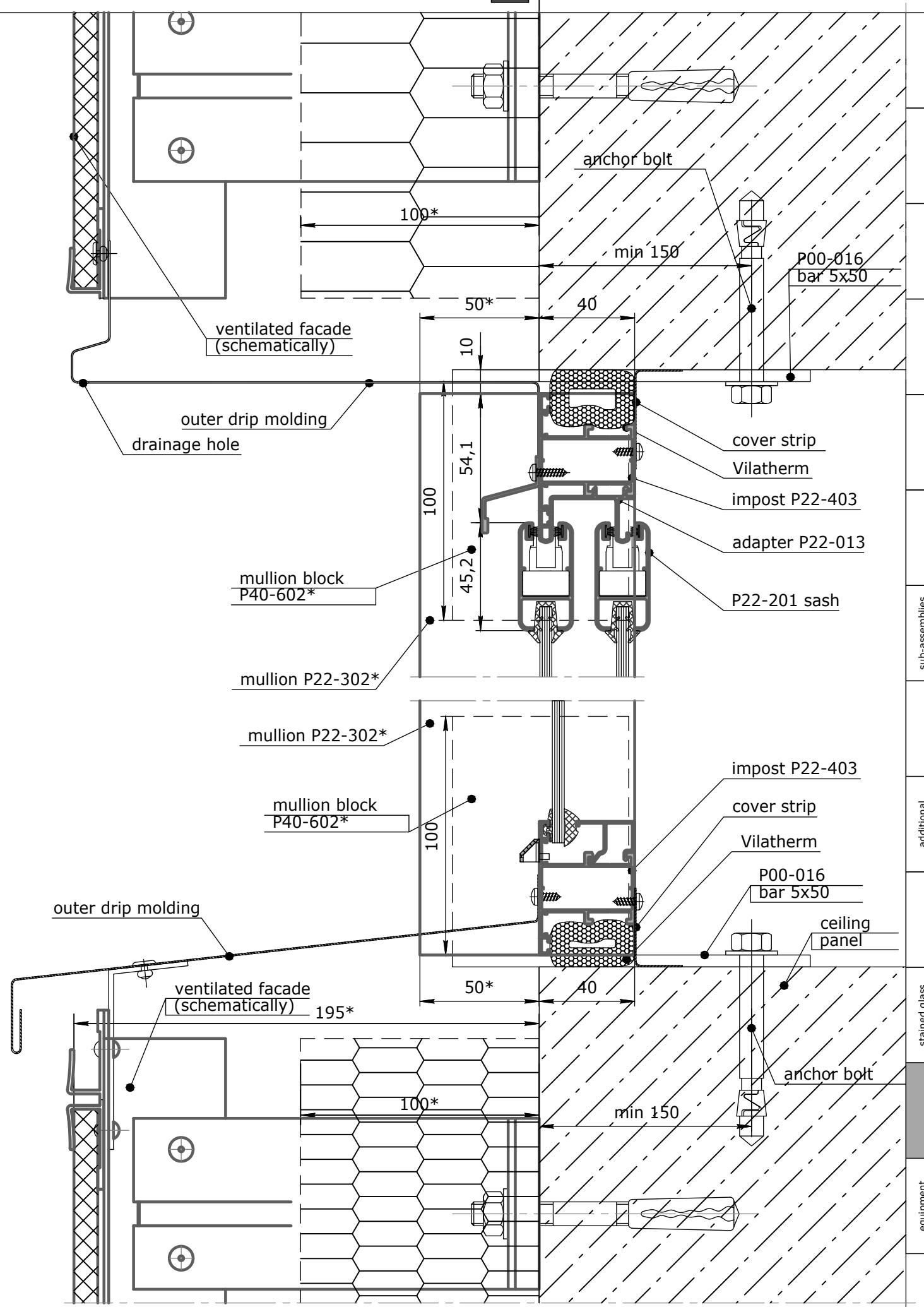


The connection is shown schematically and cannot be used without features of construction project taken into account.

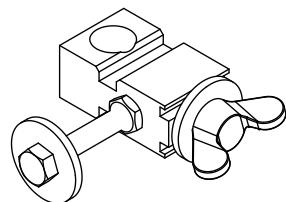
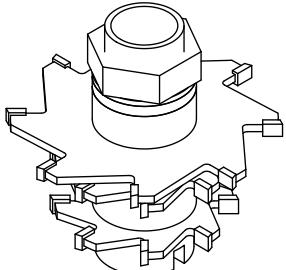
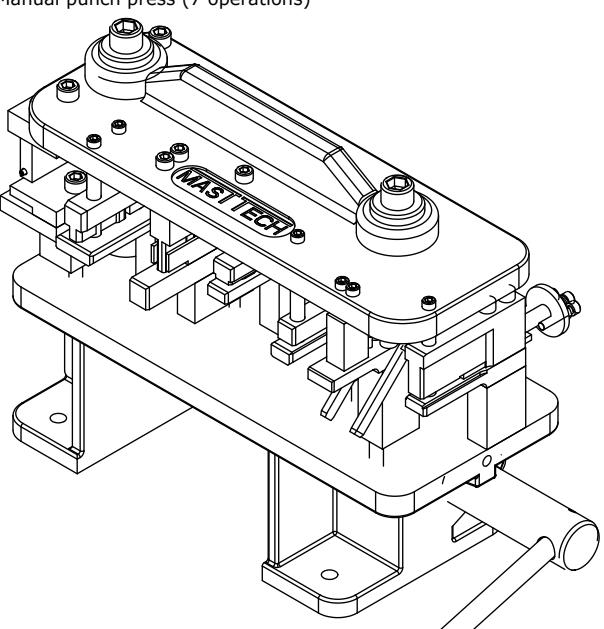
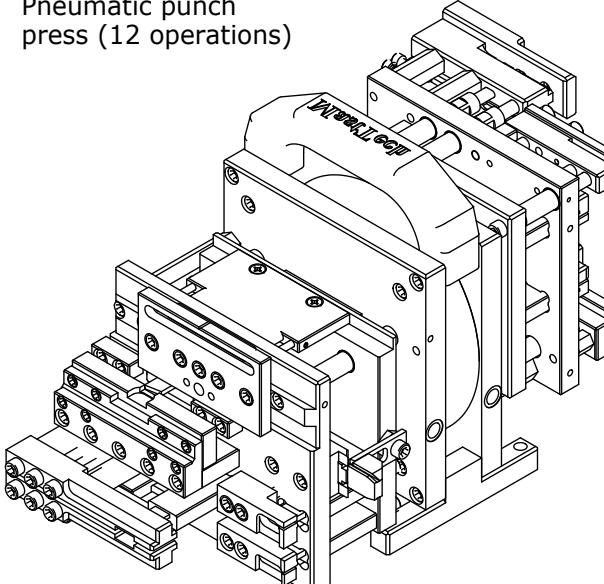


The connection is shown schematically and cannot be used without features of construction project taken into account.



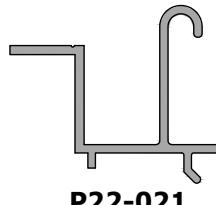


The connection is shown schematically and cannot be used without features of construction project taken into account.

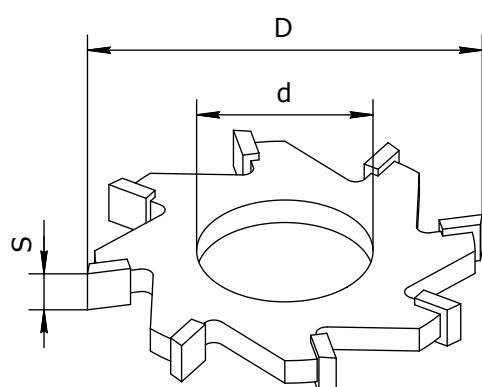
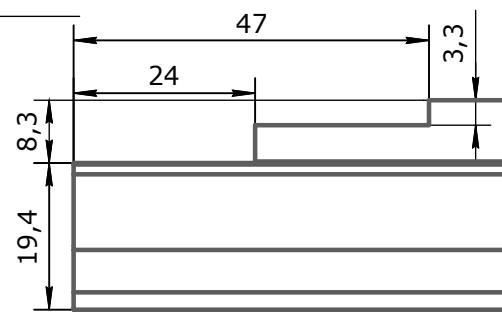
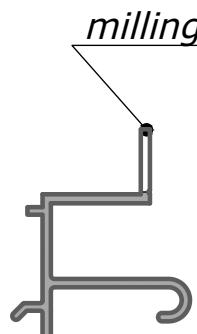
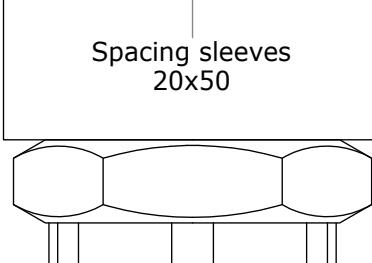
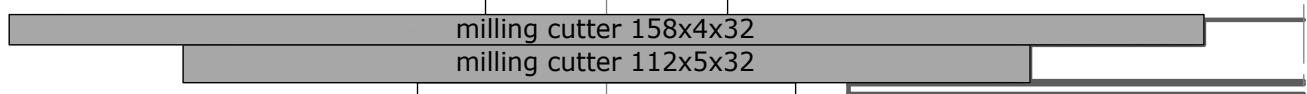
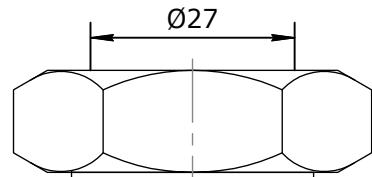
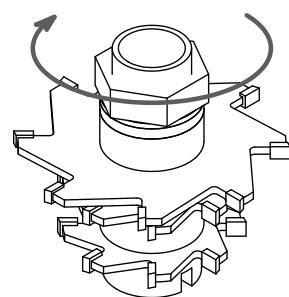
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies	tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools				
<b>E001</b> Gasket packing roller		<b>E005</b> Cyanoacrylate adhesive for gaskets		<b>E006</b> Single-component adhesive for profiles		<b>E007</b> Painted and anodized profile cleaner											
<b>E004</b> Hex wrench kit		<b>E104 — drilling jig for impost machining</b>		<b>E405</b> Gang milling cutter for MastTech-22 profiles													
<b>E311</b> Manual punch press (7 operations)		<b>E505</b> Pneumatic punch press (12 operations)															



equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
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**Profiles machined****E418**

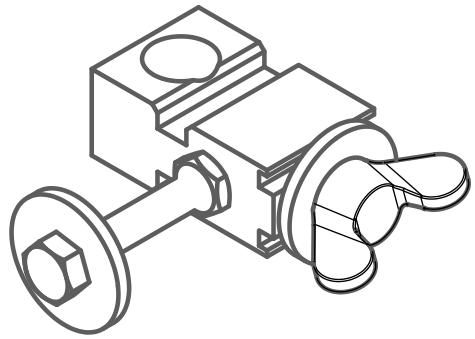
Gang milling cutter for **MastTech-22** profiles sliding section with fixed part



disk cutters used in the kit

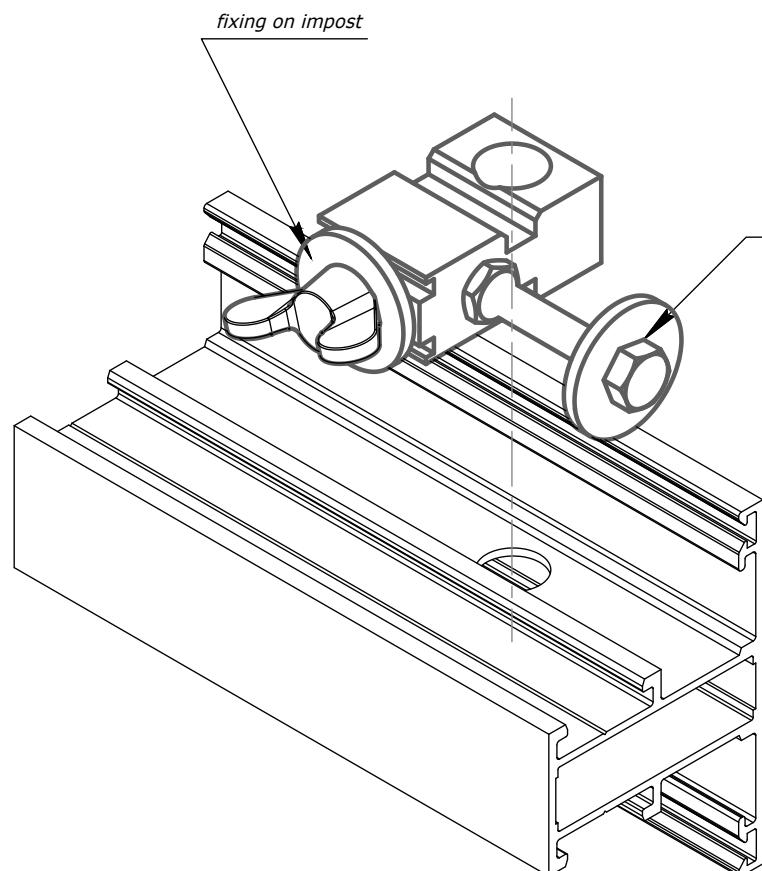
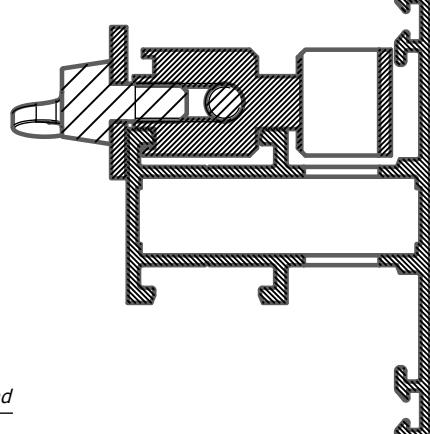
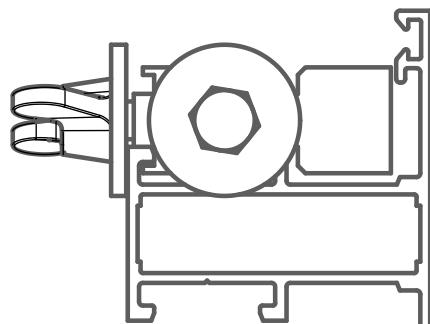
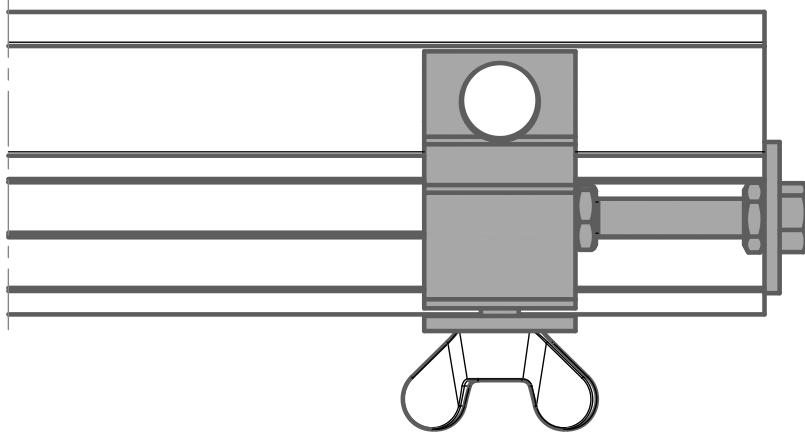
	D	S	d	qty
E400-158-4:	158	4	32	1
E400-112-5:	112	5	32	1



**E104** – drilling jig for  
impost machining


Used for drilling of imposts for impost block installation.

The drilling jig is suitable for all imposts and mullions used as imposts, MastTech-22 and MastTech-24 systems.

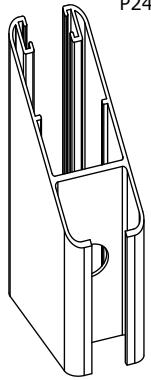


PRIOR TO SERIAL USE, THE DRILLING JIG MUST BE ADJUSTED, THE DRILLING DISTANCE FROM THE PROFILE END MUST BE SET.

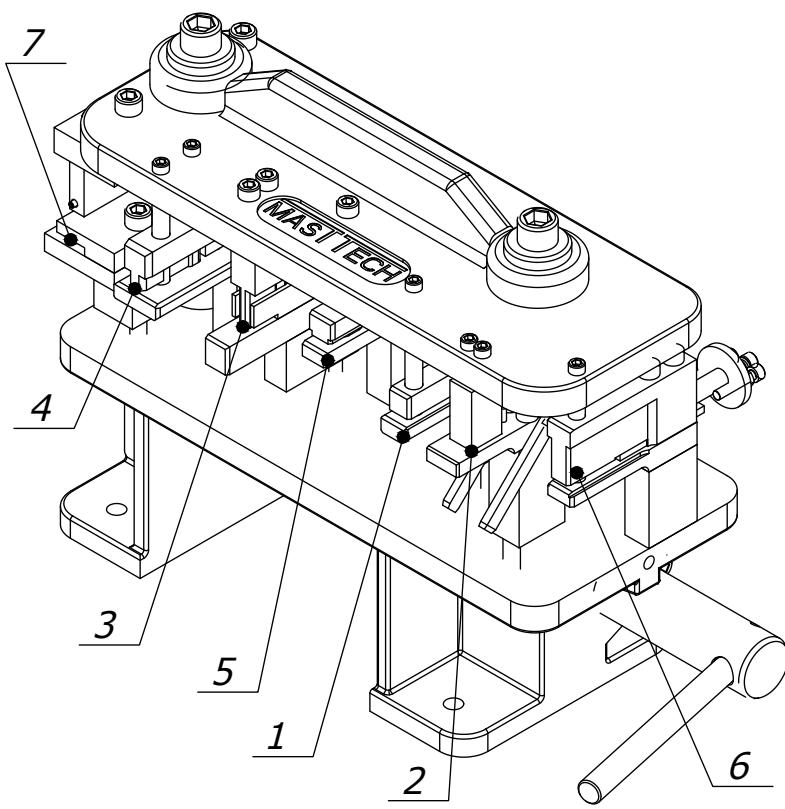
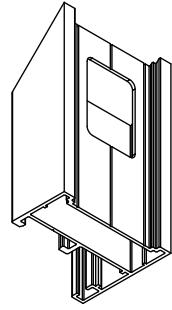
**E311**

Manual punch press  
(7 operations)

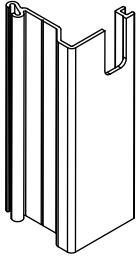
1. 10,5 mm hole in the  
sash for block C102  
P22-201 P24-201  
P24-202



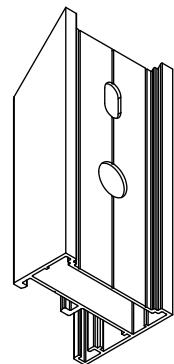
2. 18x25 mm hole in the  
frame for block C101  
P24-101 P24-103  
P40-101 P40-102



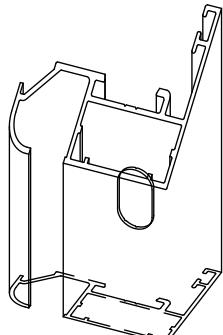
3. 15x8 mm groove  
in the adapter for  
rail  
P24-002



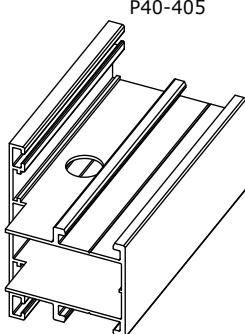
4. Hole and groove in the  
profile for block C105  
P40-101 P40-102  
P40-201



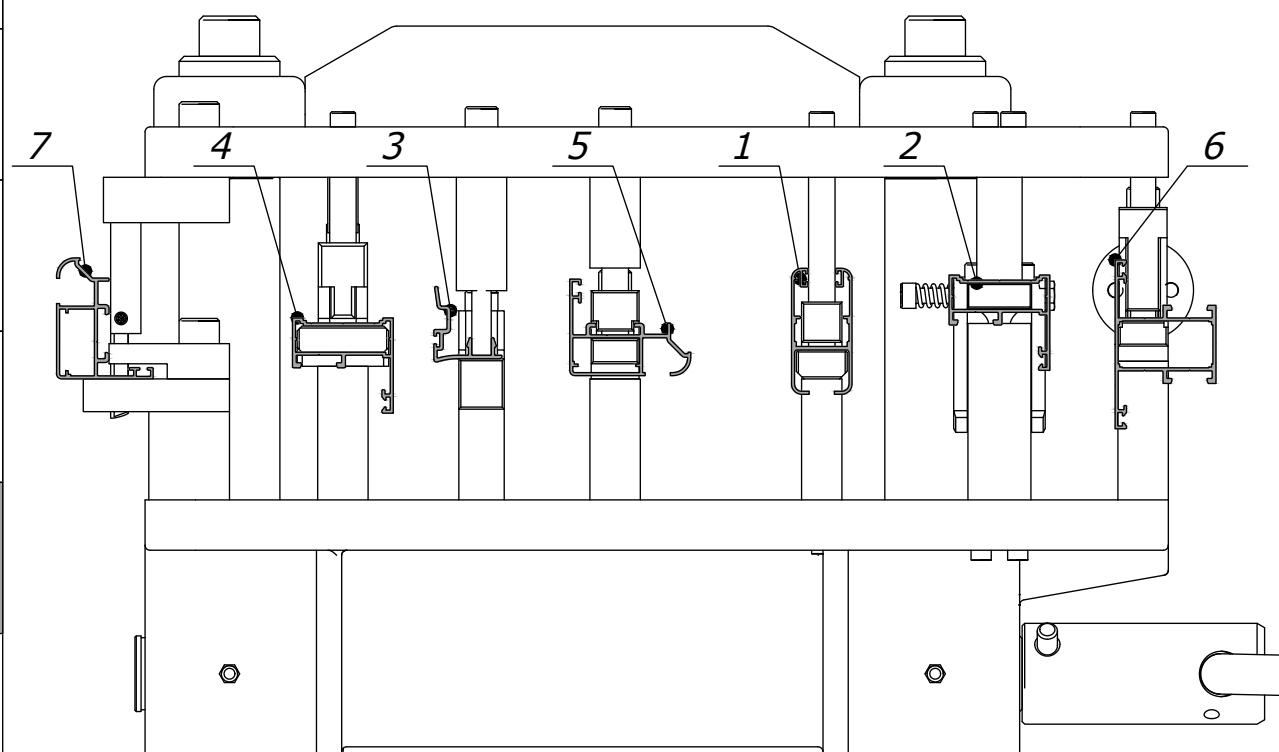
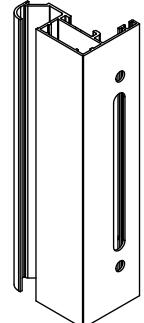
5. 19x10 mm hole in the  
sash for block C113  
P40-202



6. 10 mm hole in the  
impost for block C502  
P40-401 P40-402  
P40-404 P40-403  
P40-405



7. Groove and holes  
in the sash for  
handle.  
P40-201 P40-201



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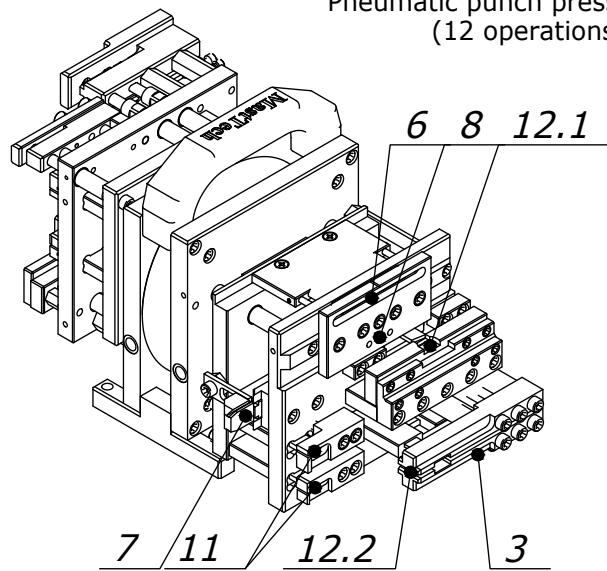
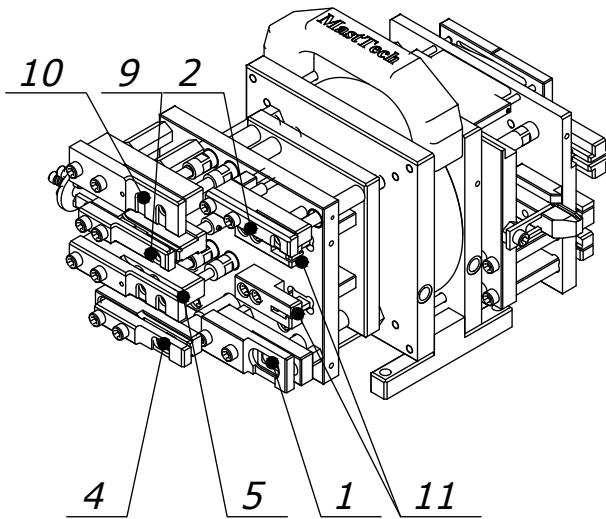
additional solutions

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sub-assemblies

connections

equipment and tools

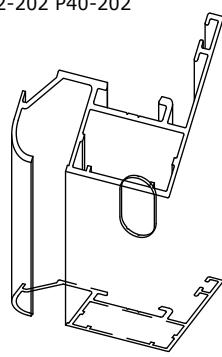
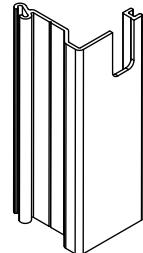
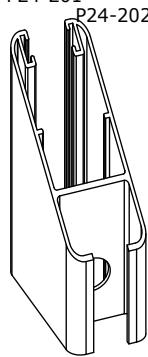
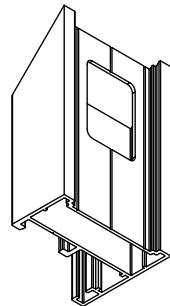
**E505**Pneumatic punch press  
(12 operations)

1. 18x25 mm hole in the frame for block C101  
P22-102 P24-104  
P40-102

2. 10.5 mm hole in the sash for block C102  
P22-201 P24-201

3. 15x8 mm groove in the adapter for rail  
P22-002 P24-002  
P24-015

4. 19x10 mm hole in the sash for block C113  
P22-202 P40-202

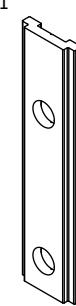
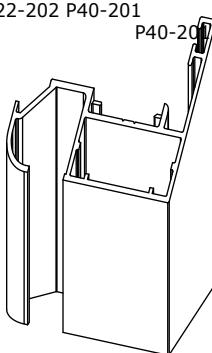
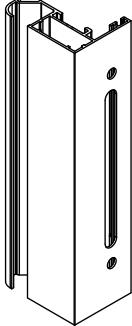
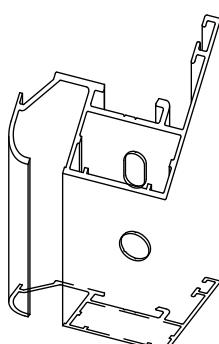


5. 8.5 mm hole in the sash for block C110  
P22-202 P40-202  
P24-103

6. Groove and holes in the sash for handle.  
P22-202 P40-20 P40-201

7. Fitting groove opening  
P22-202 P40-201  
P40-201

8. 8 mm hole in the pull rod  
P00-001

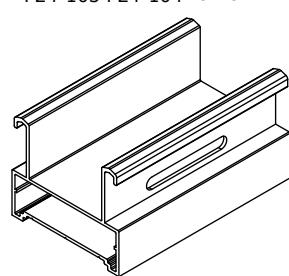
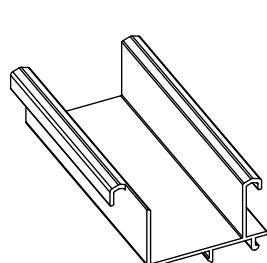
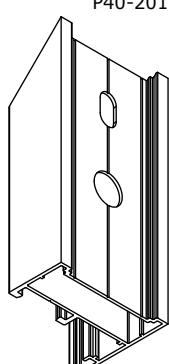
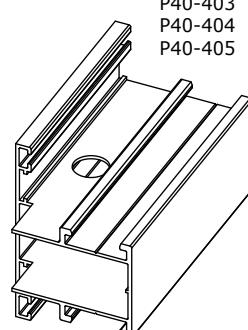


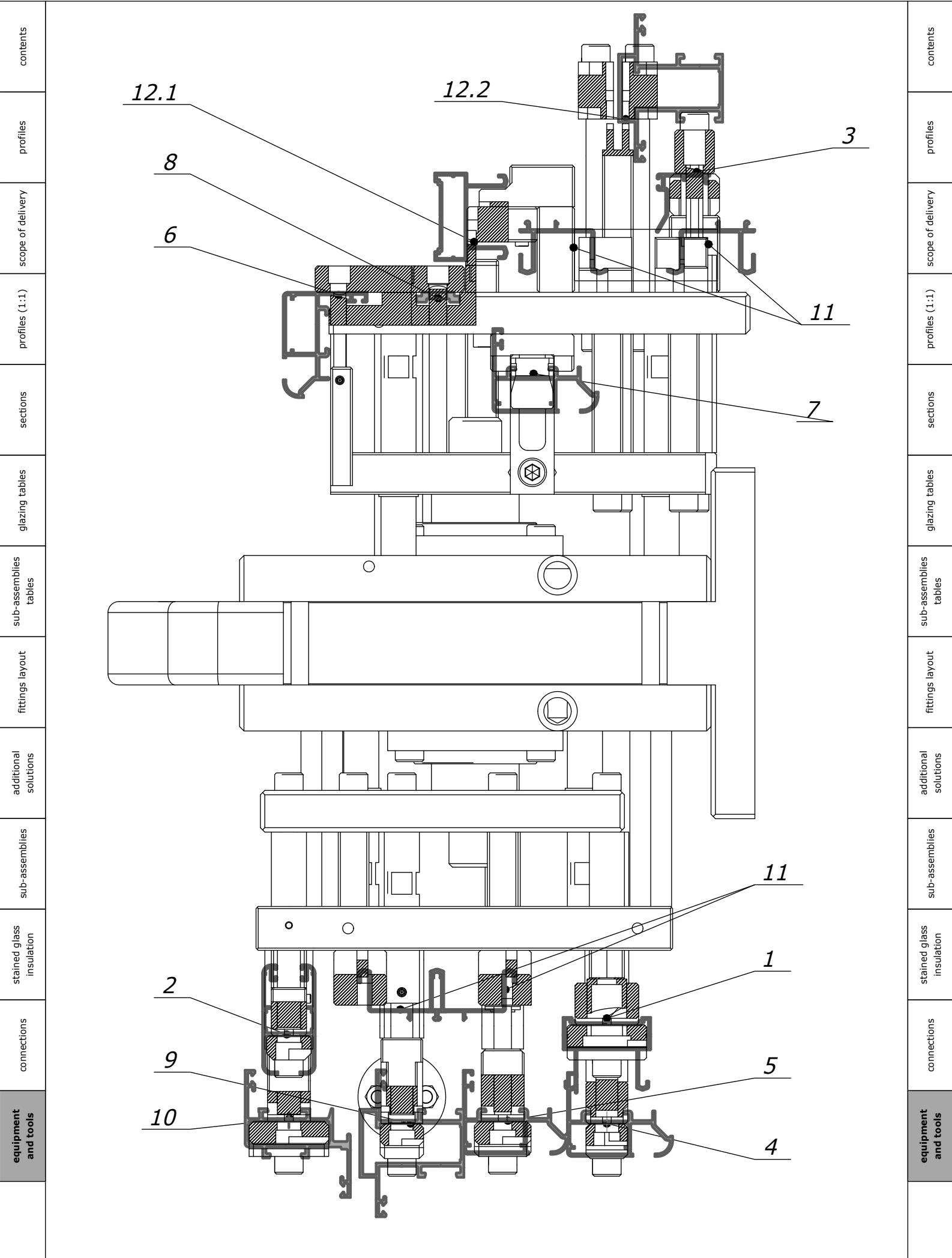
9. 10 mm hole in the impost for block C502  
P40-401 P22-401  
P22-403 P40-402  
P40-403  
P40-404  
P40-405

10. Hole and groove in the profile for block C105  
P22-102 P40-102  
P40-201

11. Groove 4.5x13 in the guide  
P22-013 P24-013

12. Groove 30x4 mm in the frame for drainage  
P24-103 P24-10 P40-402





## **Head office**

2 Odesskaya str., Moscow, Russia  
+7 (499) 558-18-67  
[www.masttech.ru](http://www.masttech.ru)  
[info@masttech.ru](mailto:info@masttech.ru)