

Masttech 22

Complex balcony glazing system

Technical catalogue



Masttech

Алюминиевые системы нового поколения



Masttech 22

Complex balcony glazing system

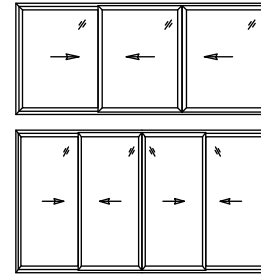
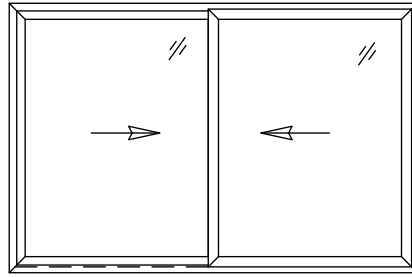
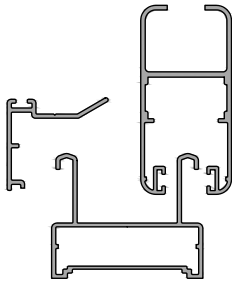
Technical Catalog

March 2023

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profiles	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.	profiles
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stained glass insulation				stained glass insulation
connections				connections
equipment and tools				equipment and tools

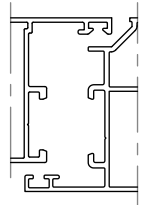
3 types of profiles are used in assembly of a sliding structure: frame, sash and adapter



- Unification of profiles ensures a smaller percentage of waste during cutting.
- The profile cutting speed for structure fabrication is higher because the saw needs to be readjusted fewer times in transition from one profile to another.
- Smaller range of profiles helps reduce transportation and storage costs.

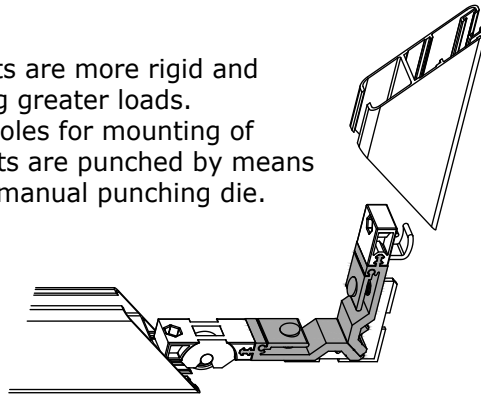
The fitting "euro groove" (most widespread)

- Easy to select required fittings
- Large number of fitting suppliers.

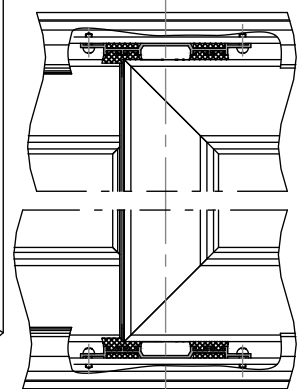
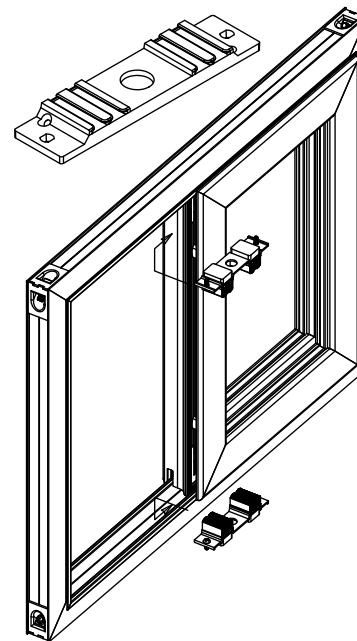


The sliding sash (and the frame) are assembled with a 45-degree profile notch using embedded corner (aluminum or plastic) elements

- The corner joints are more rigid and capable of resisting greater loads.
- All fabrication holes for mounting of embedded elements are punched by means of a pneumatic or manual punching die.



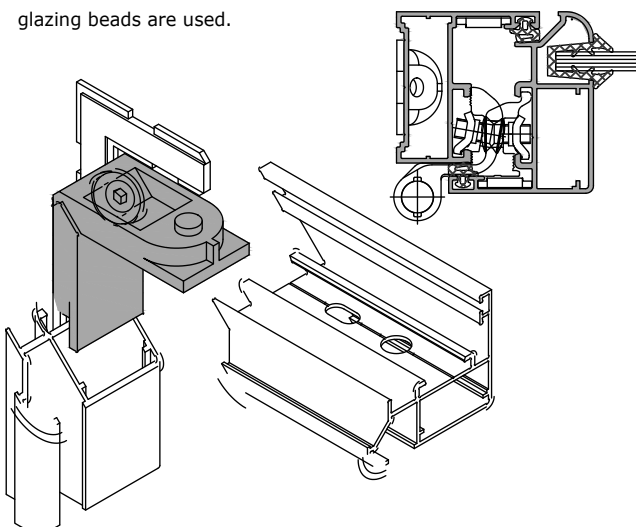
- Possibility to fabricate structures with fewer but larger-size sliding sashes.
- Possibility to fabricate sliding sashes of greater height, fabrication of sliding structures without a fixed part at the top.
- Possibility to install sliding structures at greater heights (100 m and more).



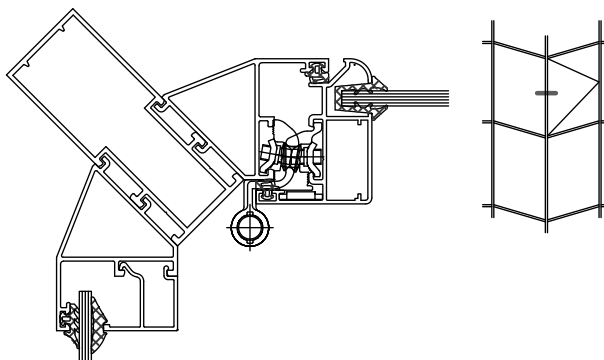
Use of the "dusters" preventing the sliding sashes from falling out: after a duster is mounted, it is impossible to remove the sash from the frame.

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In addition to the classis sash with glazing beads, the system offers a hinged window in which no glazing beads are used.

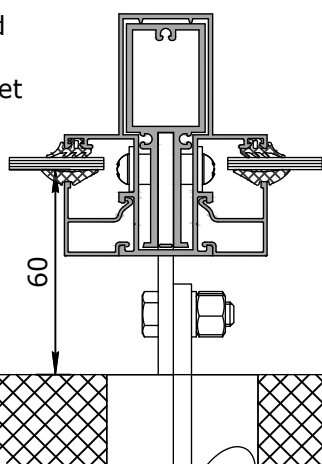


- The hinged sashes are cheaper due to smaller quantities of metal being used.
- The hinged sashes are less noticeable due to small height of the visible sash section.
- Installation of glass into the sash is performed using the standard U-shaped gasket without application of structural adhesive.
- The sash is assembled using embedded coupling elements. Prefabricated demountable sash.



Mullions used for transparent and stained-glass glazing are provided with reinforcing elements directed towards the exterior of the building (the "outward" reinforcement).

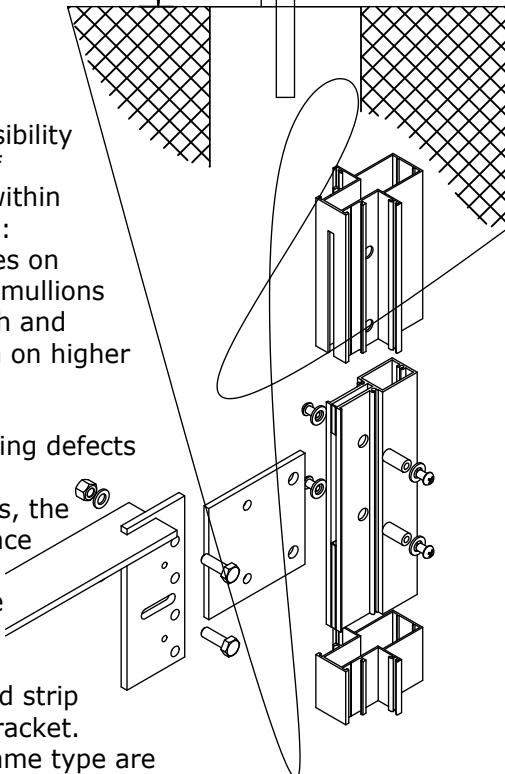
- The distance between the ceiling panel edge and the glass is not large. Smaller load on the bracket (smaller lever effect).



- Regardless of selected mullion (and its depth), the distance between the ceiling panel edge and the glazing plane always remains constant.

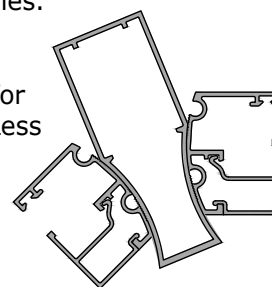
- There is a possibility to use mullions of different depths within the same project: smaller-depth ones on lower stories and mullions with greater depth and moment of inertia on higher stories.

- 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.

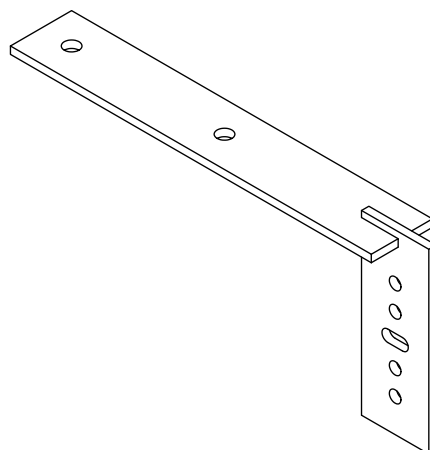


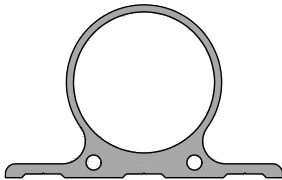
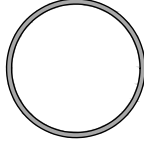
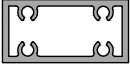
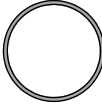
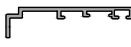
- It is possible to place hinged sashes laterally to the corner mullion, the outward-facing reinforcement does not hinder installation of the hinge and opening of sashes.

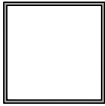
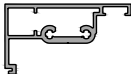
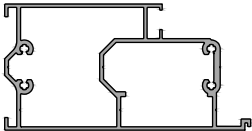
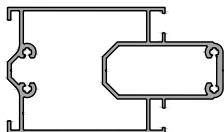
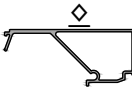
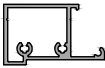
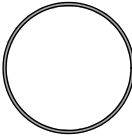
- A variety of solutions for the rotary mullion joint. Less metal consumption.

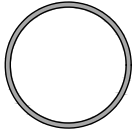
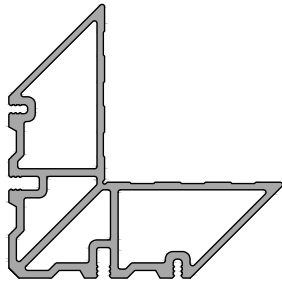
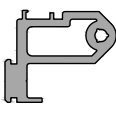
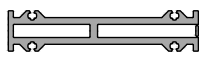
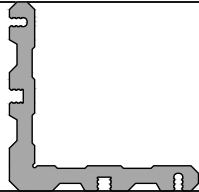
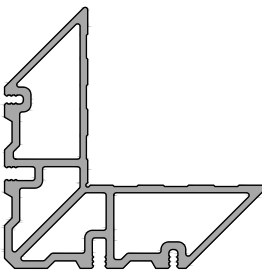
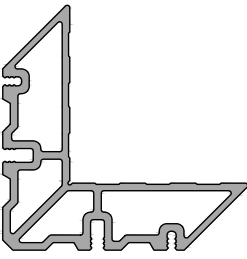
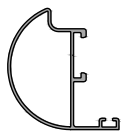
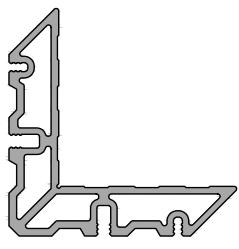
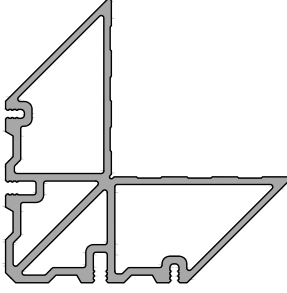
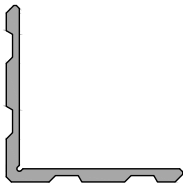
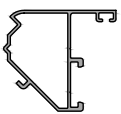
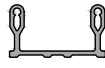


Certified L-shaped bracket for installation of overhanging structures. This is a universal bracket for installation of virtually all mullion joint types.

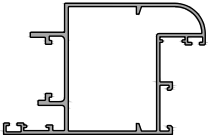
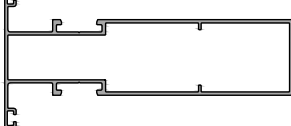
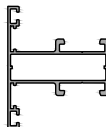
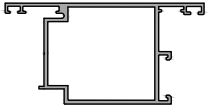
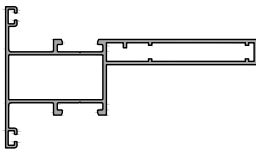
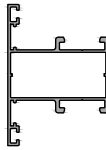
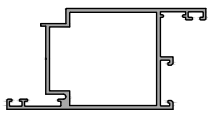
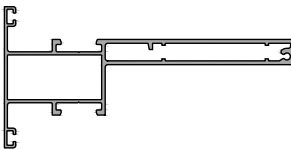
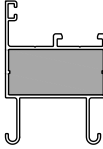
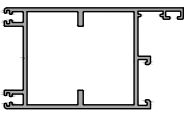
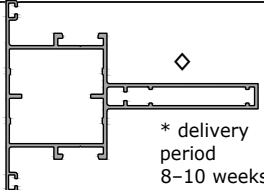
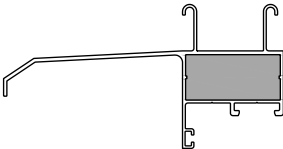
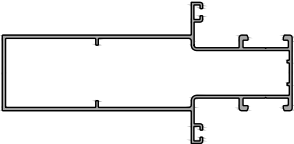
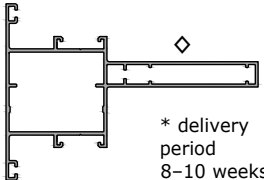
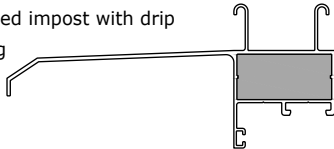
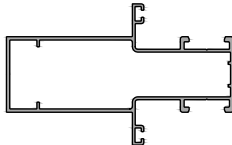
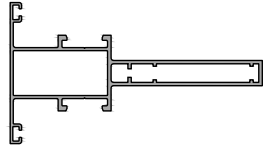
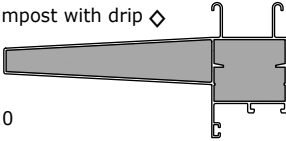
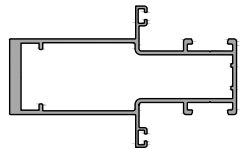
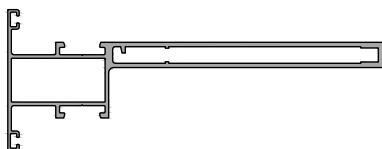
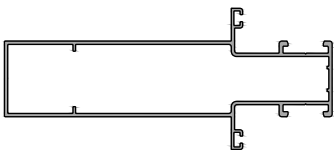
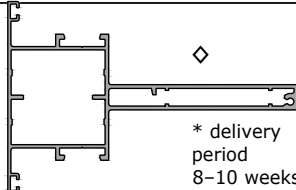
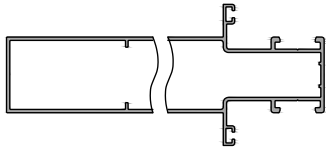
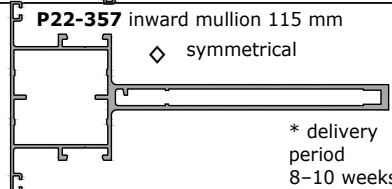
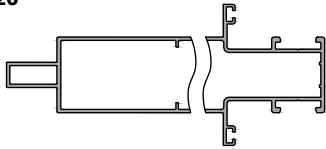
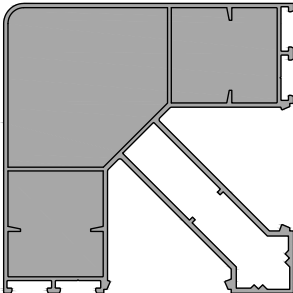
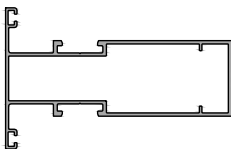


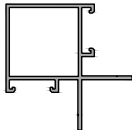
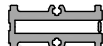
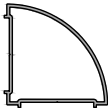
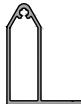
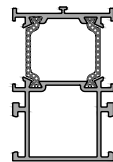
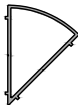
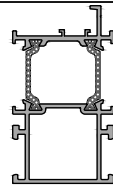
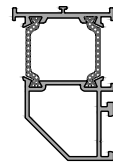
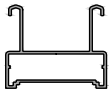
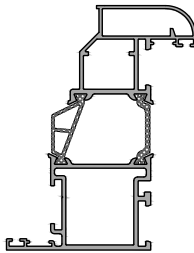
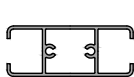
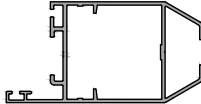
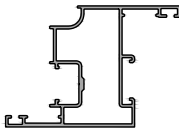
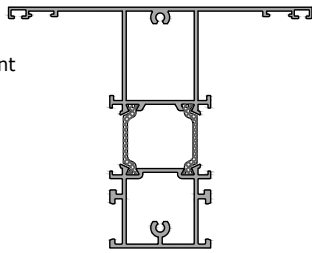
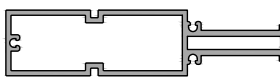
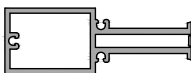
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	P00-001 link 	P00-016 bar 50x5 	P00-032 pipe holder 55 mm 	
	P00-002 sash-mounted drip molding 	P00-017 U-profile 25x25x54 	P00-033 round pipe 55x2 mm 	
	P00-003-2 handrail 25x50 	P00-019 U-profile 10x10x1 	P00-034 angle piece 30x15x1.5 mm 	
	P00-004 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 	

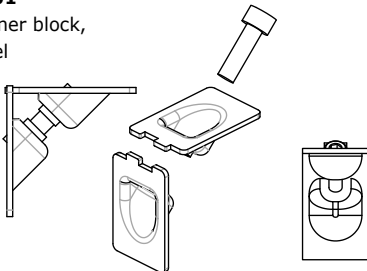
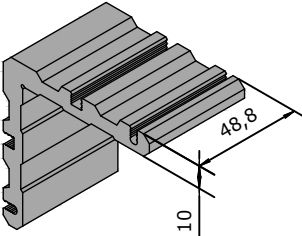
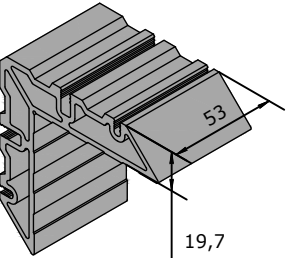
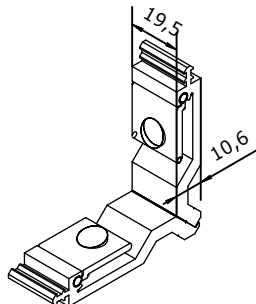
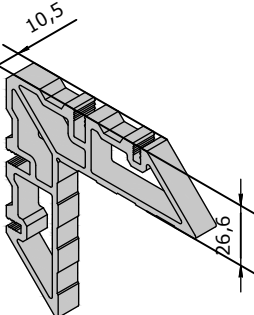
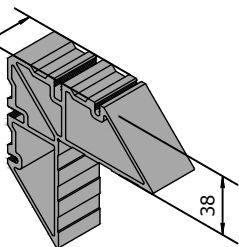
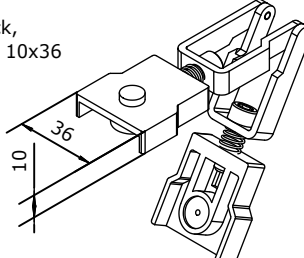
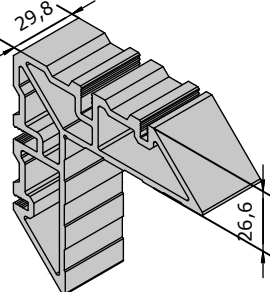
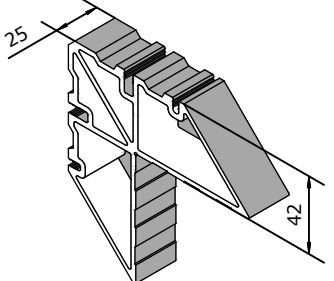
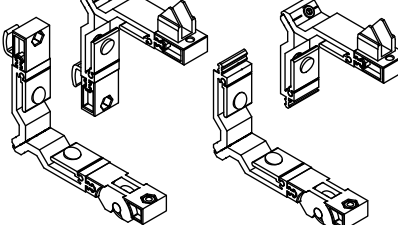
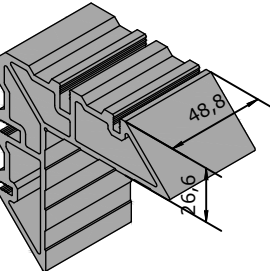
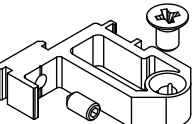
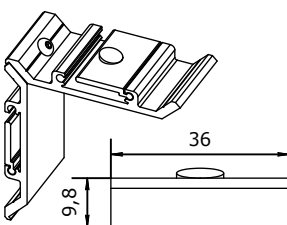
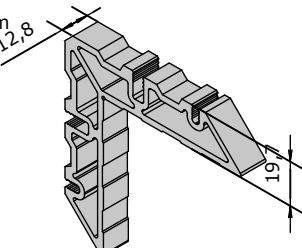
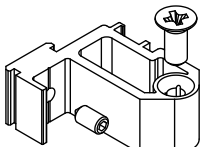
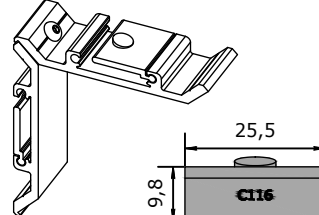
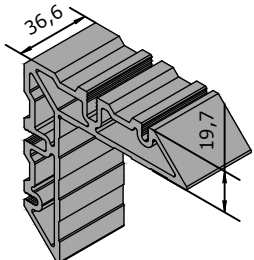
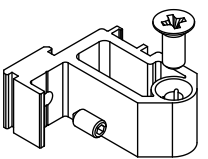
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	P00-075 square pipe 40x40x1.2 	P00-501-25 glazing beads 3.5 mm harness sealing 	P00-506-2 glazing beads 24.5 mm closed profile 							
	P00-079-01 screen cover 	P00-502 glazing beads 6.5 mm 	P00-506-25 glazing beads 27.5 mm closed profile 							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

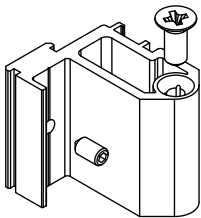
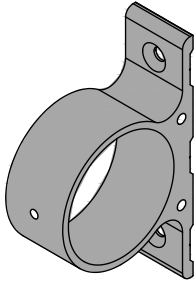
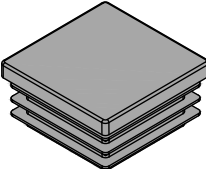
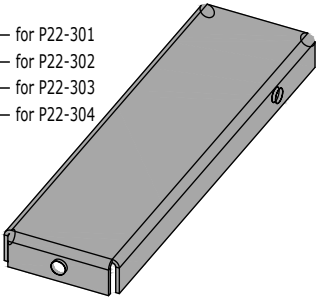
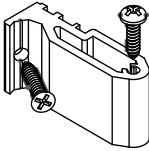
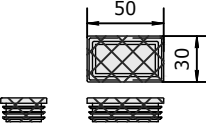
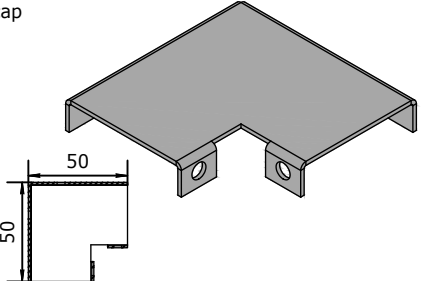
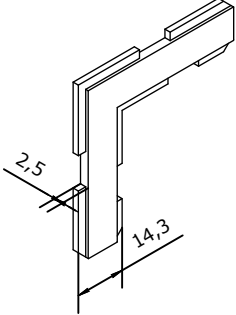
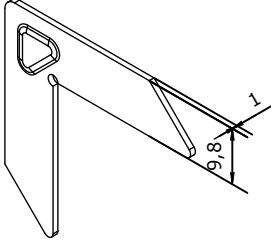
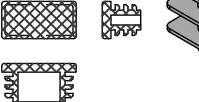
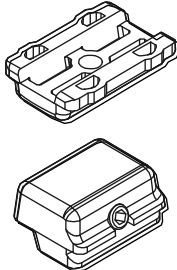
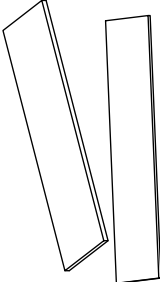
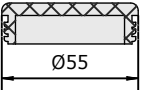
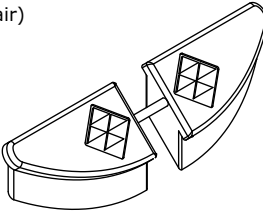
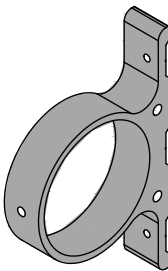
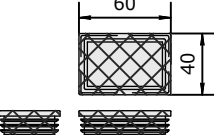
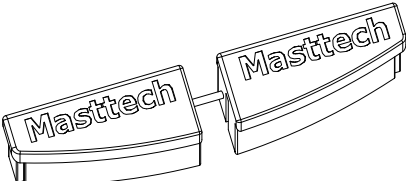
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	P00-607-2 pipe 50 mm 	P00-625 impost block 12 mm 	P10-002 insect screen frame 	
	P00-608 pipe adapter 	P00-627 corner block 38 mm for squeezing and fixing by pin 5 	P10-002 insect screen impot 	
	P00-610 rotary impot block 		P22-001 front joint adapter 	
	P00-611 impot 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 rabbet wing profile 13 mm 	
	P00-617 corner block 26.5 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 	P00-634 corner block 42 mm for squeezing and fixing by pin 5 	P22-013-2 guide for swing frame 	
		P05-02-604020 rectangular pipe 60x40 	P22-013-PL vertical adapter for Providal (left) 	
	P00-620 corner block 5.2 mm for squeezing 	P05-04-0340 bar 3x40 	P22-013-PR vertical adapter for Providal (right) 	
		P10-001 insect screen frame 	P22-014 corner adapter 	
			P22-015 sill for sliding structures 	

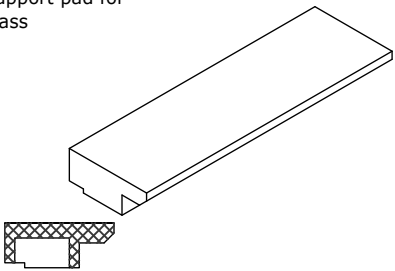
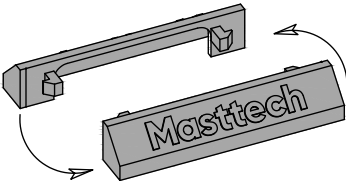
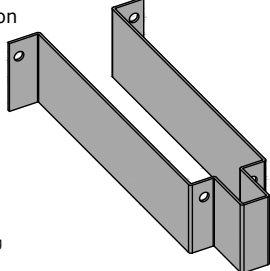
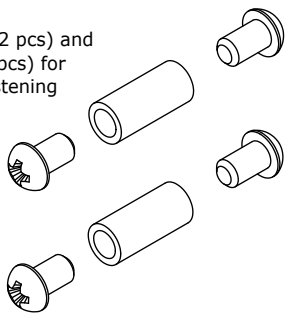
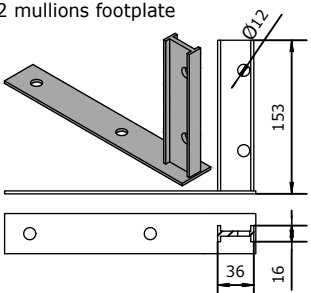
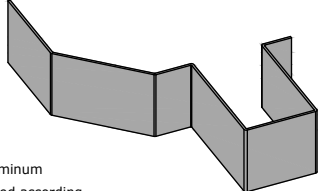
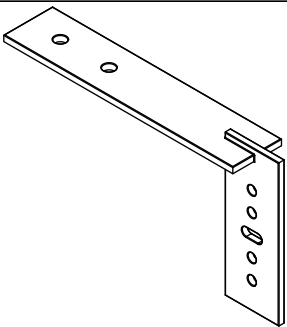
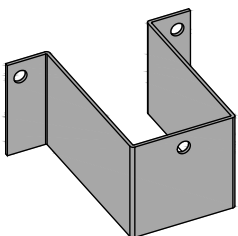
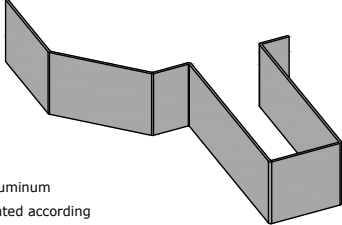
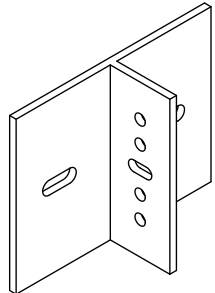
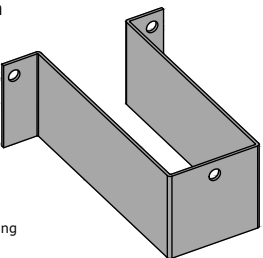
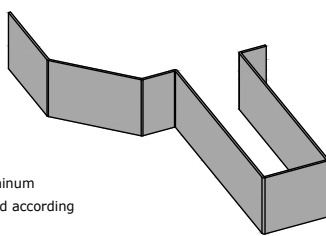
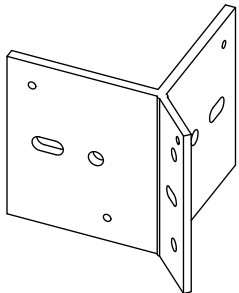
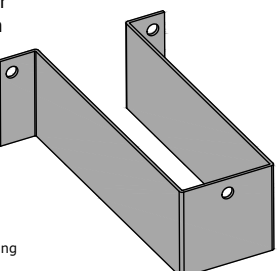
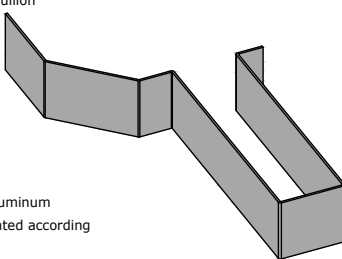
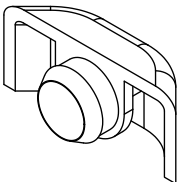
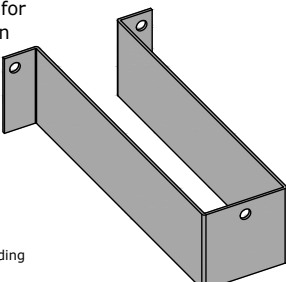
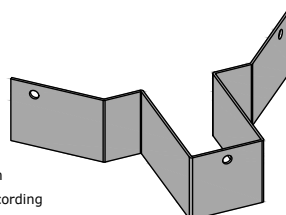
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P22-016 expanding adapter		P22-040 mullion structural reinforcement 111 mm	
P22-016-43 expanding adapter 43 mm (flange 13 mm)		P22-050 insulating material lock profile	
P22-016-75 expanding adapter 75 mm (flange 13 mm)		P22-101 sliding frame 29 mm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

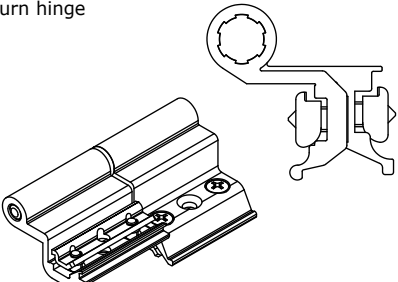
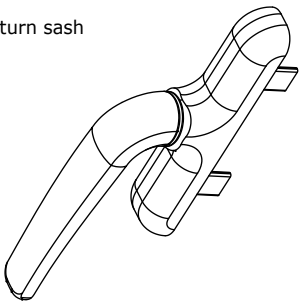
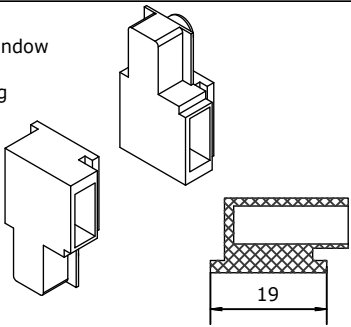
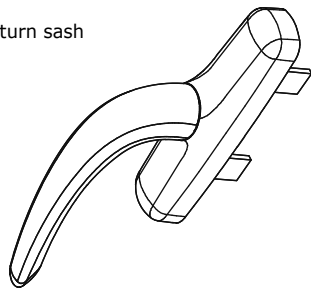
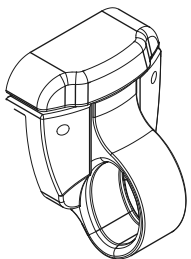
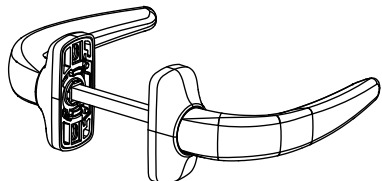
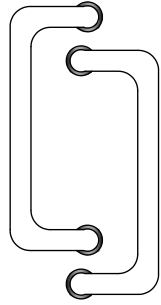
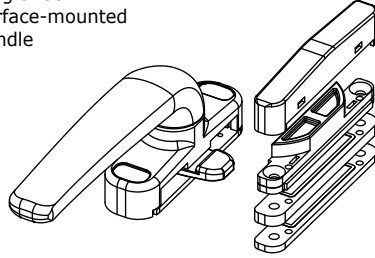
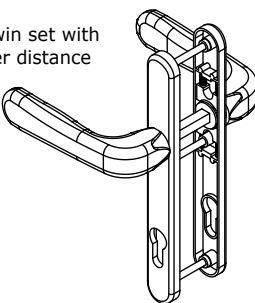
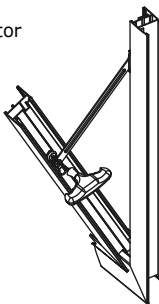
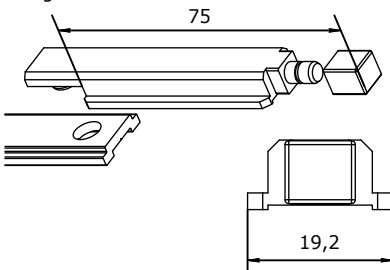
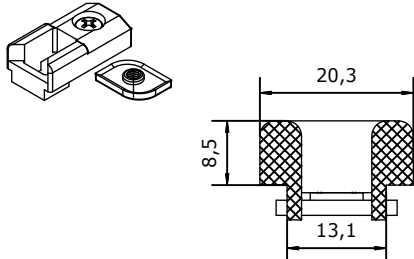
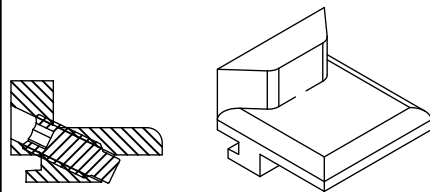
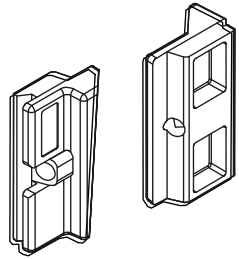
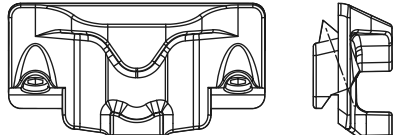
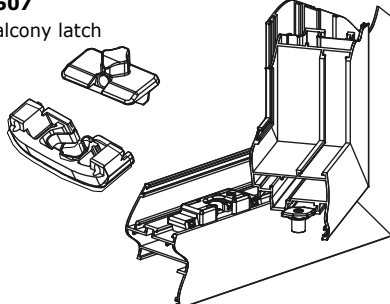
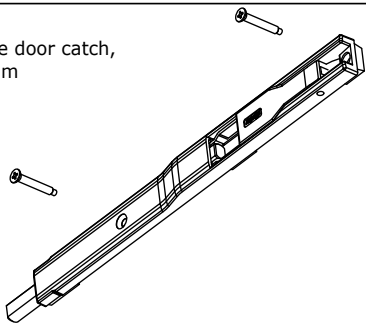
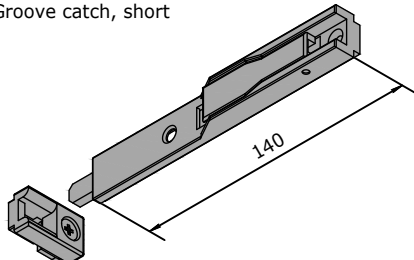
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	P22-222 interior opening door sash 	P22-350-115 mullion 115 mm reinforcement 30 mm inward 	P22-401 narrow impost 	
	P22-241 T-shaped door leaf 	P22-351 inward mullion 100 mm 	P22-403 impost 	
	P22-242 Z-shaped door leaf 	P22-352 inward mullion 115 mm 	P22-406 combined impost 	
	P22-245 door sash double-acting 	P22-353 inward mullion 100 mm symmetrical  * delivery period 8-10 weeks	P22-407 combined impost with drip molding 	
	P22-301 mullion 	P22-353-2 inward mullion 100 mm asymmetrical  * delivery period 8-10 weeks	P22-407 combined impost with drip molding 	
	P22-302 mullion 90 mm 	P22-354 inward mullion 100 mm 	P22-407 combined impost with drip molding  * delivery period 8-10 weeks	
	P22-302-50 mullion 90 mm 	P22-355 inward mullion 150 mm 	P22-500 glazing beads, zero 	
	P22-303 mullion 130 mm 	P22-356 inward mullion 115 mm symmetrical  * delivery period 8-10 weeks	P22-501 glazing beads 24.5 mm 	
	P22-304 mullion 150 mm 	P22-357 inward mullion 115 mm symmetrical  * delivery period 8-10 weeks	P22-501-2 glazing beads 24.5 mm closed profile 	
	P22-304-20 mullion 150 mm 	P22-360 Corner mullion 115 mm inward reinforcement 	P22-502 glazing beads 18.5 mm 	
	P22-350-90 mullion 90 mm reinforcement 30 mm inward 		P22-503 glazing beads 21.5 mm 	

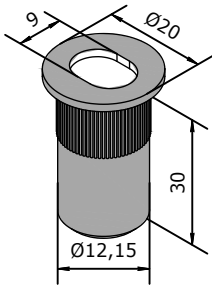
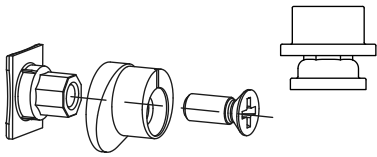
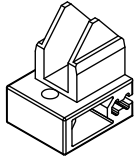
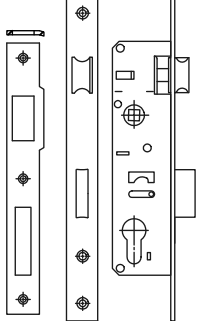
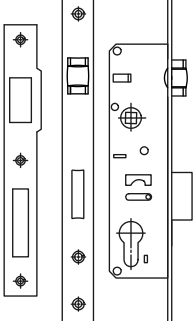
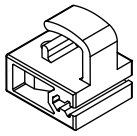
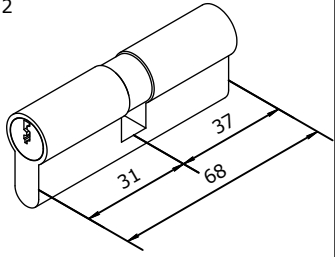
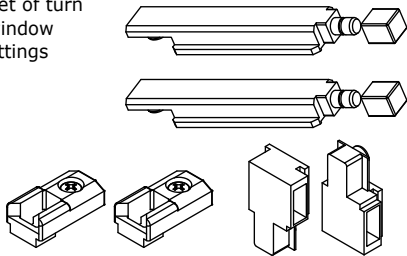
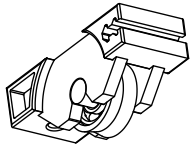
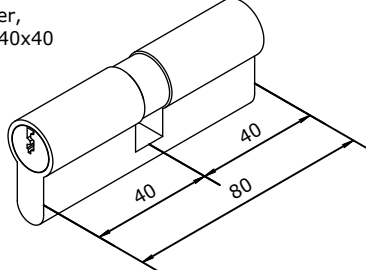
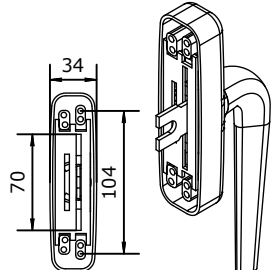
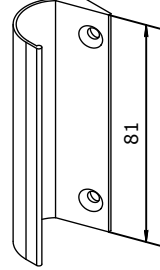
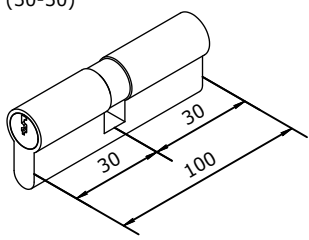
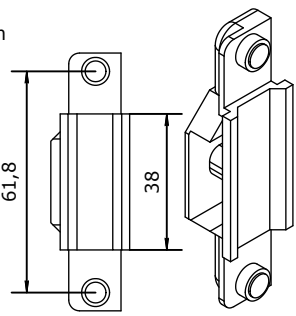
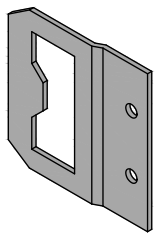
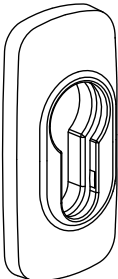
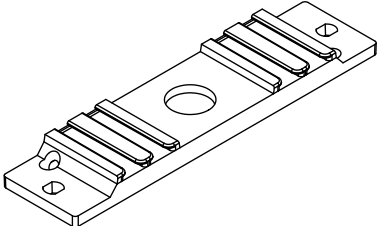
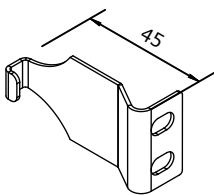
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	P22-601 rotary adapter block 	P30-301 corner mullion 	P40-605 impost structural reinforcement 37 mm 	
	P24-012 visor for narrow frame 	P30-401 grille transom 	P40-605-2 impost structural reinforcement 37 mm 	
	P24-302 rotary mullion 90 degrees 	P30-601 grille block 	P71-016-01 impost structural reinforcement 37 mm 	
	P24-303 rotary mullion 135 degrees 	P40-002 base mullion adapter 	P71-016-02 impost structural reinforcement 37 mm 	
	P24-304 rotary mullion 30 degrees 	P40-006 sill 	P71-016-03 impost structural reinforcement 37 mm 	
	P24-104 sliding frame 	P40-015 sill 36 mm inclined 	P71-207-22 impost structural reinforcement 37 mm 	
	P24-402 sliding sash impost 	P40-206 interior door leaf 		
	P30-001 lamella 50x28 	P40-208-2 Window sash PVC groove 	P71-416-01 impost structural reinforcement 37 mm 	
	P30-002 lamella 65x25 	P40-601 mullion block 98.5 mm 		
	P30-101 grille frame 	P40-601-110 Mullion connector 110 mm 		
	P30-102 paneless frame 	P40-602 mullion block 73.9 mm 		

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

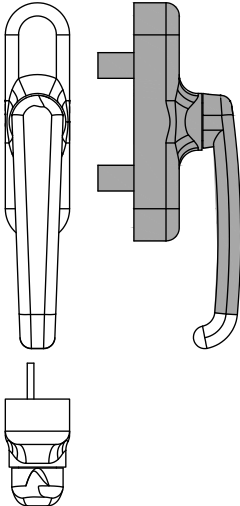
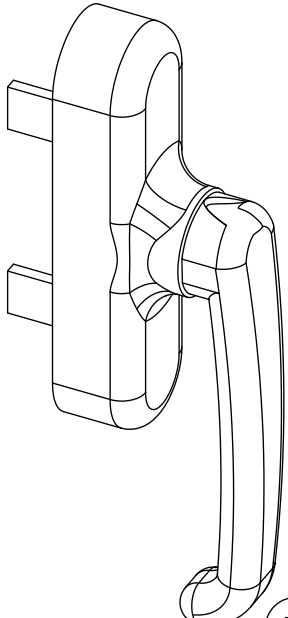
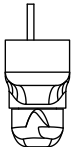
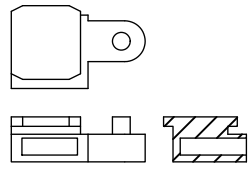
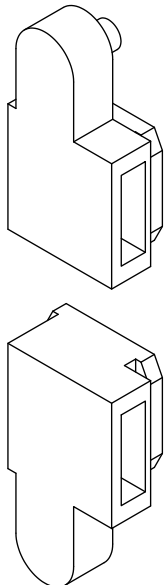
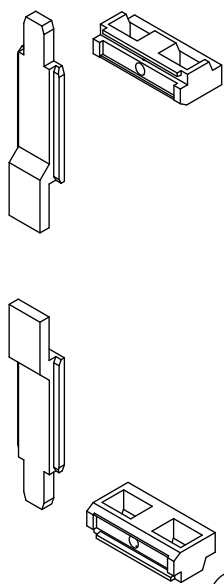
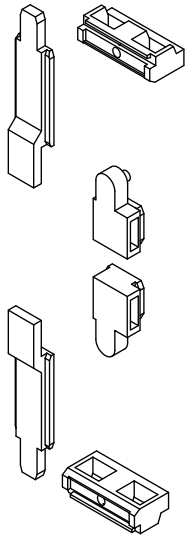
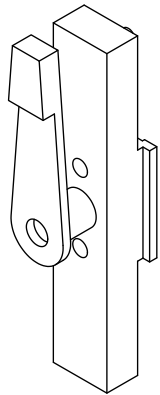
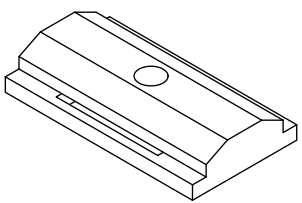
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
C508-38 Impost block, universal, 38x36 												
F017-30F Frame holder 30 mm 												
F020-30 Square cap 30x30 												
F020a-22301 – for P22-301 F020a-22302 – for P22-302 F020a-22303 – for P22-303 F020a-22304 – for P22-304 												
C524-22 fixed section impot block 22 mm 												
F020-3050 Rectangular cap 30x50 mm 												
F020a-5050 air conditioner cage end cap 												
C602 Leveling angle piece 14.3x2.5 												
F022 Decorative cap, d=12 mm 												
C605 Leveling angle piece 10x1 												
F020-3015 Rectangular cap 30x15 												
F023 Sash anti-sag foot plate 												
Support pads F001 – 22x1 mm F002 – 22x2 mm F003 – 22x3 mm F004 – 22x4 mm F005 – 22x5 mm F006 – 12x1 mm F007 – 12x2 mm F008 – 12x3 mm F009 – 12x4 mm F010 – 12x5 mm 												
F020-55 Round cap 55 mm 												
F025 Sash caps P24-202 (pair) 												
F017-18S Mullion holder 18 mm 												
F020-6040 Rectangular cap 60x40 mm 												
F025-74 Sash caps P22-203-74 (pair) 												

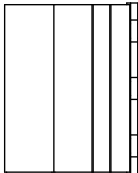
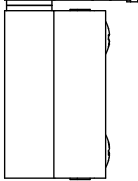
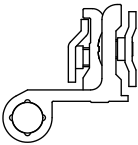
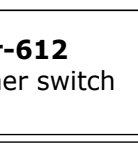
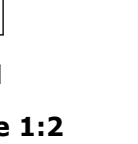
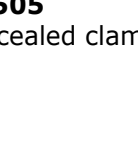
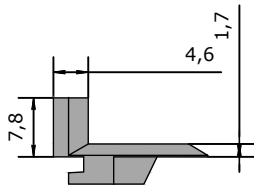
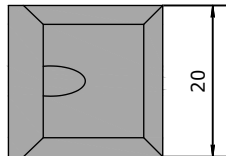
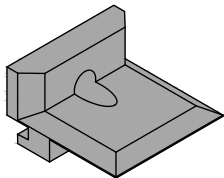
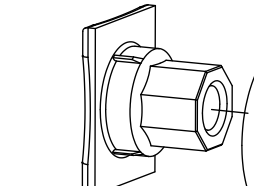
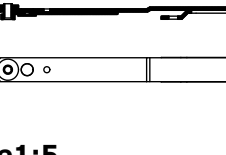
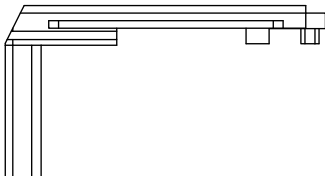
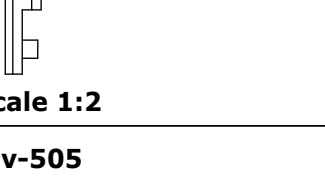
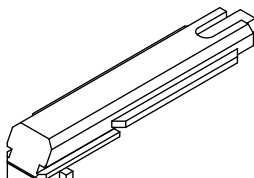
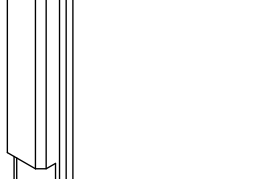
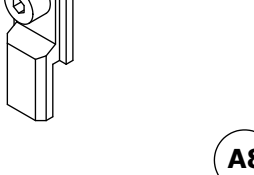
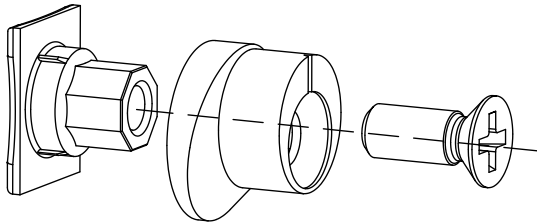
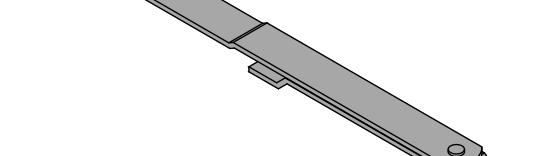
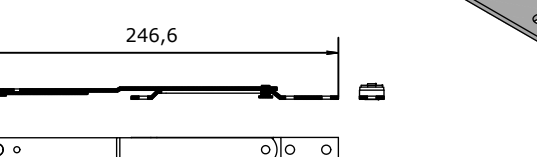
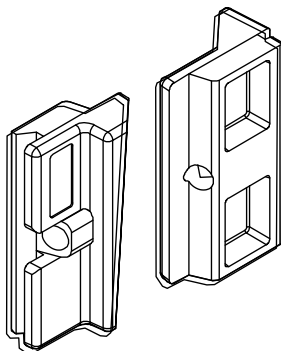
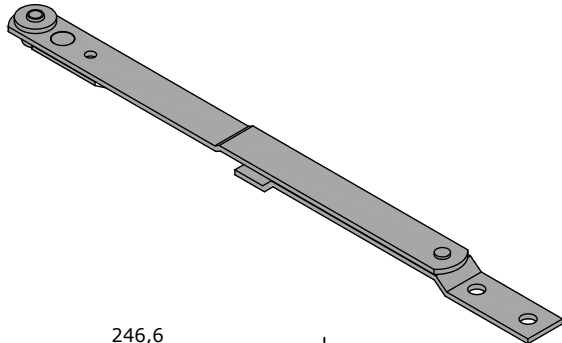
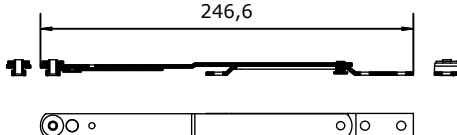
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	sub-assemblies	stained glass insulation	connections	equipment and tools
F026 Support pad for glass 										
F031-50 Water drain hole cap (for MastTech systems) 										
F045a-150-20 insert 110 mm for P22-304-20 mullion  Made of aluminum sheet. Painted according to RAL										
F027 Bushings (2 pcs) and screws (4 pcs) for mullion fastening 										
F037-22-01 MastTech-22 mullions footplate  153 36 16										
F047a-50 insert 50 mm for P22-302 mullion  Made of aluminum sheet. Painted according to RAL										
F029-12 L-shaped bracket 										
F045a-50 insert 50 mm for P22-302 mullion  Made of aluminum sheet. Painted according to RAL										
F047a-75 insert 75 mm for P22-301 mullion  Made of aluminum sheet. Painted according to RAL										
F029T T-shaped bracket 										
F045a-75 insert 75 mm for P22-301 mullion  Made of aluminum sheet. Painted according to RAL										
F047a-90 insert 90 mm for P22-303 mullion  Made of aluminum sheet. Painted according to RAL										
F029Y Corner bracket, Y-shaped 										
F045a-90 insert 90 mm for P22-303 mullion  Made of aluminum sheet. Painted according to RAL										
F047a-110 insert 110 mm for P22-304 mullion  Made of aluminum sheet. Painted according to RAL										
F031 Water drain hole cap D=10 										
F045a-110 insert 110 mm for P22-304 mullion  Made of aluminum sheet. Painted according to RAL										
F048a-50 insert 50 mm for P22-302 mullion  Made of aluminum sheet. Painted according to RAL										

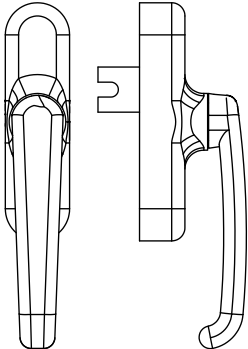
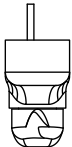
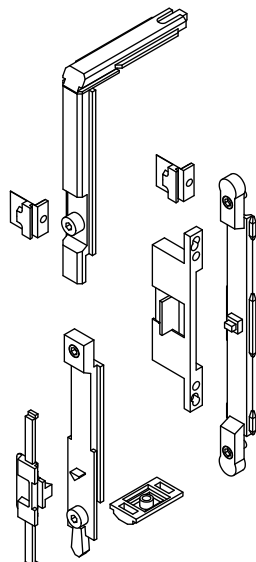
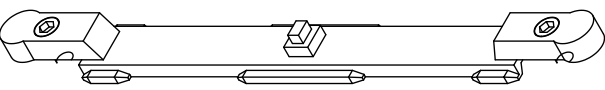
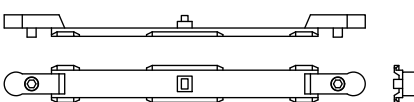
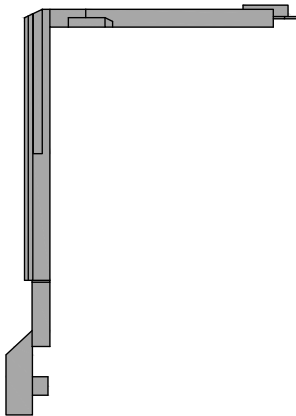
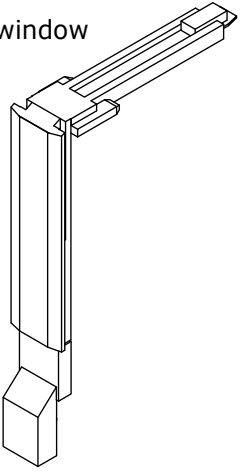
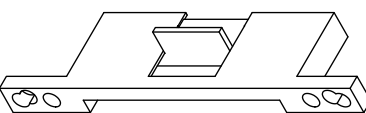
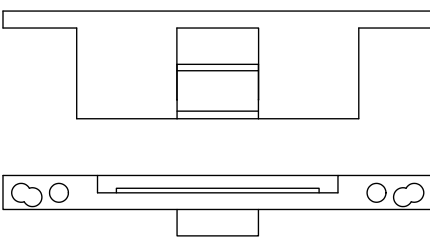
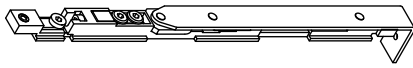
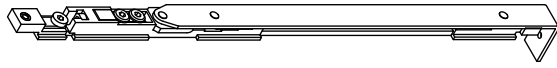
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
F101 Turn hinge 												
F201 Handle for turn sash (narrow) 												
F202 Turn window handle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

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
F509 Floor seat for catch, d=9 	F514 Universal eccentric pin (on a screw) 	F706 Block attachment — guide 										
F511 Lever lock D=30 	F517 Roller lock with mating plate D=30 	F707 Block attachment — damper 										
F512 Profile lock cylinder, 68 — 26x32 	F521 Set of turn window fittings 	F708 Block attachment — roller 										
F512-40-40 Profile lock cylinder, 80 — 40x40 	F601 Three-position window handle 	F712 Arched handle without lock 										
F522-30-30 Profile lock cylinder, 60 mm (30-30) 	F602 Three-position handle coupling 	F715 Engagement plate 										
F513 Cylinder plate 	F701P Plastic dust protection element 	F718-24 Engagement plate 45 mm 										

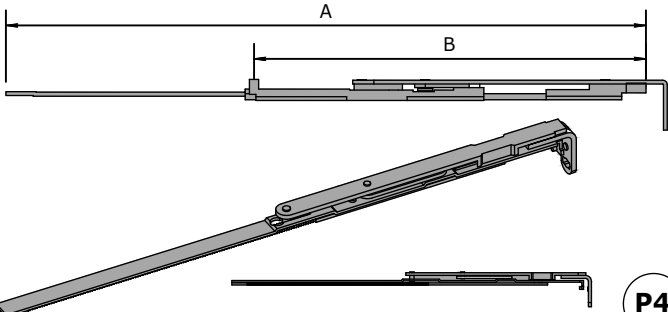
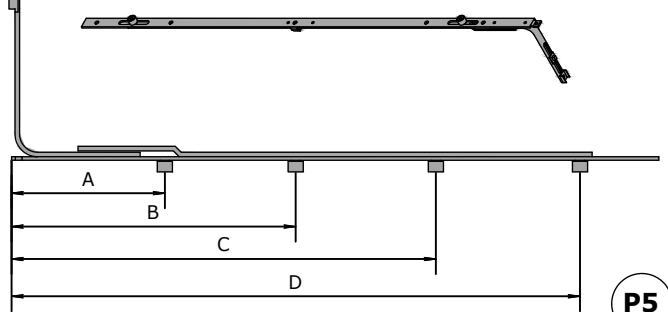
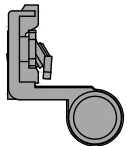
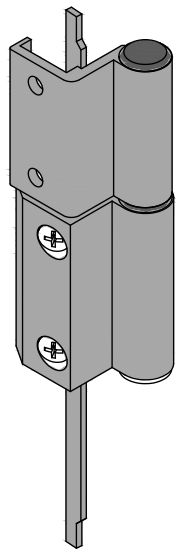
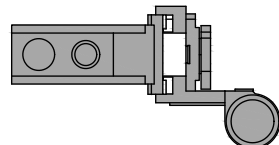
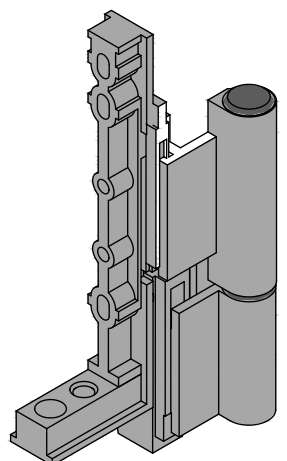
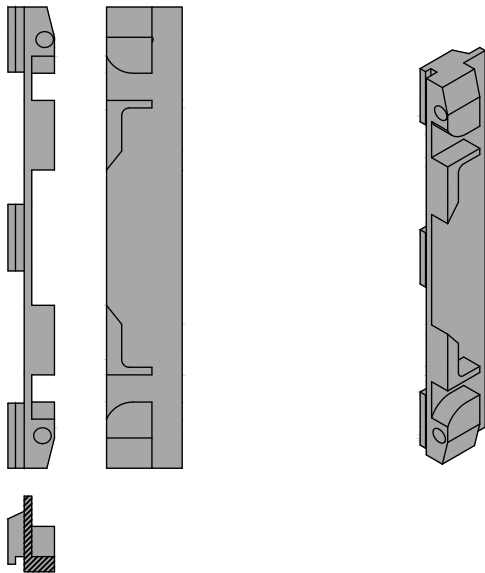
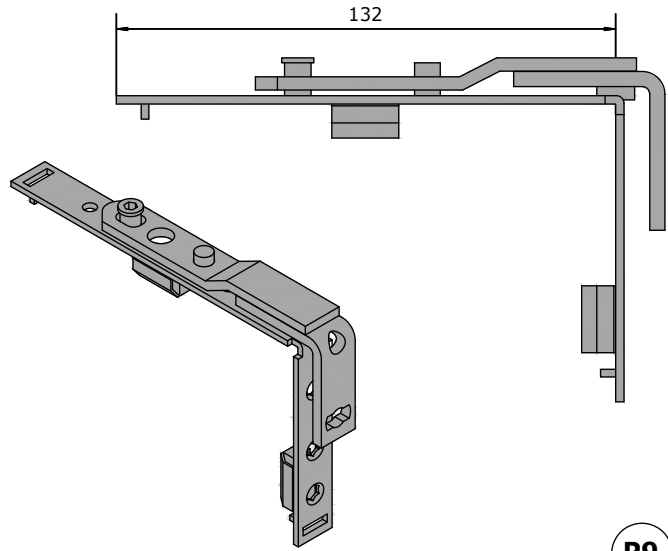
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contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
Ffor-203 2-position handle				Scale 1:4		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

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
Ffor-101 window hinge												
Scale 1:2	A6	Ffor-504 mating plate of pivot pin										
Scale 1:1	A7	Ffor-612 corner switch										
Scale 1:2	A8	Fv-514 Universal eccentric pin (on a screw)										
Scale 1:1	A9	Ffor-505 Concealed clamp bar for aluminum window										
Scale 1:2	A10	Ffor-401 opening restrictor										
Scale 1:5	A11											

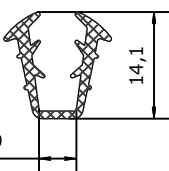
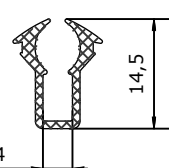
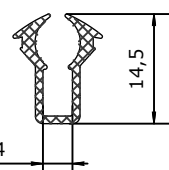
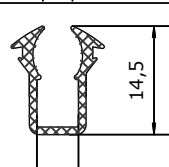
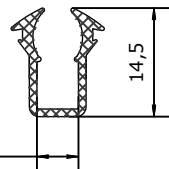
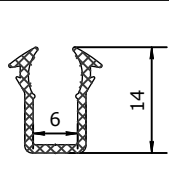
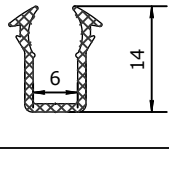
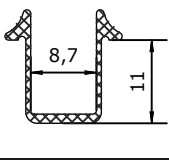
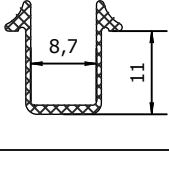
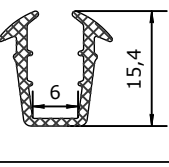
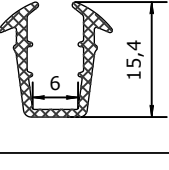
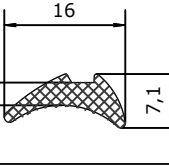
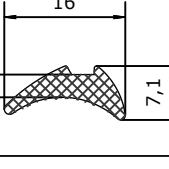
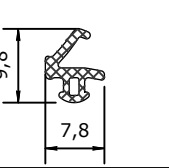
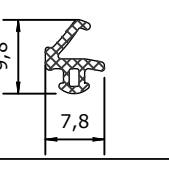
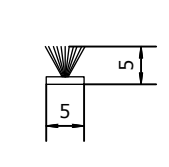
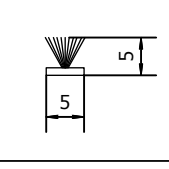
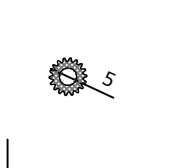
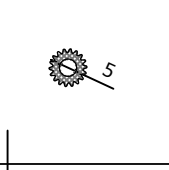
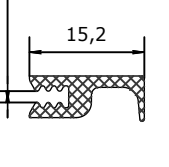
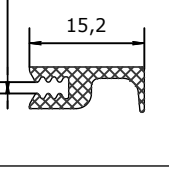
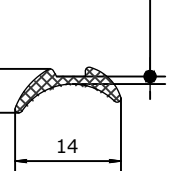
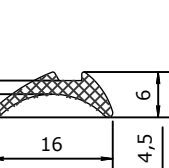
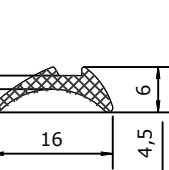
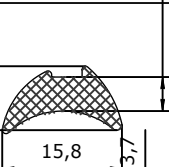
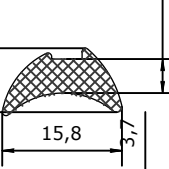
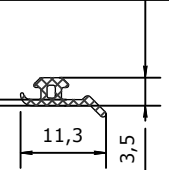
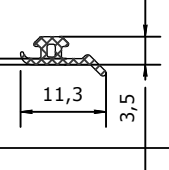
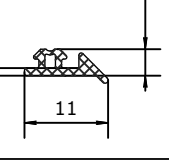
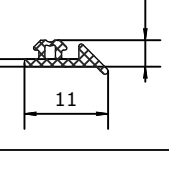
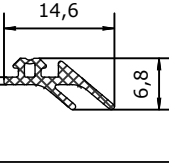
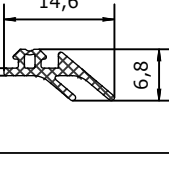
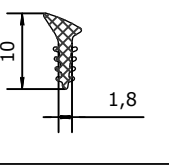
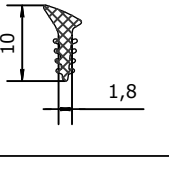
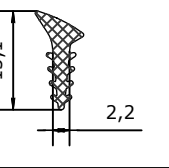
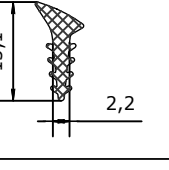
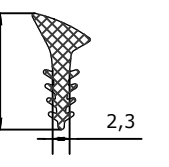
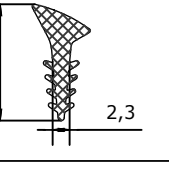
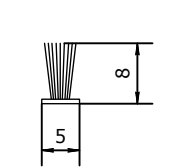
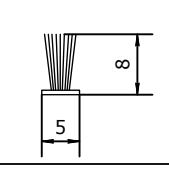
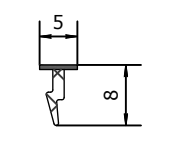
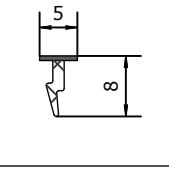
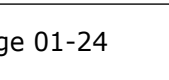
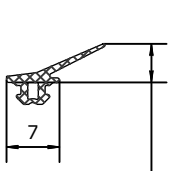
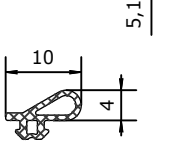
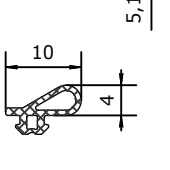
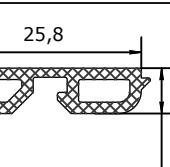
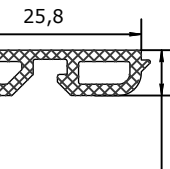
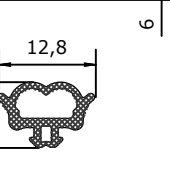
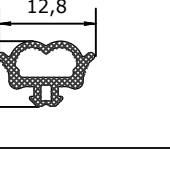
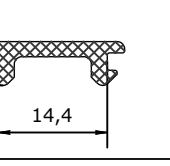
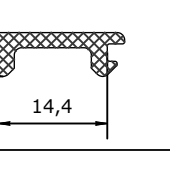
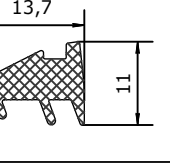
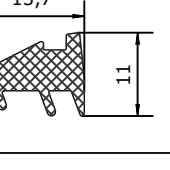
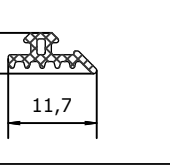
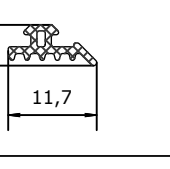
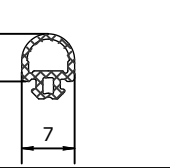
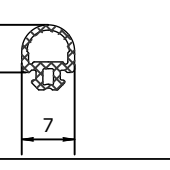
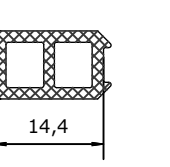
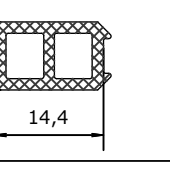
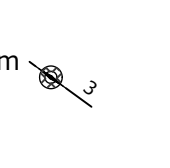
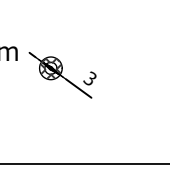
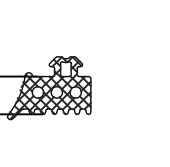
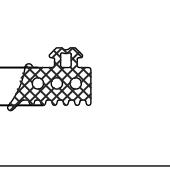
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
Ffor-601 3-position handle				Scale 1:4								
Ffor-616 standard accessories for tilt and turn window				A12								
- corner switch - central joint for 3-position handle - faulty opening lock - hinged bolt for tilt and turn window - hinged bolt mating plate - catch seat - sash lifter - mating plates of pin (2 pcs)				A13								
Ffor-602 Central joint for 3-position handle												
												
Scale 1:4				A14								
Ffor-6162 additional switch for tilt and turn window												
												
Scale 1:2				A15								
Ffor-600 faulty opening lock (for 3-position handle)												
												
Scale 1:2				A16								
Ffor-614 scissor stay GR:01 narrow — 365–675 mm												
Ffor-615 scissor stay GR:02 narrow — 675–1200 mm												
				A17								

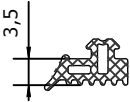
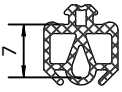
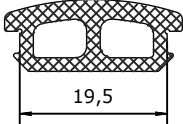
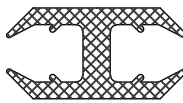
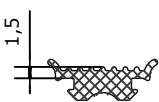
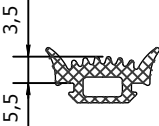
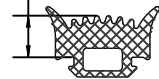
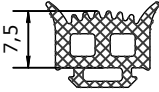
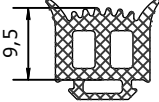
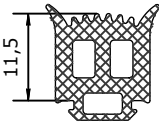
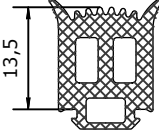
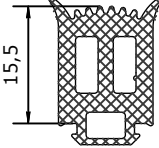
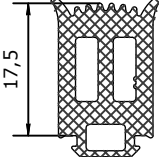
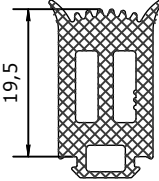
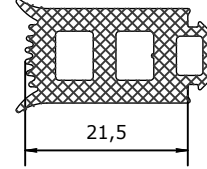
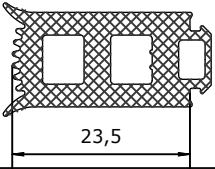
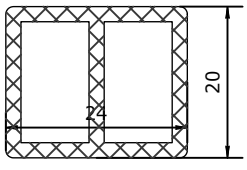
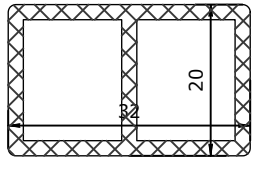
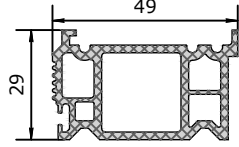
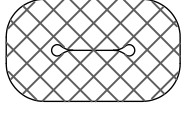
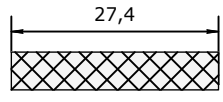
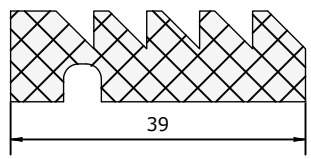
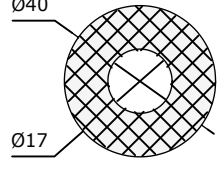
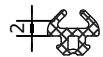
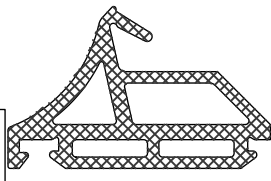
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Tilt & turn scissor stay for window								Medium latch								contents			
article		size	sash width over rebate (SWR)	A	B			article		size	sash height over rebate (SHR) / sash width over rebate (SWR)	A	B	C	D			contents	
FPfor-615-1		GR 1	395-600	465	-	3	0	FPfor-611-0		GR 0-1	500-800	391	-	-	-	3	1	profiles	
FPfor-615-1-1		GR 1-1	400-650	515	-	-	-	FPfor-611-1-1		GR 1	700-1150	542	460	-	-	4	2		
FPfor-615-2-1		GR 2-1	595-800	665	392	5	1	FPfor-611-2		GR 2	1150-1350	742	660	-	-	5	2		
FPfor-615-3		GR 3	795-1000	865	542	7	1	FPfor-611-2-1		GR 2-1	1350-1600	992	460	910	-	5	3		
FPfor-615-4		GR 4	995-1200	1065	542	8	1	FPfor-611-3		GR 3	1600-1850	1242	460	1160	-	7	3		
FPfor-615-5		GR 5	1195-1400	1265	781	9	1	FPfor-611-4		GR 4	1850-2100	1486	674	1404	-	8	3		
FPfor-615-6		GR 6	1395-1600	1465	865	11	1	FPfor-611-5		GR 5	2100-2400	1785	460	1060	1703	10	4	scope of delivery	
 The application range is selected according to sash width over rebate (SWR) P4								 The application range is selected according to sash height over rebate (SHR) / sash width over rebate (SWR) P5								profiles (1:1)			
FPfor-101 Upper hinge on the frame								FPfor-102 Lower hinge									sections		
  P6								  P7											
Scale 1:2								Scale 1:2											
FPfor-6162 mating plate (vertical) for hinged latch								FPfor-111 top hinge on the sash (for turn windows)											sub-assemblies
 Scale 1:2 P8								 Scale 1:2 P9										stained glass insulation	
																connections			
																	equipment and tools		

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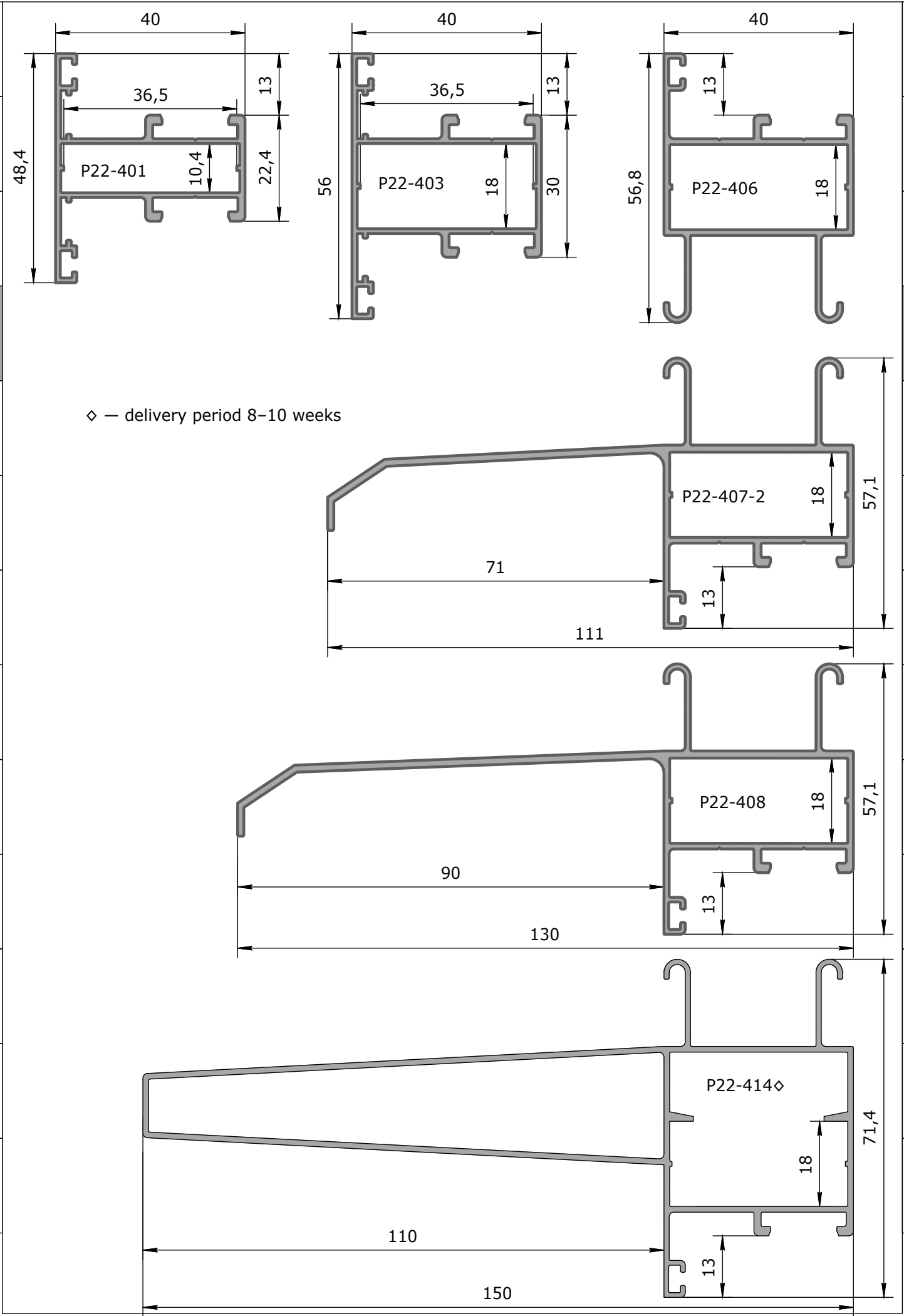
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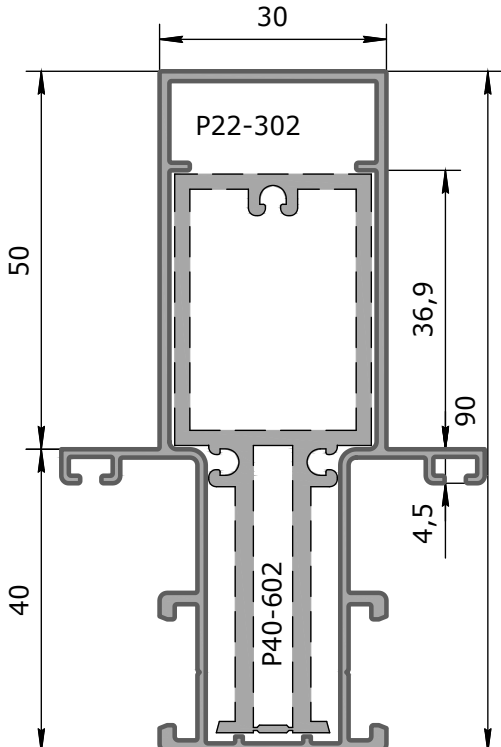
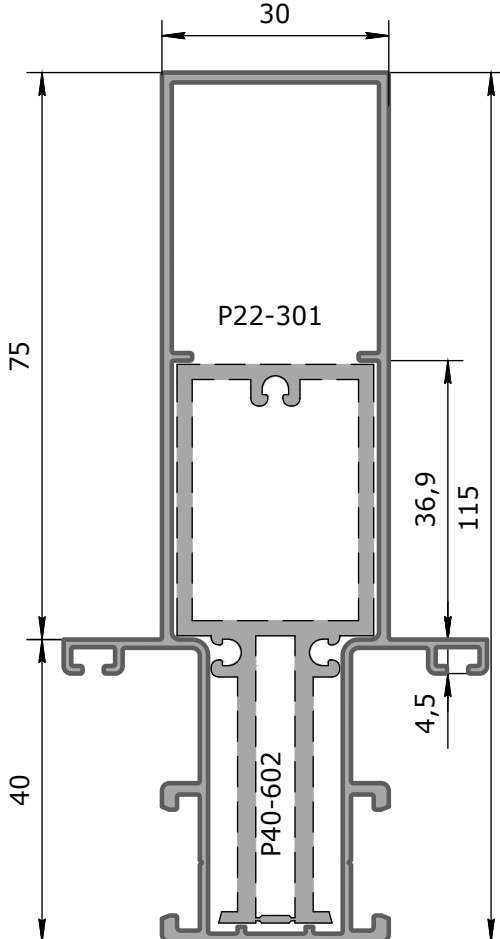
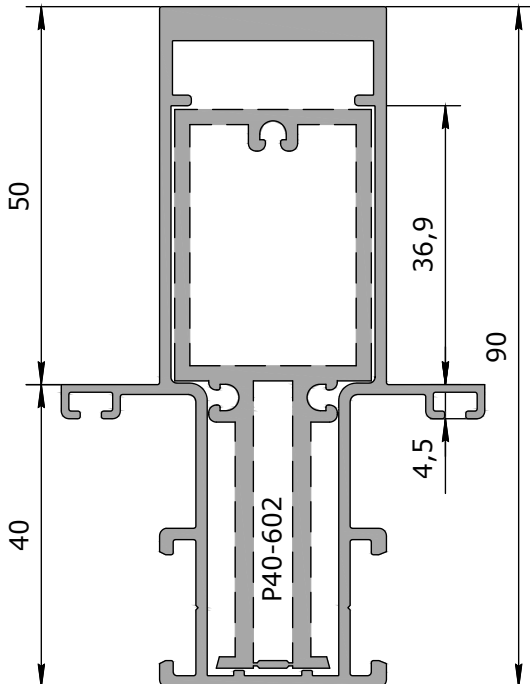
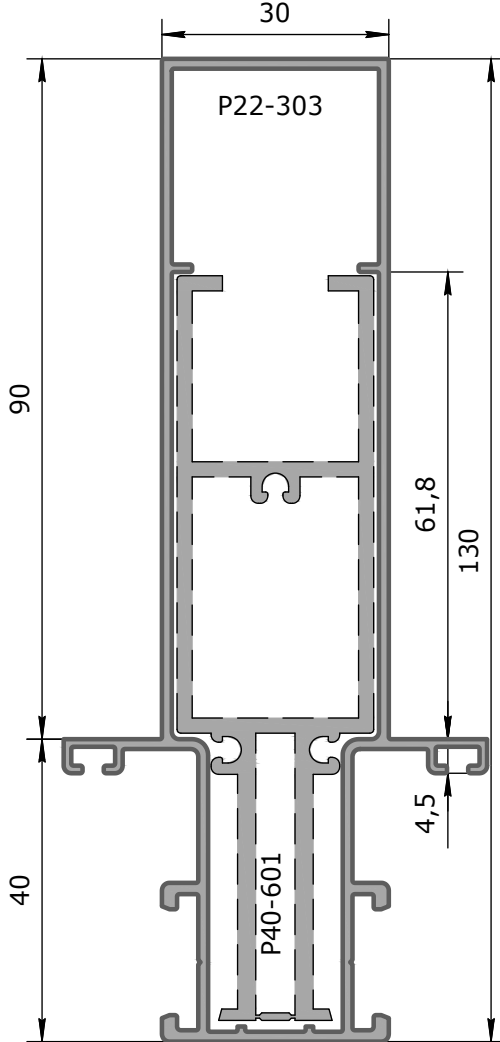
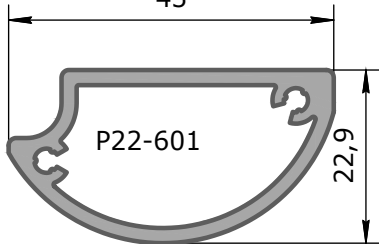
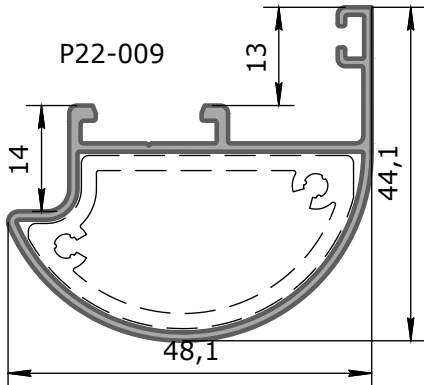
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
R001 glass gasket 4–5 mm												
R001-4 glass gasket 4 mm												
R001-5 glass gasket 5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

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	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
R055/R055E external gasket 3.5 mm	EPDM																								
																									
R056 rabbet gasket 7 mm																									
																									
R057 groove gasket/cap 19.5 mm																									
																									
R058 Glass mating gasket 5-7 mm																									
																									
R301 facade gasket 1.5 mm																									
																									
R303 facade gasket 3.5 mm																									
																									
R305 facade gasket 5.5 mm																									
																									
R307 facade gasket 7.5 mm																									
																									
R309 facade gasket 9.5 mm																									
																									
R311 facade gasket 11.5 mm																									
																									
R313 facade gasket 13.5 mm																									
																									
R315 facade gasket 15.5 mm																									
																									
R317 facade gasket 17.5 mm																									
																									
R319 facade gasket 19.5 mm																									
																									
R321 facade gasket 21.5 mm																									
																									
R323 facade gasket 23.5 mm																									
																									
PP-024 facade spacer 24x20 mm																									
																									
PP-032 facade spacer 32x20 mm																									
																									
PP-101-01 universal underlaying profile																									
																									
RV-40-10 Vilatherm 40/10 mm																									
																									
RP104 foamed gasket 44x5 mm																									
																									
RP107-2 foamed gasket																									
																									
RP110-2 foamed gasket																									
																									
RV-40-17 Vilatherm 40/17 mm																									
																									
R072 rabbet gasket 2 mm																									
																									
R075E medium gasket for rabbet																									
																									
R300 facade gasket for grooves																									
																									

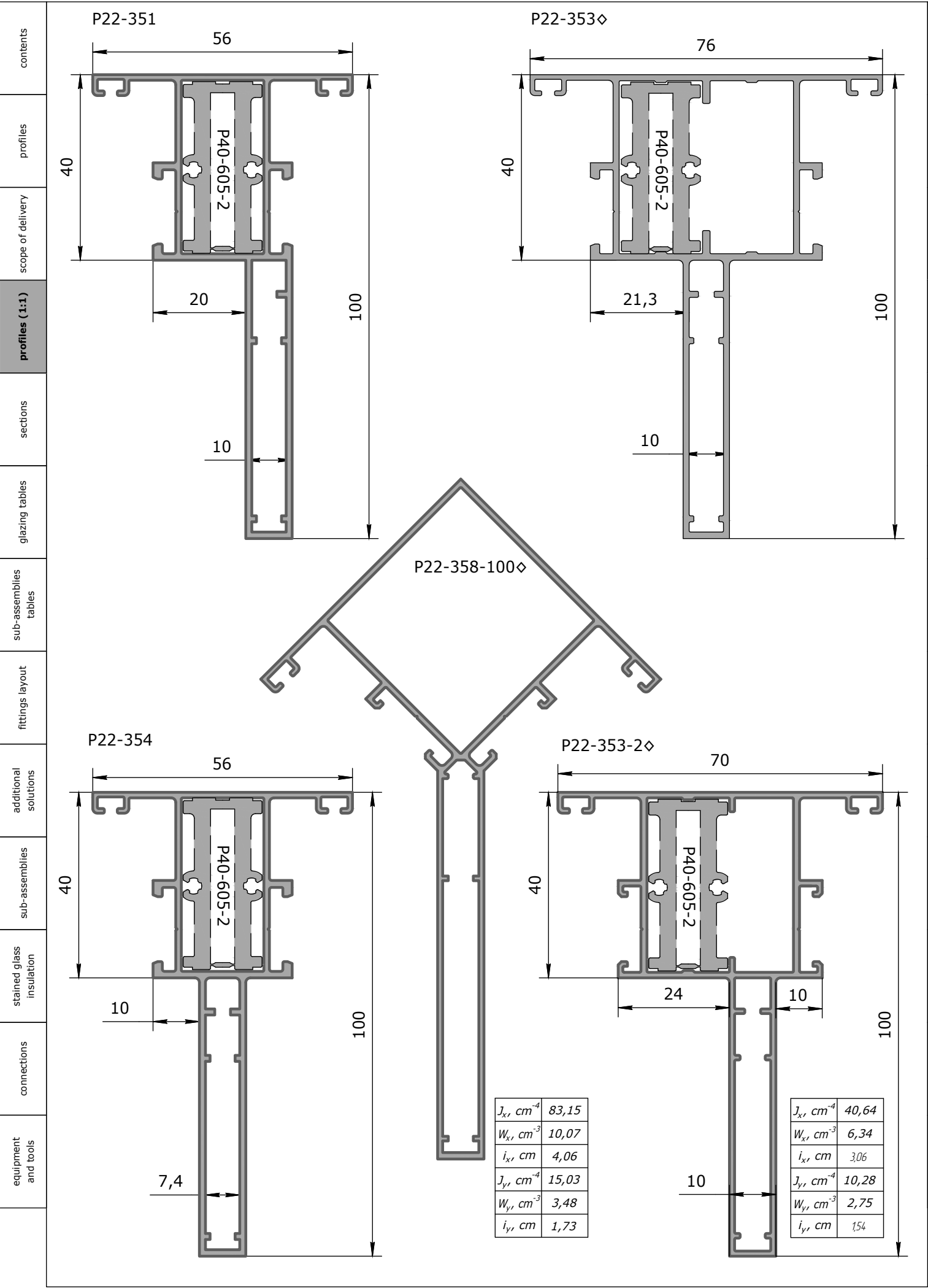
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page 02-02

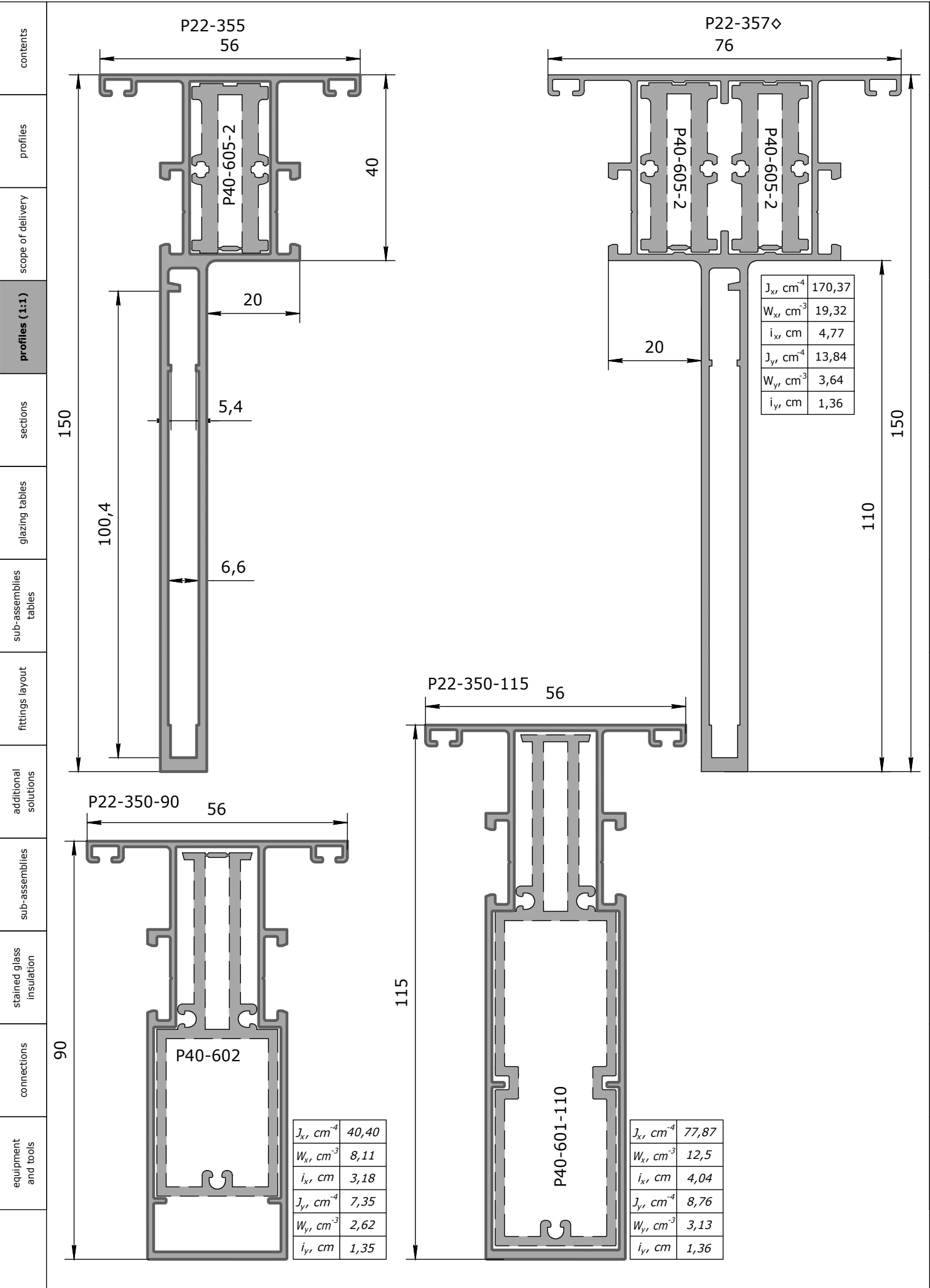


 P22-302 P40-602	 P22-301 P40-602
 P22-302-50◇ P40-602	 P22-303 P40-601
 P22-601	 P22-009
◇ — delivery period 8-10 weeks	

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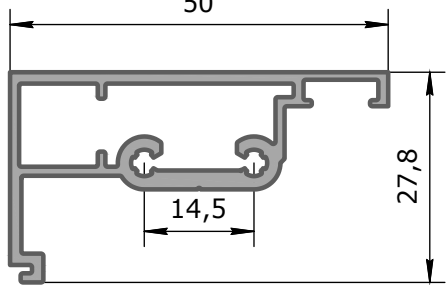
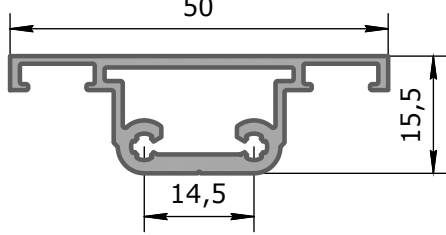
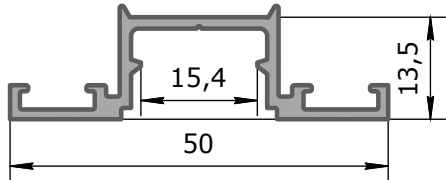
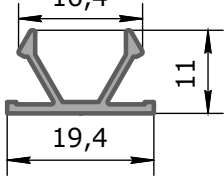
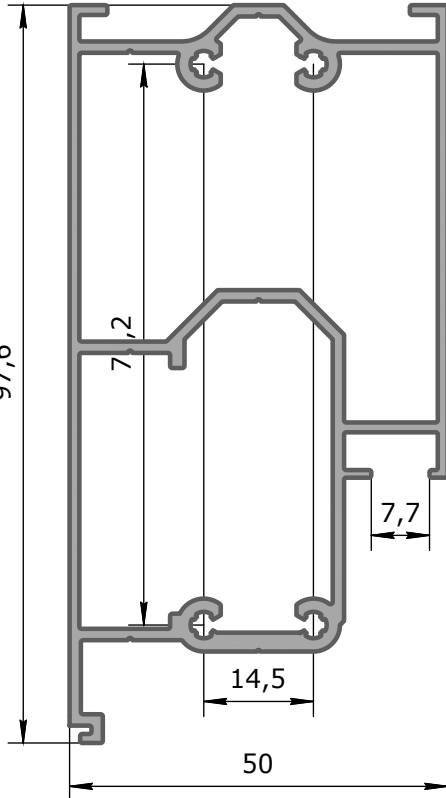
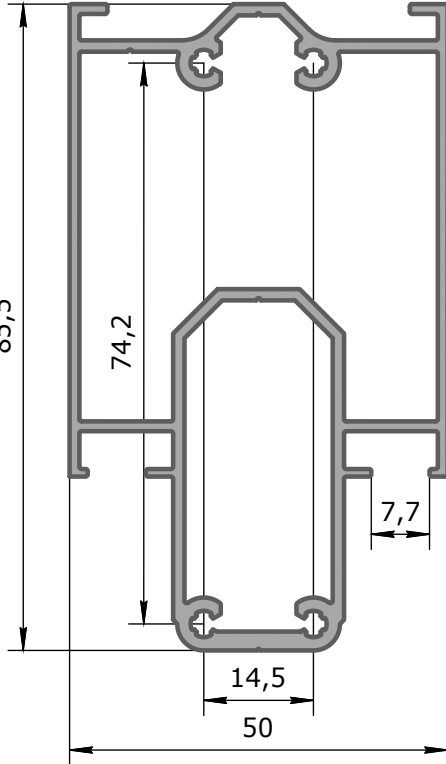


contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools

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- ◇ — delivery period 8–10 weeks

[illegible]

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
			P00-079-11 outermost screen housing 									
			P00-079-12 central screen housing 									
			P00-079-01 screen cover 									
			P00-062 plug 									
			P00-079-13 outermost screen housing offset 80 mm 									
			P00-079-14 central screen housing offset 80 mm 									

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Model	Width	Height	Model	Width	Height	Model	Width	Height
P00-501-25	3,5	18	P00-502	6,5	18	P00-502-2	6,5	18
						P00-502-25	9,5	18
			P00-503	12,5	18	P00-503-2	12,5	18
						P00-503-25	15,5	18
P22-502	18,5	13	P00-504	18,5	18	P00-504-2	18,5	18
P22-503	21,5	13				P00-504-25	21,5	18
P00-506-3	24,5	18	P00-506	24,5	18	P00-506-2	24,5	18
P22-501	24,5	13				P00-506-25	27,5	18
P22-501-2	24,5					P00-507-2	30,5	18
P22-500	35,5	13	P00-507	30,5	18			

[illegible]

Technical drawing showing various metal parts with dimensions and labels:

- P00-606-17**: Dimensions: 100, 130,5, 16,9, 27, 50, 80, 100, 111, 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P00-606**: Dimensions: 10,3, 130,5, 27, 50, 80, 100, 111, 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P00-016**: Dimensions: 5, 50, 80, 100, 111, 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P00-015**: Dimensions: 5, 50, 80, 100, 111, 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P00-004**: Dimensions: 5, 50, 80, 100, 111, 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P22-040**: Dimensions: 26,6, 4, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P40-605**: Dimensions: 37, 17, 16,4, 44,2, 14,8, 36,5, 44,1.
- P40-605-2**: Dimensions: 36,5, 16,4, 44,2, 14,8, 36,5, 44,1.
- P00-625**: Dimensions: 44,2, 14,8, 36,5, 44,1.
- P00-611**: Dimensions: 36,5, 44,1.
- P40-601**: Dimensions: 26, 98,5.
- P40-602**: Dimensions: 26, 73,9.
- P00-645**: Dimensions: 16,8, 91,5.

Legend: $\diamond$ - delivery period 8-10 weeks

	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 diagram illustrates the Masttech 22 window profile system. It shows a cross-section of the main frame profile (P00-634) with a width of 101,8. The frame is divided into three main sections by two vertical dividers (P00-627). Each section contains a glass unit held by a spacer (P00-617). The glass unit is secured by a gasket (P00-616) and a drainage channel (P00-619). Dimensions are provided for the frame width (101,8), the distance between dividers (42), the width of each divider (38), the width of each glass unit (26,6), the width of the gasket (19,7), and the width of the drainage channel (10).													
	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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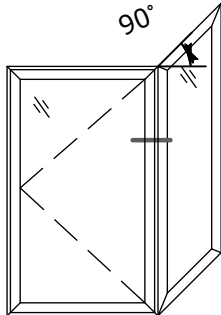
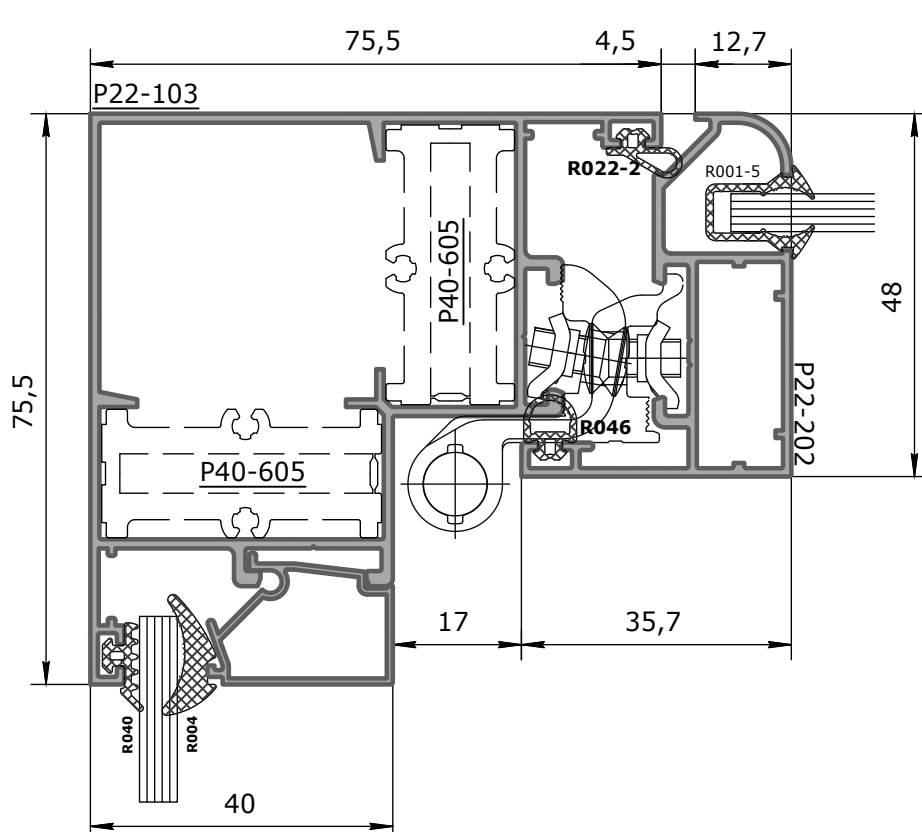
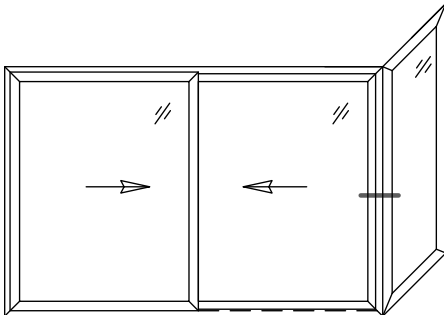
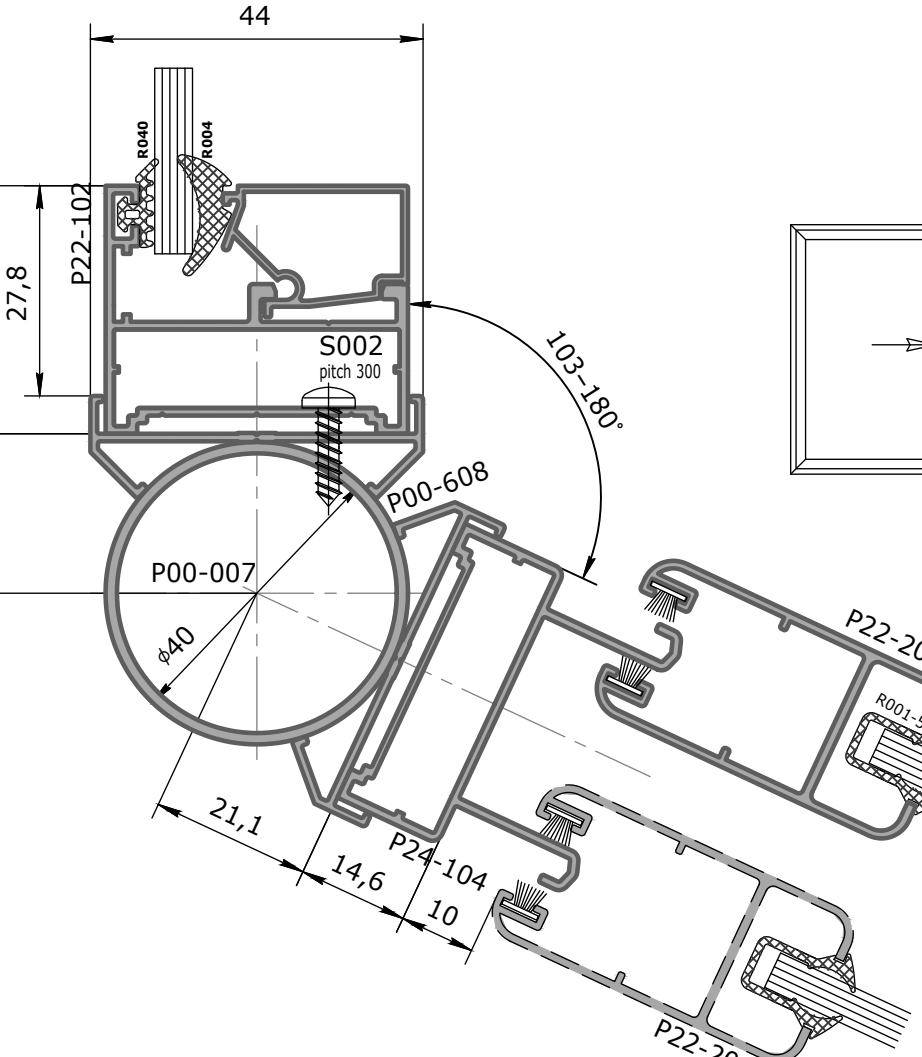
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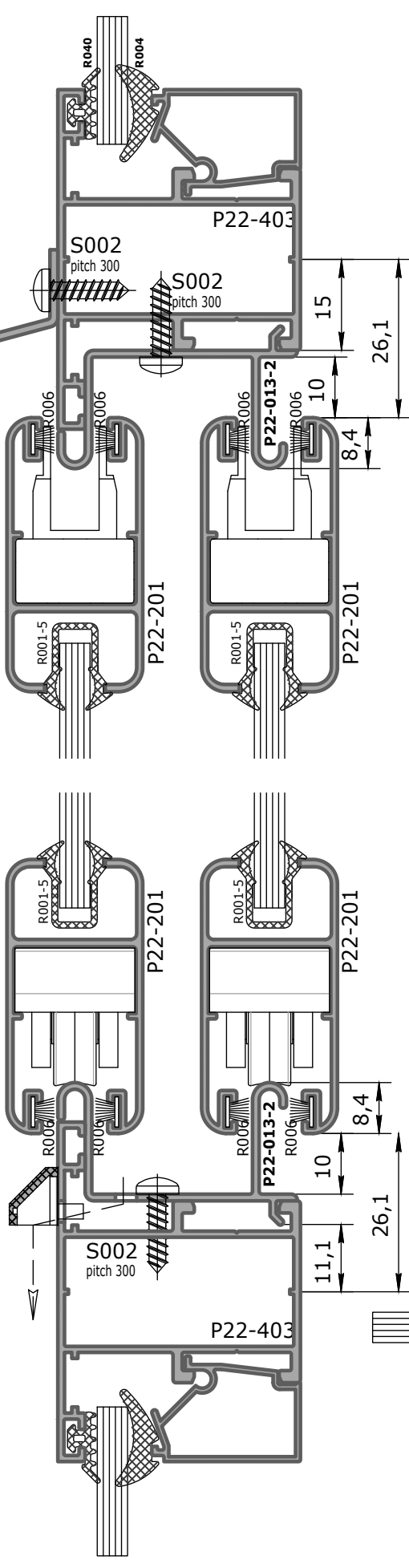
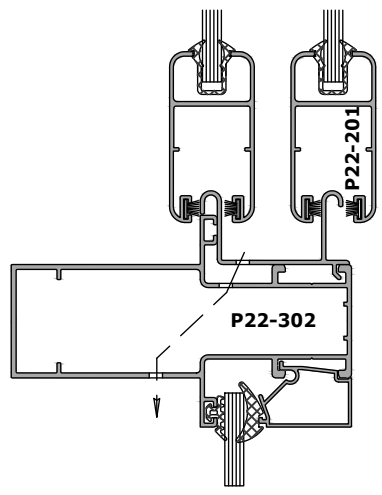
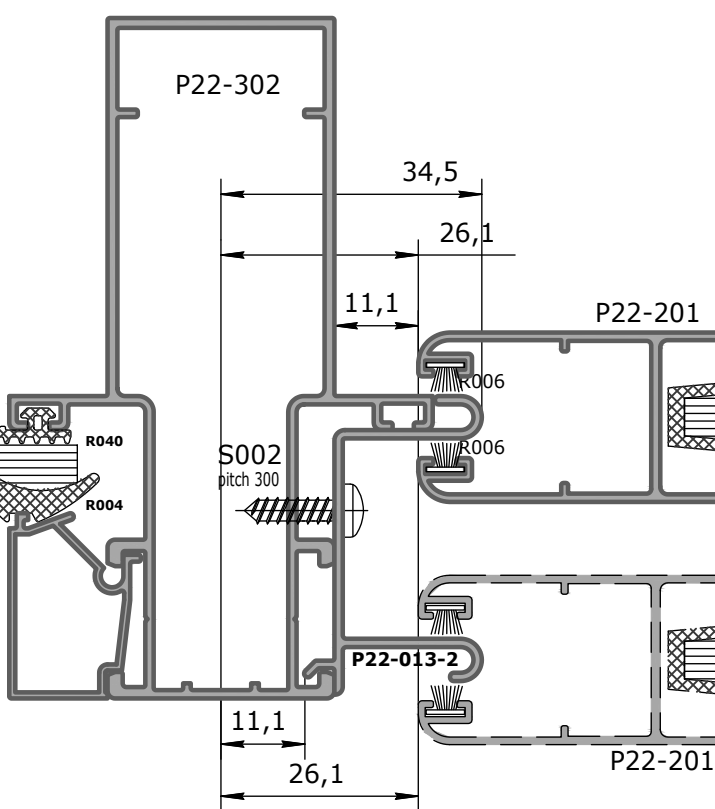
equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
 												

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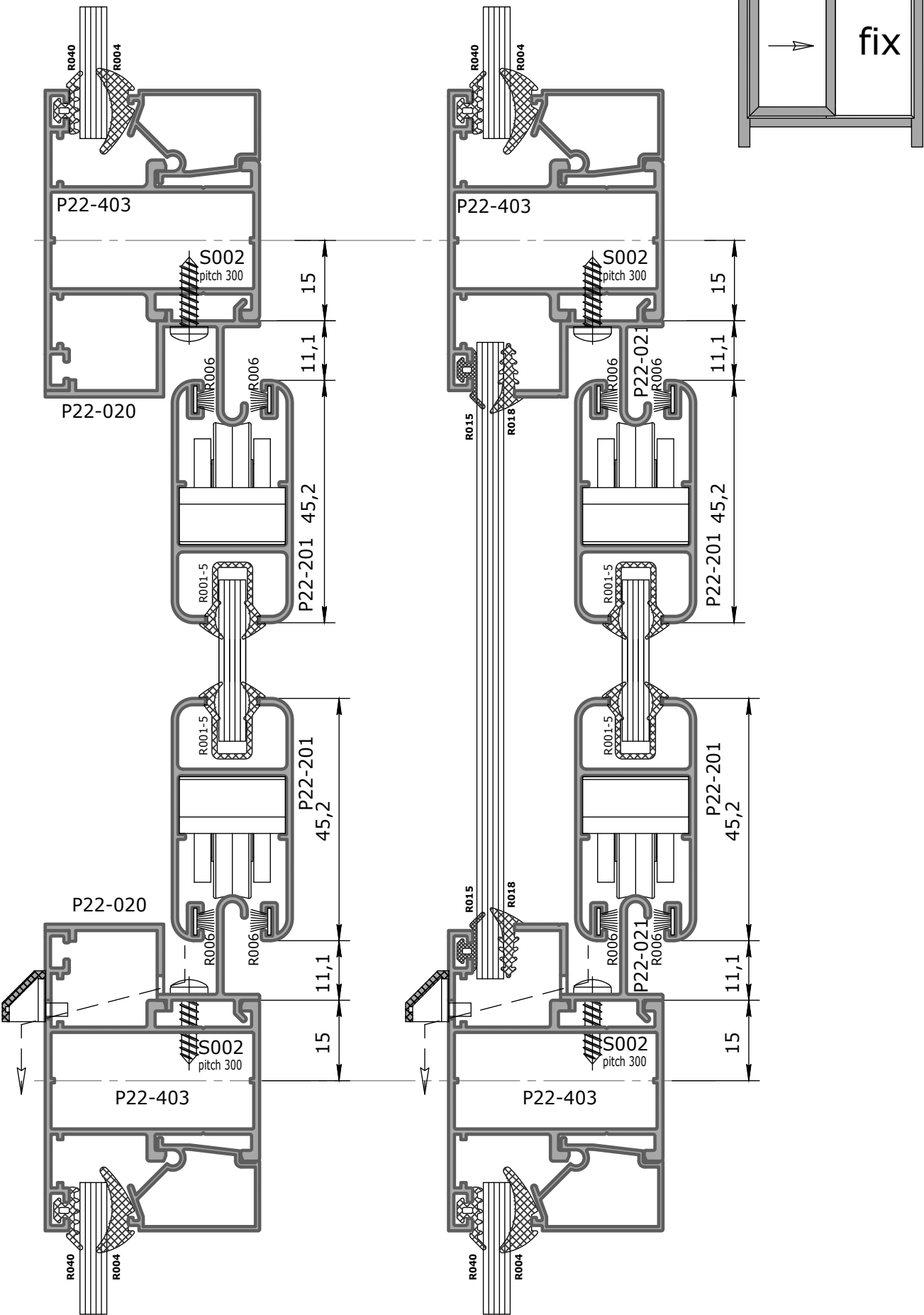
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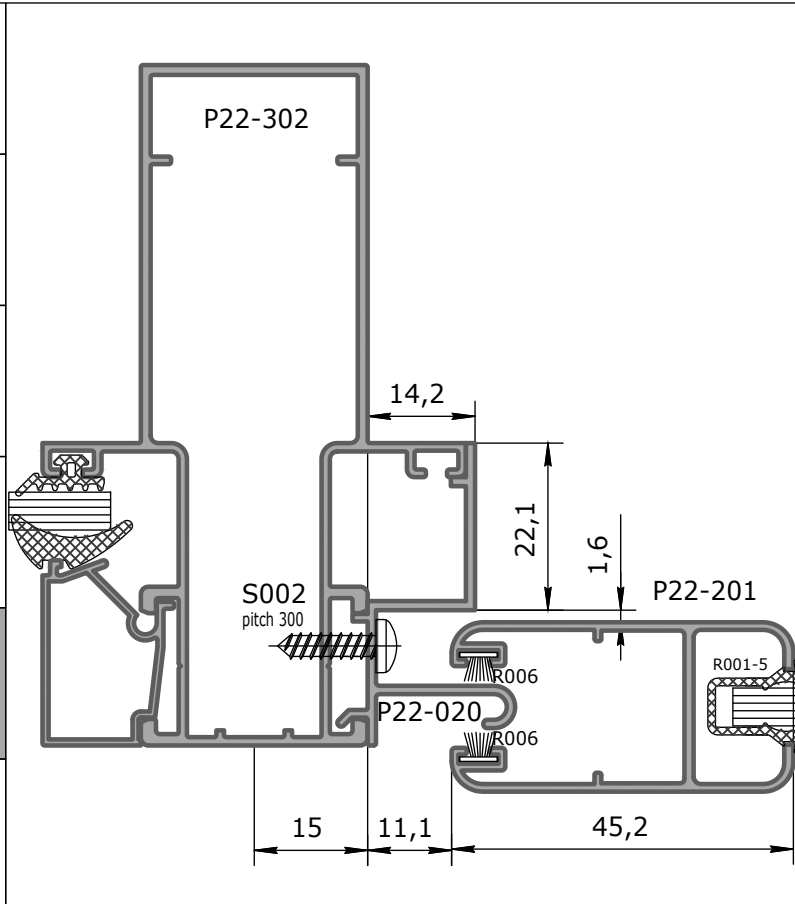
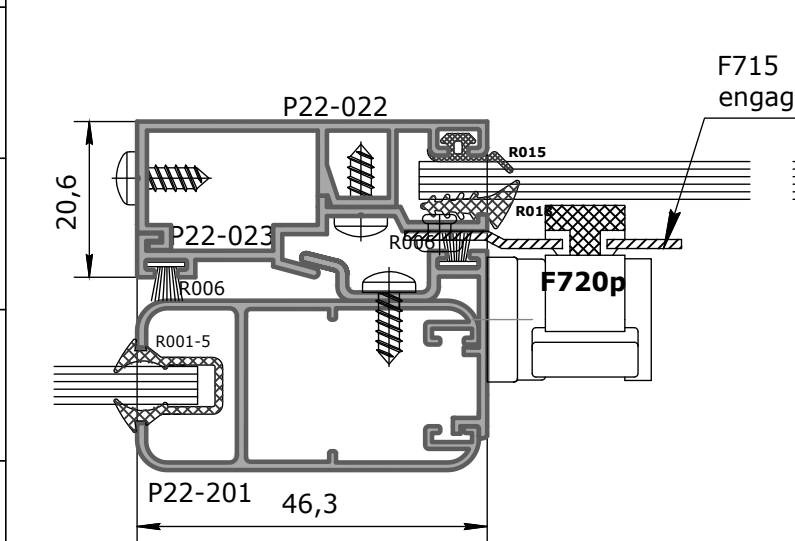
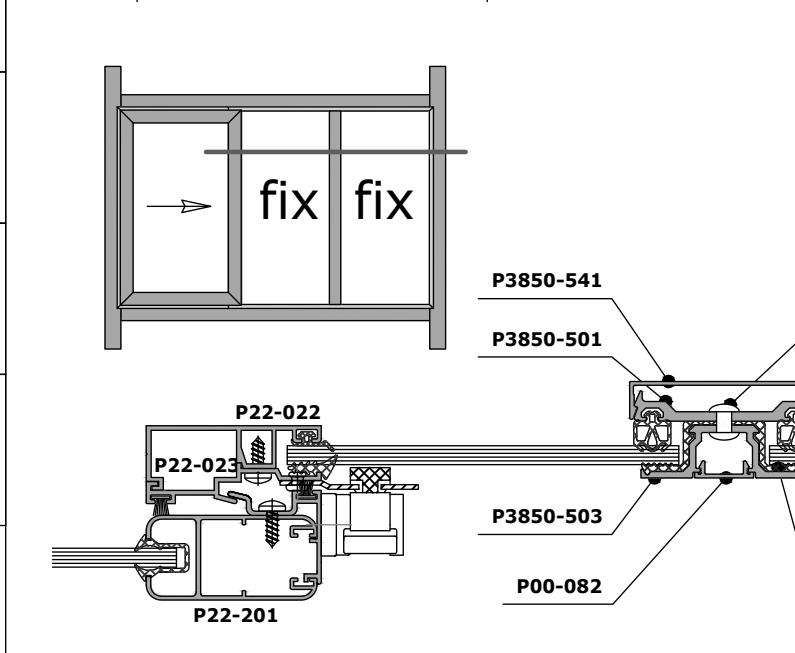
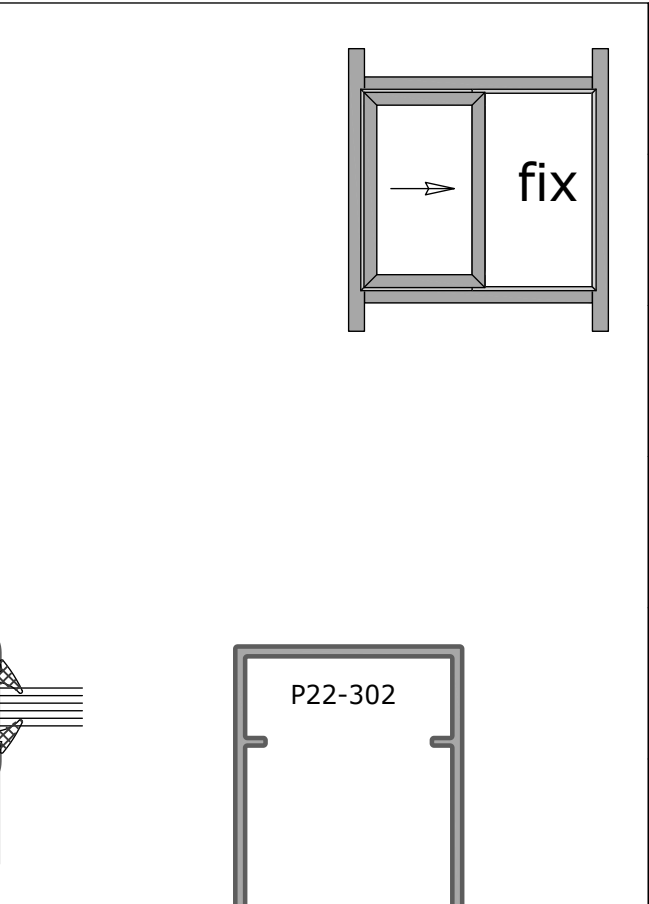
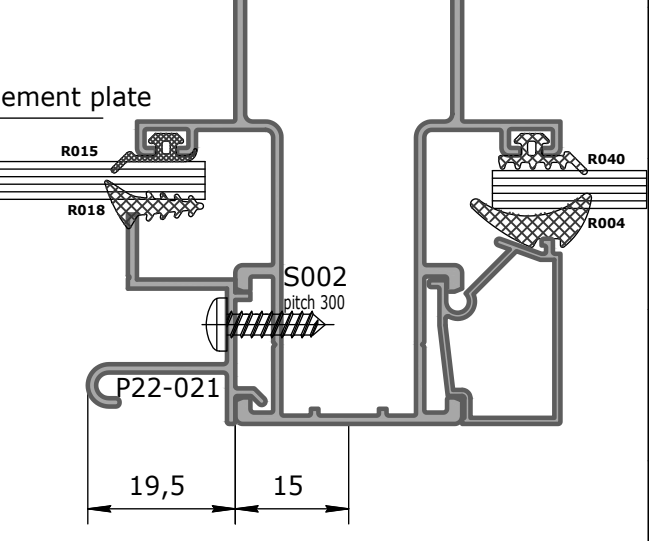
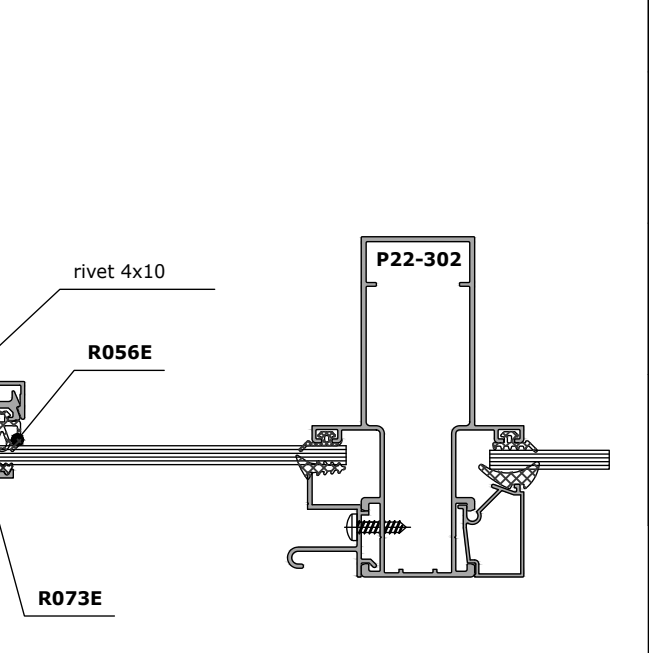
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
												
												
												

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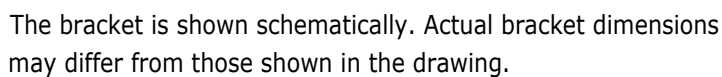
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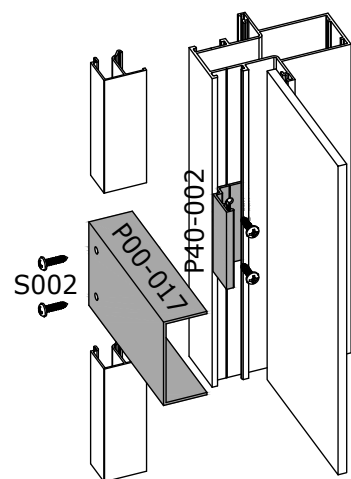
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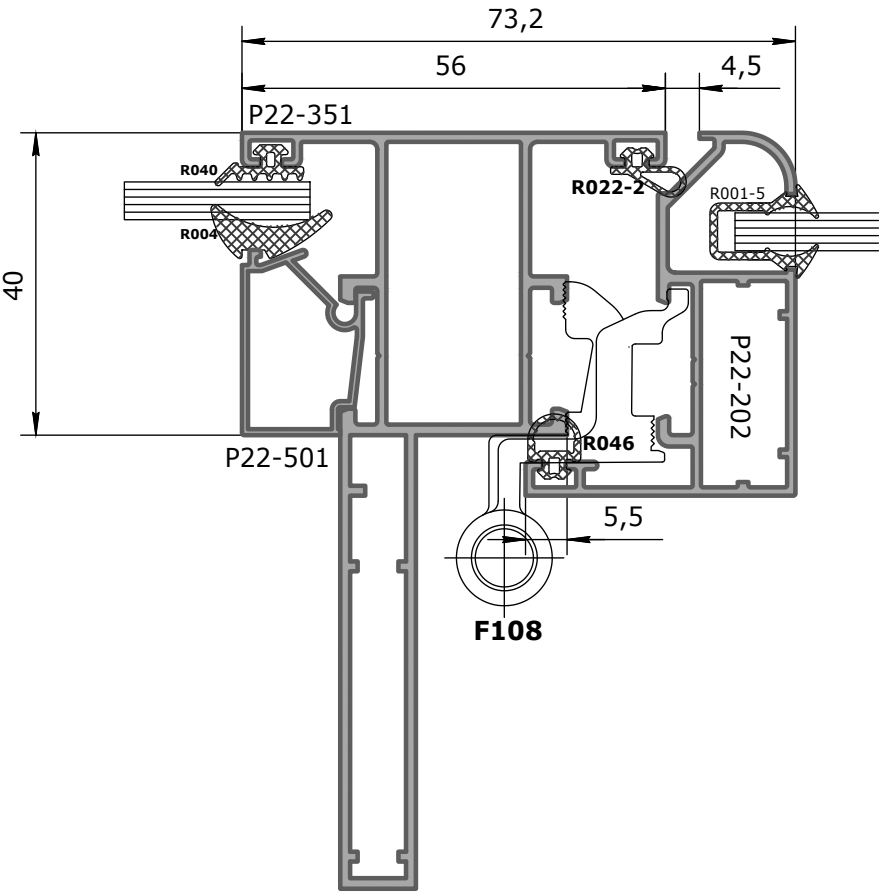
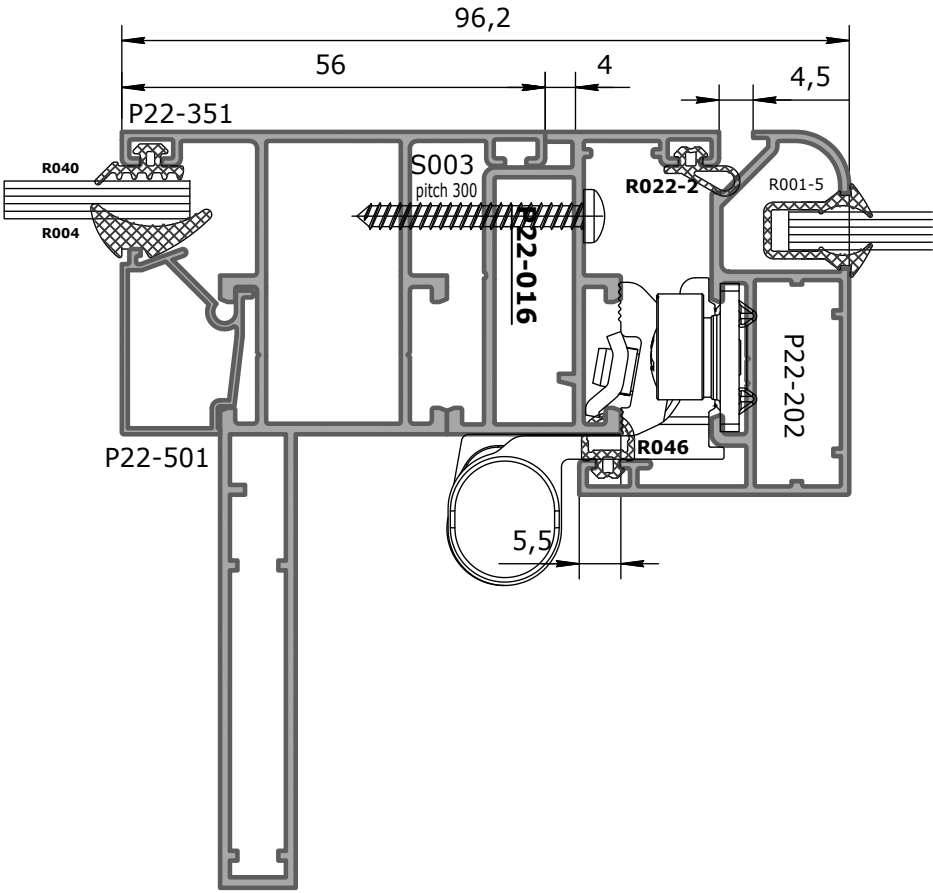
The diagram shows a grid of lines. A horizontal band, shaded with diagonal lines, passes through the middle of the grid. A vertical line is drawn across the grid, intersecting the shaded band. The grid is composed of several horizontal and vertical lines, with the shaded band being a central horizontal strip.

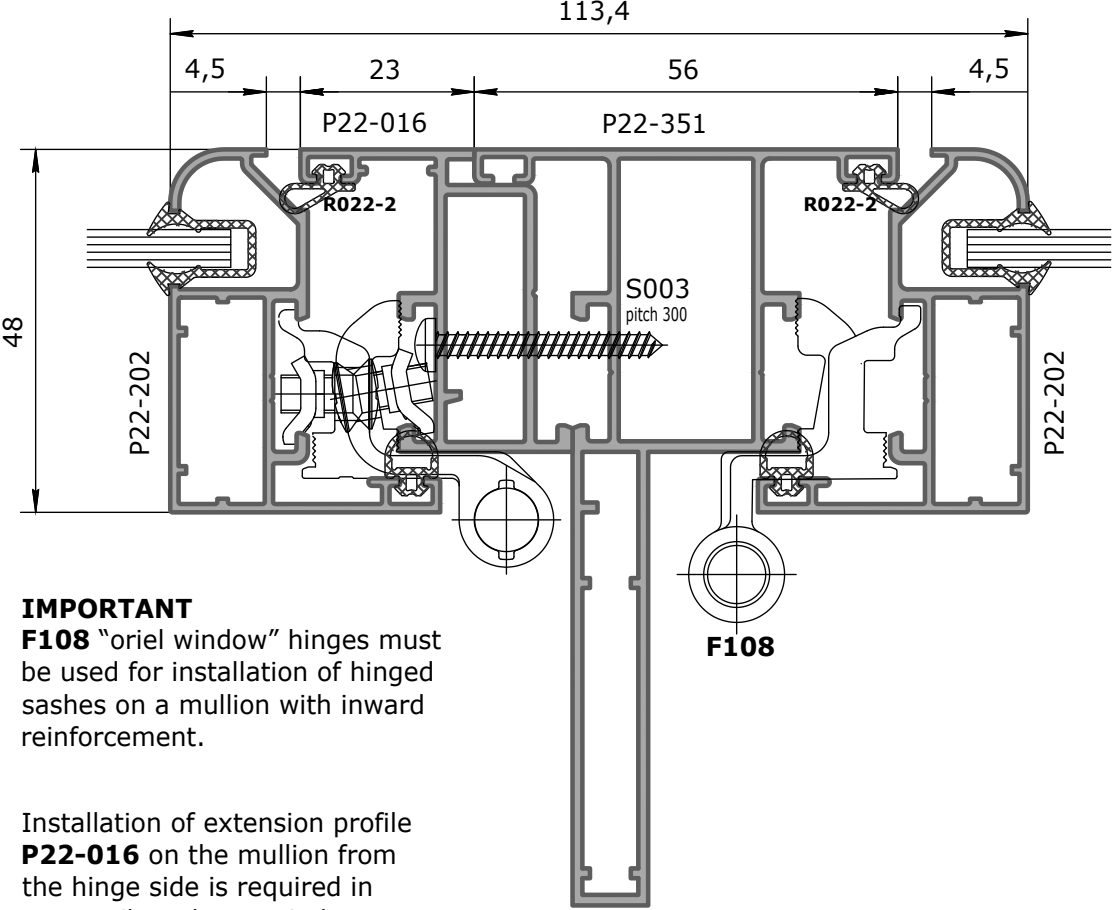


The diagram shows a grid of lines. A horizontal band, shaded with diagonal lines, passes through the center of the grid. A vertical line is drawn across the grid, intersecting the shaded band. The shaded band is wider than the grid's height, extending beyond the top and bottom edges of the grid.

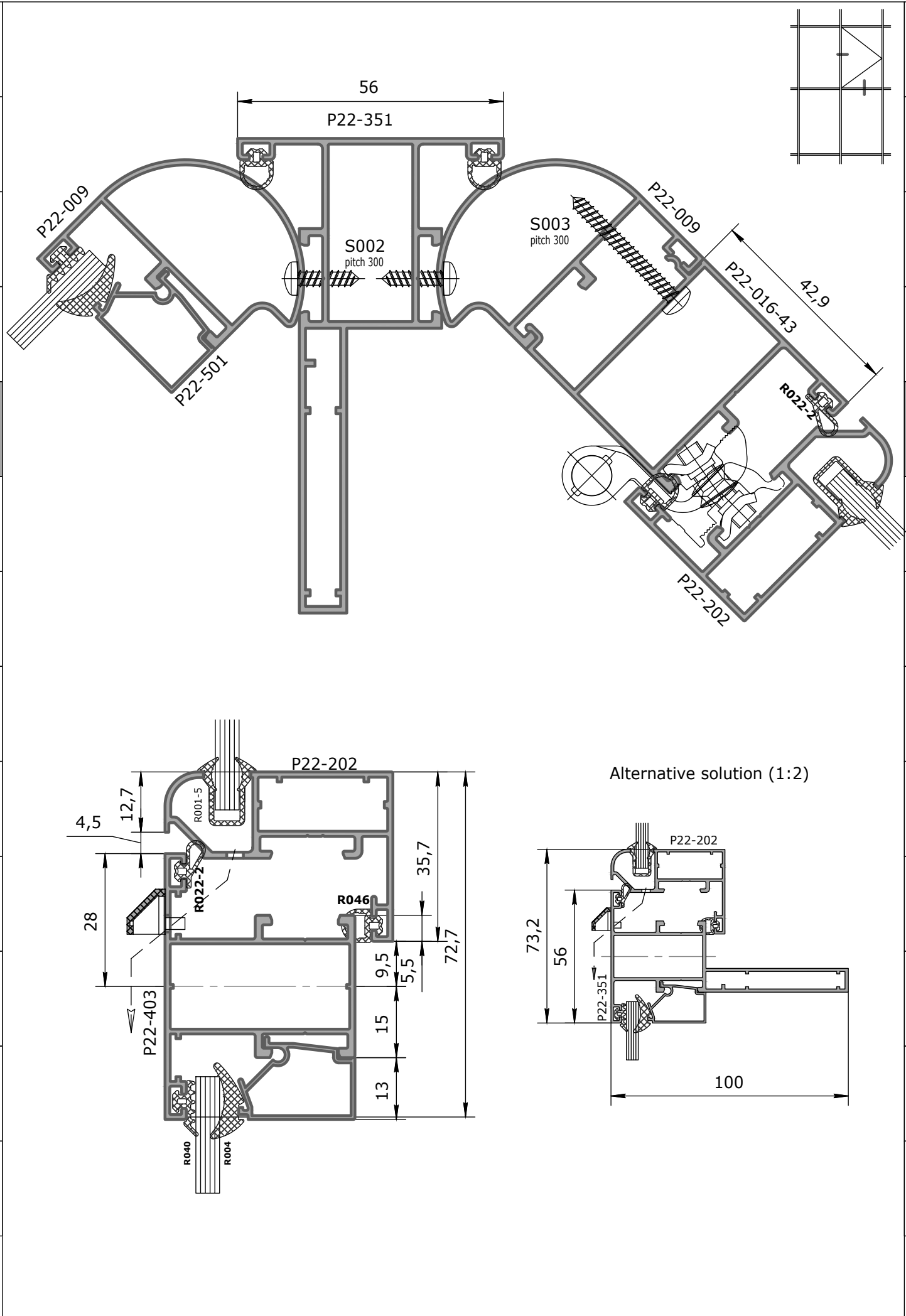


The bracket is shown schematically. Actual bracket dimensions may differ from those shown in the drawing.

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

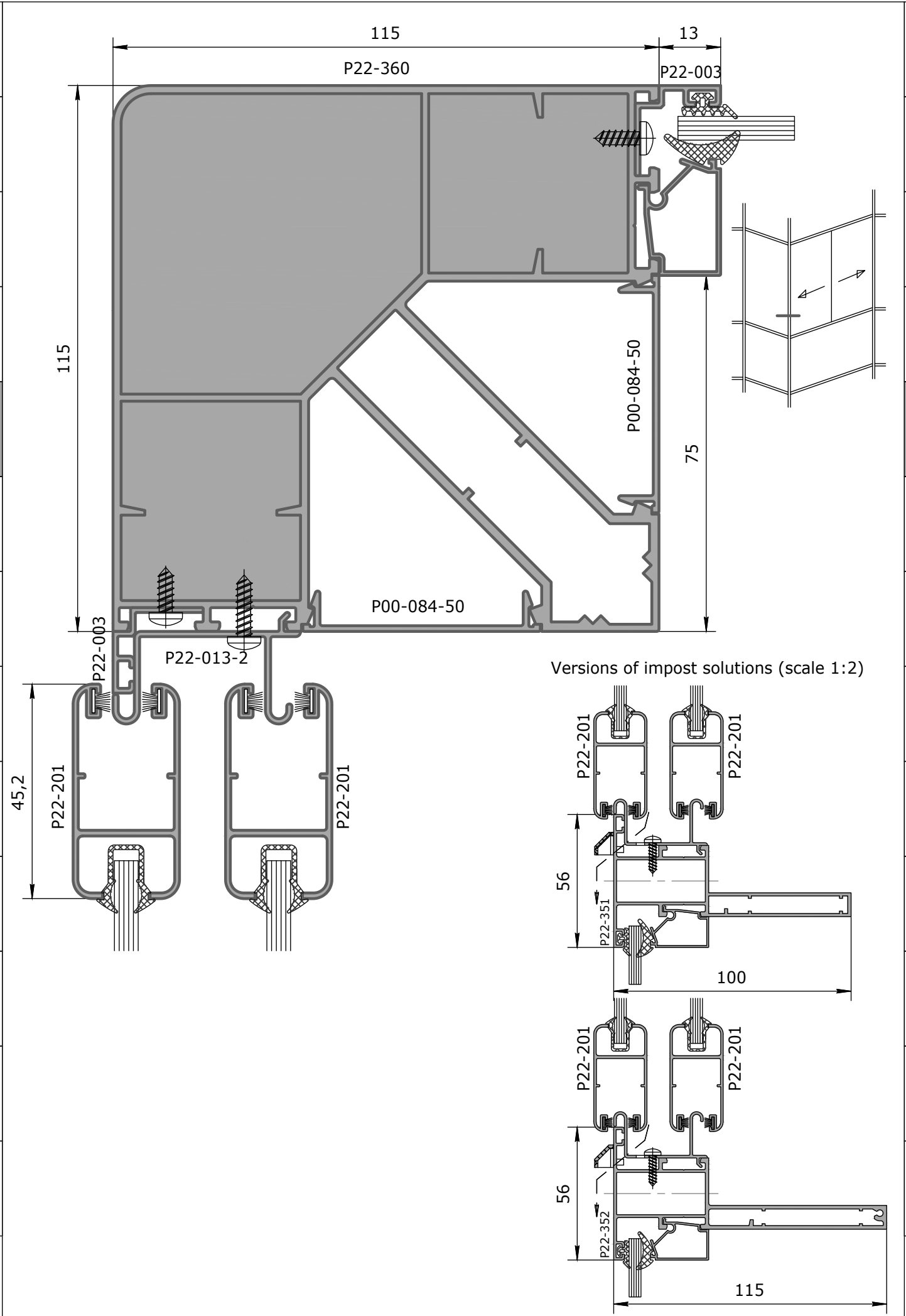
contents											contents
profiles											profiles
scope of delivery											scope of delivery
profiles (1:1)											profiles (1:1)
sections	 IMPORTANT F108 "oriel window" hinges must be used for installation of hinged sashes on a mullion with inward reinforcement. Installation of extension profile P22-016 on the mullion from the hinge side is required in case a tilt and turn window must be installed.										sections
glazing tables											glazing tables
sub-assemblies tables											sub-assemblies tables
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

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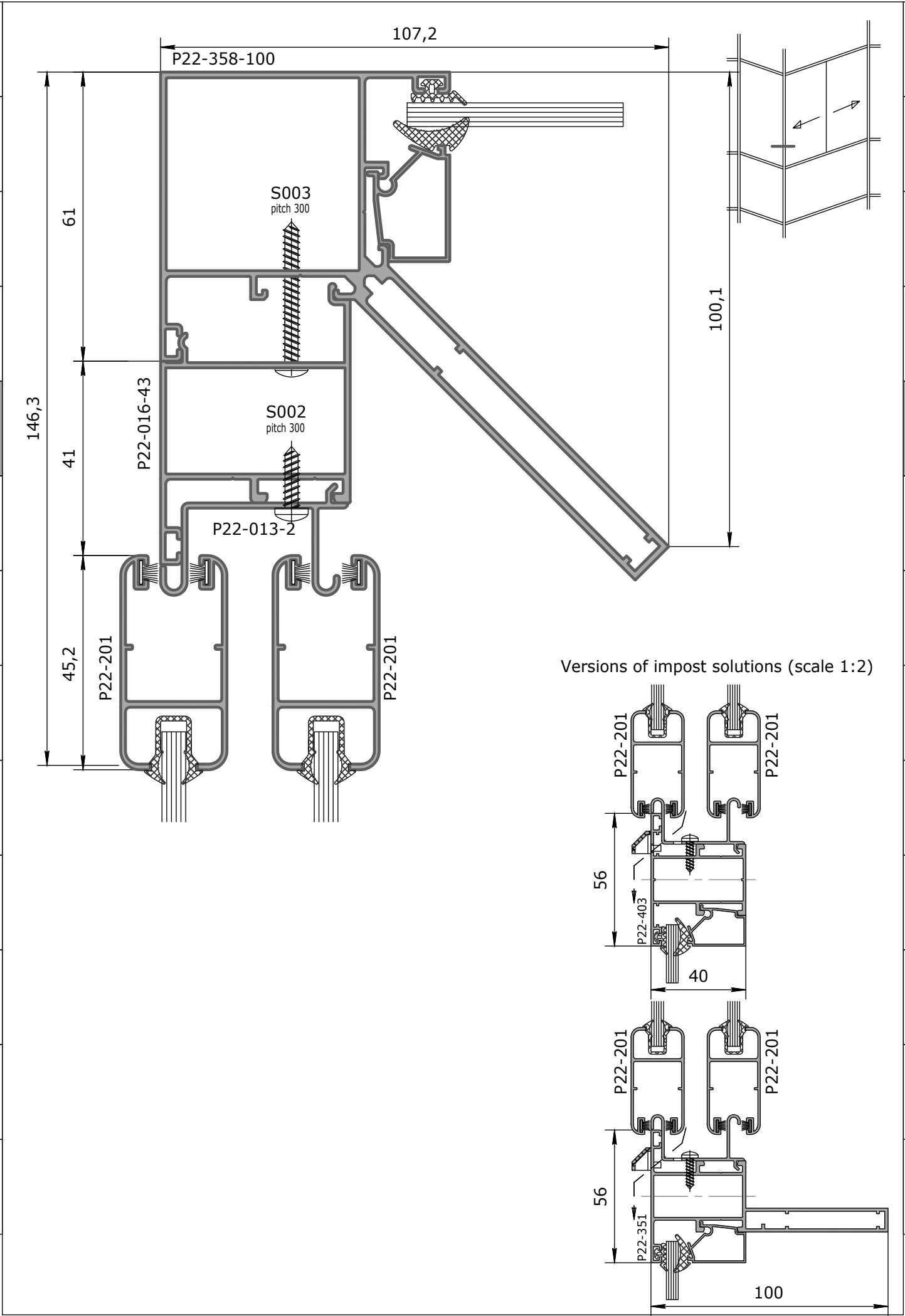


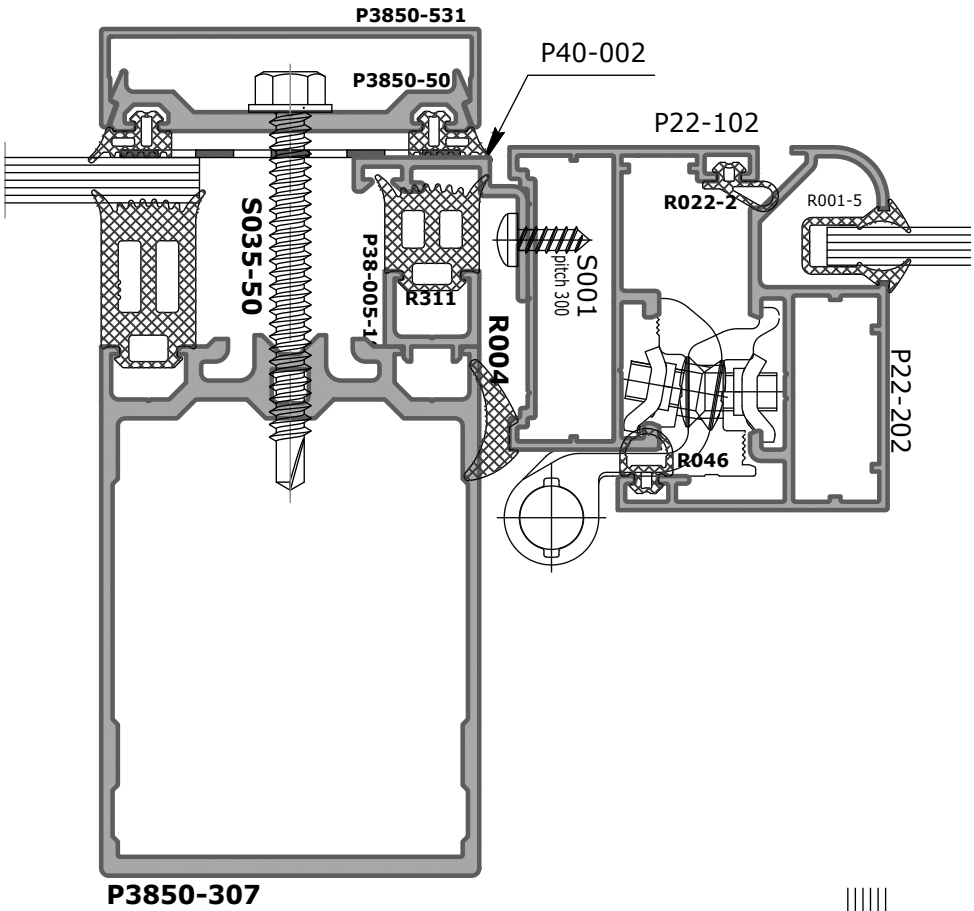
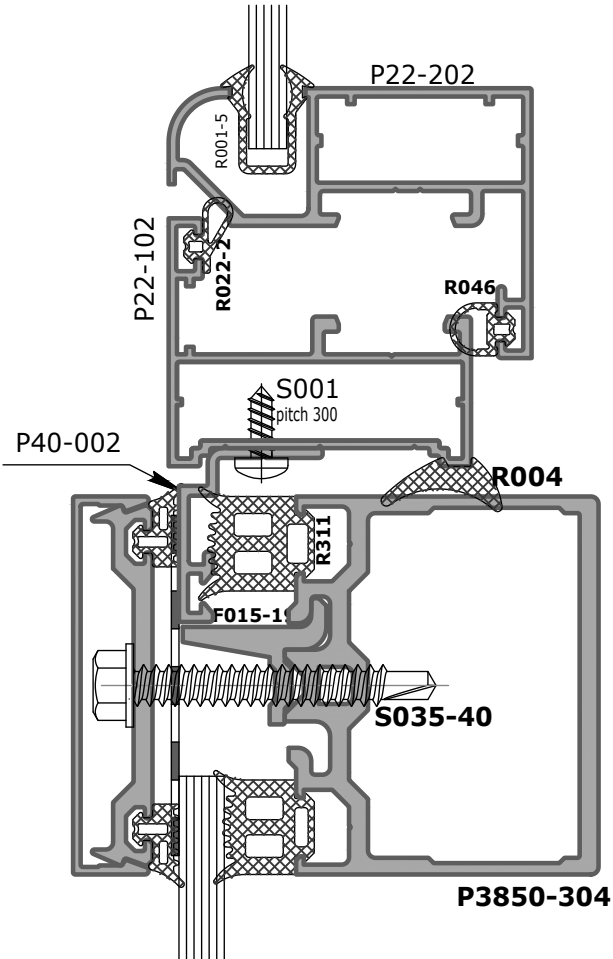
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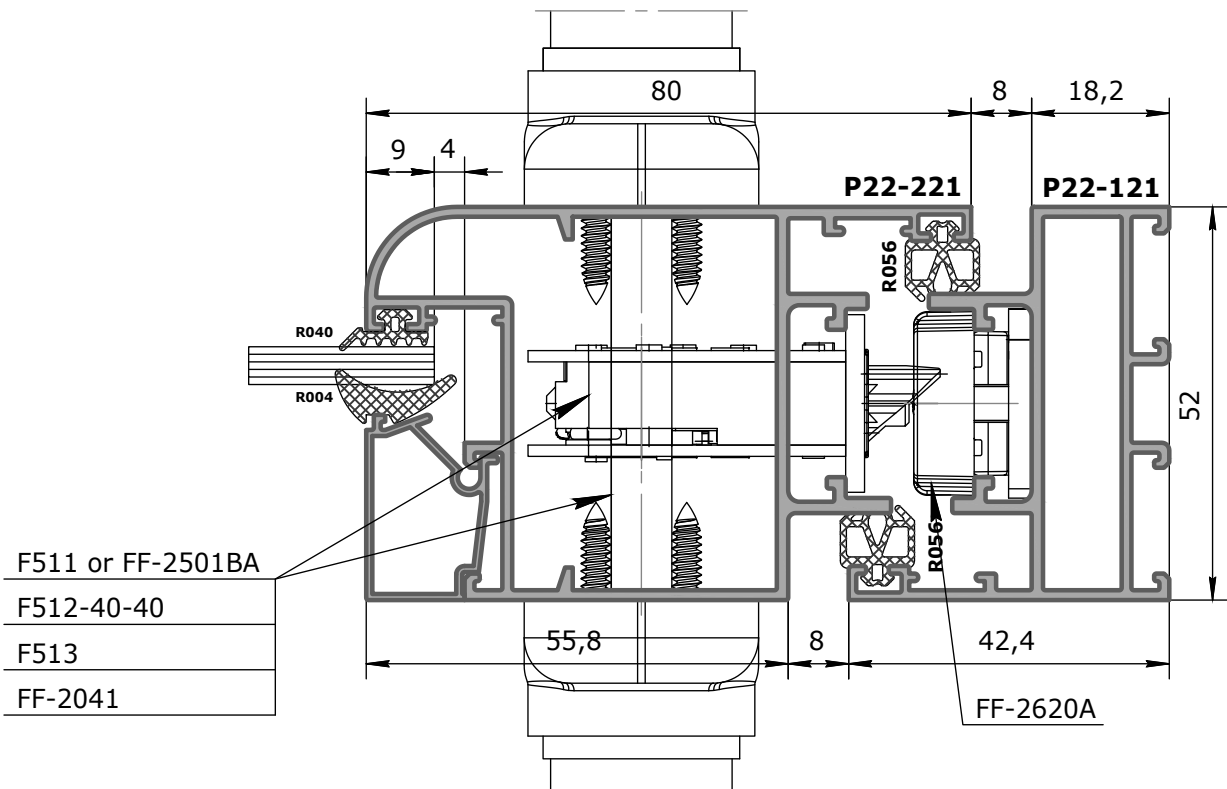
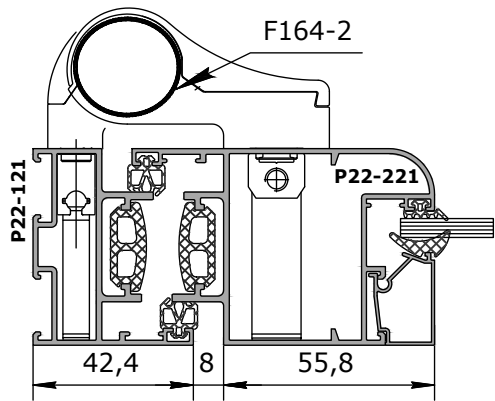
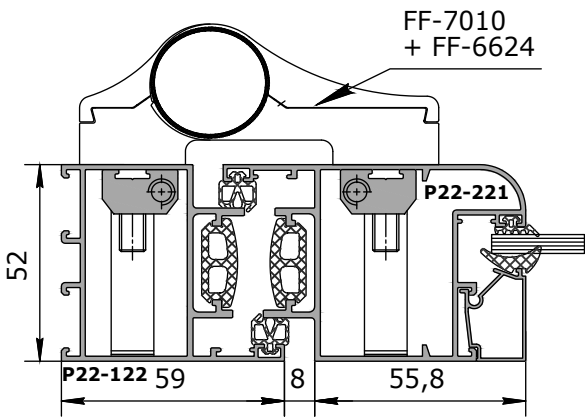
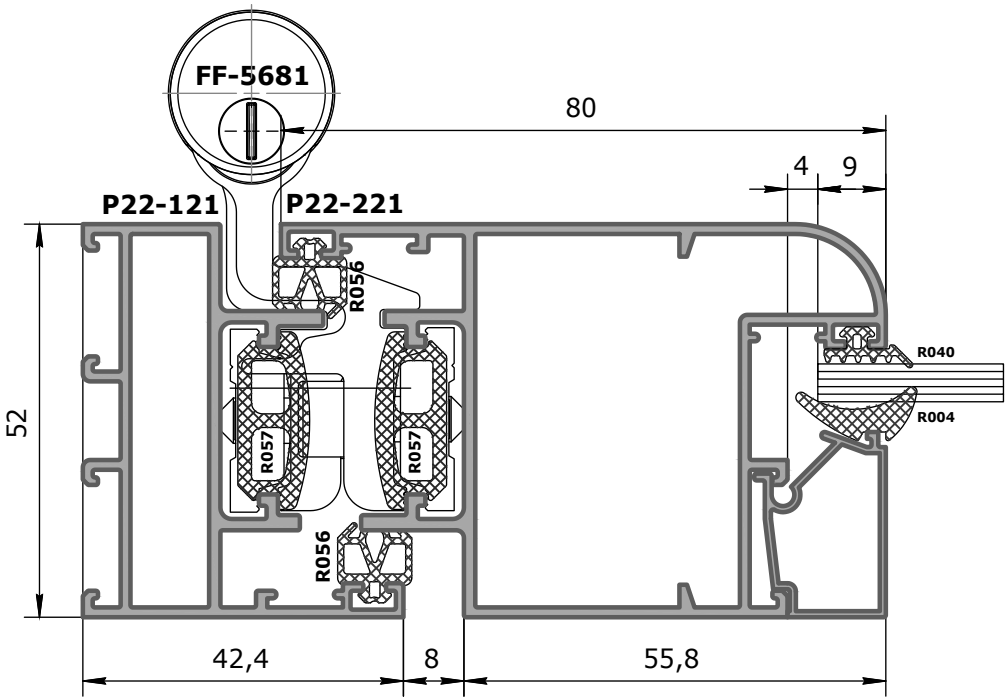
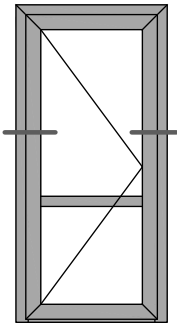


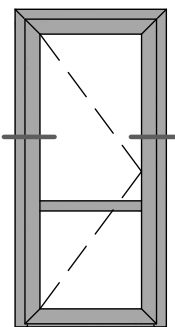
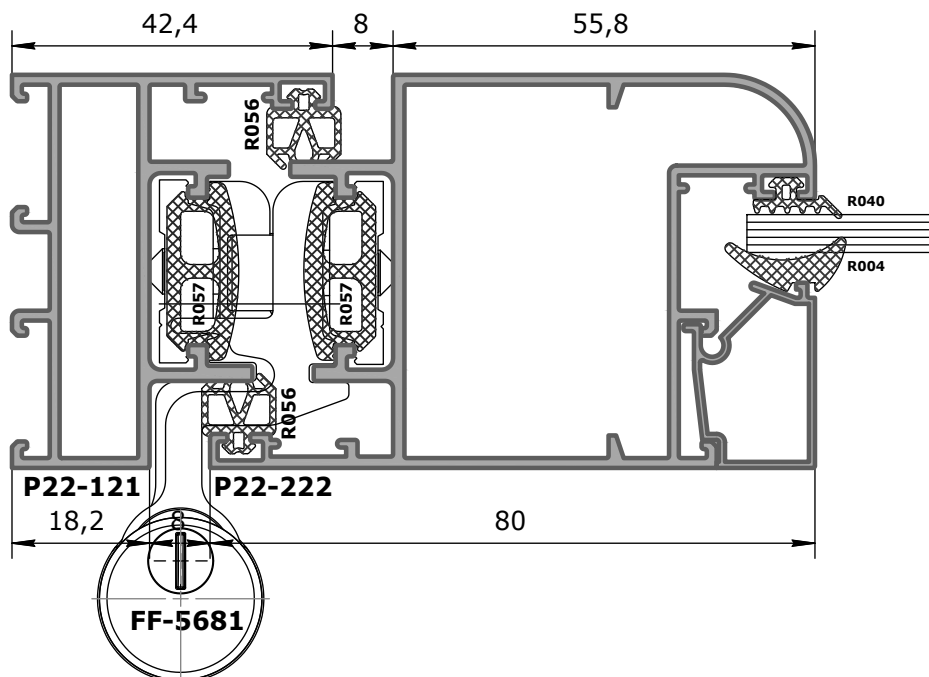
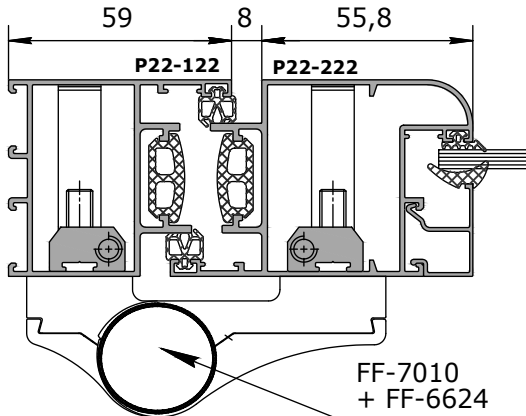
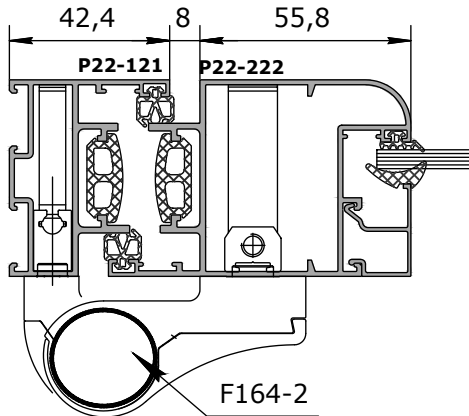
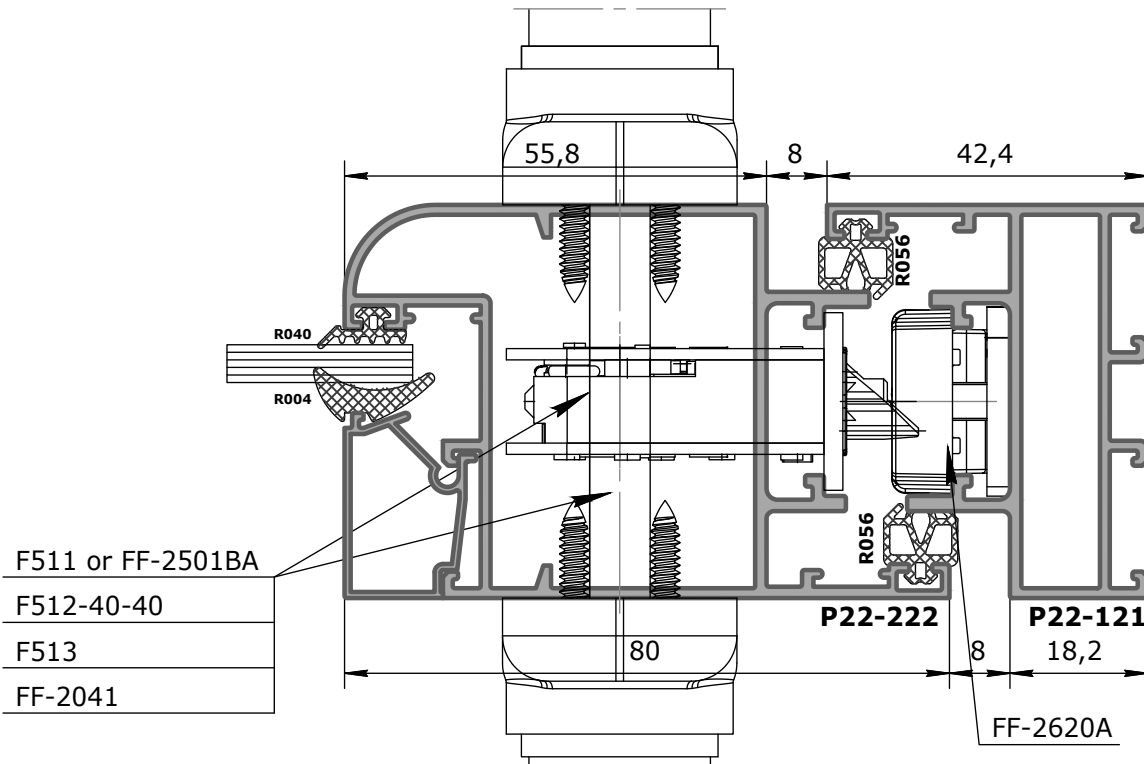
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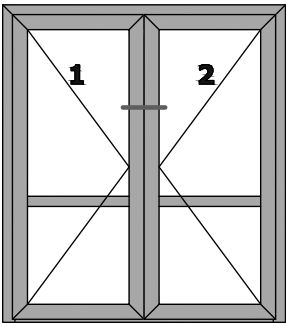
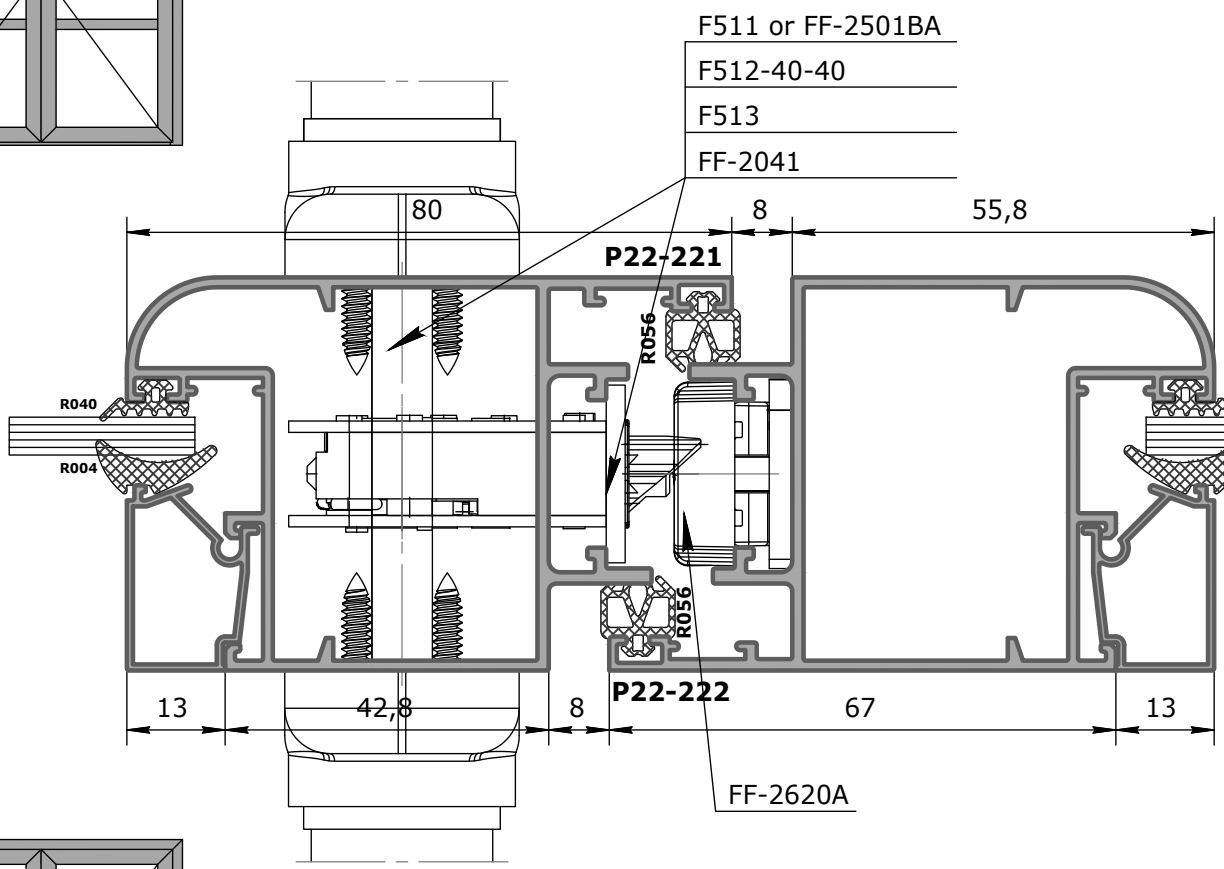
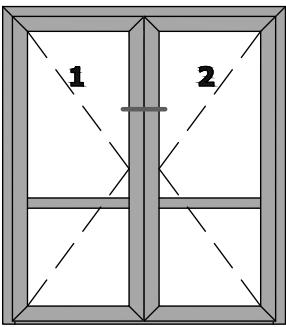
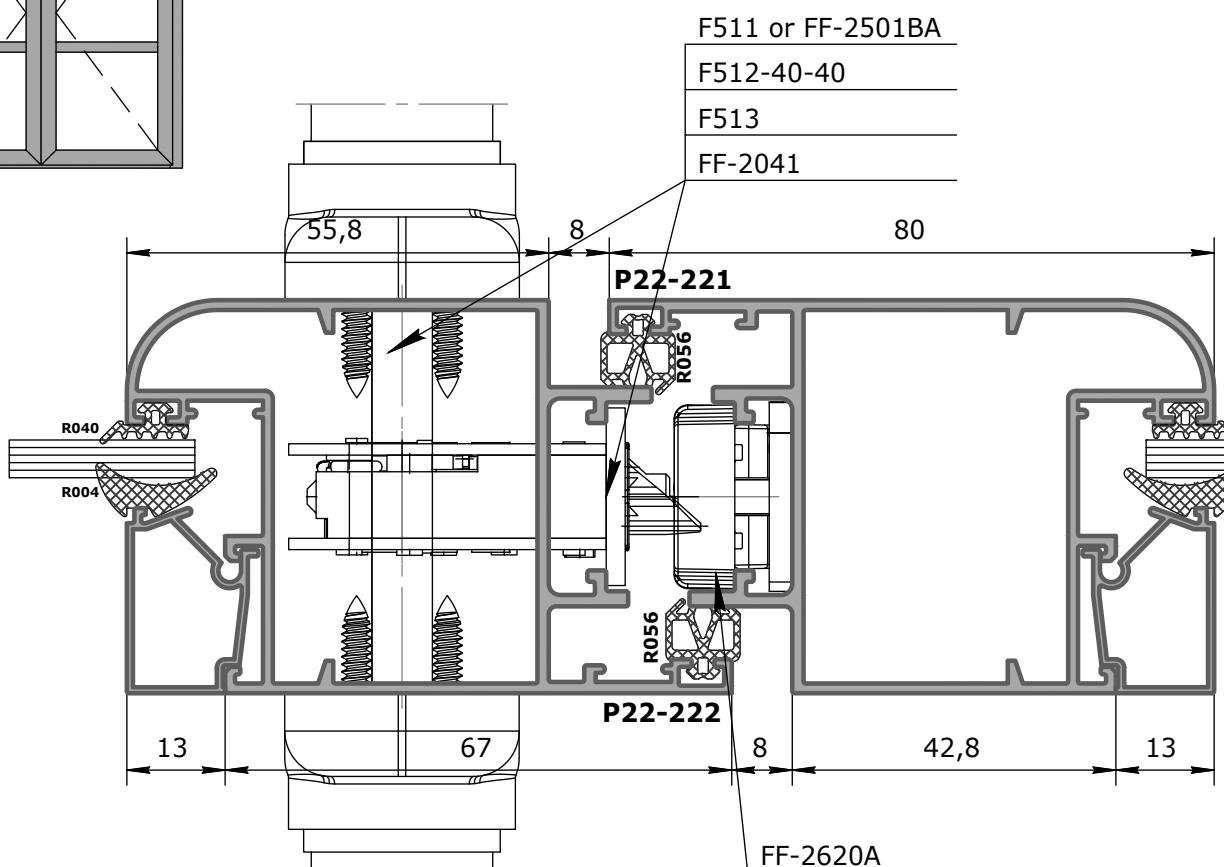
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools	contents
													
													

Outside doors 52 mm
Frame structures



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	F511 or FF-2501BA F512-40-40 F513 FF-2041 

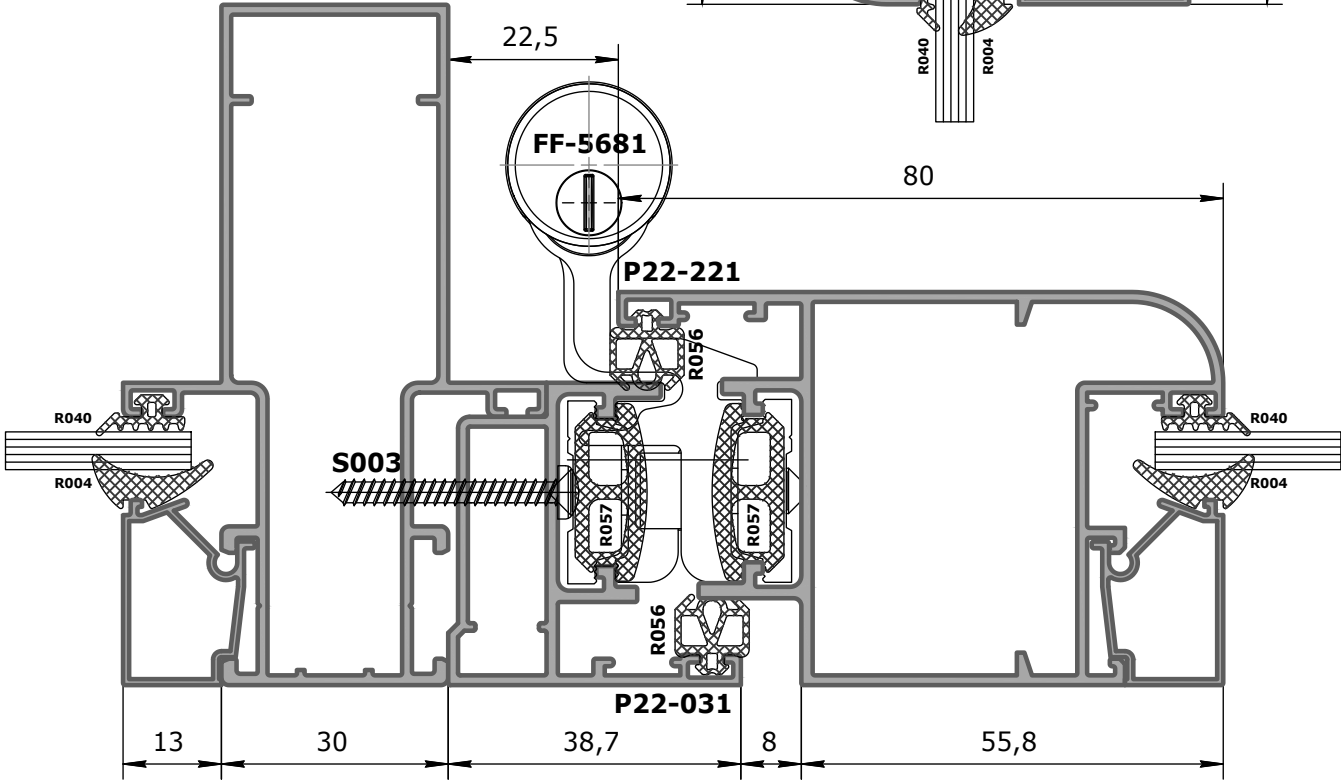
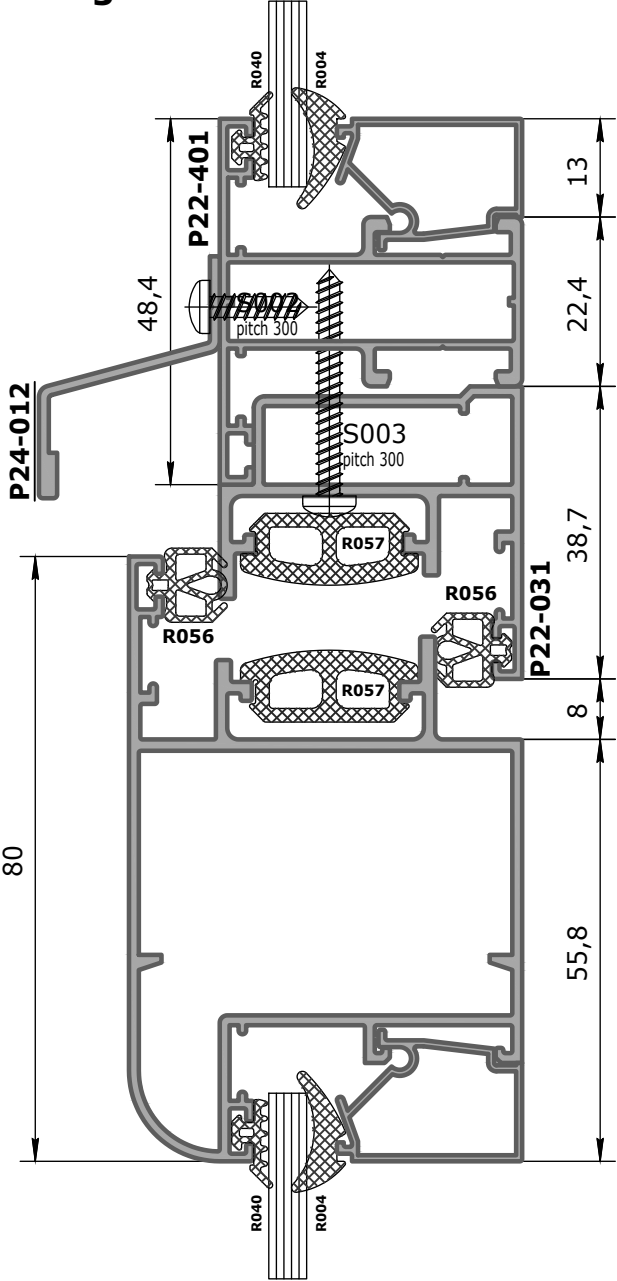
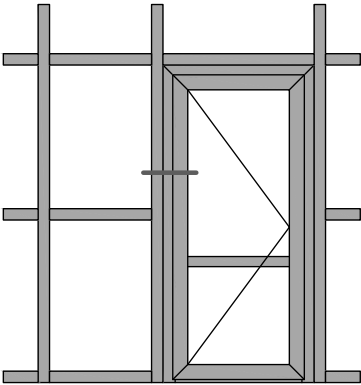
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contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
												
												

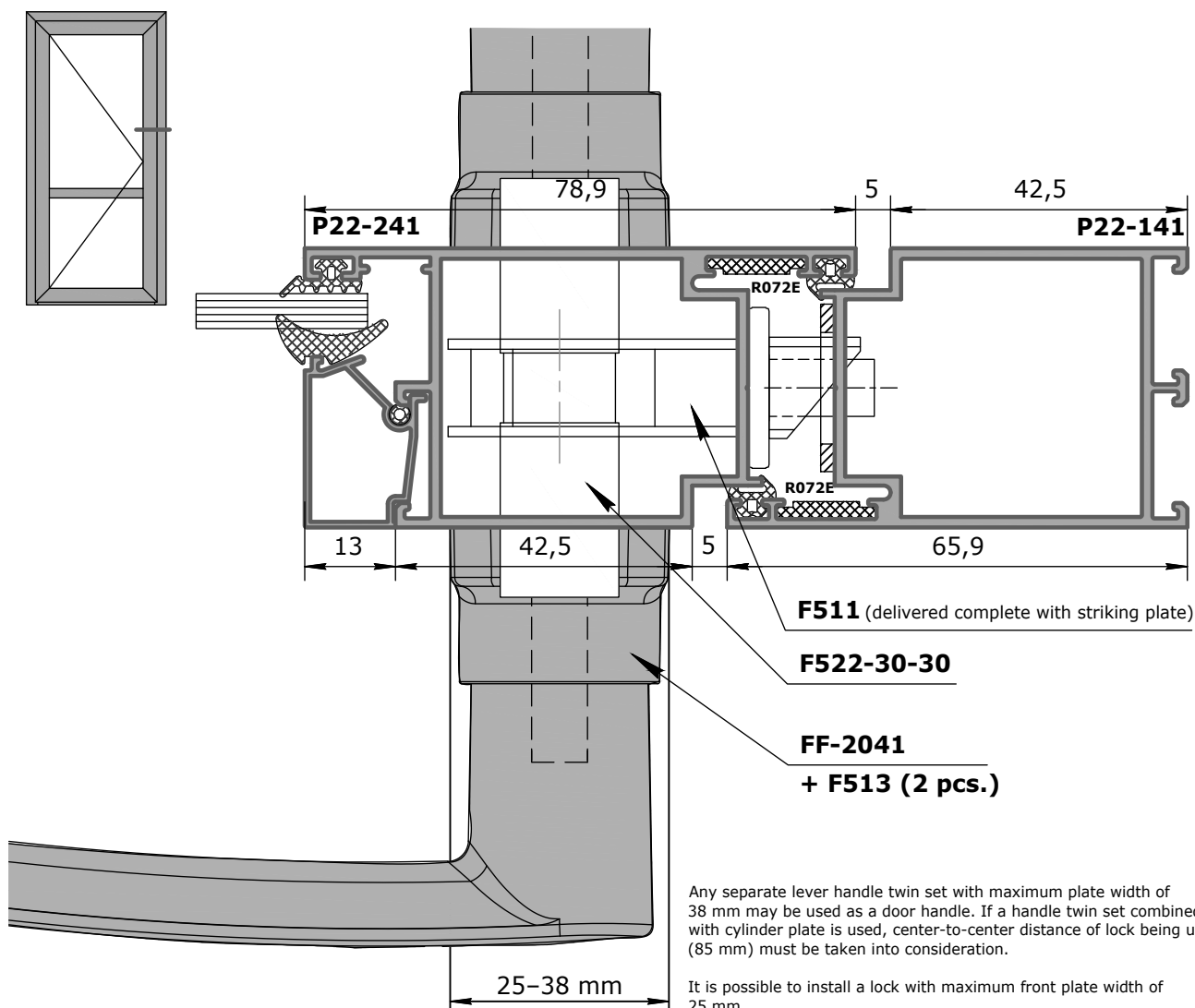
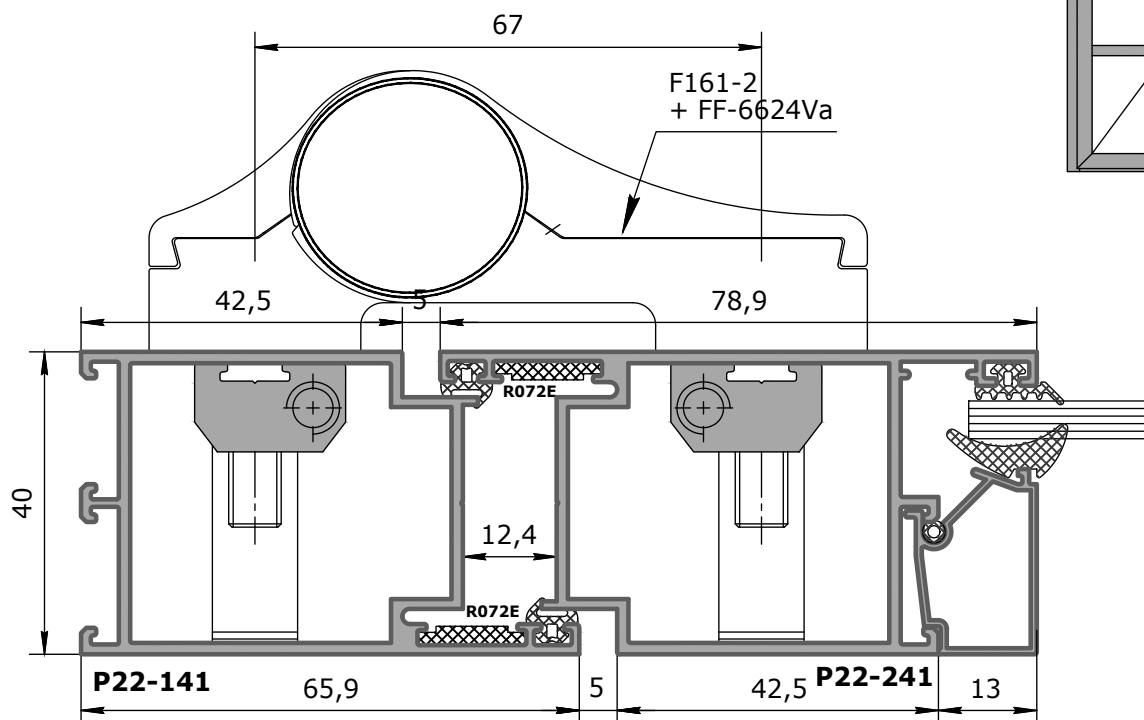
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Outside doors 52 mm
Stained glass window structures



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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										

P22-241 **P22-242**

78,9 **42,5** **13** **5** **65,9** **55,5**

R072E

F511 (delivered complete with striking plate)

F522-30-30

FF-2041
+ F513 (2 pcs.)

1 **2**

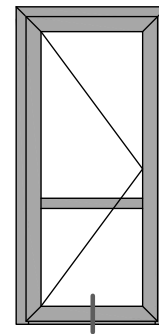
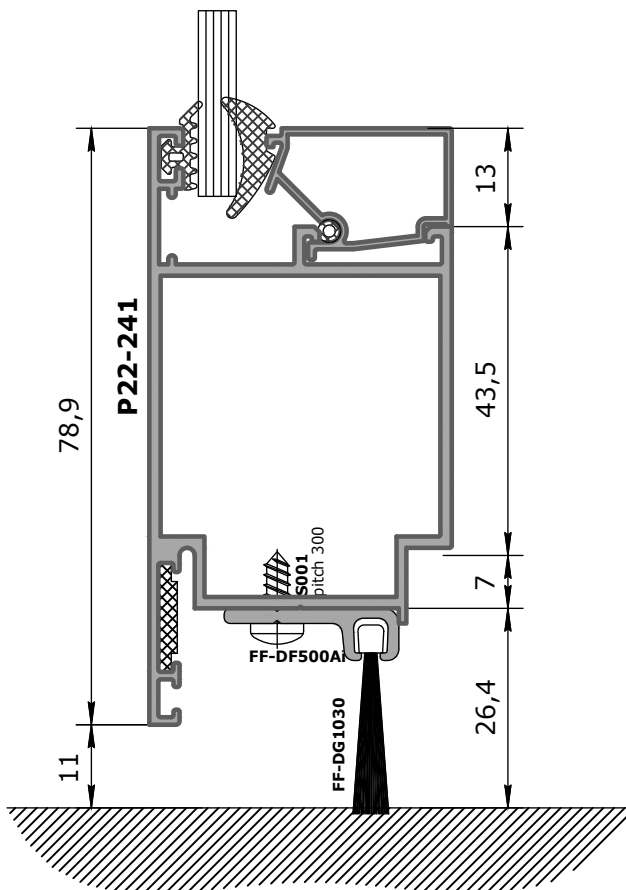
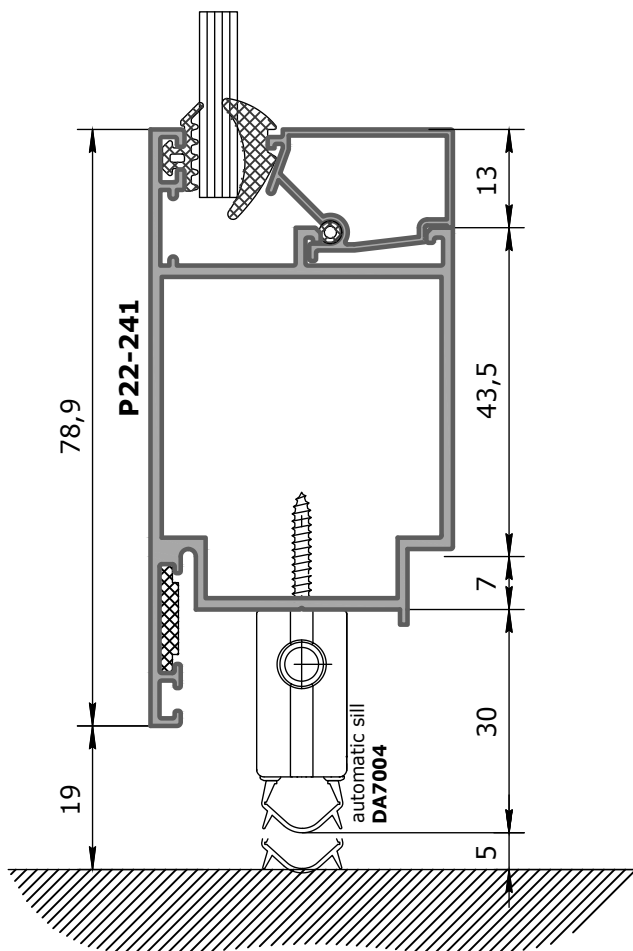
Any separate lever handle twin set with maximum plate width of 38 mm may be used as a door handle. If a handle twin set combined with cylinder plate is used, center-to-center distance of lock being used (85 mm) must be taken into consideration.

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

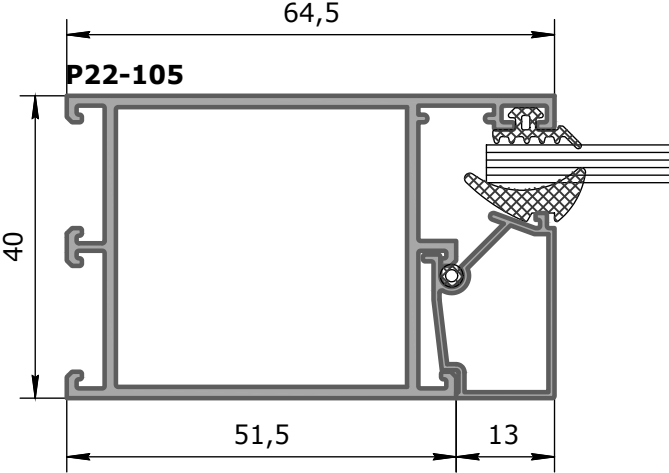
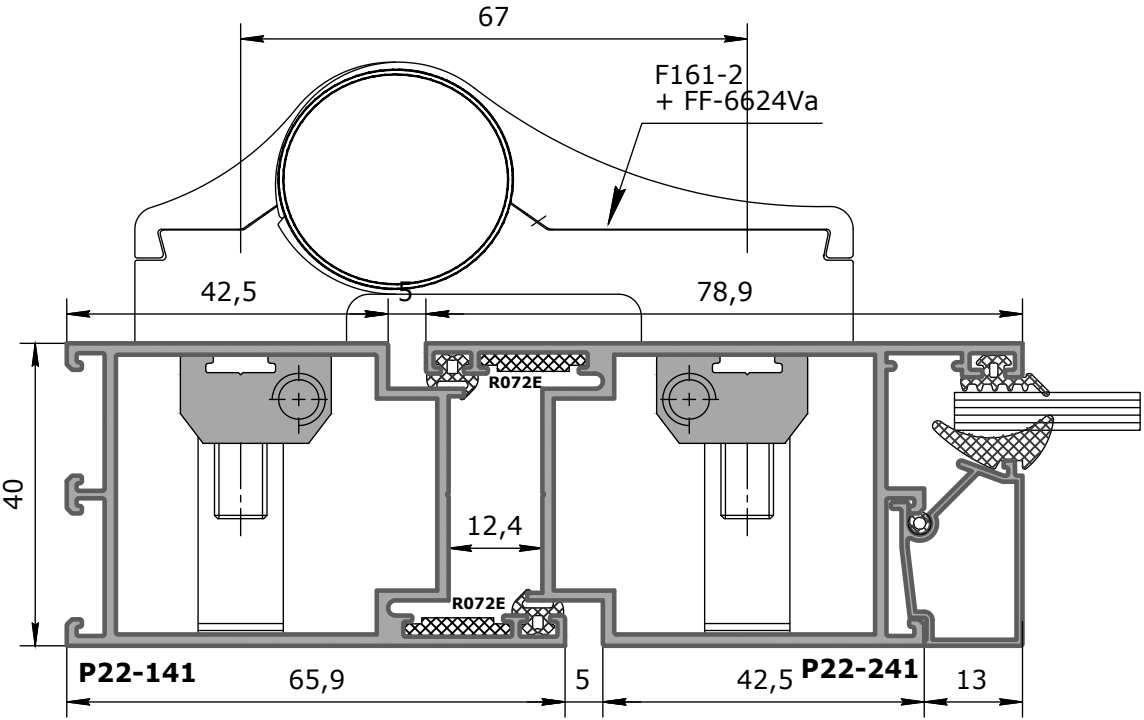
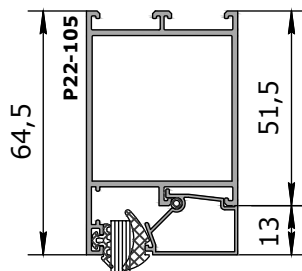
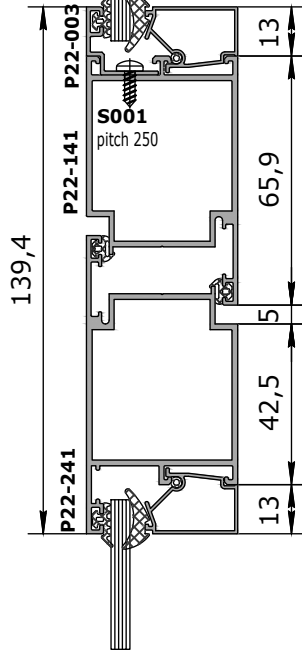
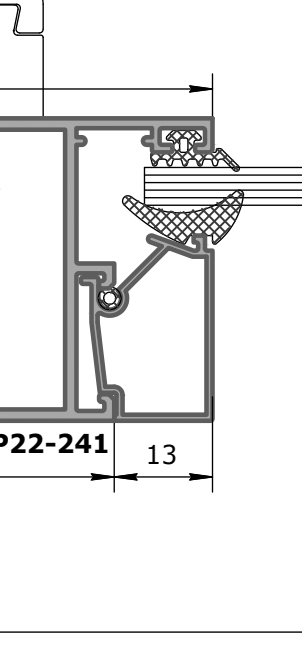
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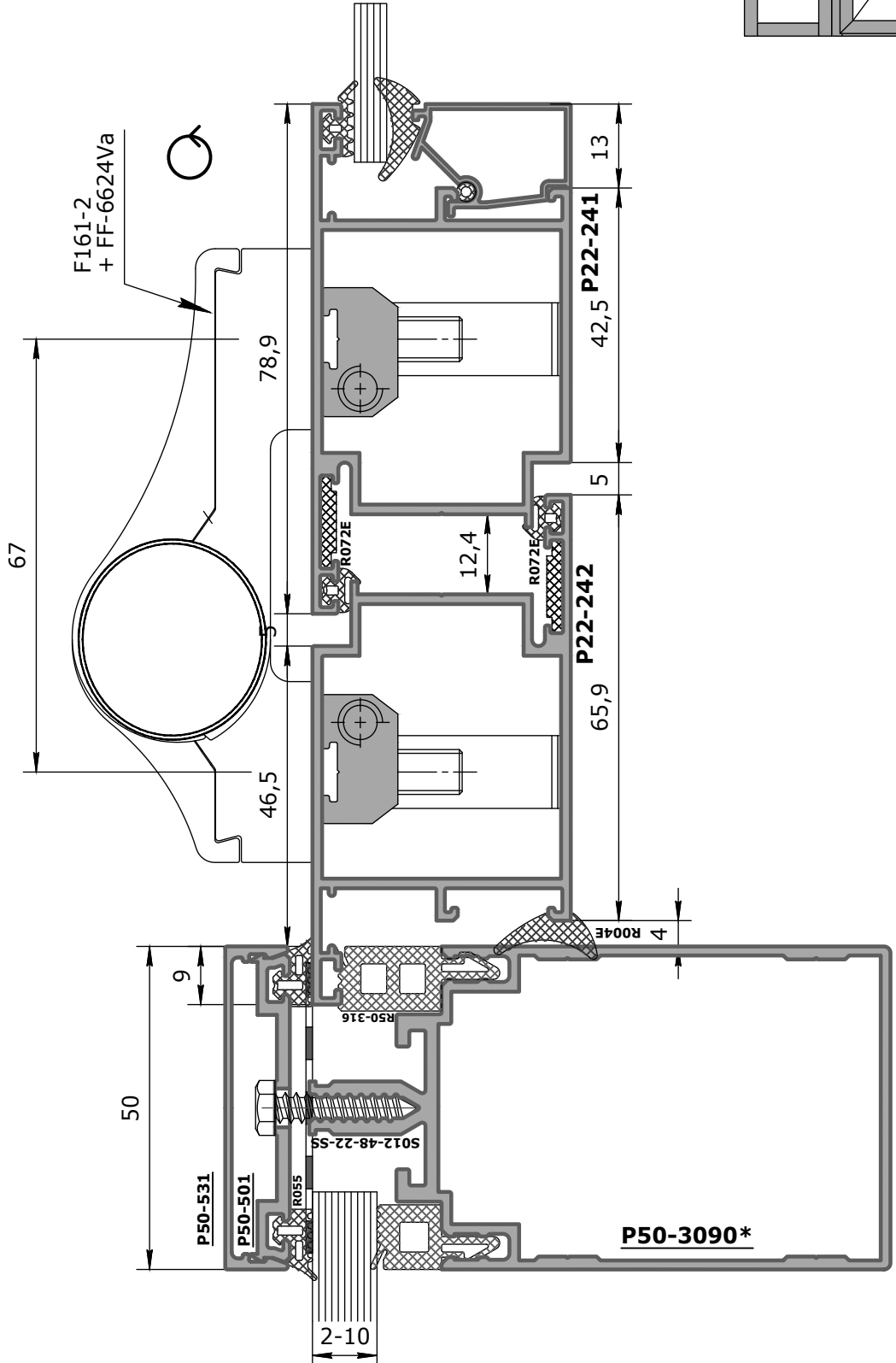
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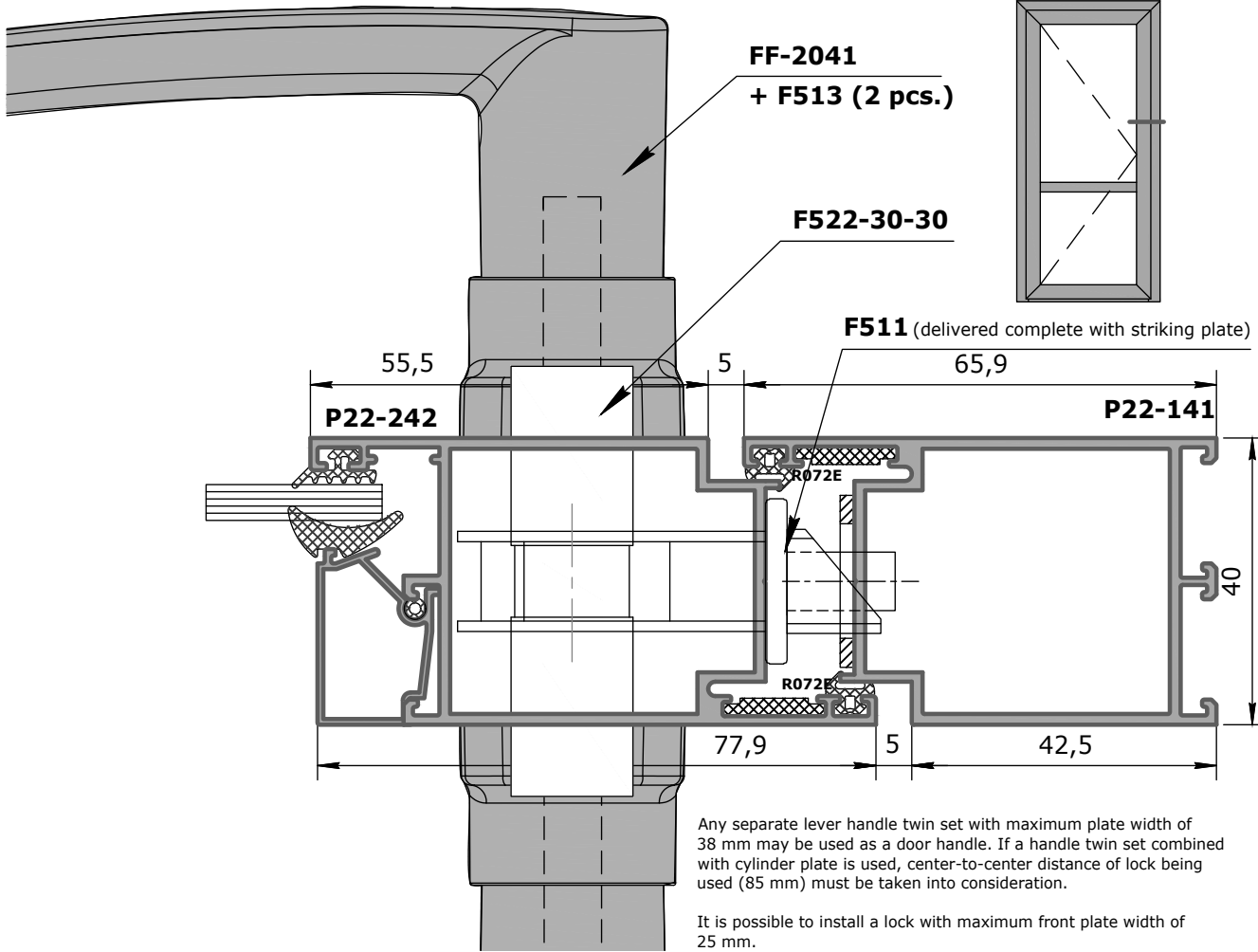
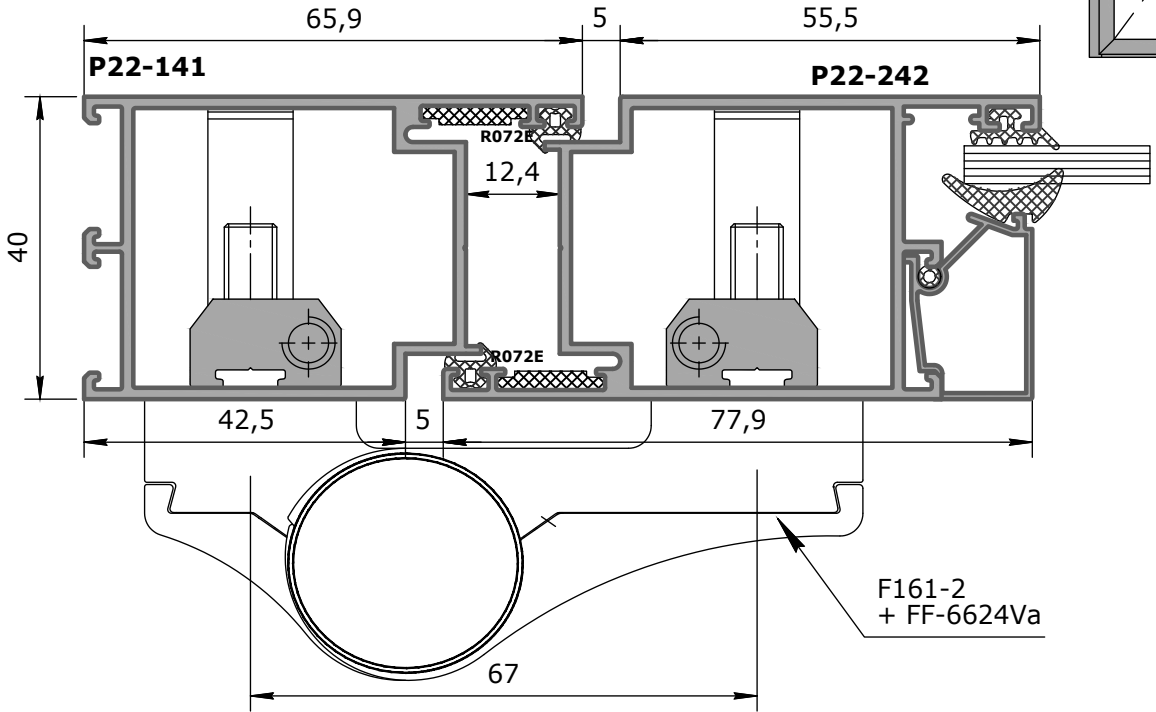
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contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools	
													
													
													
													
													
													

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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
 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.												

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.

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										

FF-2041
+ F513 (2 pcs.)

F522-30-30

F511 (delivered complete with striking plate)

P22-242

R072E

55,5

13

65,9

5

78,9

42,5

13

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.

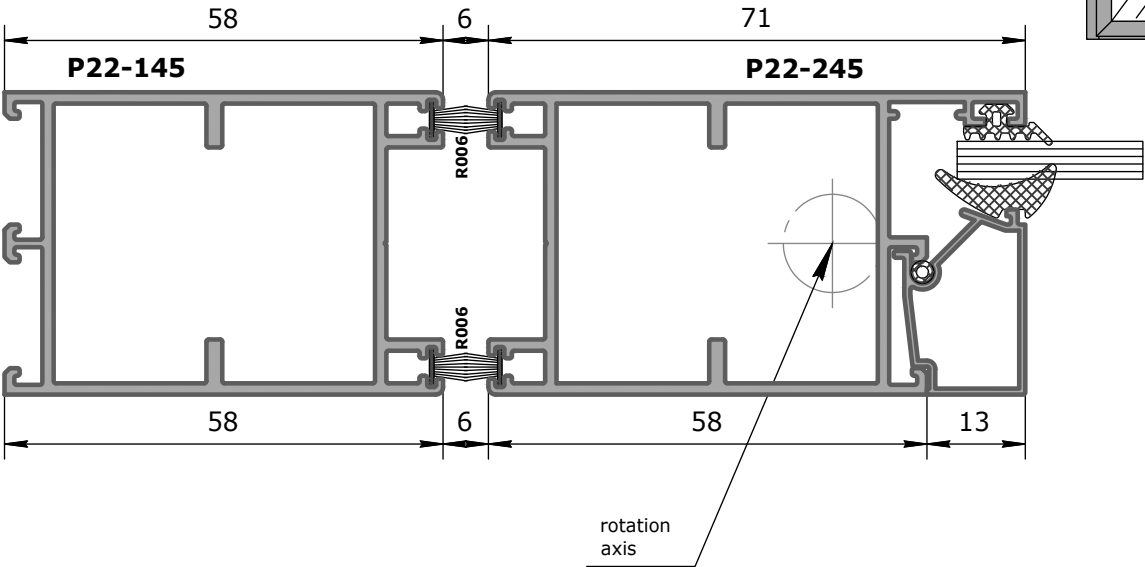
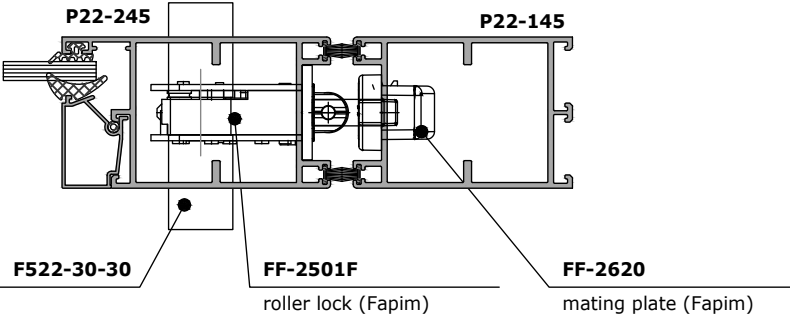
It is possible to install a lock with maximum front plate width of 25 mm.

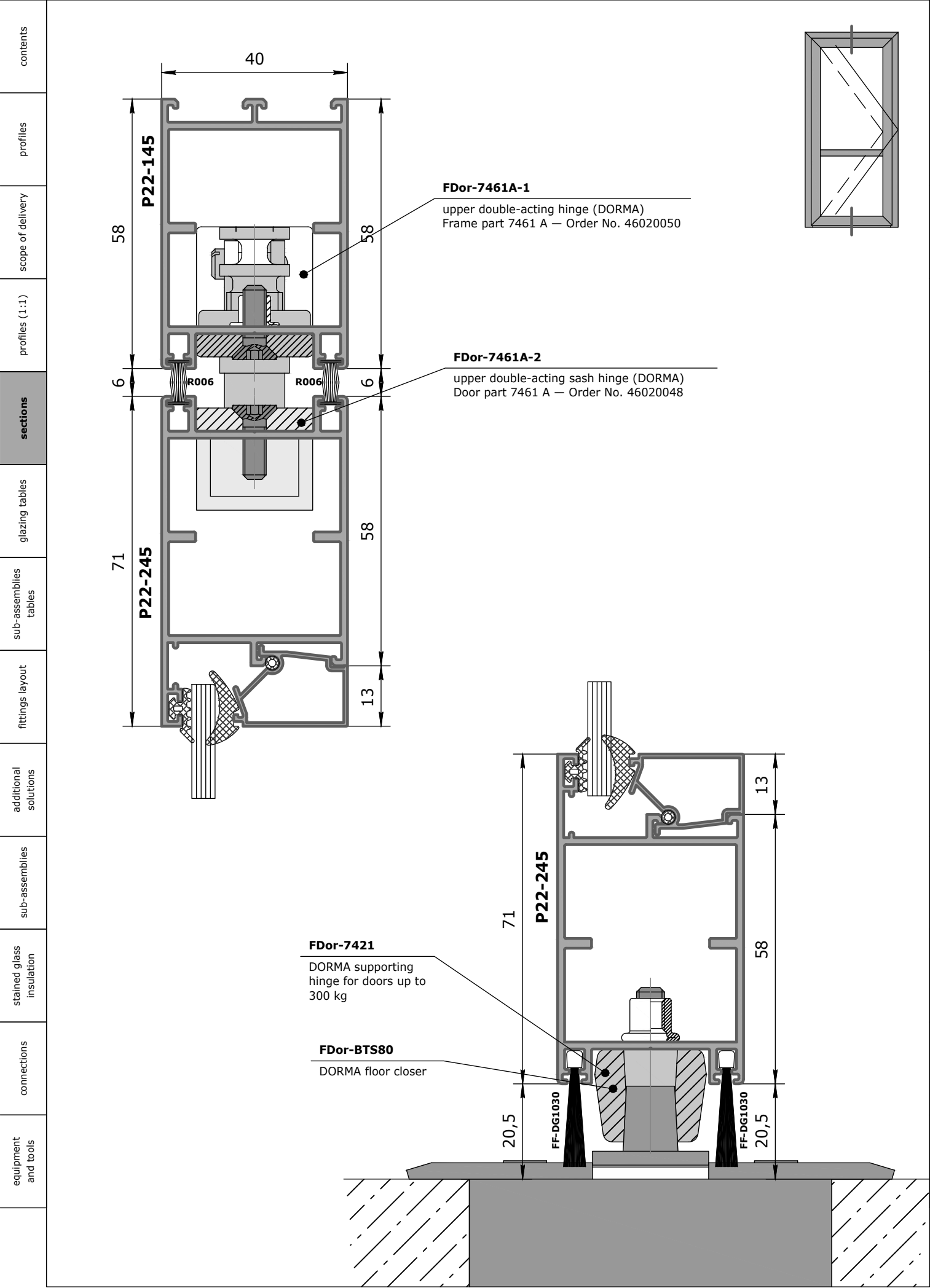
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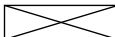
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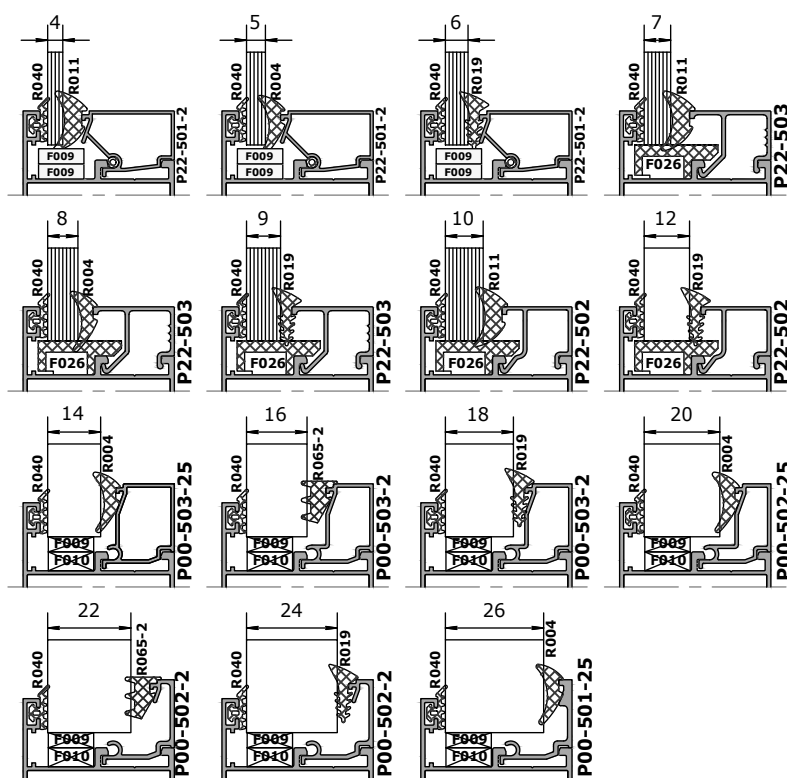
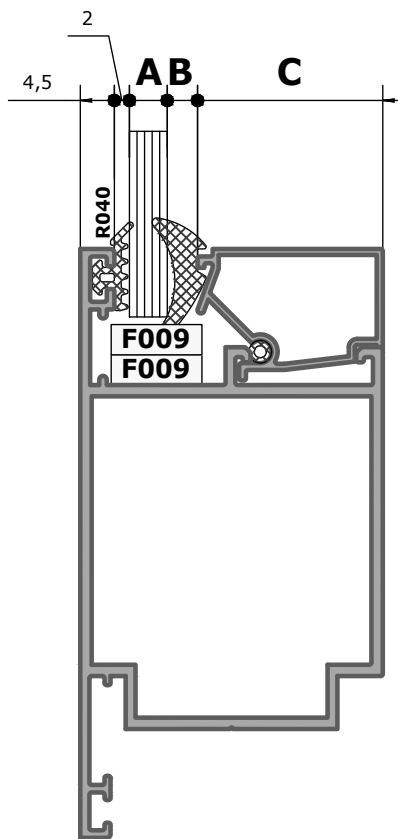
contents		contents
profiles		profiles
scope of delivery		scope of delivery
profiles (1:1)		profiles (1:1)
sections	 Technical drawing of door profile sections. The top section shows a cross-section of the door profile with dimensions: 58, 6, 71, 58, 13. The profile is labeled P22-145 and P22-245. The bottom section shows a cross-section of the door profile with dimensions: 71, 6, 58, 13, 58, 40. The profile is labeled P22-245 and P22-145. The drawing includes a rotation axis and a lock KALE 255. The drawing also shows the F522-30-30 component.	sections
glazing tables		glazing tables
sub-assemblies tables		sub-assemblies tables
fittings layout		fittings layout
additional solutions		additional solutions
sub-assemblies		sub-assemblies
stained glass insulation		stained glass insulation
connections		connections
equipment and tools	 Technical drawing of alternative fittings selection (scale 1:2). The drawing shows a cross-section of the door profile with dimensions: 58, 6, 58, 13, 58, 40. The profile is labeled P22-245 and P22-145. The drawing includes a roller lock (Fapim) FF-2501F and a mating plate (Fapim) FF-2620. The drawing also shows the F522-30-30 component.	equipment and tools



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.

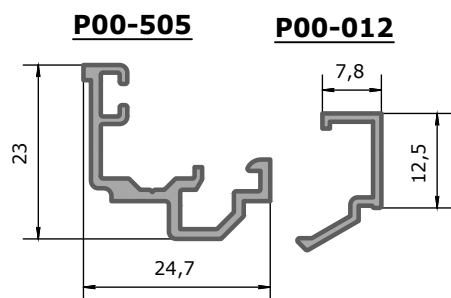
contents	Pad installation diagram (support and wedging leveling pads)										contents
profiles											profiles
scope of delivery											scope of delivery
profiles (1:1)											profiles (1:1)
sections											sections
glazing tables											glazing tables
sub-assemblies tables											sub-assemblies tables
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
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.  leveling pads  leveling and support pads											

contents				contents
profiles	glass thickness, mm A	internal gasket B	glazing beads C	profiles
scope of delivery	4	R011 - 5 mm	P22-501-2 (24.5 mm) + R052	scope of delivery
	5	R004 - 4 mm	P22-501-2 (24.5 mm) + R052	
profiles (1:1)	6	R019 - 3 mm	P22-501-2 (24.5 mm) + R052	profiles (1:1)
	7	R011 - 5 mm	P22-503 (21.5 mm)	
sections	8	R004 - 4 mm	P22-503 (21.5 mm)	sections
	9	R019 - 3 mm	P22-503 (21.5 mm)	
glazing tables	10	R011 - 5 mm	P22-502 (18.5 mm)	glazing tables
	12	R019 - 3 mm	P22-502 (18.5 mm)	
sub-assemblies tables	14	R064-2 - 4 mm	P00-503-25 (15.5 mm)	sub-assemblies tables
	16	R065-2 - 5 mm	P00-503-2 (12.5 mm)	
fittings layout	18	R019 - 3 mm	P00-503-2 (12.5 mm)	fittings layout
	20	R064-2 - 4 mm	P00-502-25 (12.5 mm)	
additional solutions	22	R065-2 - 5 mm	P00-502-2 (6.5 mm)	additional solutions
	24	R019 - 3 mm	P00-502-2 (6.5 mm)	
sub-assemblies	26	R064-2 - 4 mm	P00-501-25 (3.5 mm)	sub-assemblies
stained glass insulation	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.			stained glass insulation
connections				connections
equipment and tools				equipment and tools
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.				



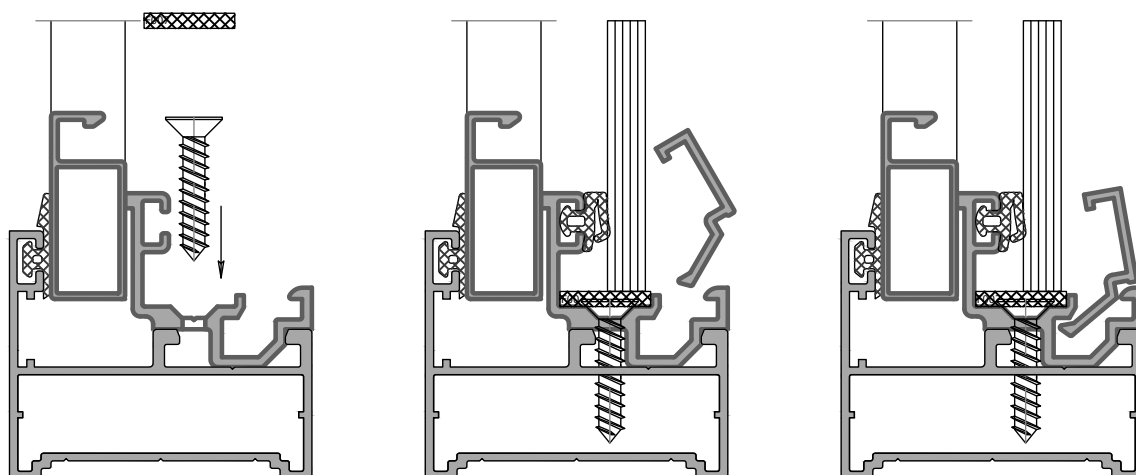
Double glazing – option 1

Installation diagram

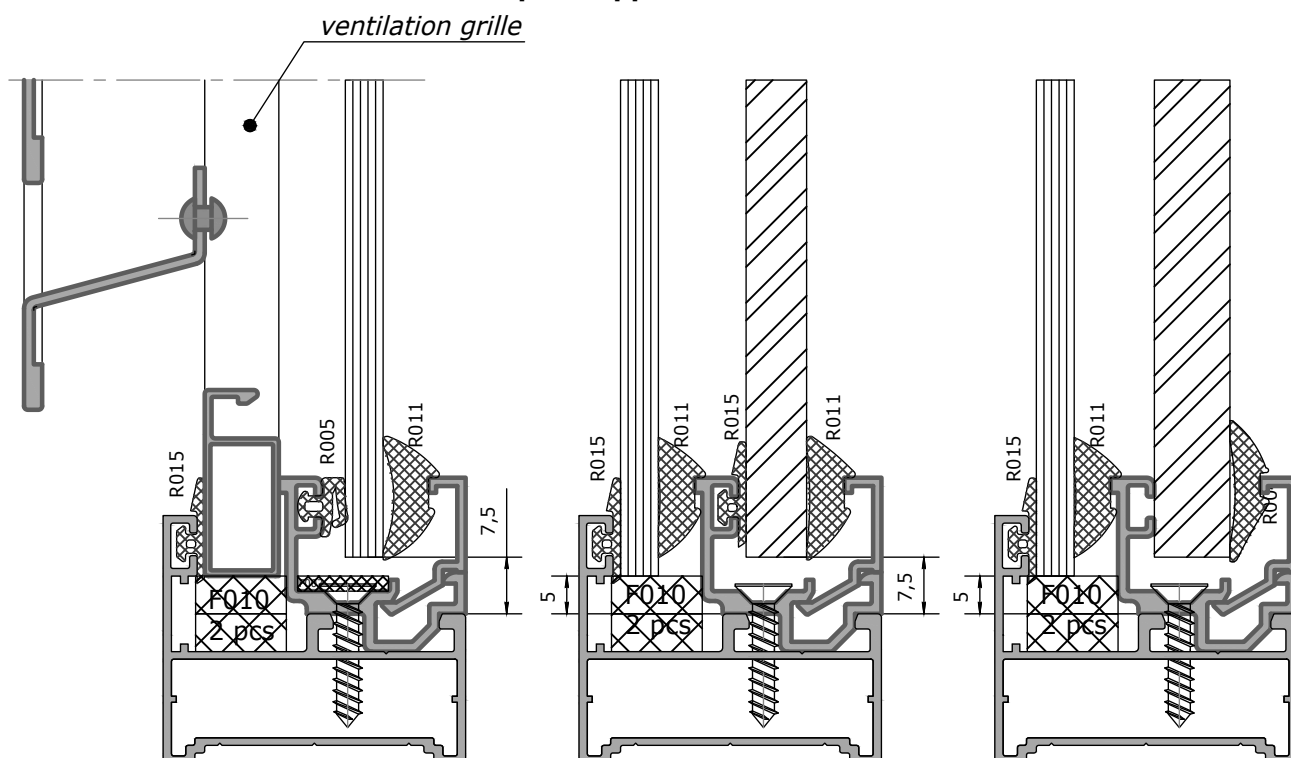


Double glazing profiles are used in case when non-translucent material is installed on the inside of the room parallel to the glass. This type of glazing is used in stained glass windows in the area of parapet.

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).



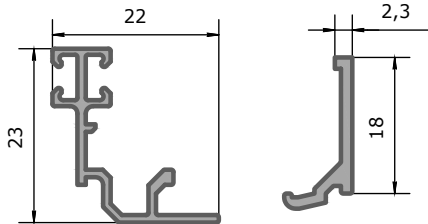
Scope of application



Double glazing – option 2

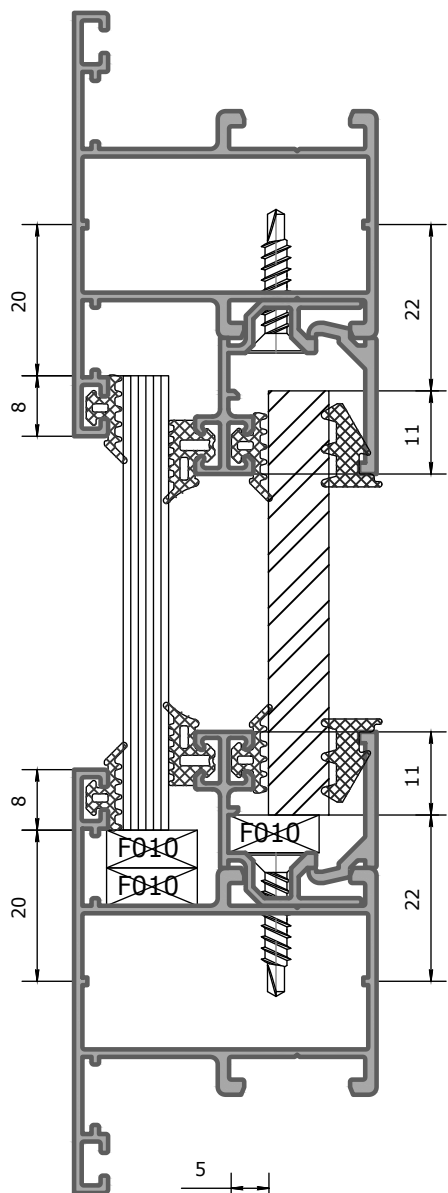
P00-505-3

P00-520

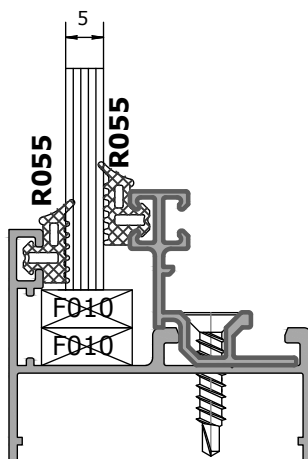


Double glazing profiles are used in case when non-translucent material is installed on the inside of the room parallel to the glass. This type of glazing is used in stained glass windows in the area of parapet.

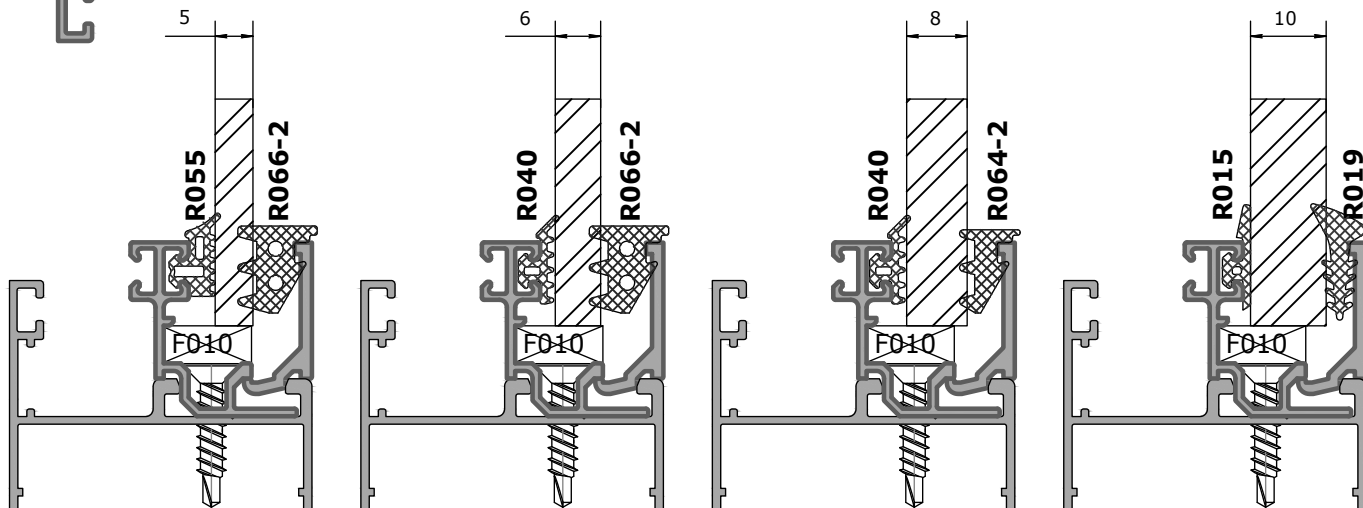
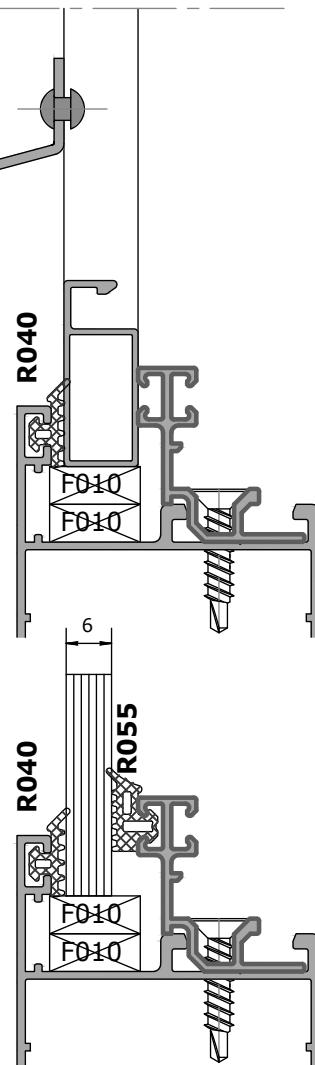
If ventilation grilles and double glazing profiles are used together, it is possible to install glass parallel to the ventilation grille. This is necessary to ensure the possibility to subsequently remove glass without dismantling of the ventilation grille (for installation of air conditioner).



Glazing table: outer glazing



Glazing table: inner glazing

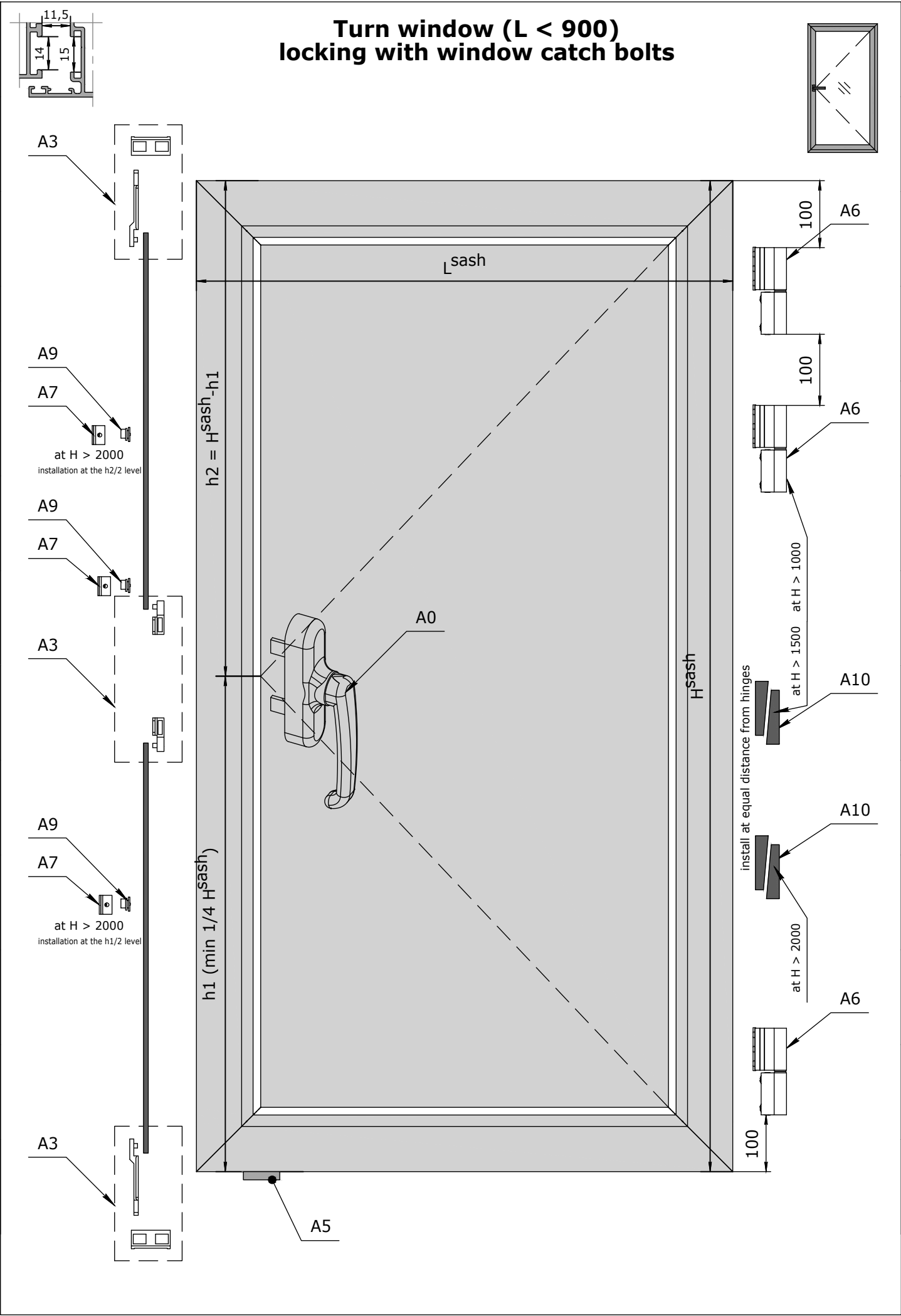


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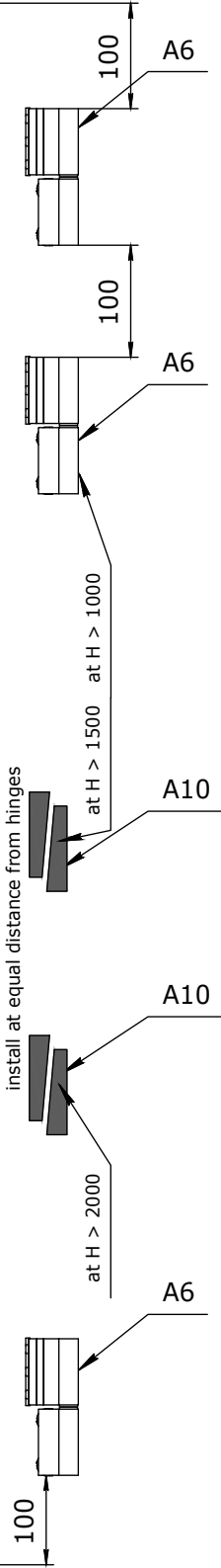
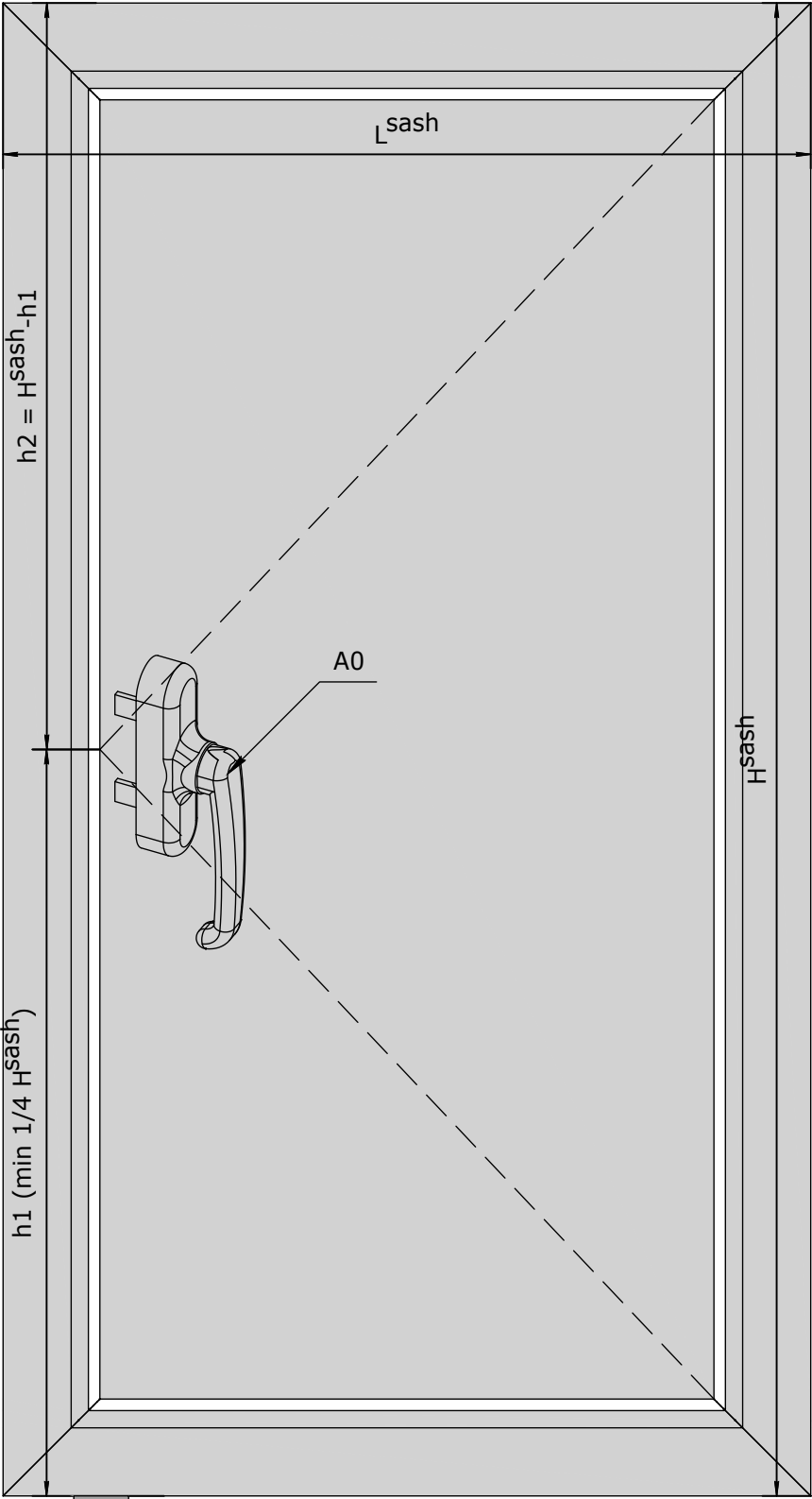
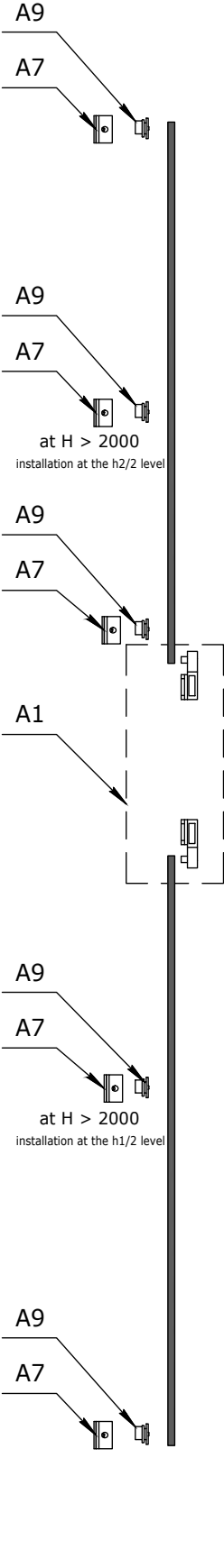
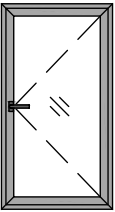
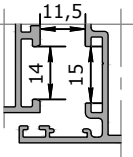
page 05-02

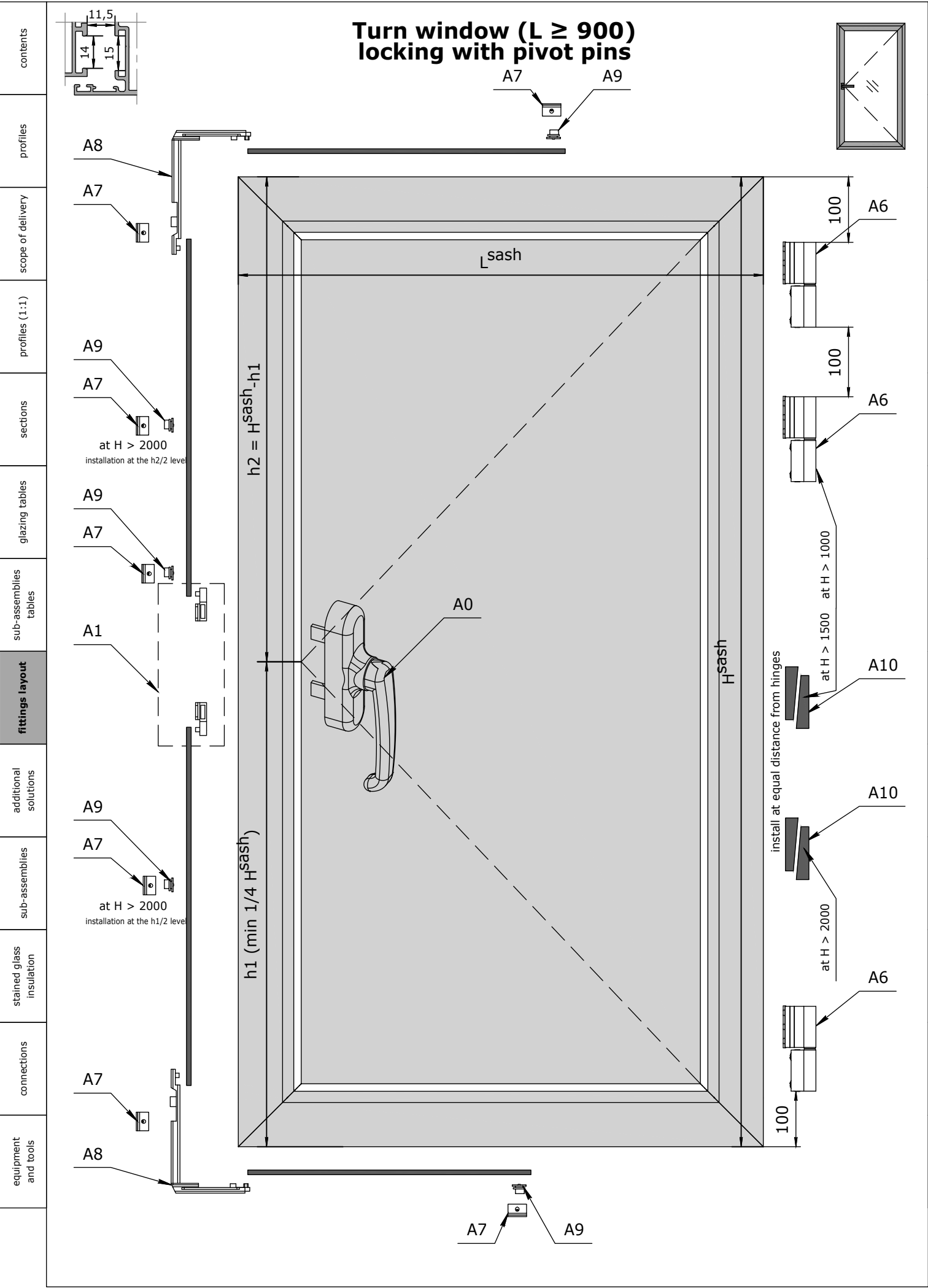
page 05-03

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



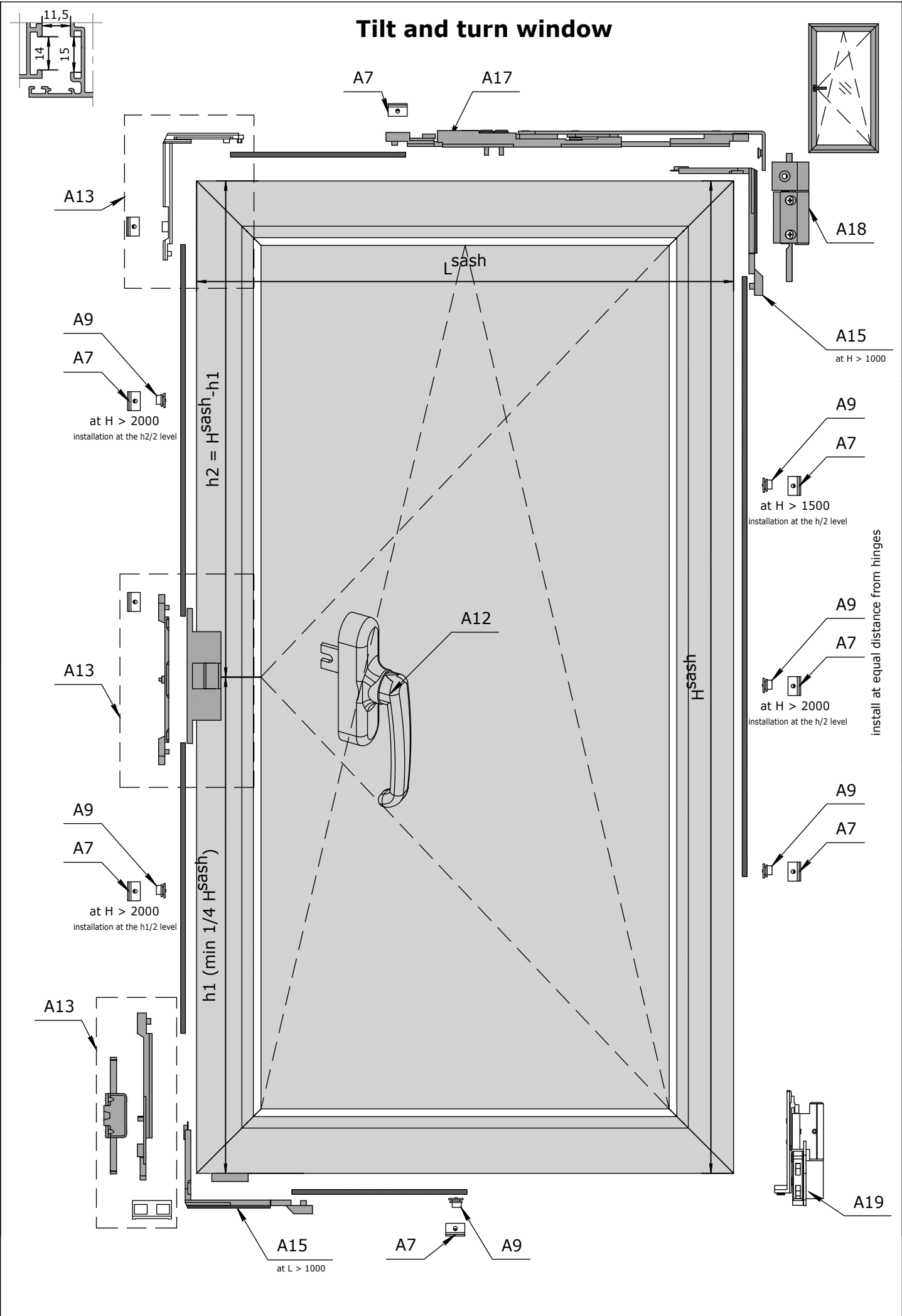
Turn window (L < 900)
locking with pivot pins





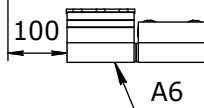
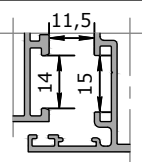
Fittings selection — turn window						
contents	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)	
					400–900	901–1200
profiles	400–1000	Handle	A0	Ffor-203	1 pc	
		handle coupling	A1	Ffor-202	1 pc	
		foot plate	A5	Ffor-023	1 pc	-
		hinges	A6	Ffor-101	2 pcs	
		mating plate	A7	Ffor-504	3 pcs	5 pcs
		corner switch	A8	Ffor-612	-	2 pcs
		eccentric pin	A9	Fv-514	3 pcs	3 pcs
		additional clamp (hinge side)	A10	Fv-505	-	
scope of delivery						
profiles (1:1)	1001–1500	Handle	A0	Ffor-203	1 pc	
		handle coupling	A1	Ffor-202	1 pc	
		foot plate	A5	Ffor-023	1 pc	-
		hinges	A6	Ffor-101	3 pcs	
		mating plate	A7	Ffor-504	3 pcs	5 pcs
		corner switch	A8	Ffor-612	-	2 pcs
		eccentric pin	A9	Fv-514	3 pcs	3 pcs
		additional clamp (hinge side)	A10	Fv-505	-	
sections						
glazing tables	1501–2000	Handle	A0	Ffor-203	1 pc	
		handle coupling	A1	Ffor-202	1 pc	
		foot plate	A5	Ffor-023	1 pc	-
		hinges	A6	Ffor-101	3 pcs	
		mating plate	A7	Ffor-504	3 pcs	5 pcs
		corner switch	A8	Ffor-612	-	2 pcs
		eccentric pin	A9	Fv-514	3 pcs	3 pcs
		additional clamp (hinge side)	A10	Fv-505	-	
sub-assemblies tables						
fittings layout	2001–2500	Handle	A0	Ffor-203	1 pc	
		handle coupling	A1	Ffor-202	1 pc	
		foot plate	A5	Ffor-023	1 pc	-
		hinges	A6	Ffor-101	3 pcs	
		mating plate	A7	Ffor-504	3 pcs	5 pcs
		corner switch	A8	Ffor-612	-	2 pcs
		eccentric pin	A9	Fv-514	3 pcs	3 pcs
		additional clamp (hinge side)	A10	Fv-505	1 pc	
additional solutions						
sub-assemblies	2001–2500	Handle	A0	Ffor-203	1 pc	
		handle coupling	A1	Ffor-202	1 pc	
		foot plate	A5	Ffor-023	1 pc	-
		hinges	A6	Ffor-101	3 pcs	
		mating plate	A7	Ffor-504	5 pcs	7 pcs
		corner switch	A8	Ffor-612	-	2 pcs
		eccentric pin	A9	Fv-514	5 pcs	5 pcs
		additional clamp (hinge side)	A10	Fv-505	2 pcs	
stained glass insulation						
connections						
equipment and tools						

Tilt and turn window



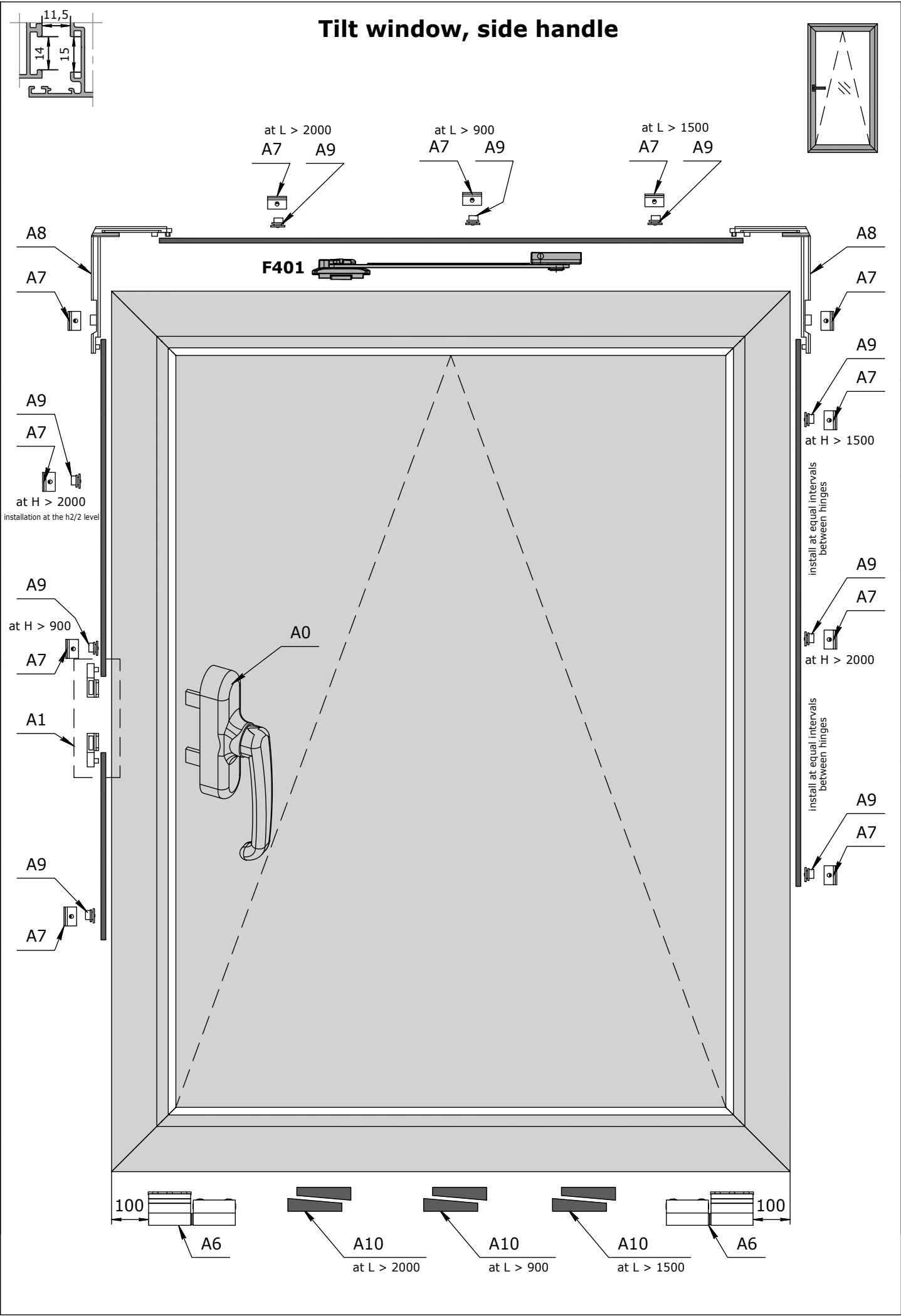
		Fittings selection — tilt and turn window								
contents	Height	description	item	article	sash width over rebate (SWR)				contents	
					400–675	676–1000	1001–1200			
profiles	400–1000	handle	A12	Ffor-601	1 pc				profiles	
		standard accessories for tilt and turn window	A13	Ffor-616	1 pc					
		scissor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

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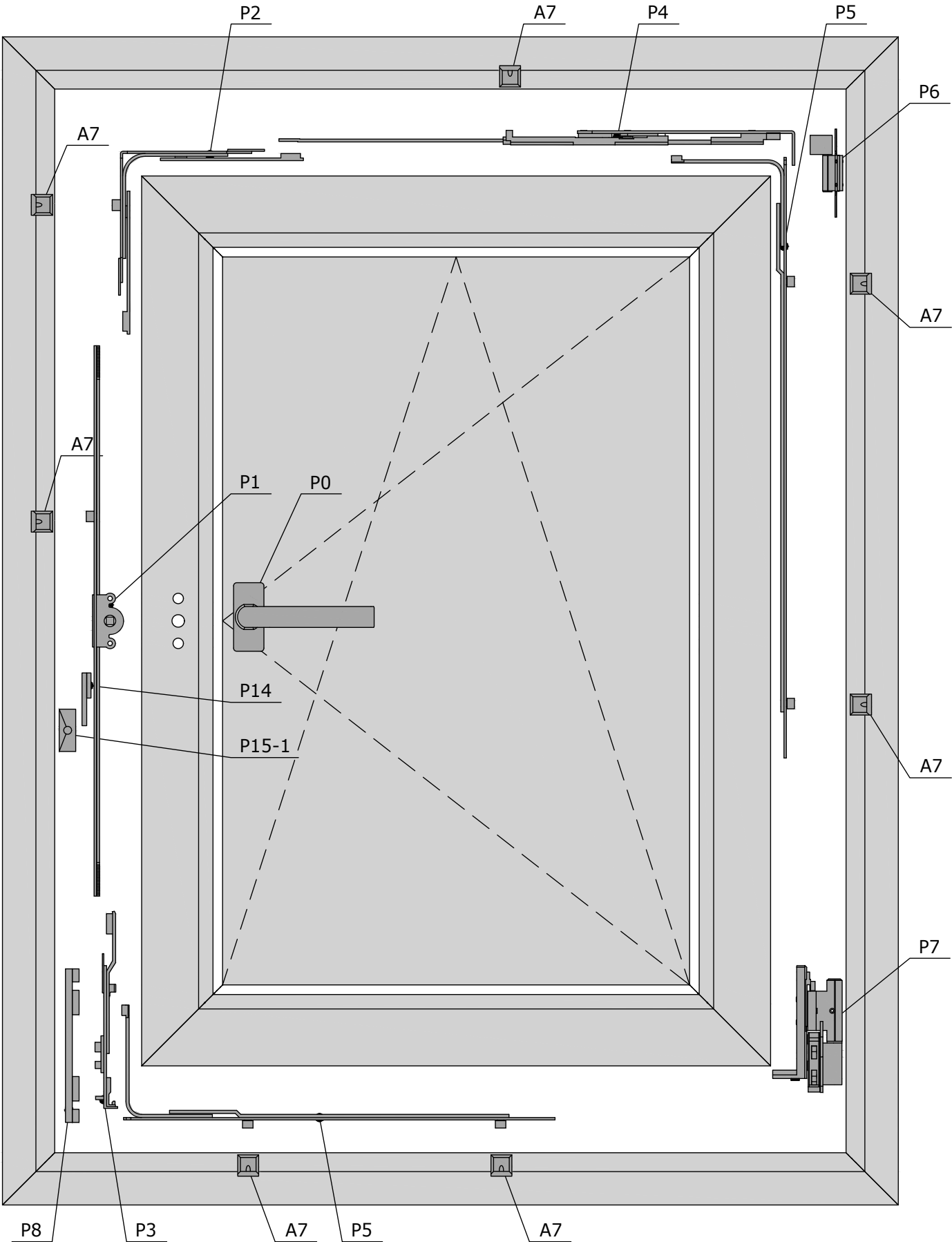
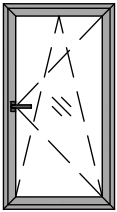
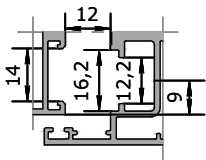
contents	Fittings selection — transom window, top handle								contents	
	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)					
					400–900	901–1500	1501–2000	2001–2500		
profiles	400–900	Handle	A0	Ffor-203	1 pc				profiles	
		handle coupling	A1	Ffor-202	1 pc				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

Tilt window, side handle

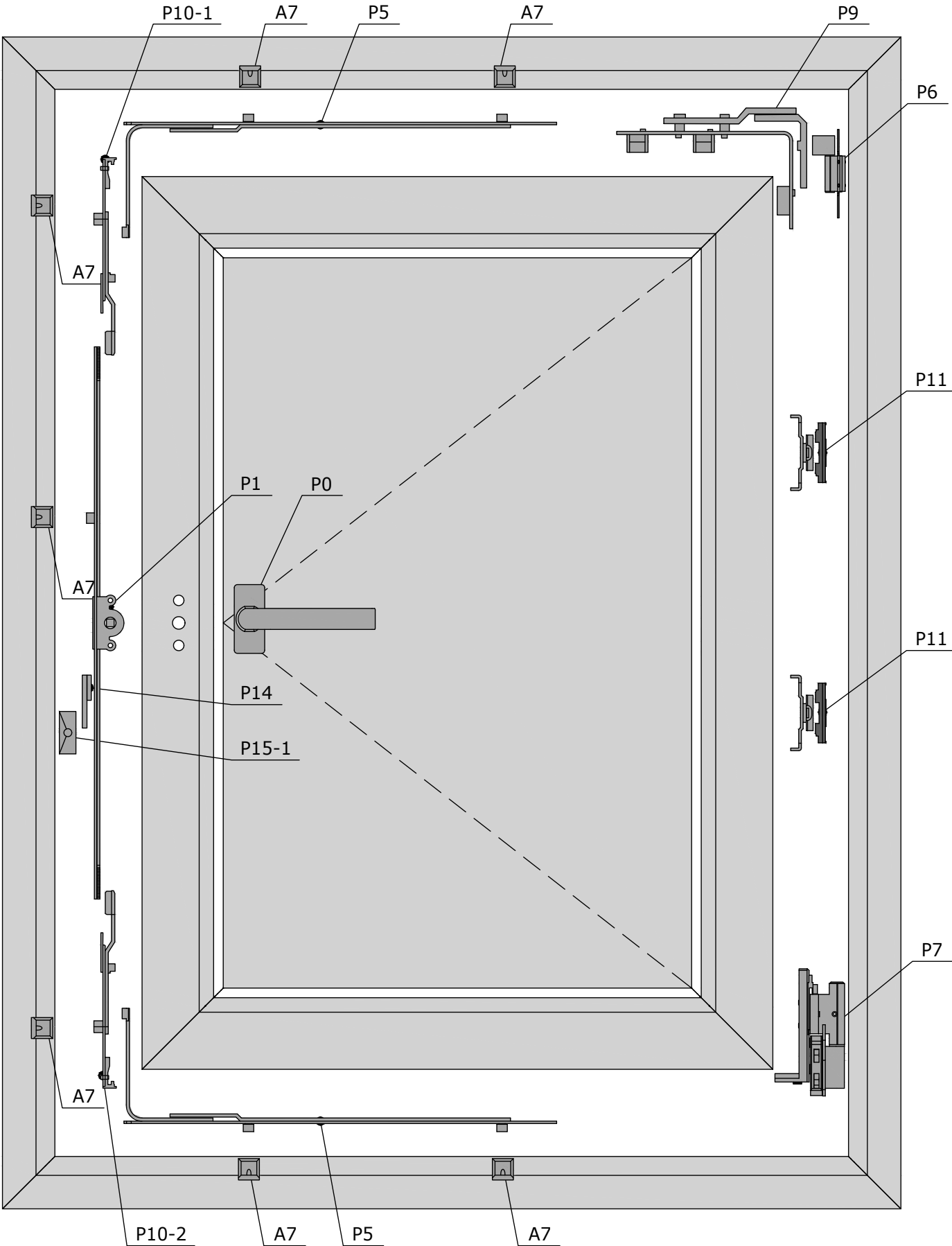
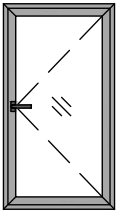
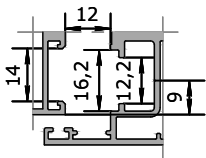


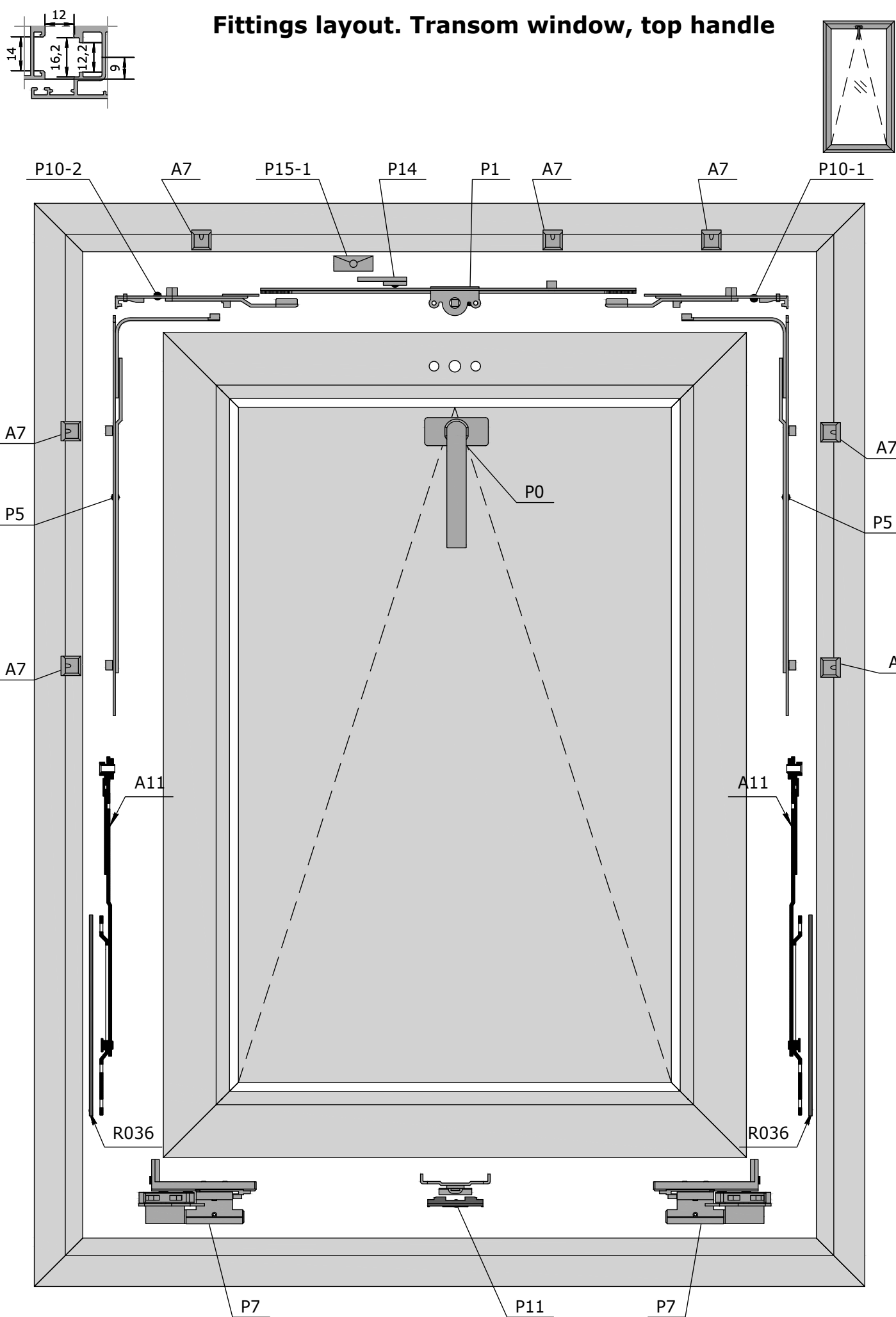
contents	Fittings selection — transom window, side handle								contents	
	sash height over rebate (SHR)	description	item	article	sash width over rebate (SWR)					
					400–900	901–1500	1501–2000	2001–2500		
profiles	400–900	Handle	A0	Ffor-203	1 pc				profiles	
		handle coupling	A1	Ffor-202	1 pc			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

Fittings layout. Tilt and turn window

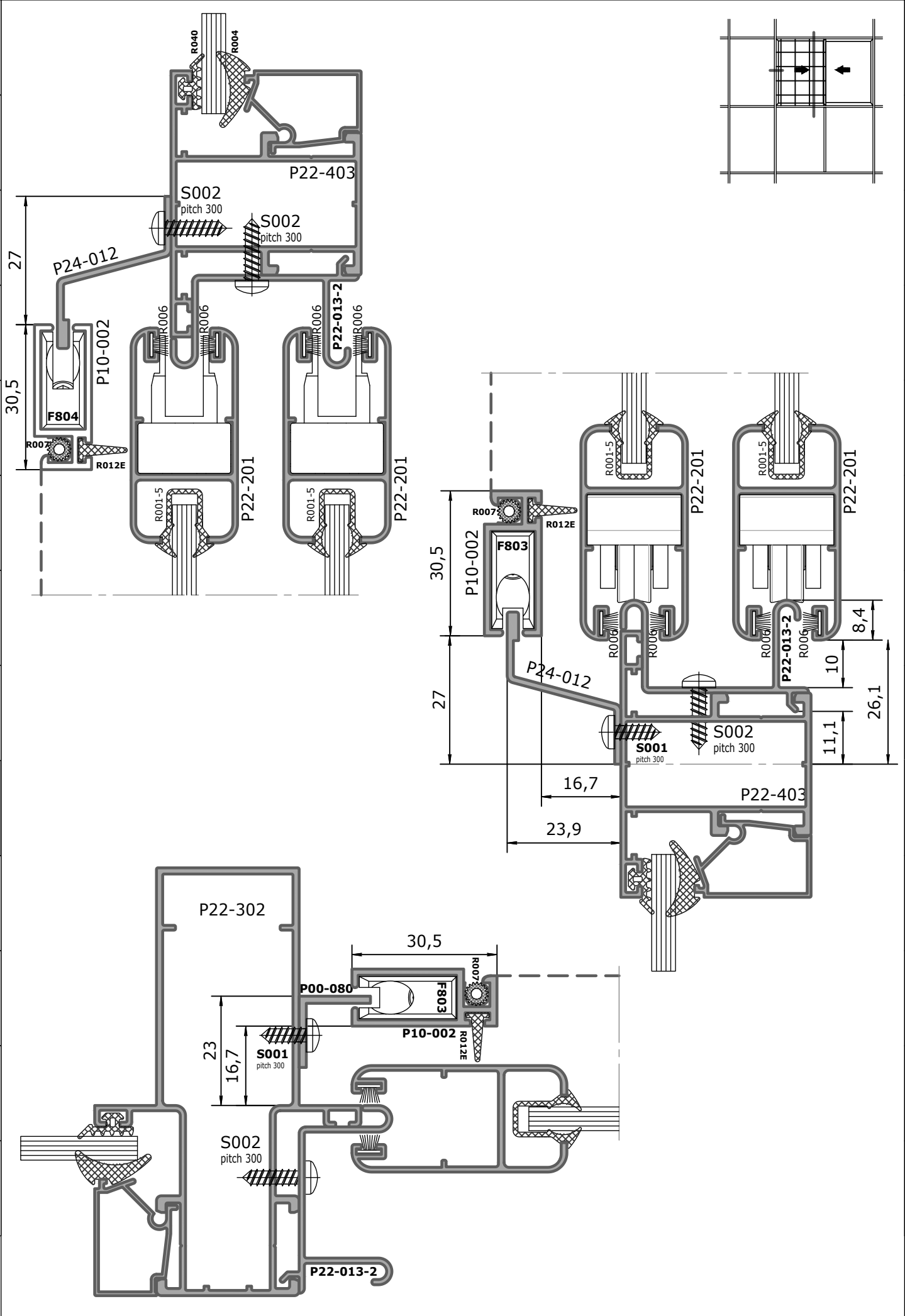


Fittings layout. Turn window

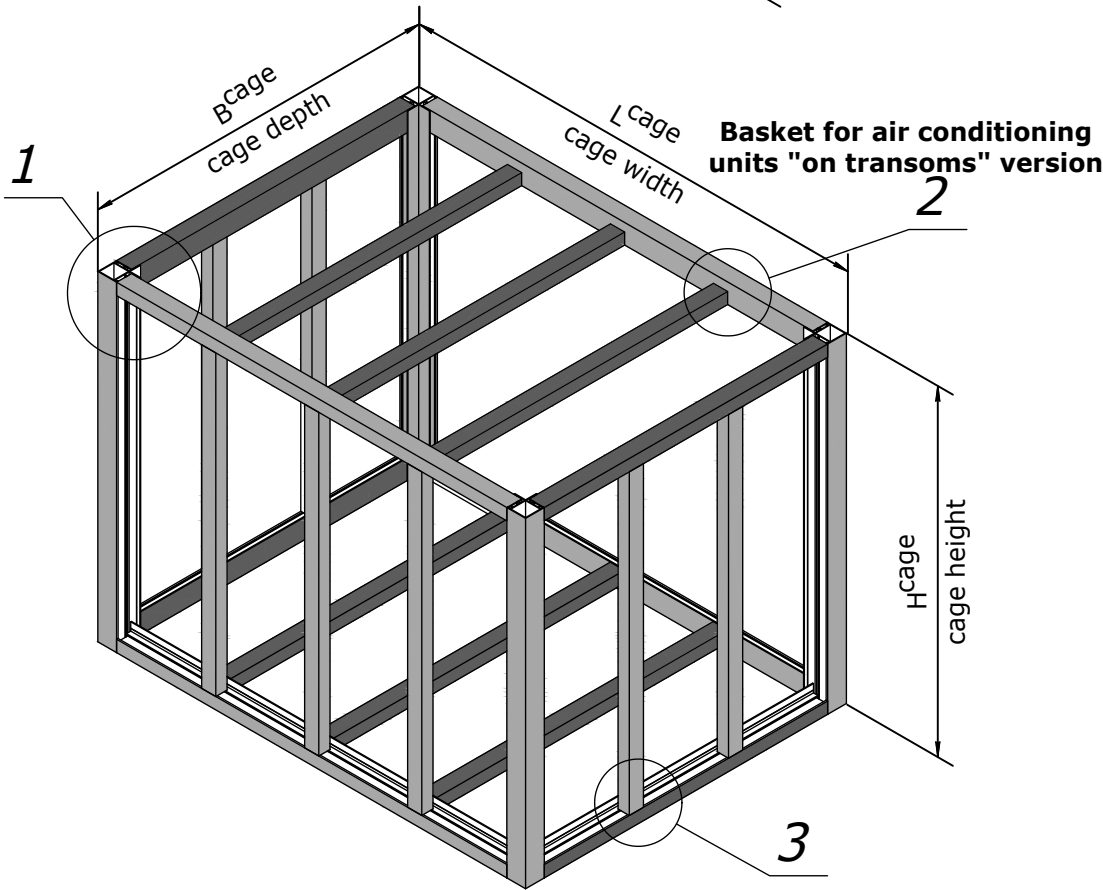
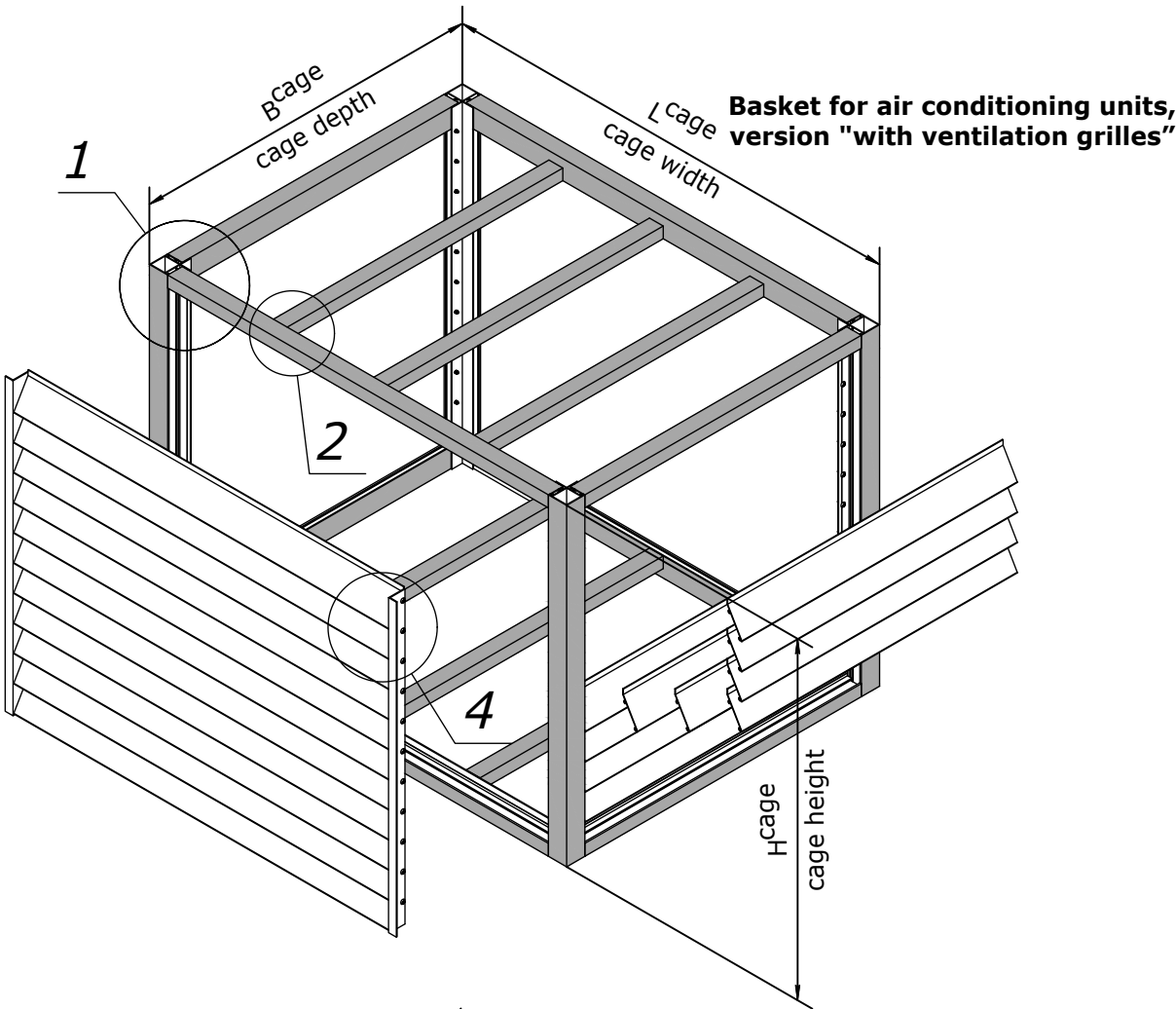


contents	Fittings layout. Transom window, top handle										contents
profiles											profiles
scope of delivery											scope of delivery
profiles (1:1)											profiles (1:1)
sections											sections
glazing tables											glazing tables
sub-assemblies tables											sub-assemblies tables
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

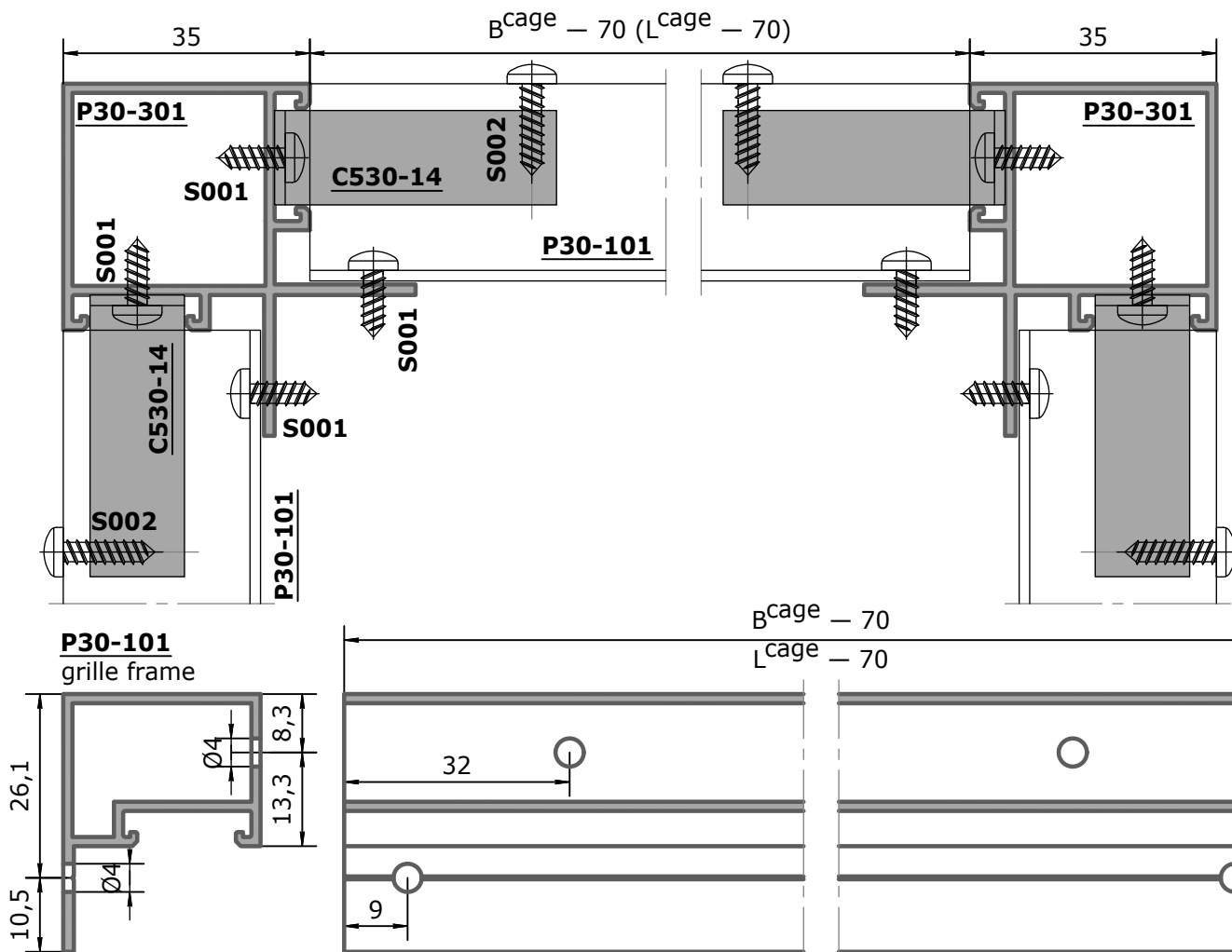
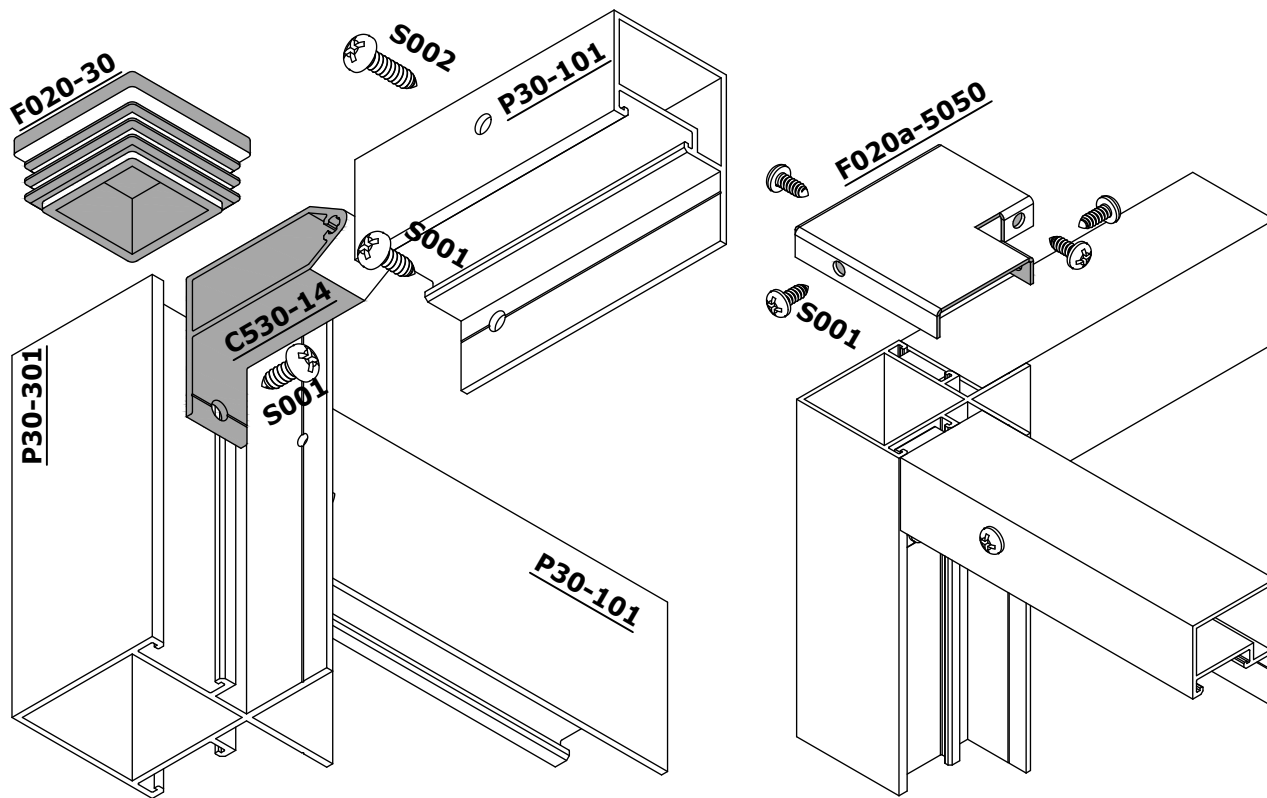
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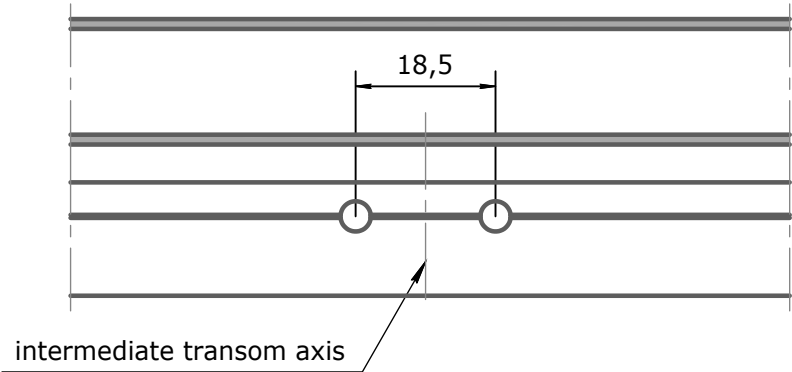
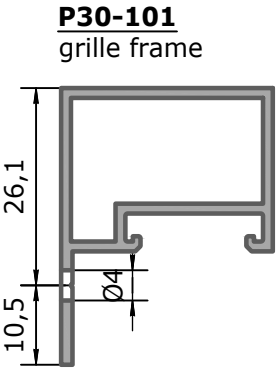
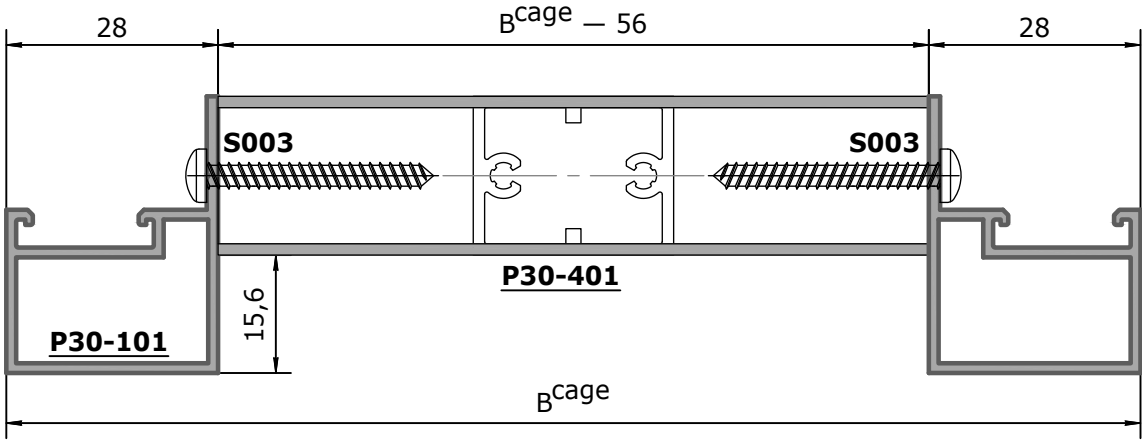
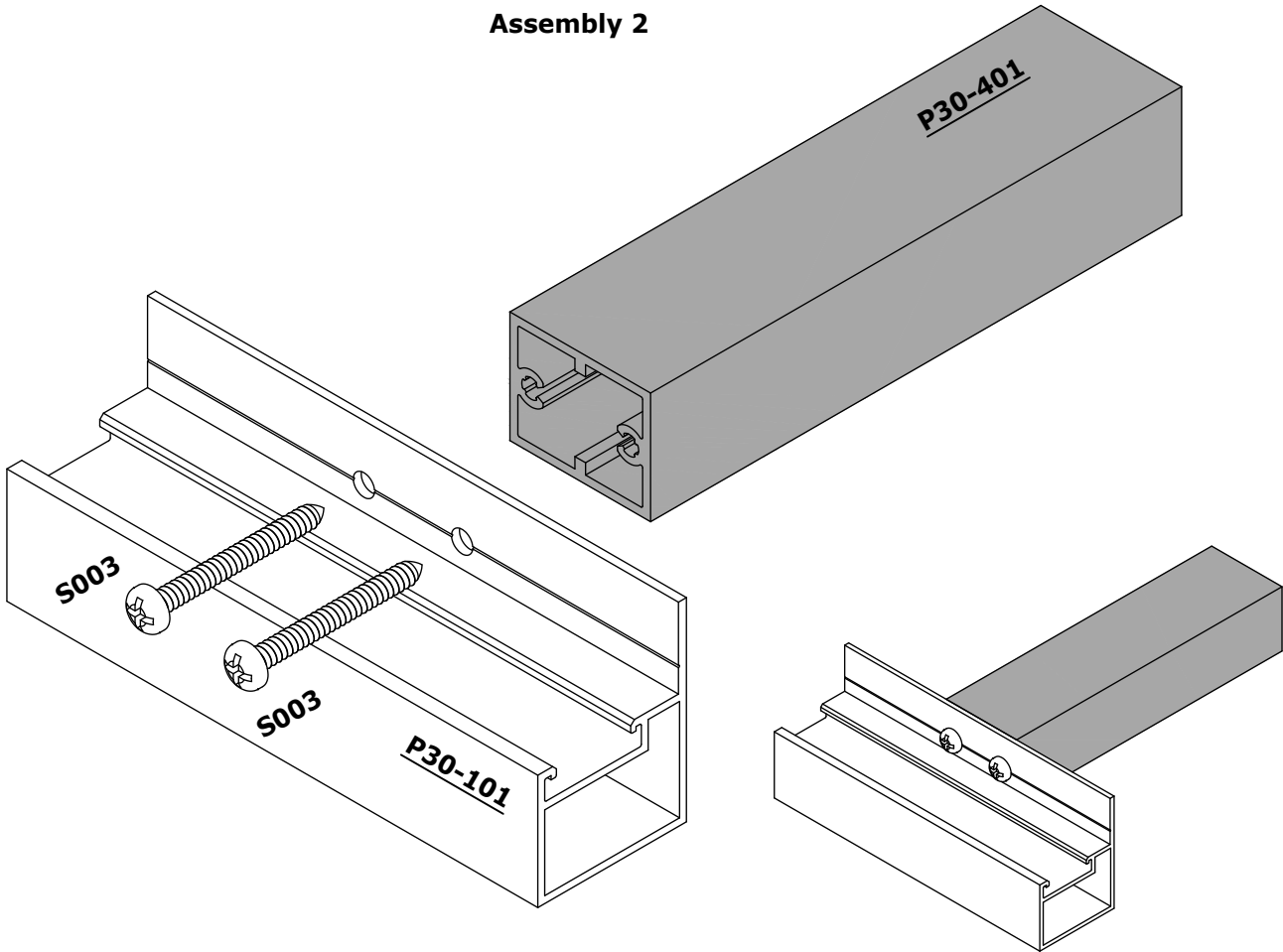
Air conditioner cages



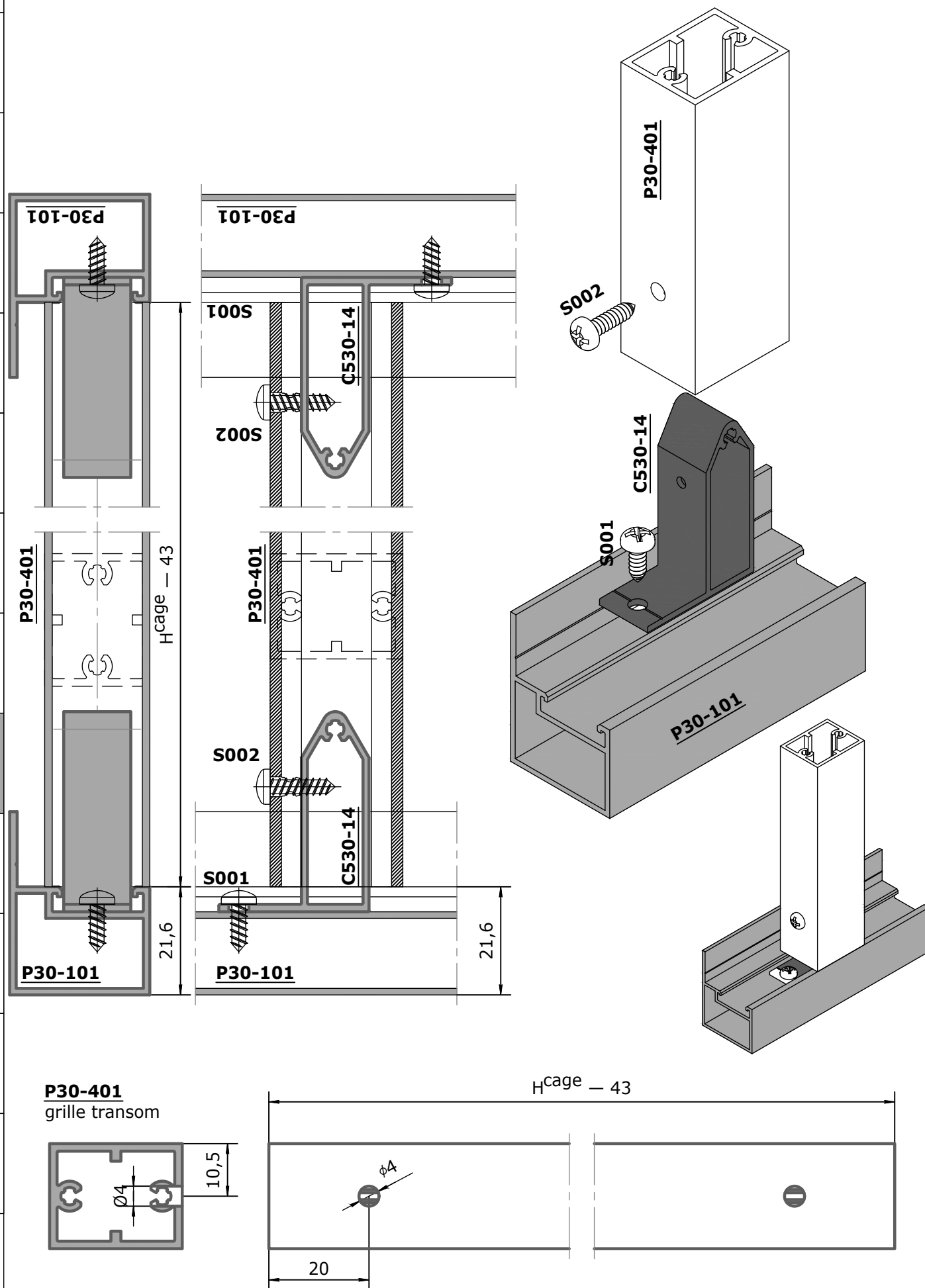
Assembly 1



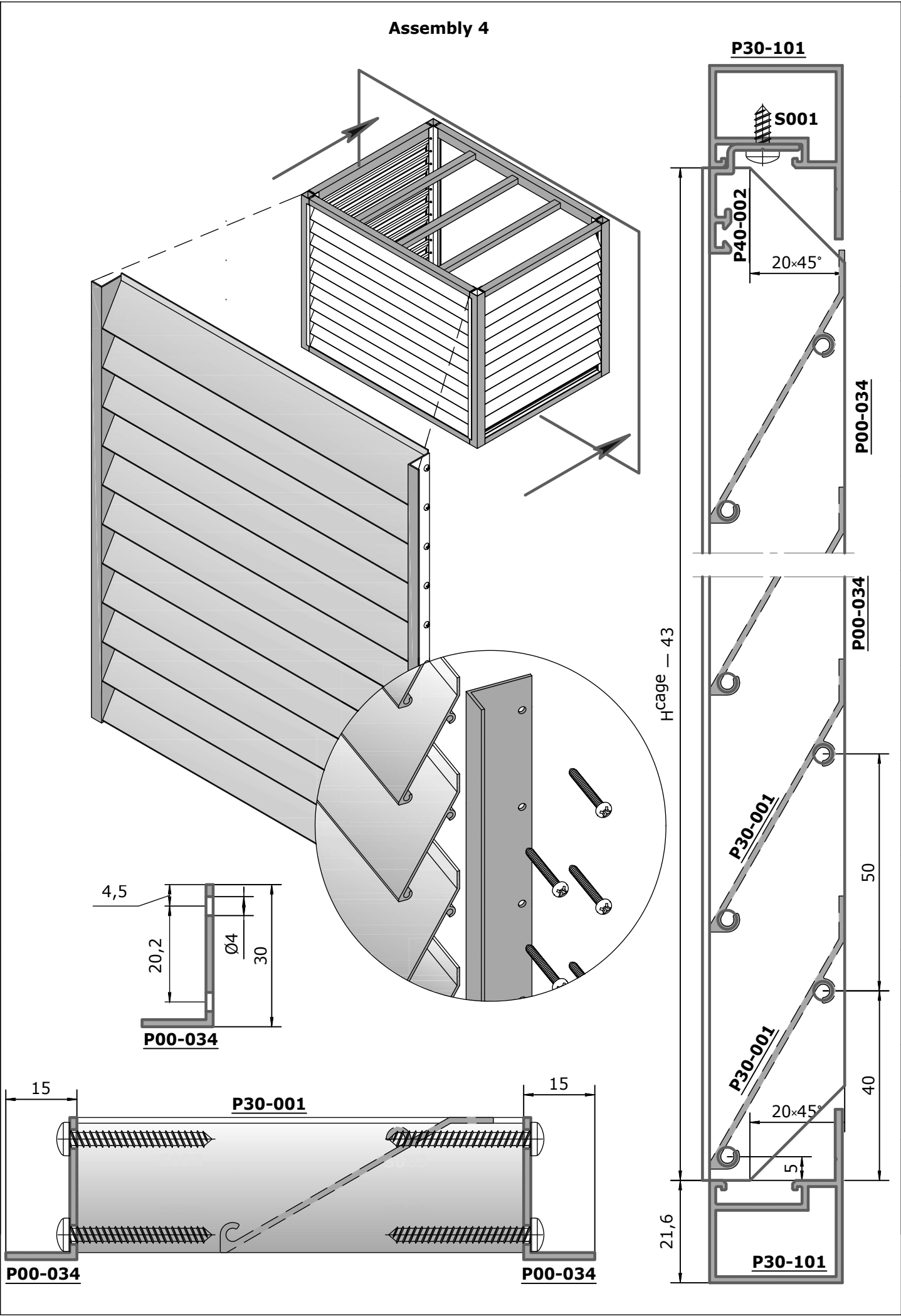
Assembly 2

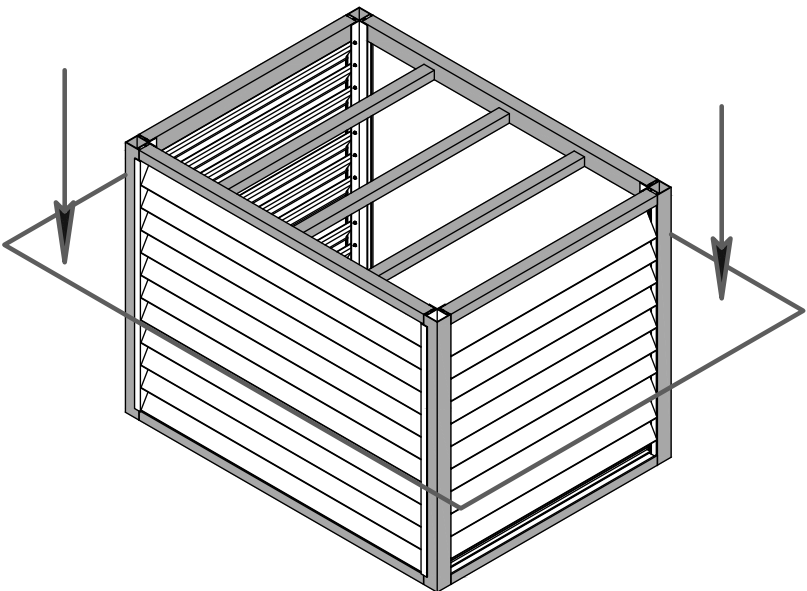
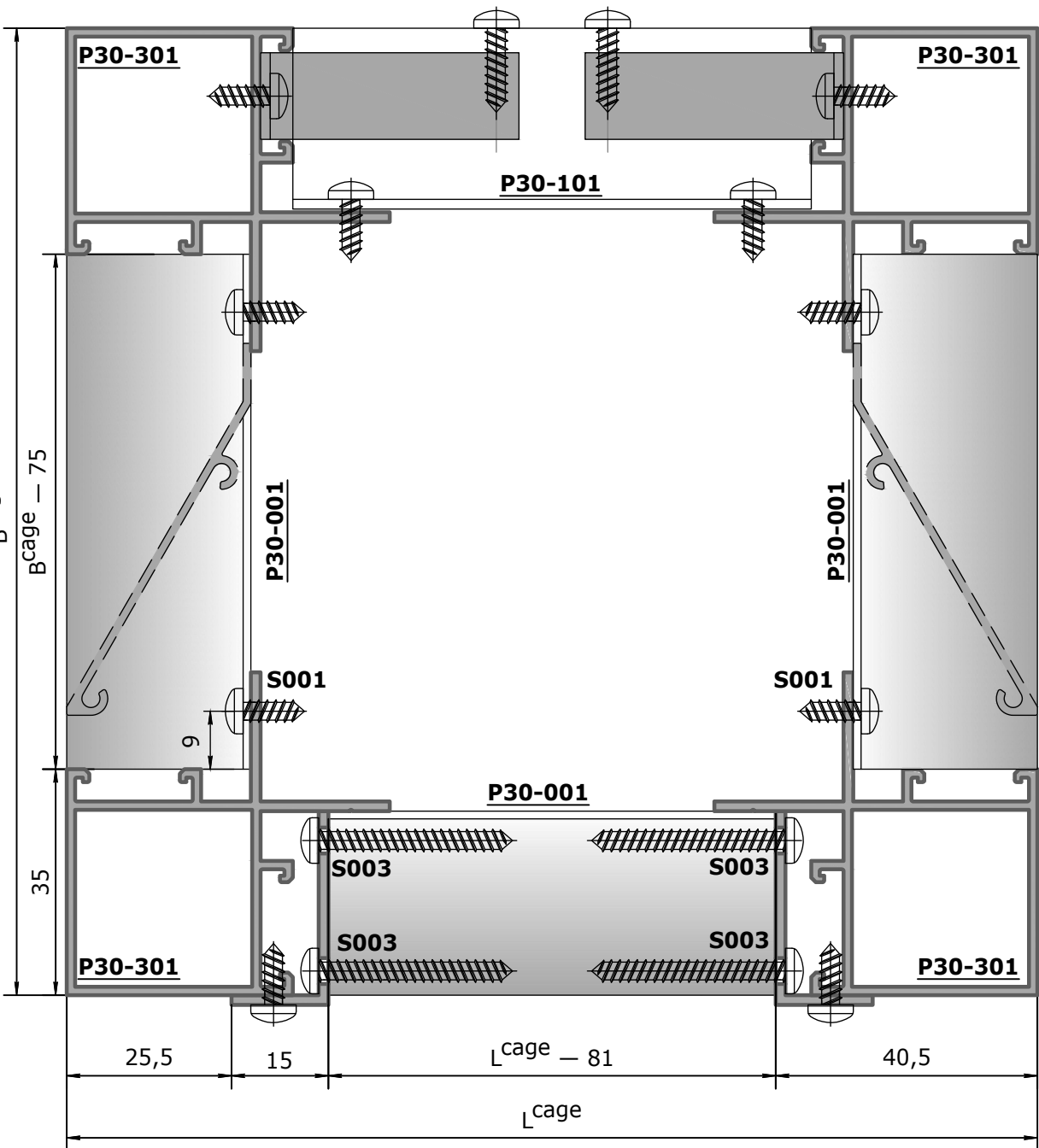


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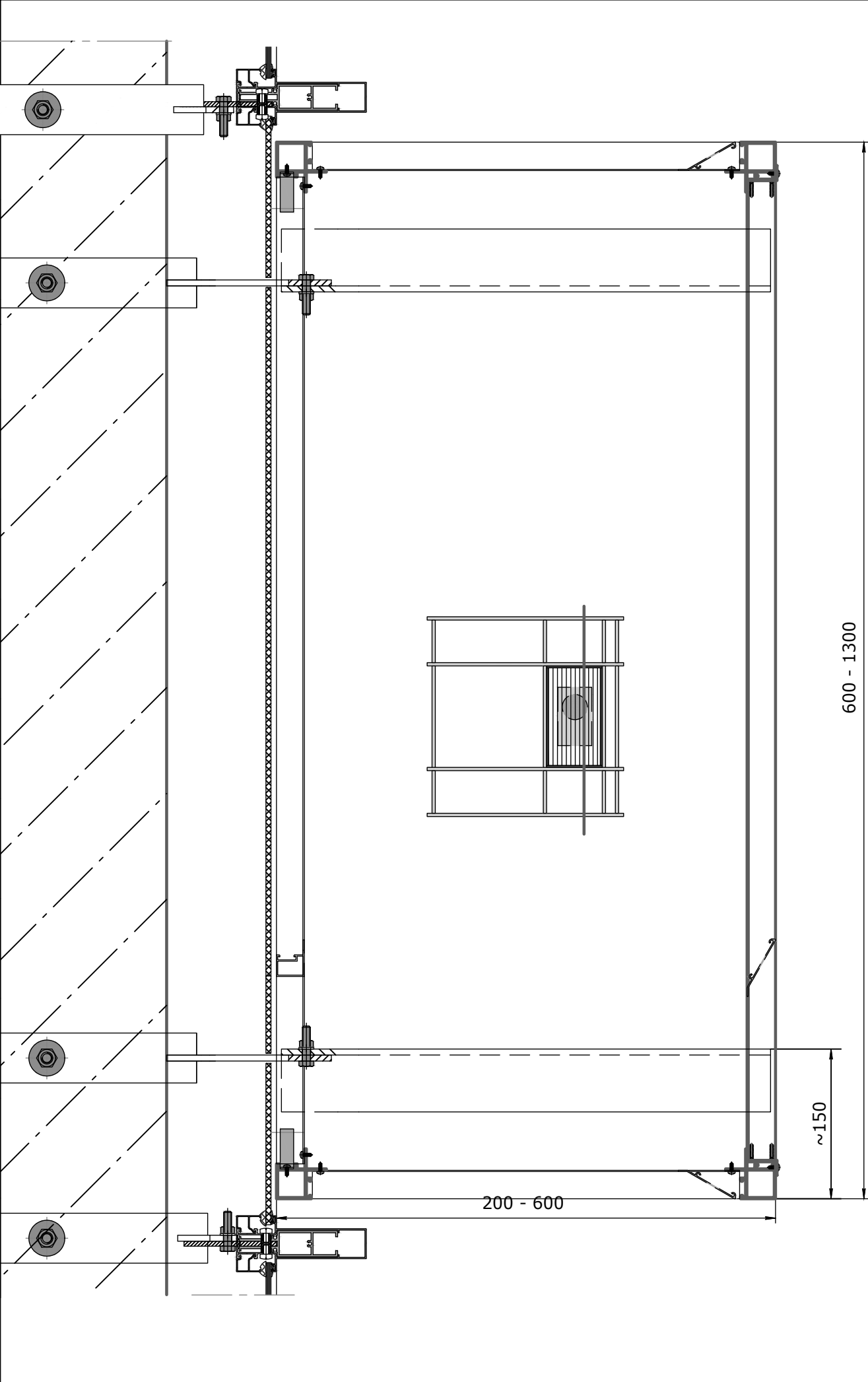


Assembly 4



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	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	contents
 																										

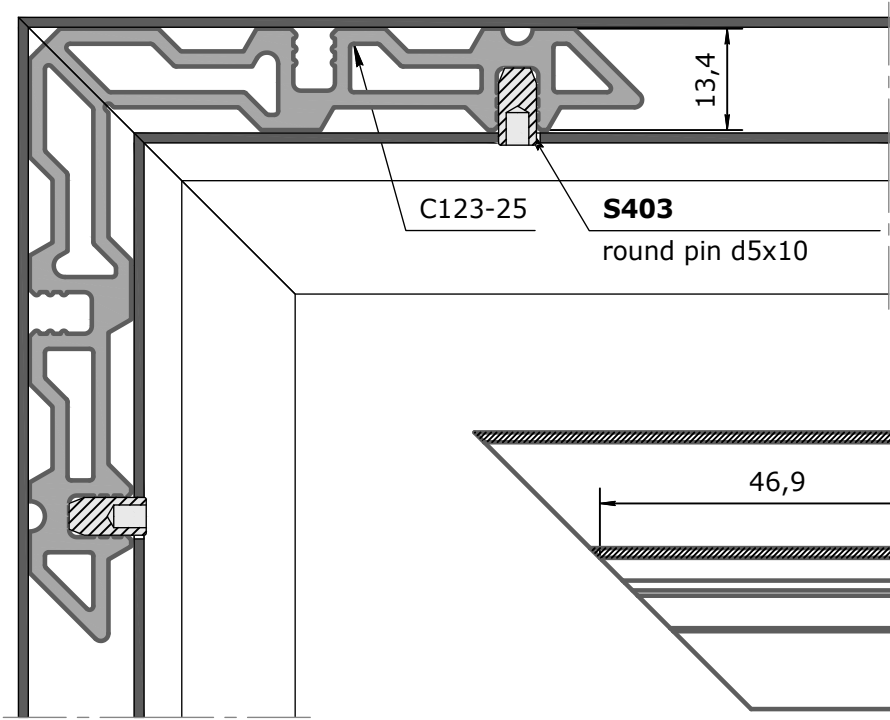
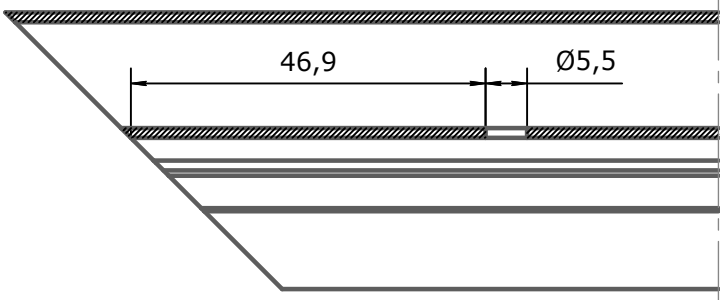
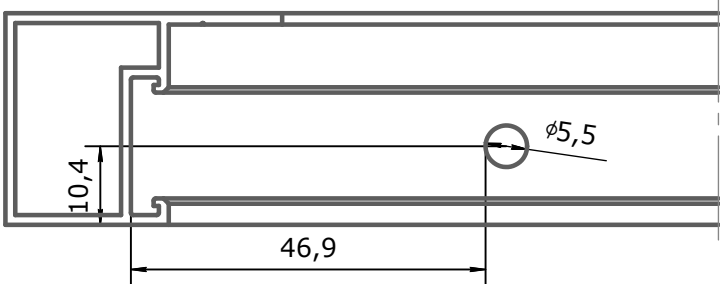
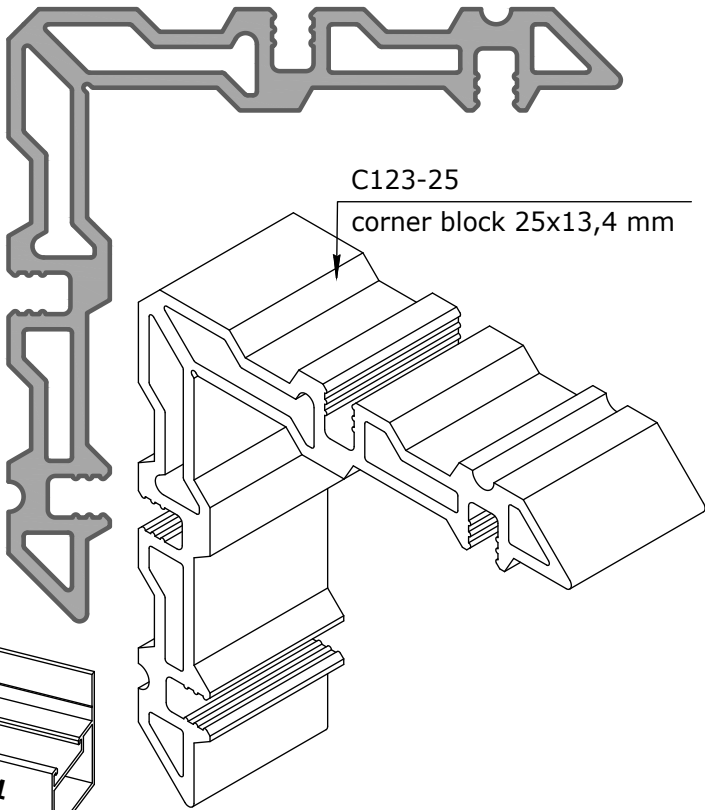
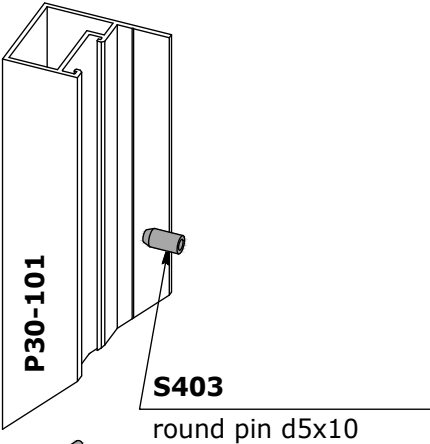
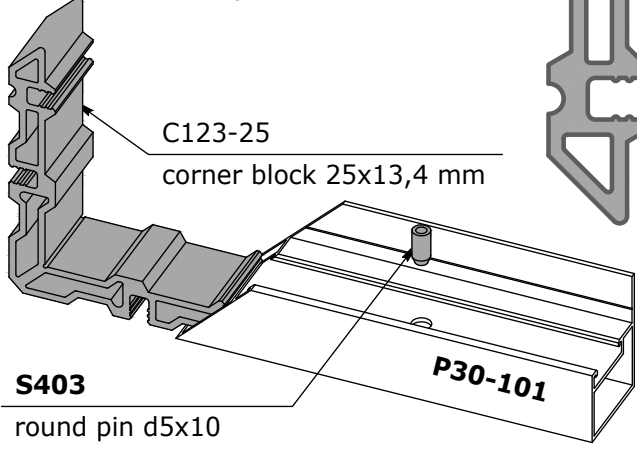
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equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
												
equipment and tools	connections	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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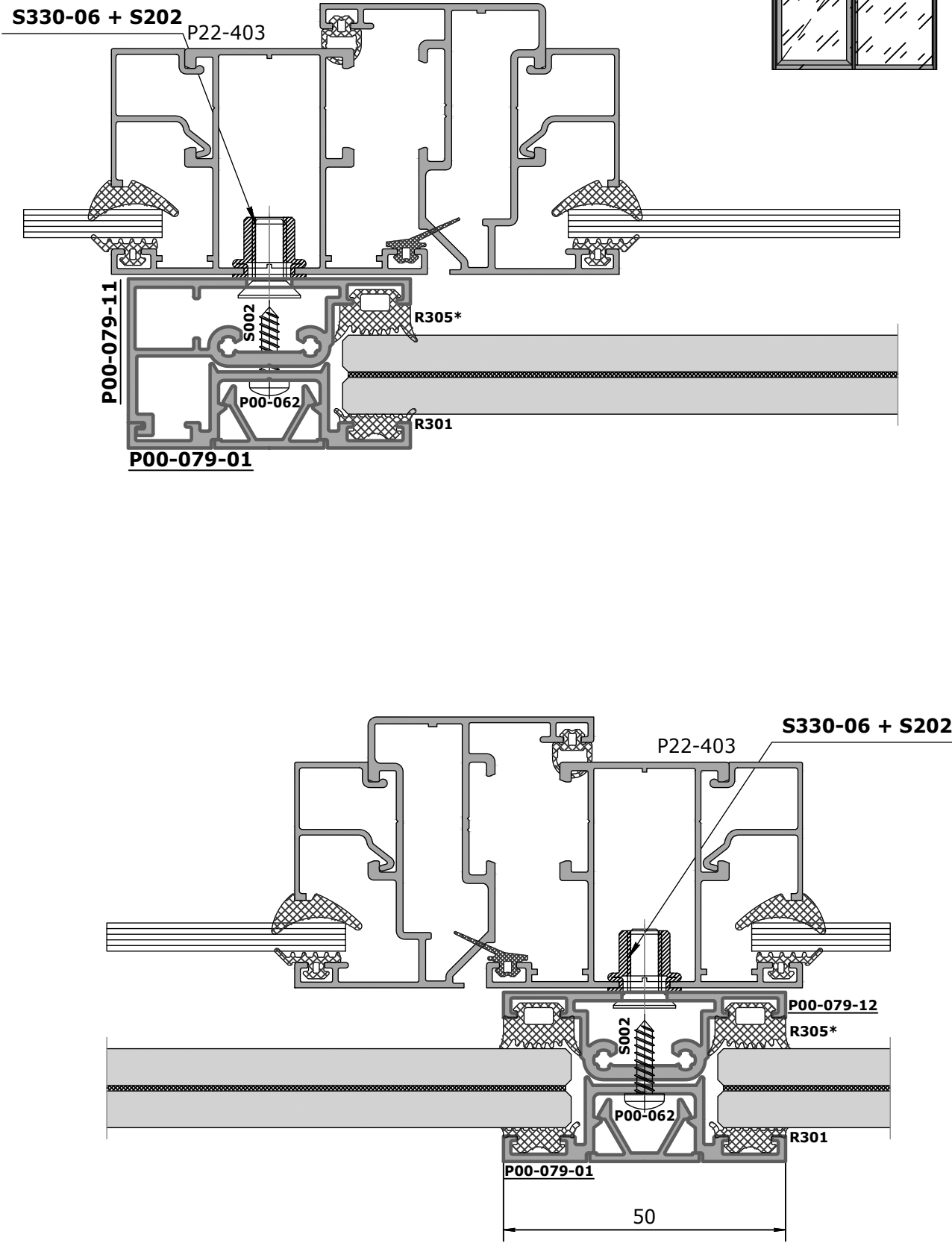
page 07-13

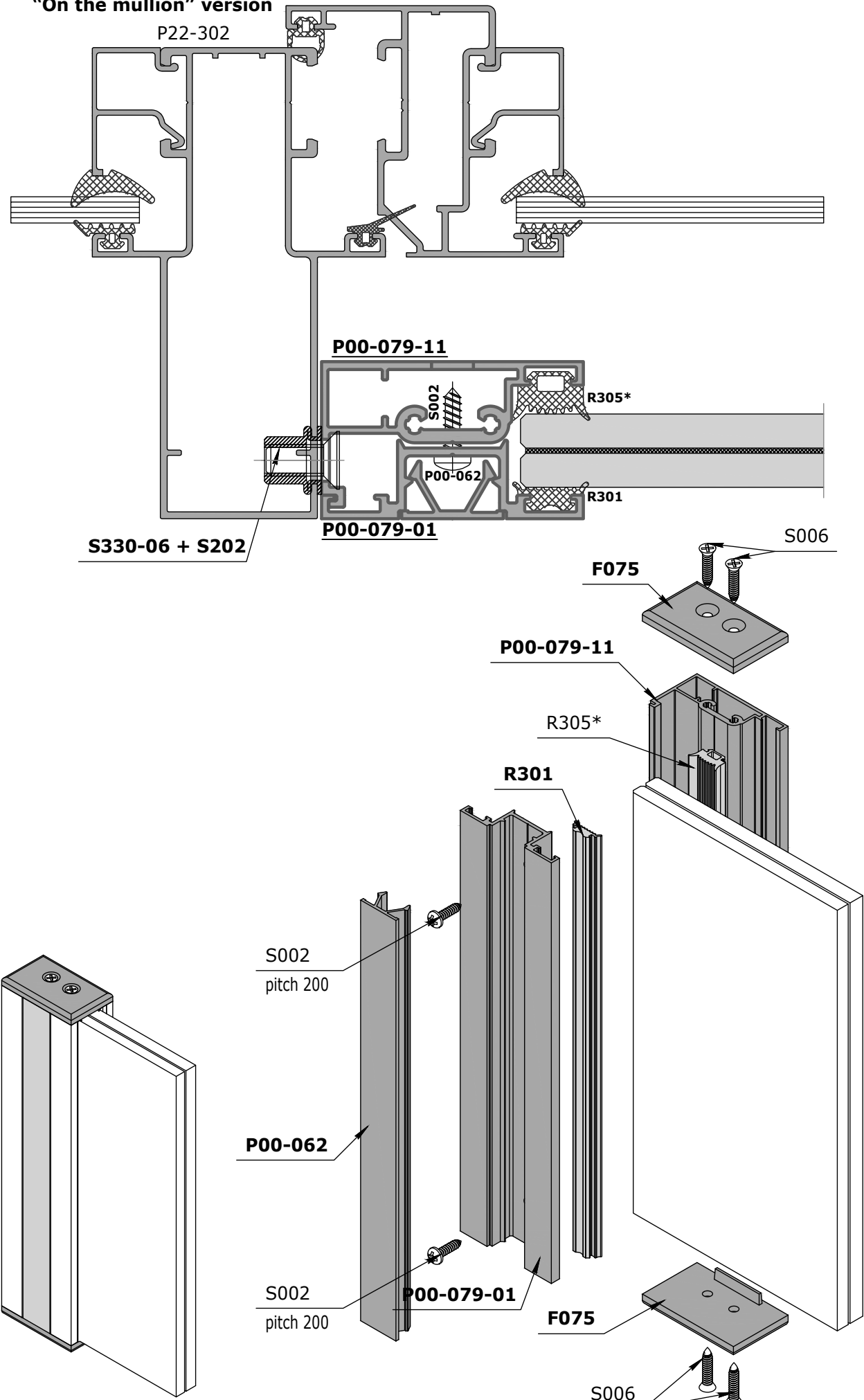
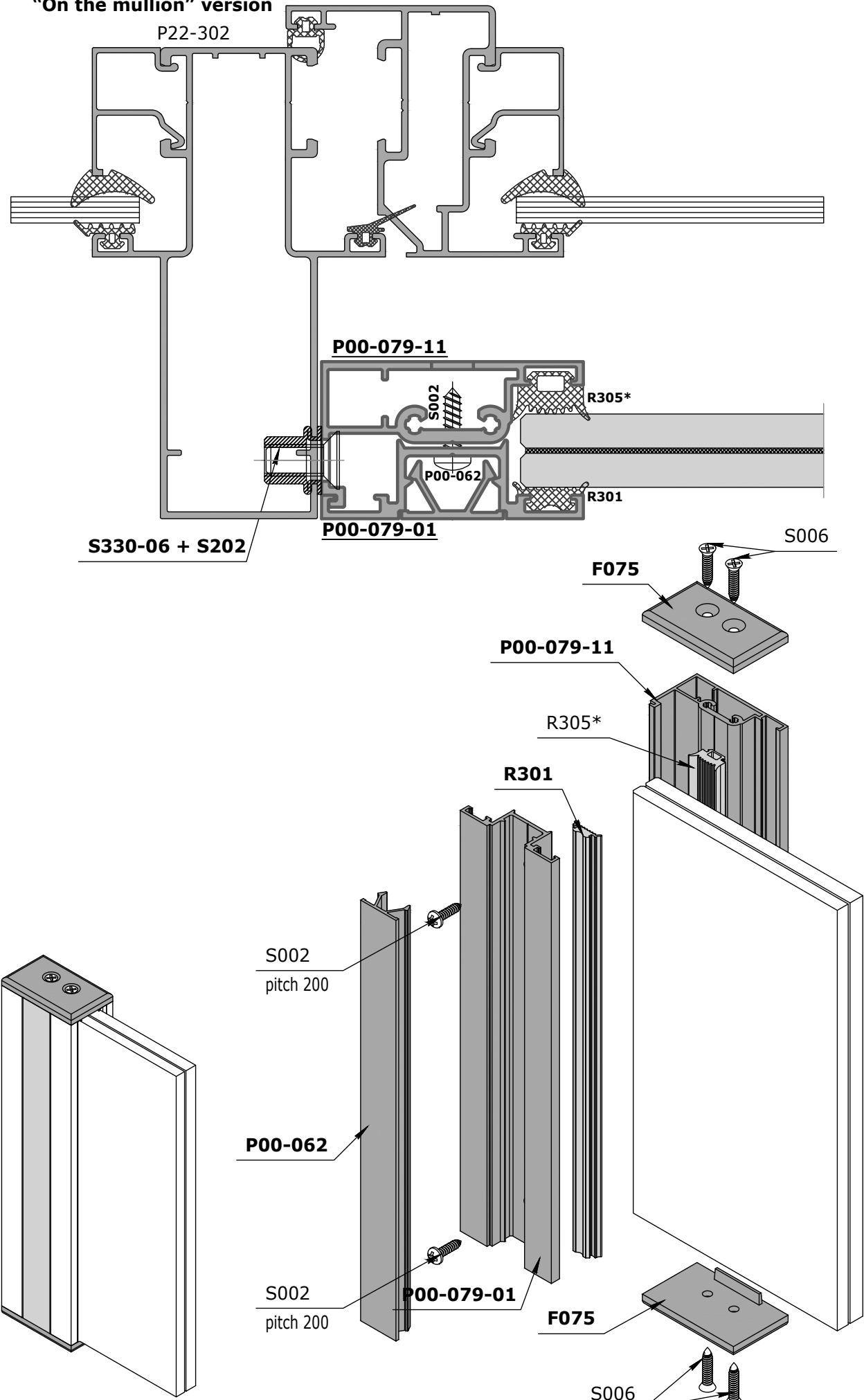
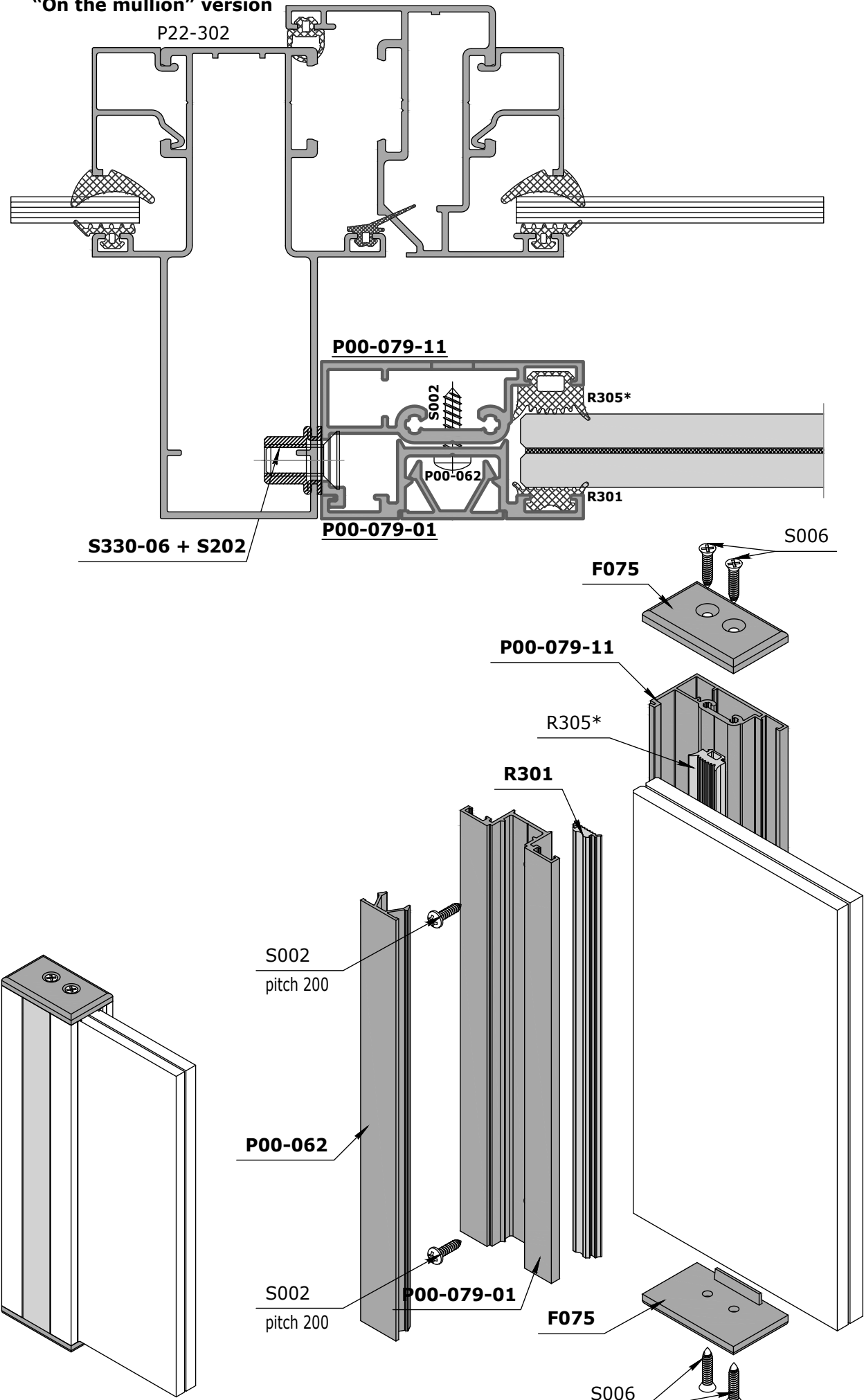
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contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools	contents
													
													
													
								P00-623 corner block 13,4 mm 					
													
													
								S403 round pin d5x10					

French balcony.
External screen – offset 10 mm

“On impost” version

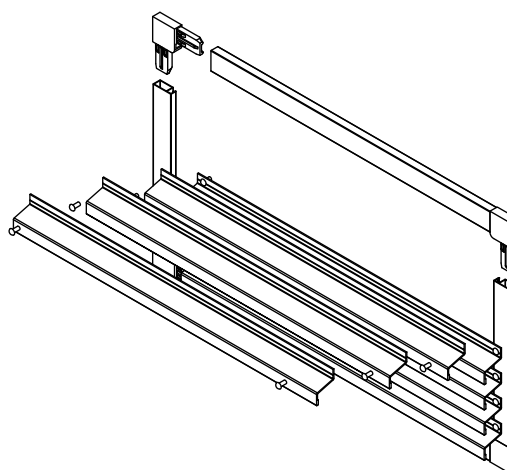
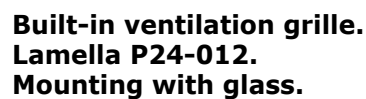


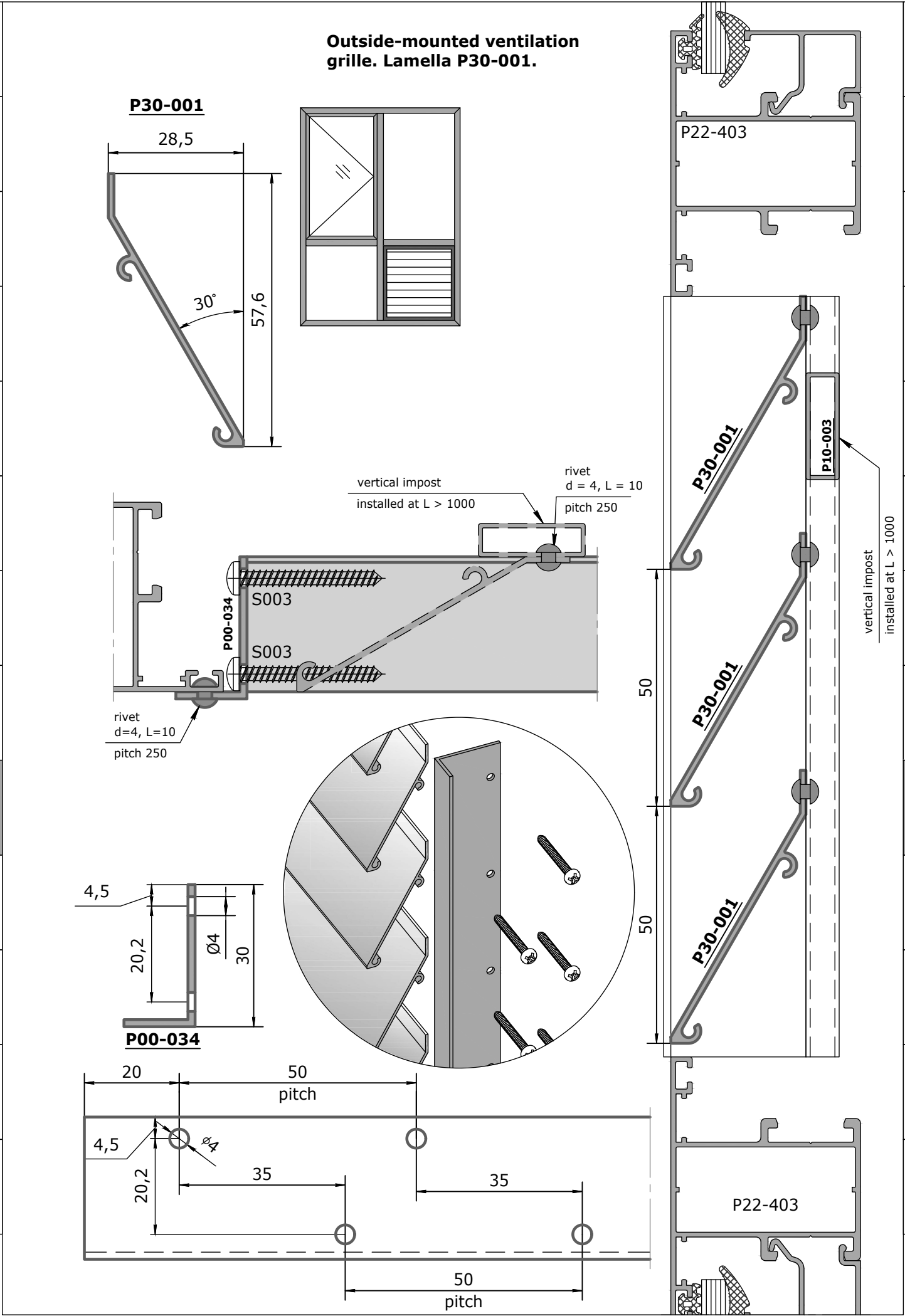
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scope of delivery		scope of delivery
profiles (1:1)		profiles (1:1)
sections		sections
glazing tables		glazing tables
sub-assemblies tables		sub-assemblies tables
fittings layout		fittings layout
additional solutions		additional solutions
sub-assemblies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

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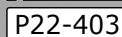
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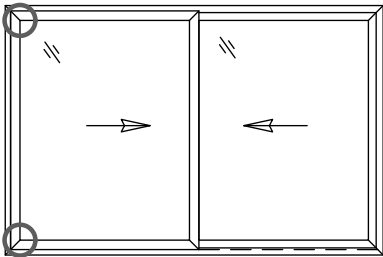


P30-002

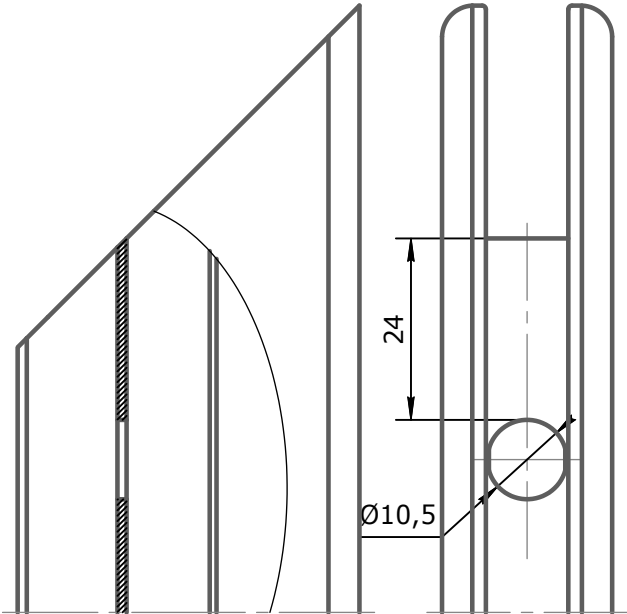
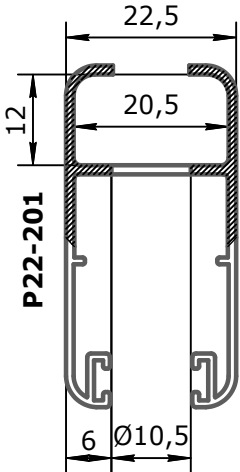
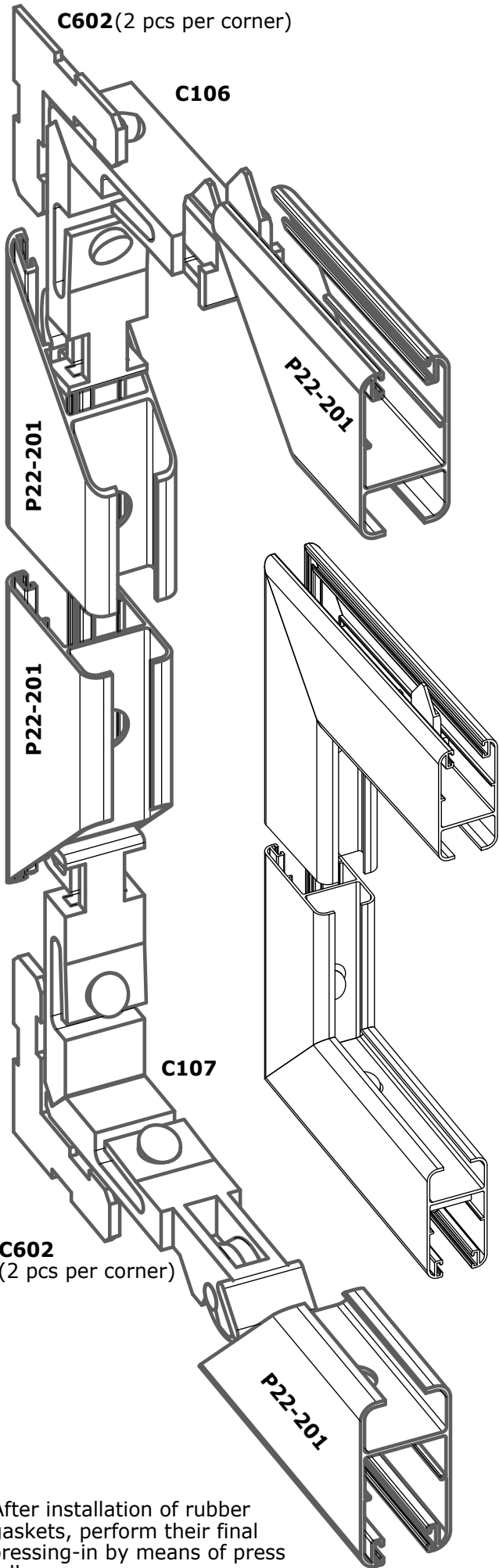
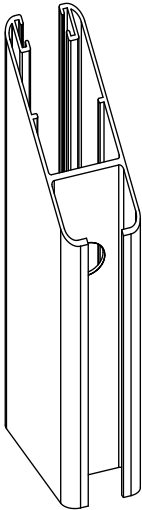


page 08-01

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



After installation of rubber
gaskets, perform their final
pressing-in by means of press
rollers

page 08-03

F025

P22-201

P22-203

P22-201

P22-201

P22-201

P22-201

S001

P22-002

P24-104

P22-002

1

1

10

15,

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contents

profiles

scope of delivery

profiles (1:1)

sections

glazing tables

assemblies	table
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fittings layout

additional
solutions

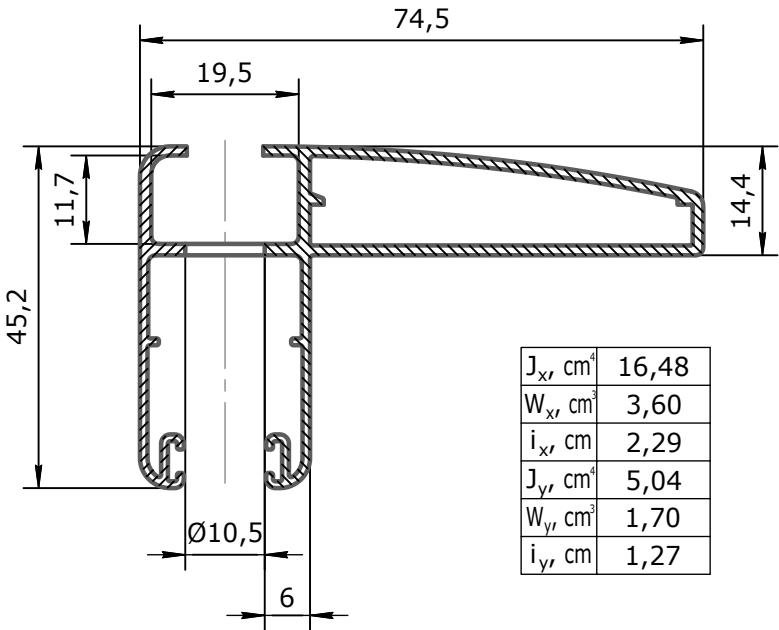
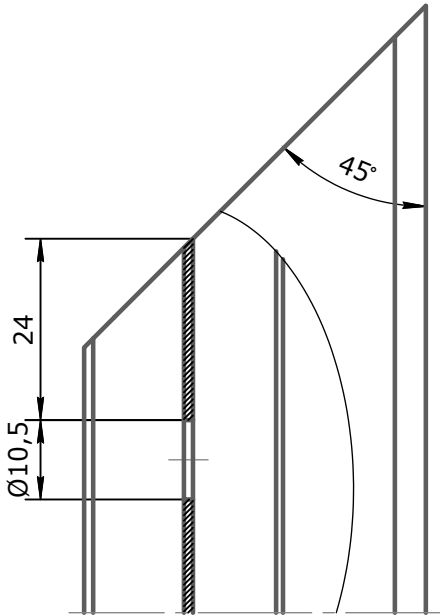
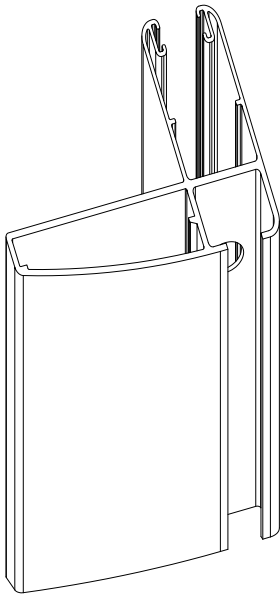
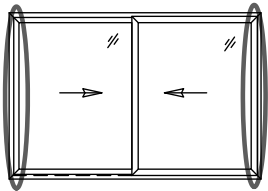
sub-assemblies

stained glass
incubation

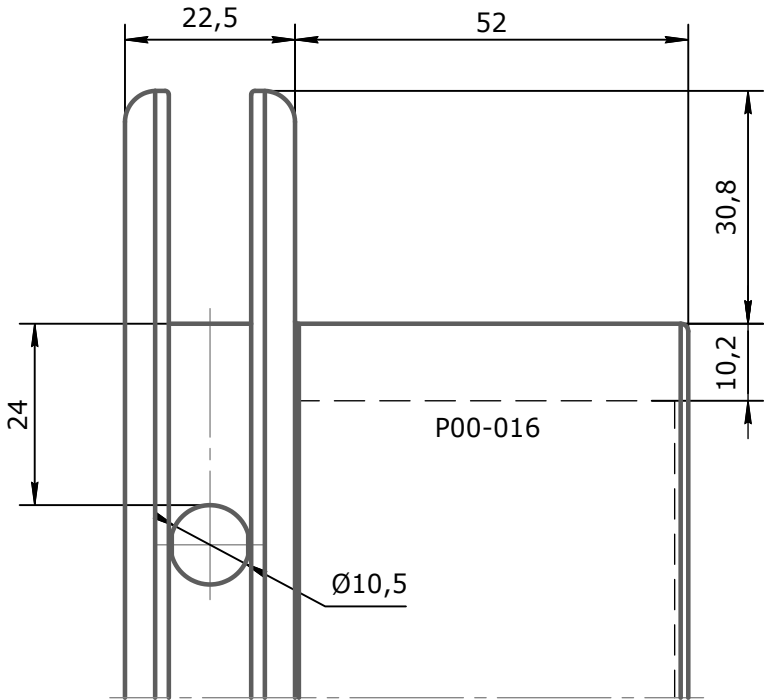
connections

equipment
and tools

L-joint. Sash P22-203-74



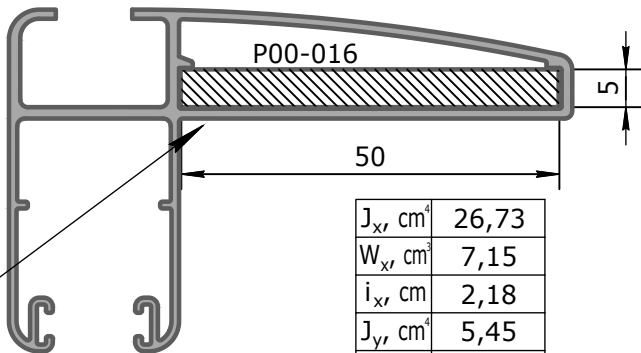
$J_x, \text{ cm}^4$	16,48
$W_x, \text{ cm}^3$	3,60
$i_x, \text{ cm}$	2,29
$J_y, \text{ cm}^4$	5,04
$W_y, \text{ cm}^3$	1,70
$i_y, \text{ cm}$	1,27



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**).



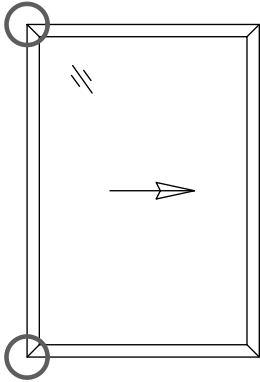
$J_x, \text{ cm}^4$	26,73
$W_x, \text{ cm}^3$	7,15
$i_x, \text{ cm}$	2,18
$J_y, \text{ cm}^4$	5,45
$W_y, \text{ cm}^3$	1,71
$i_y, \text{ cm}$	0,98

L-joint. Sash P22-203-74

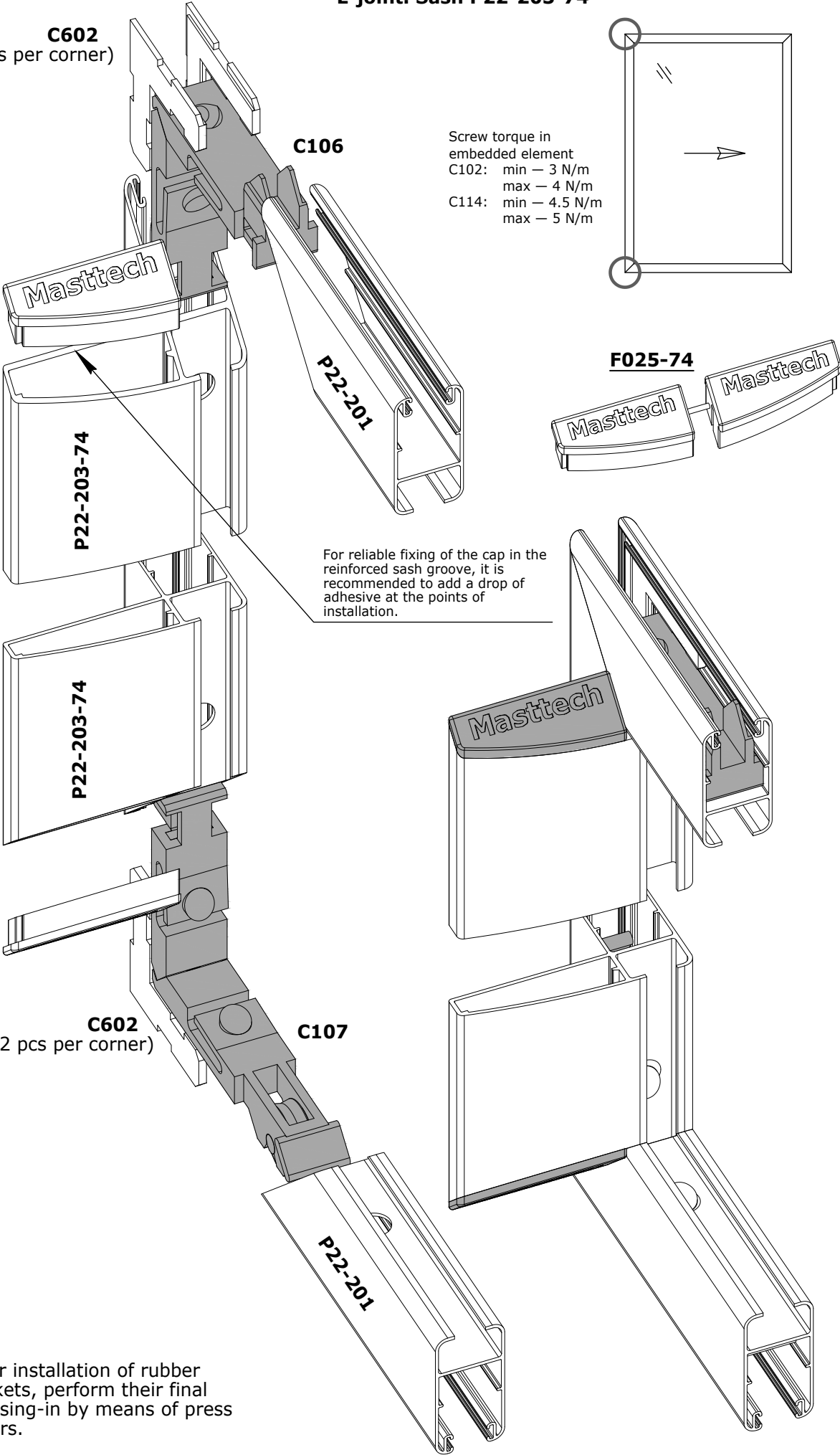
C602
(2 pcs per corner)

C106

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

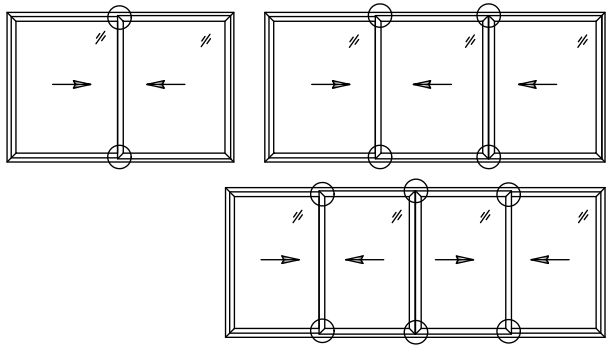
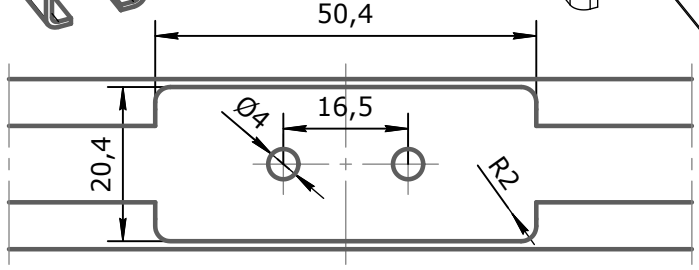
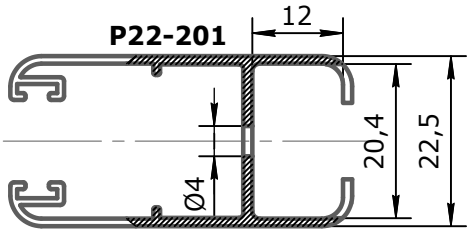
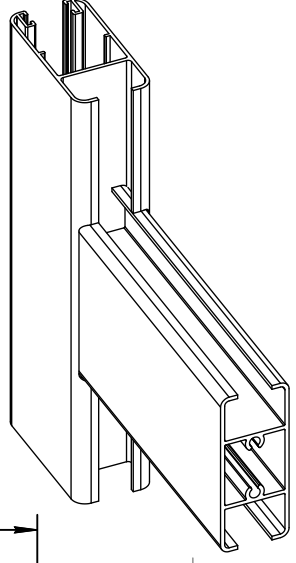
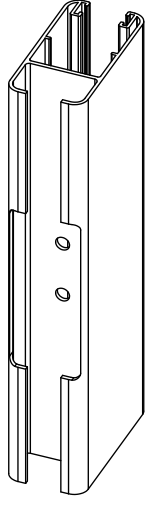
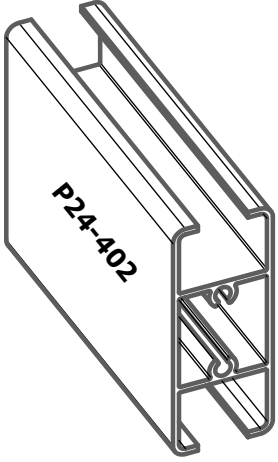
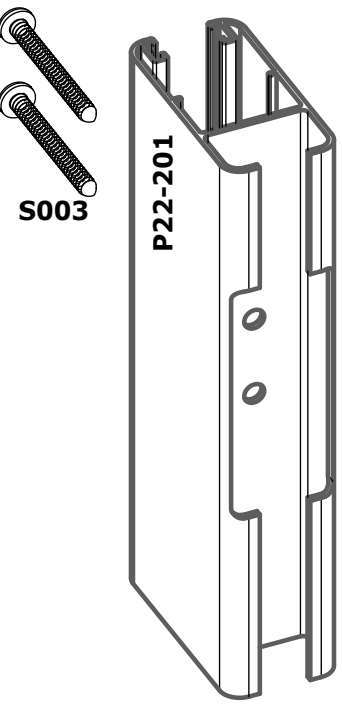
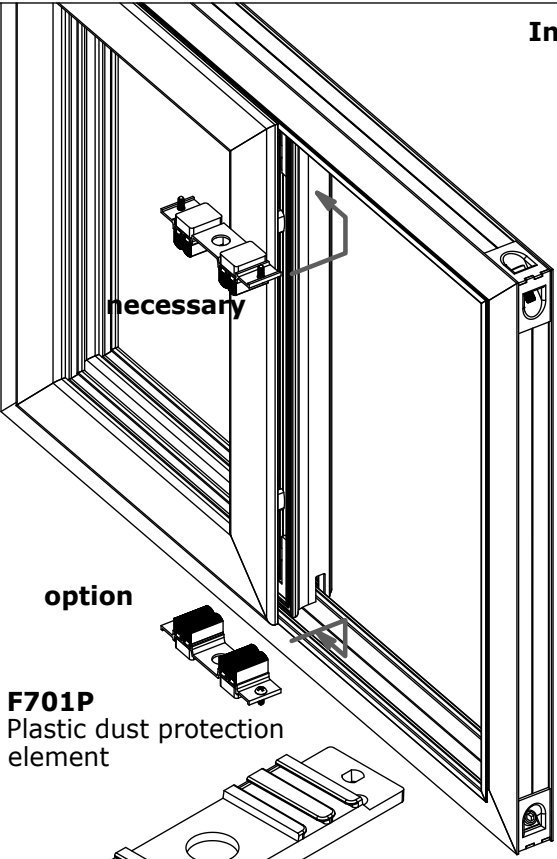


F025-74

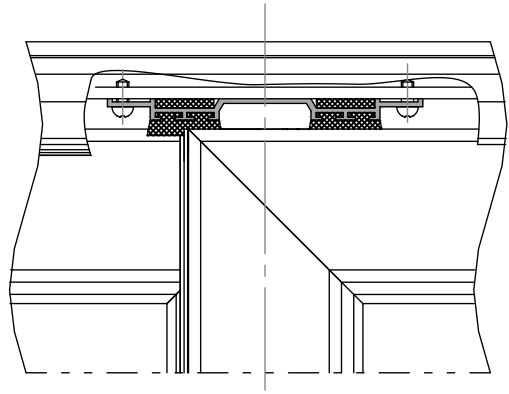


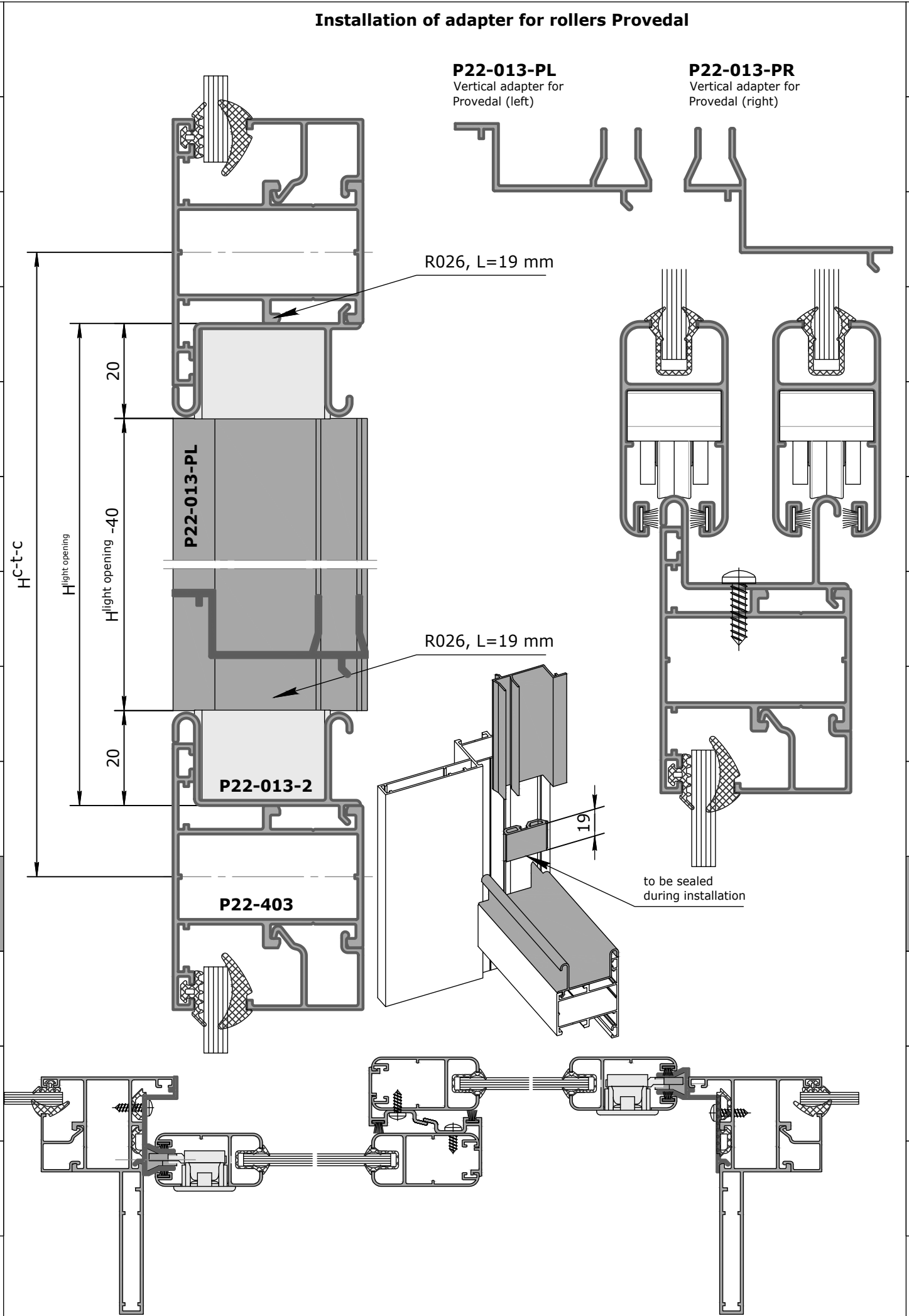
After installation of rubber
gaskets, perform their final
pressing-in by means of press
rollers.

Installation of duct protection elements F701

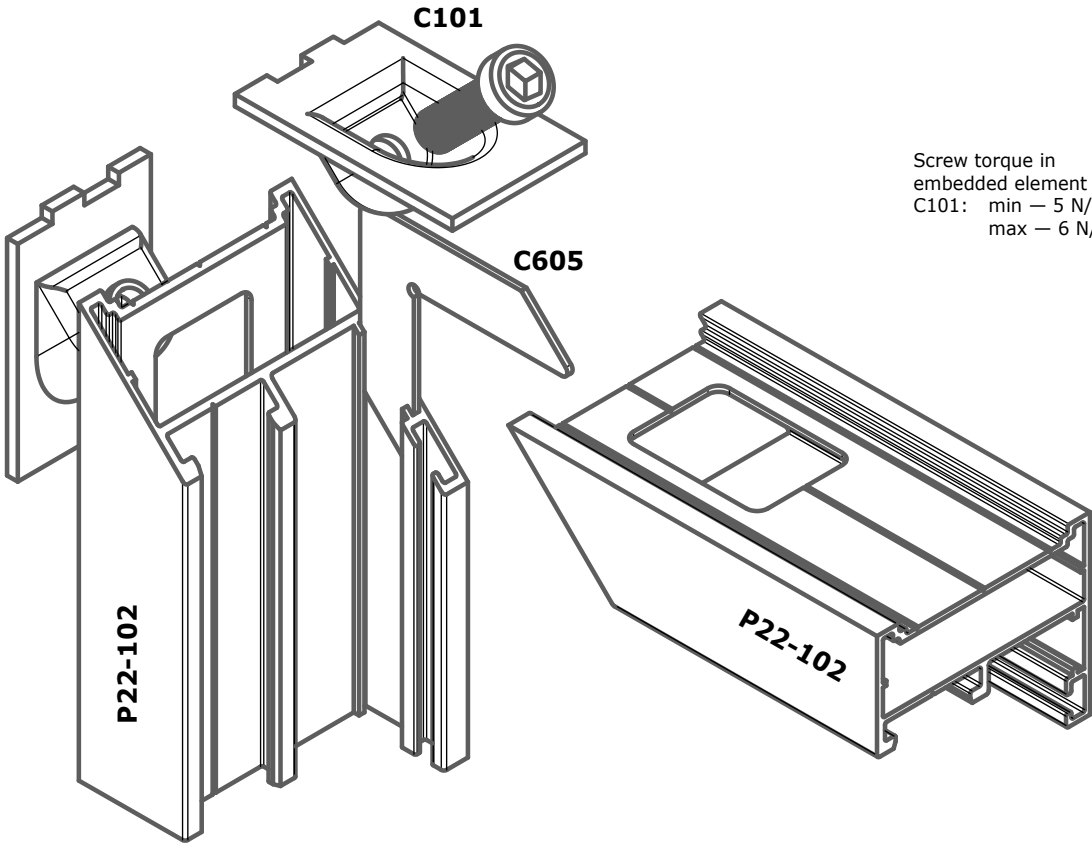
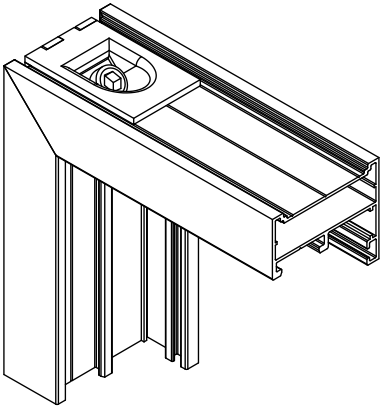
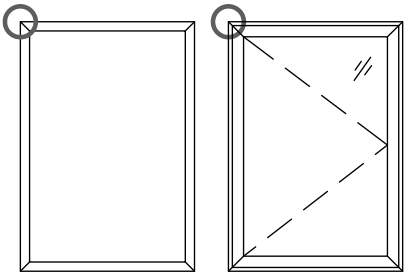


Dust protection elements F701p are installed in the article after mounting of sliding sashes — below and above each sash joint.
After the F701p elements are secured, removal of the sash is impossible.
Installation of "dusters" above sashes is OBLIGATORY because it impacts reliability of the structure.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

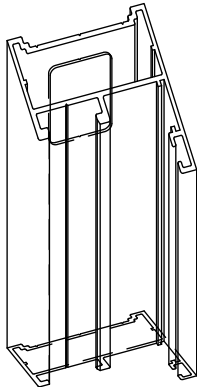
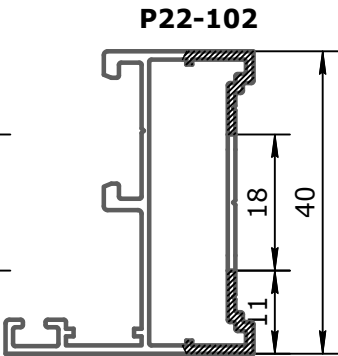
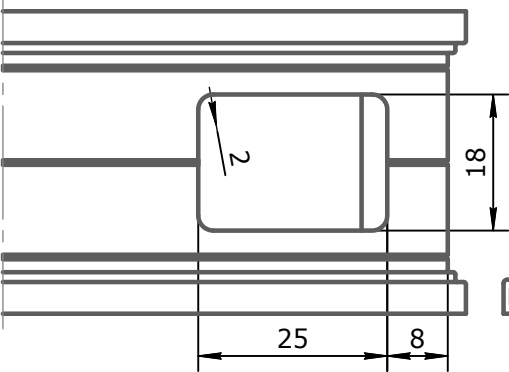
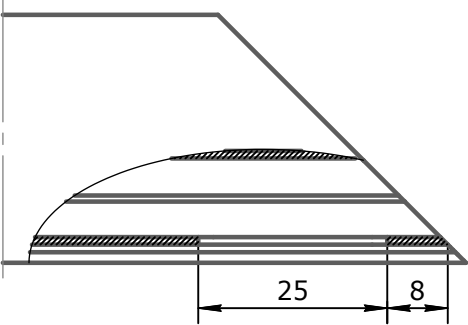


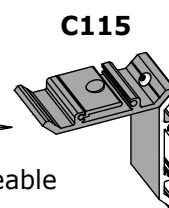
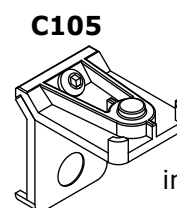
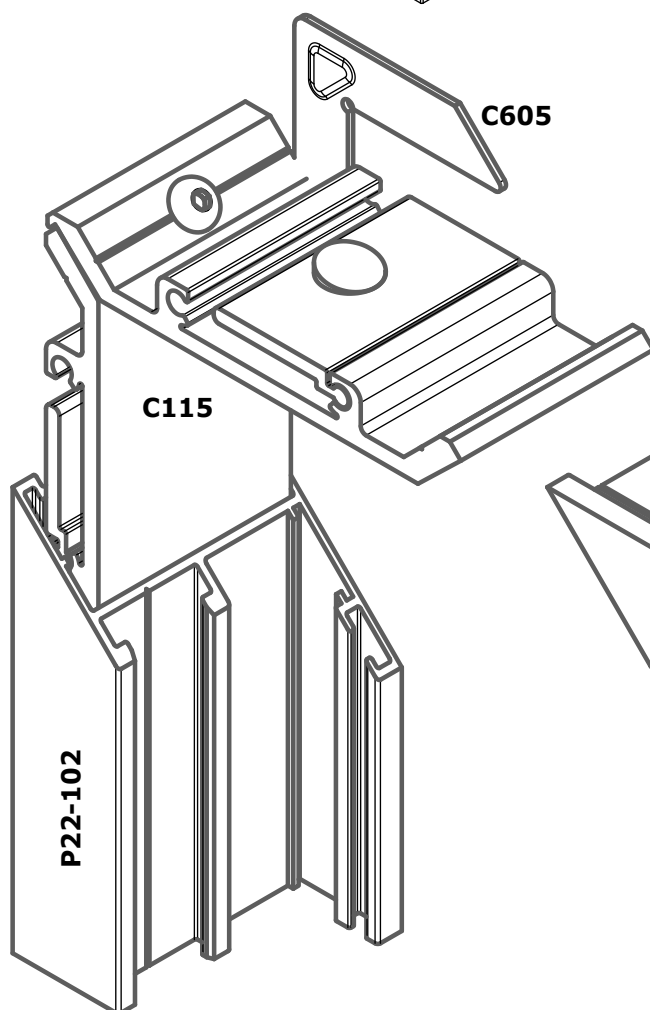
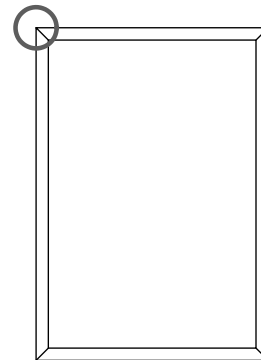


L-joint. Frame P22-102



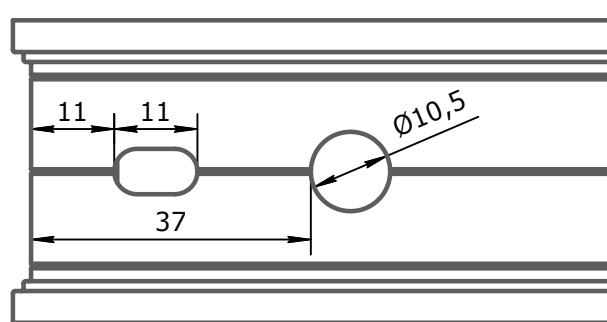
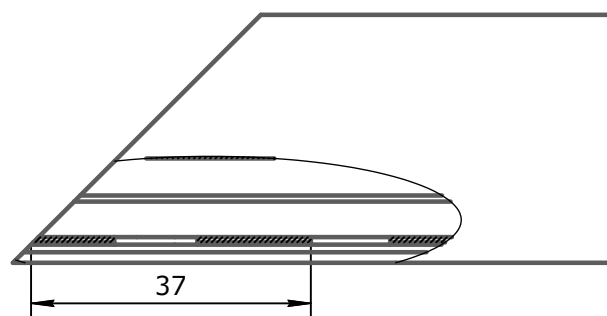
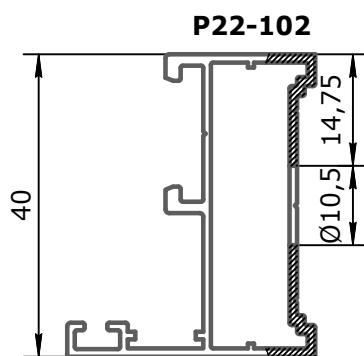
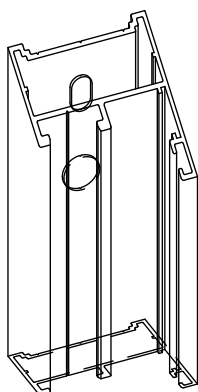
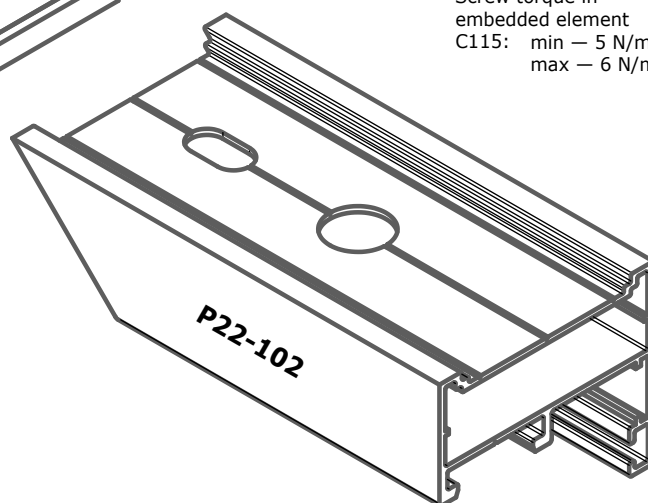
Screw torque in
embedded element
C101: min — 5 N/m
max — 6 N/m



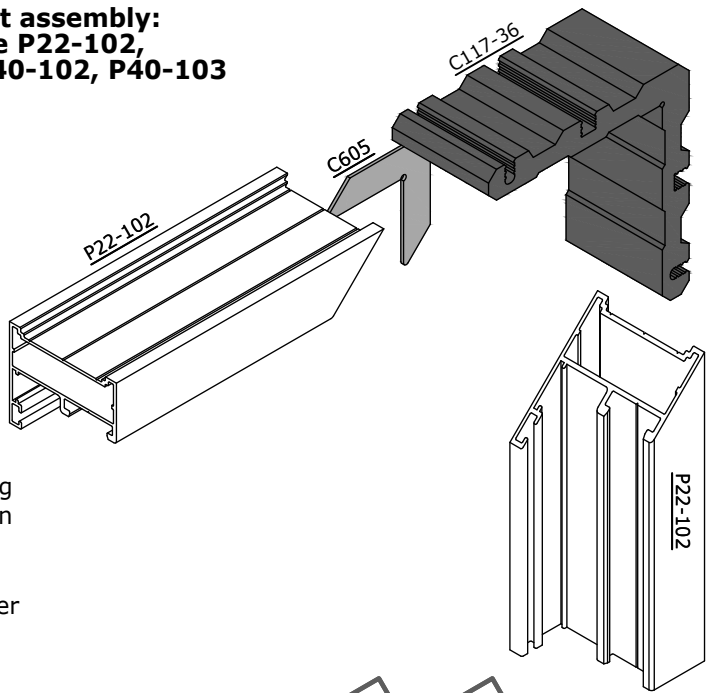
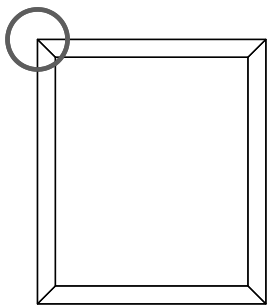


interchangeable

Screw torque in
embedded element
C115: min — 5 N/m
max — 6 N/m

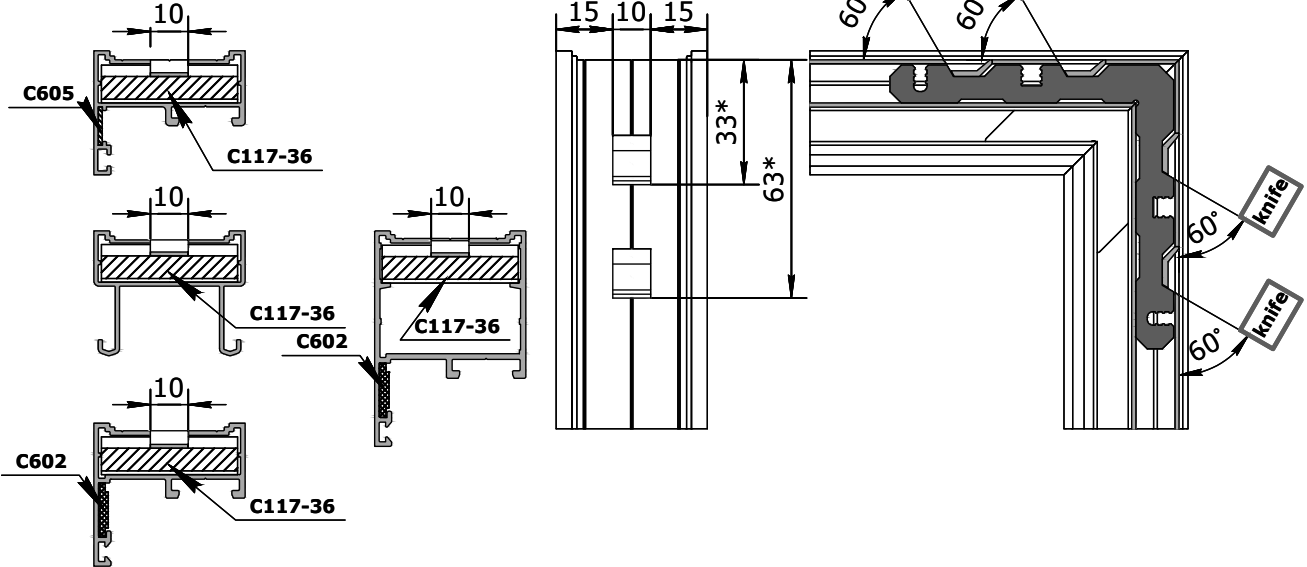


**L-joint assembly:
Frame P22-102,
P24-104, P40-102, P40-103**

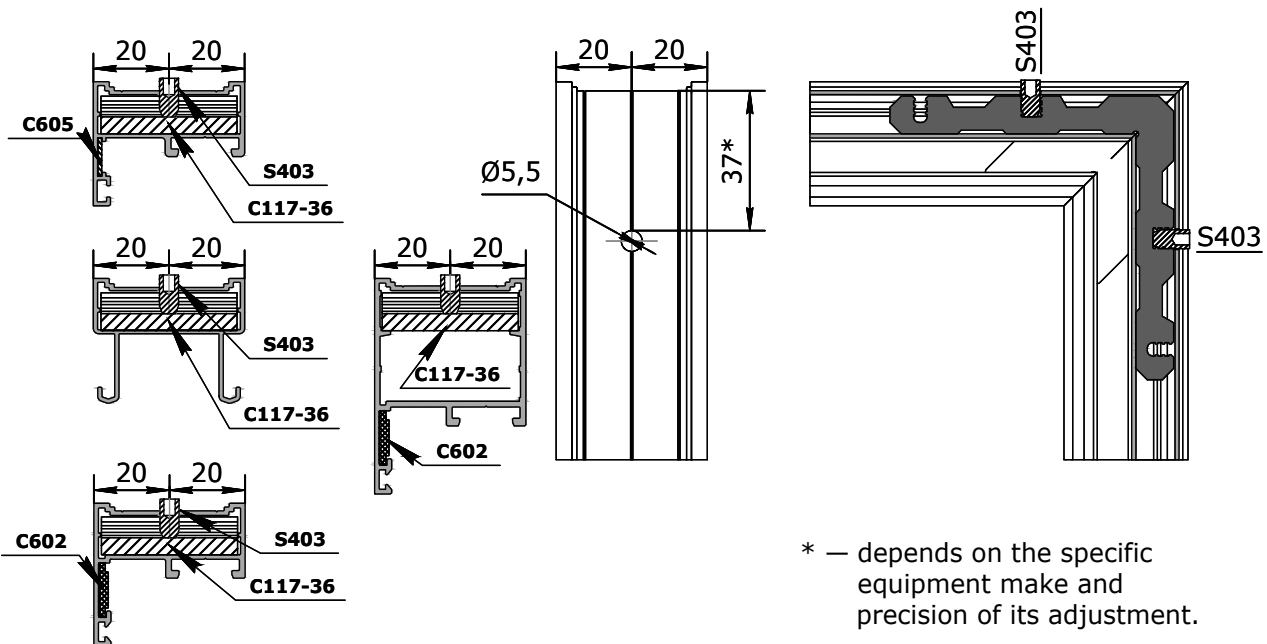


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Assembly by squeezing

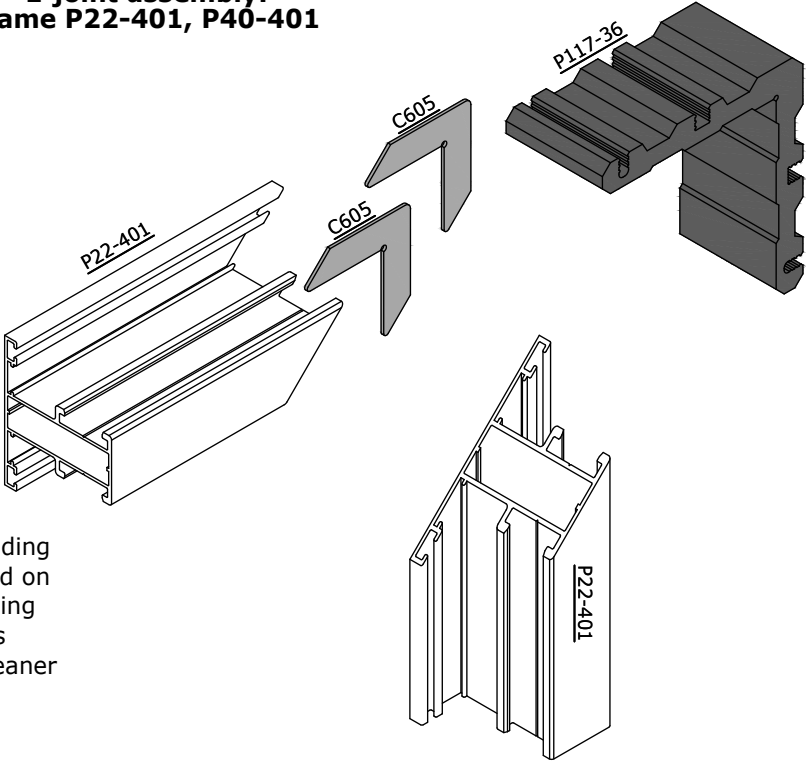
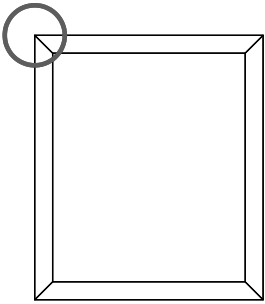


Assembled on pins



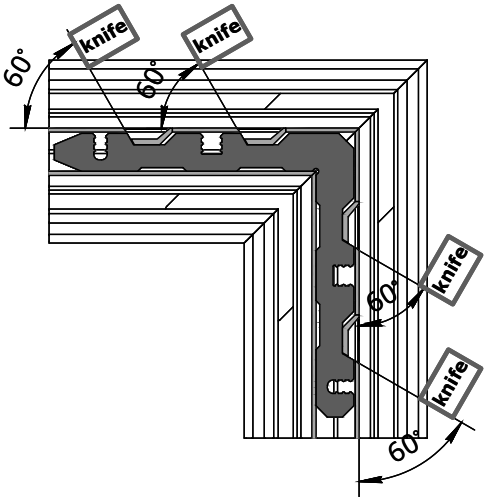
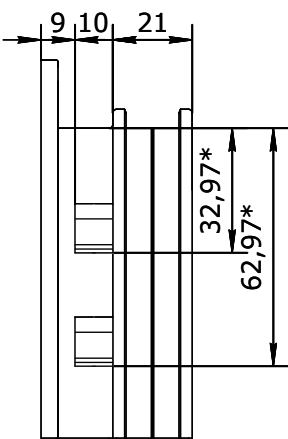
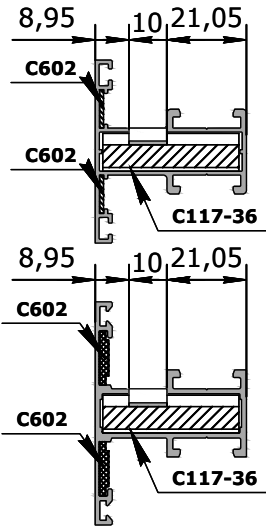
* — depends on the specific equipment make and precision of its adjustment.

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

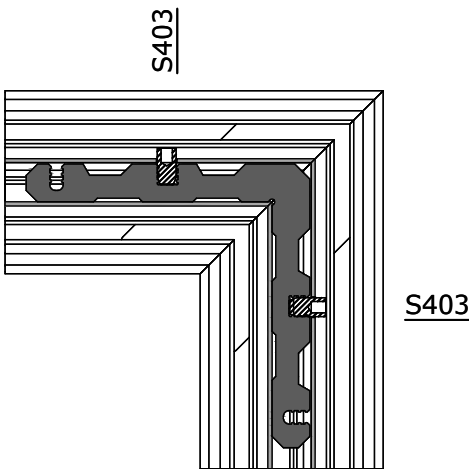
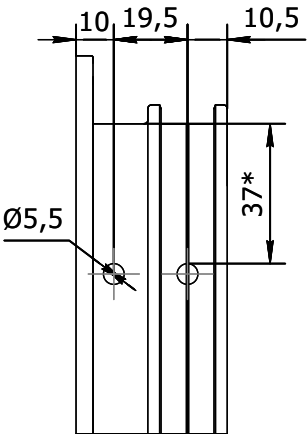
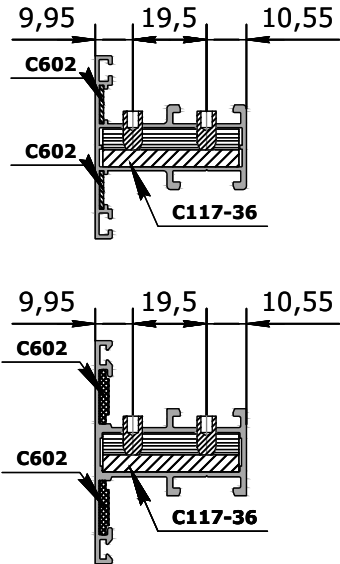


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

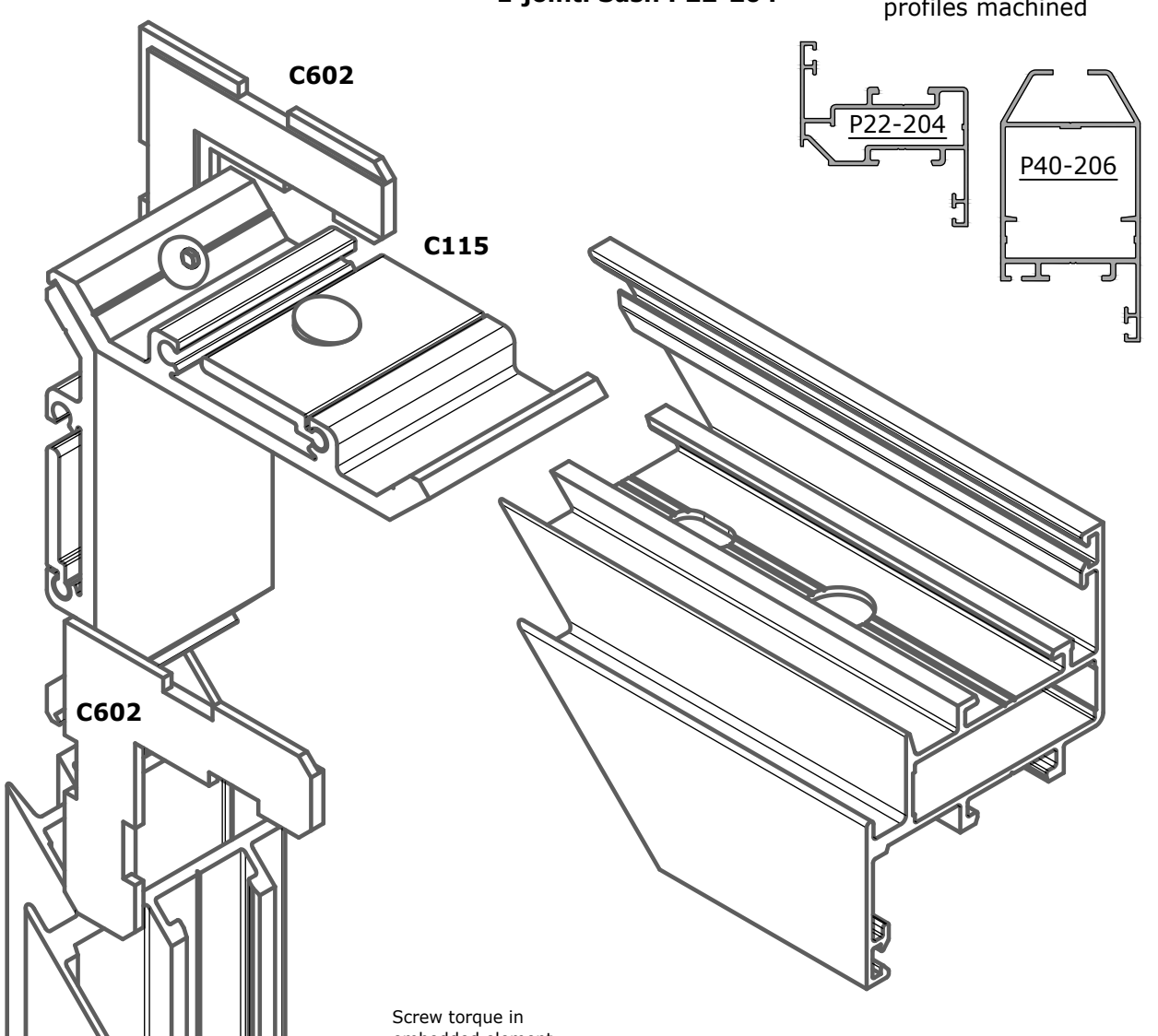
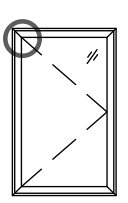
Assembly by squeezing



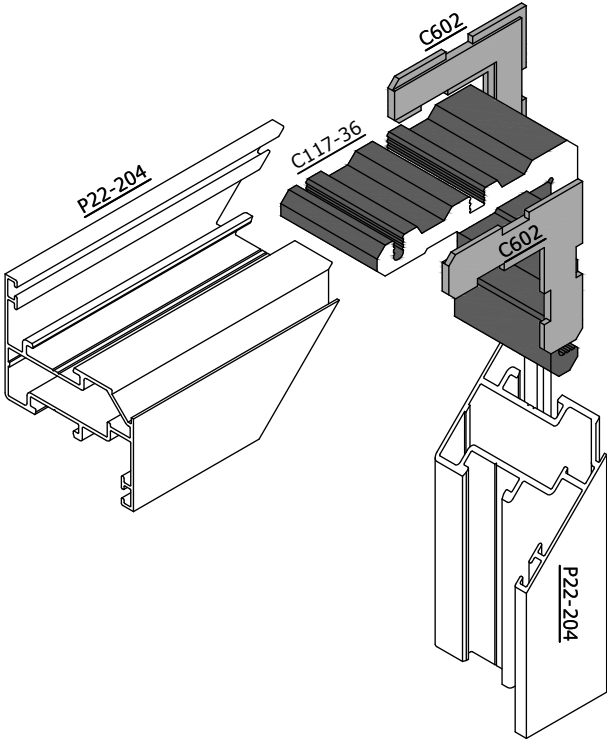
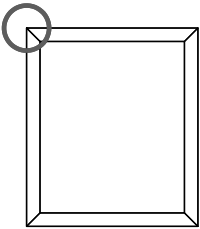
Assembled on pins



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

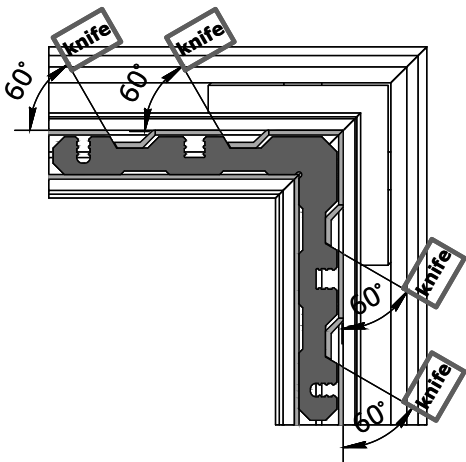
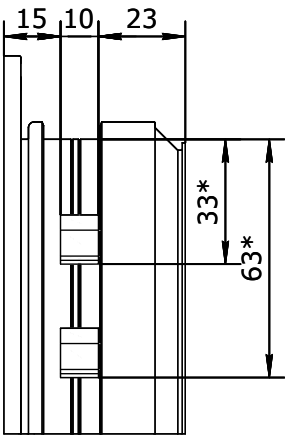
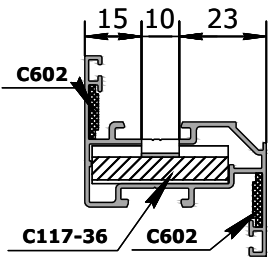
contents	L-joint. Sash P22-204 profiles machined  C602 C115 P22-204 P40-206 C602 Screw torque in embedded element C115: min — 5 N/m max — 6 N/m C105 C115 interchangeable 11 11 37 Ø10,5 6 11 11 37 Ø10,5 14,7 Ø10,5 										contents
profiles											profiles
scope of delivery											scope of delivery
profiles (1:1)											profiles (1:1)
sections											sections
glazing tables											glazing tables
sub-assemblies tables											sub-assemblies tables
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

L-joint assembly: Sash P22-204



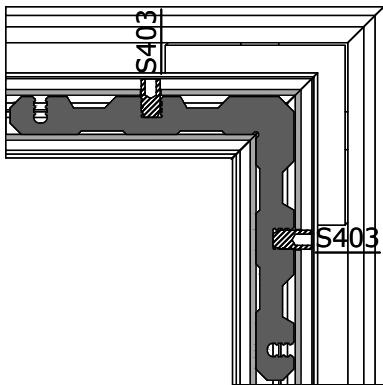
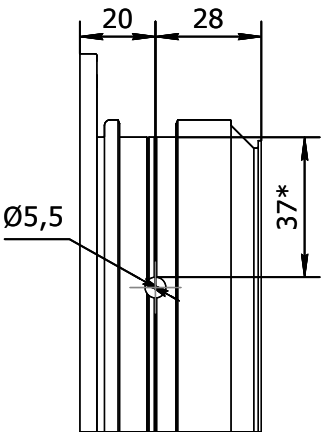
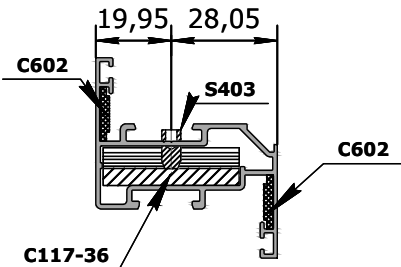
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Assembly by squeezing

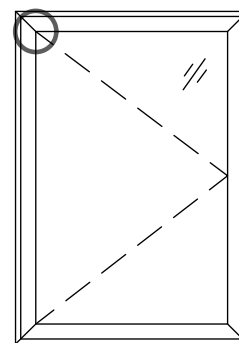
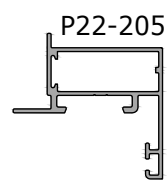
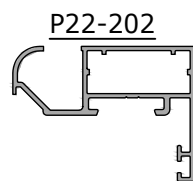


* — depends on the specific equipment make and precision of its adjustment.

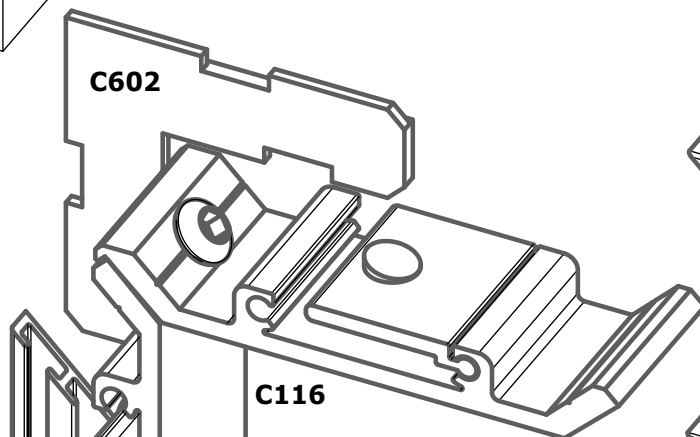
Assembled on pins



profiles machined

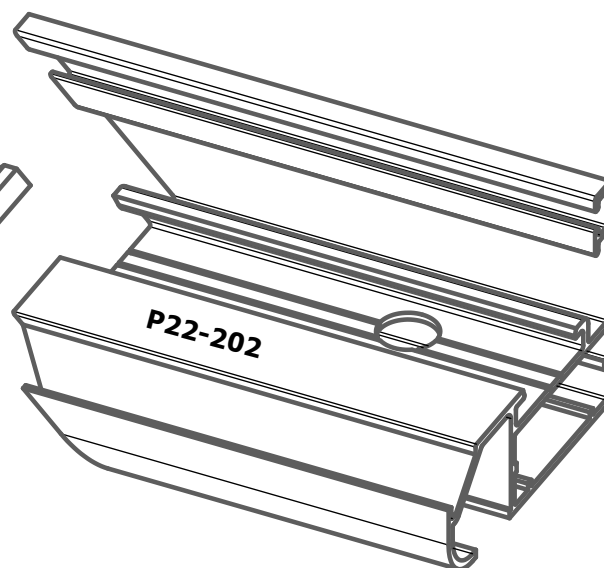


C602



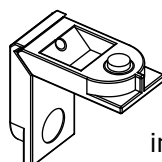
C116

Screw torque in
embedded element
C116: min — 5 N/m
max — 6 N/m

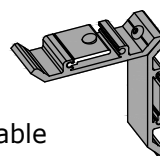


P22-202

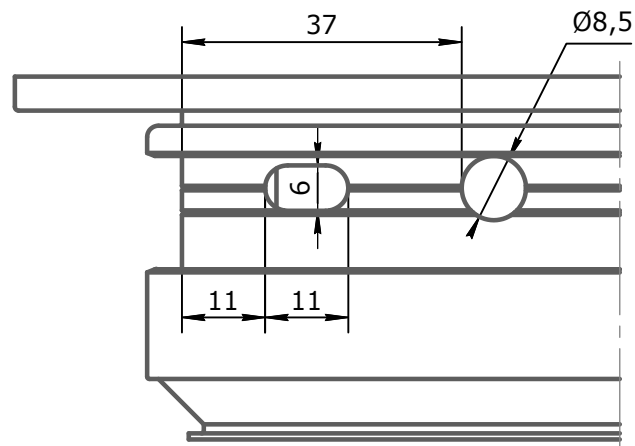
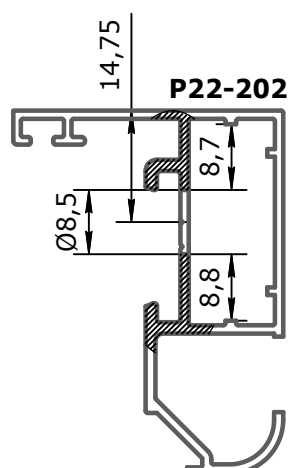
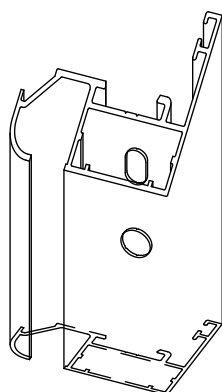
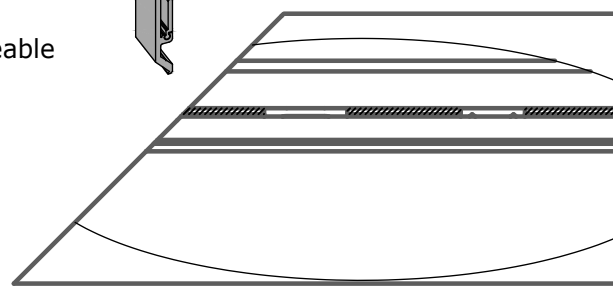
C110



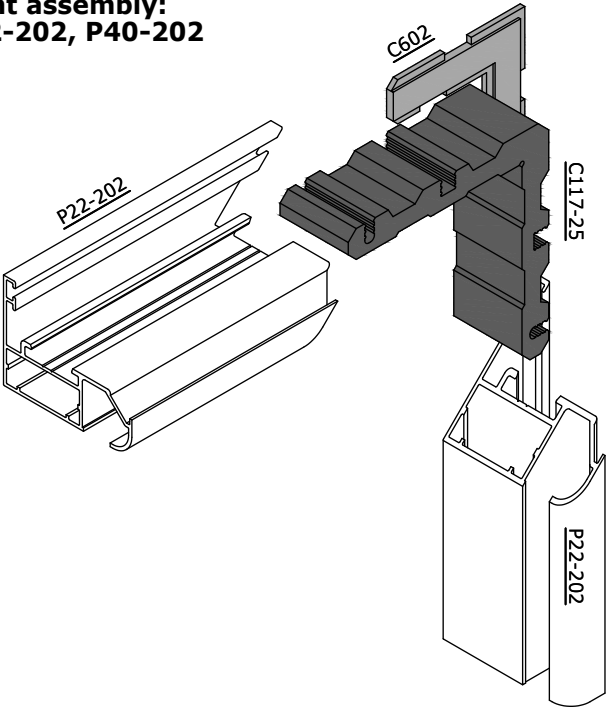
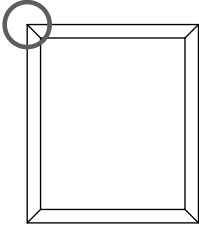
C116



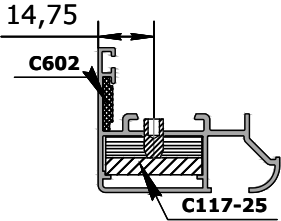
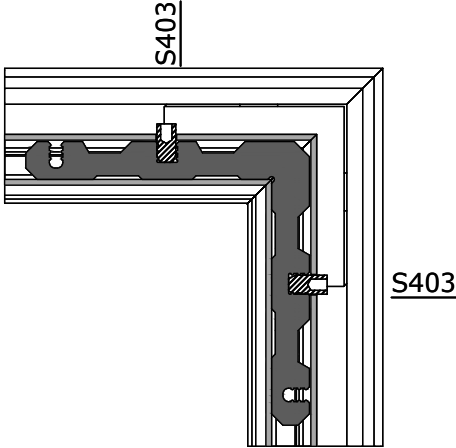
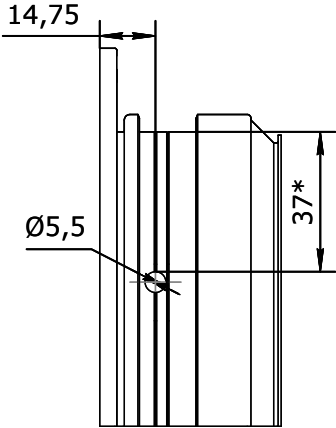
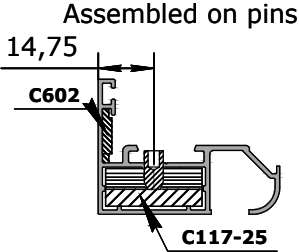
interchangeable



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

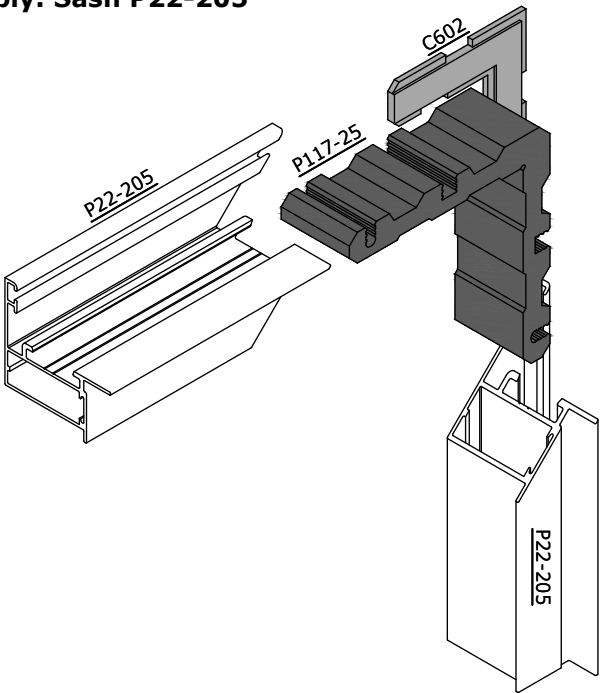
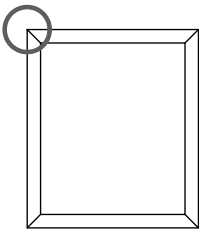


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



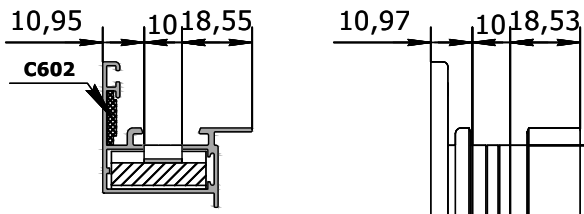
* — depends on the specific equipment make and precision of its adjustment.

L-joint assembly: Sash P22-205

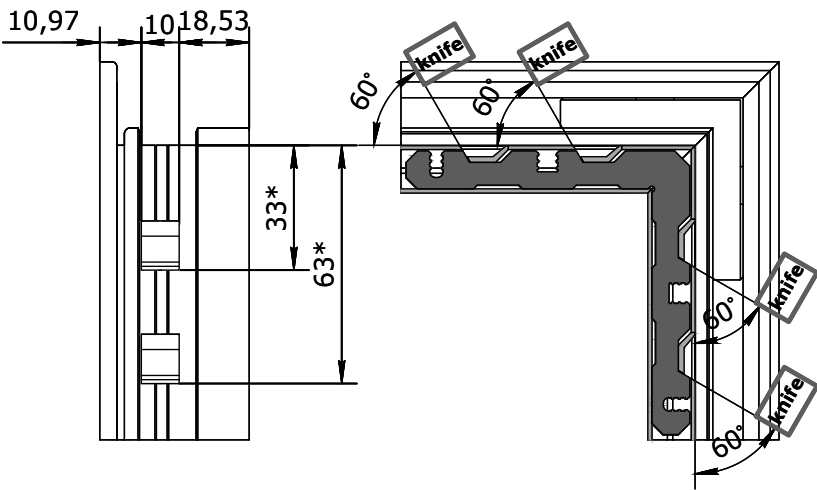


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

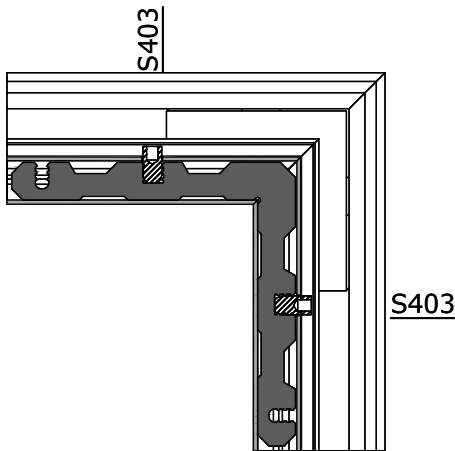
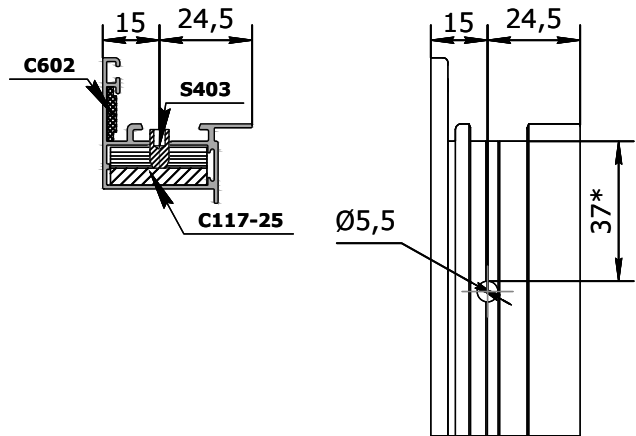
Assembly by squeezing



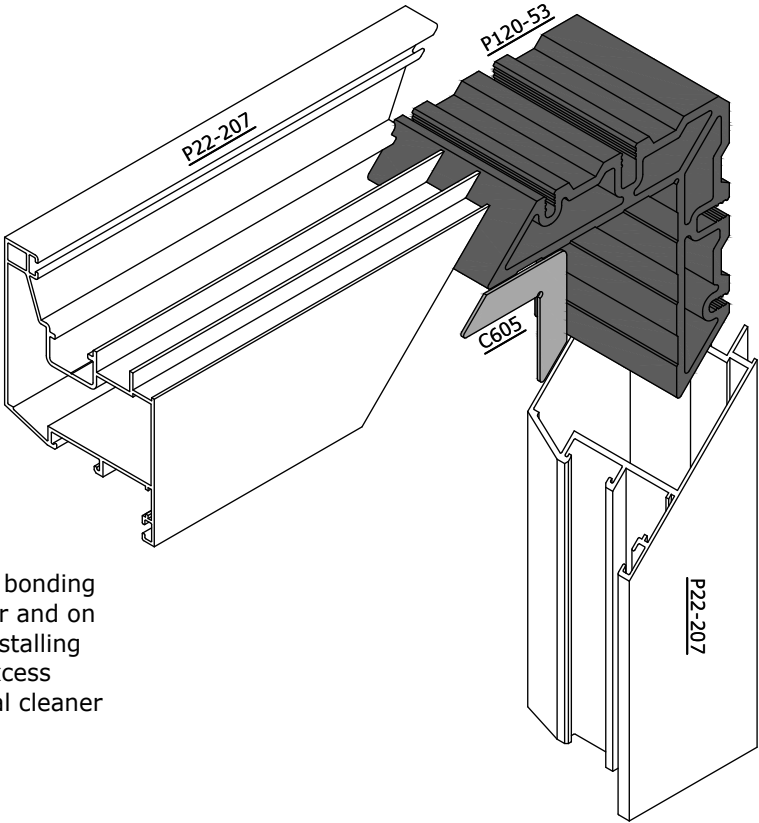
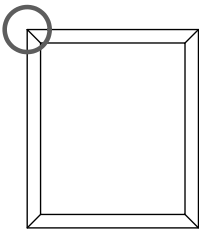
* — depends on the specific equipment make and precision of its adjustment.



Assembled on pins

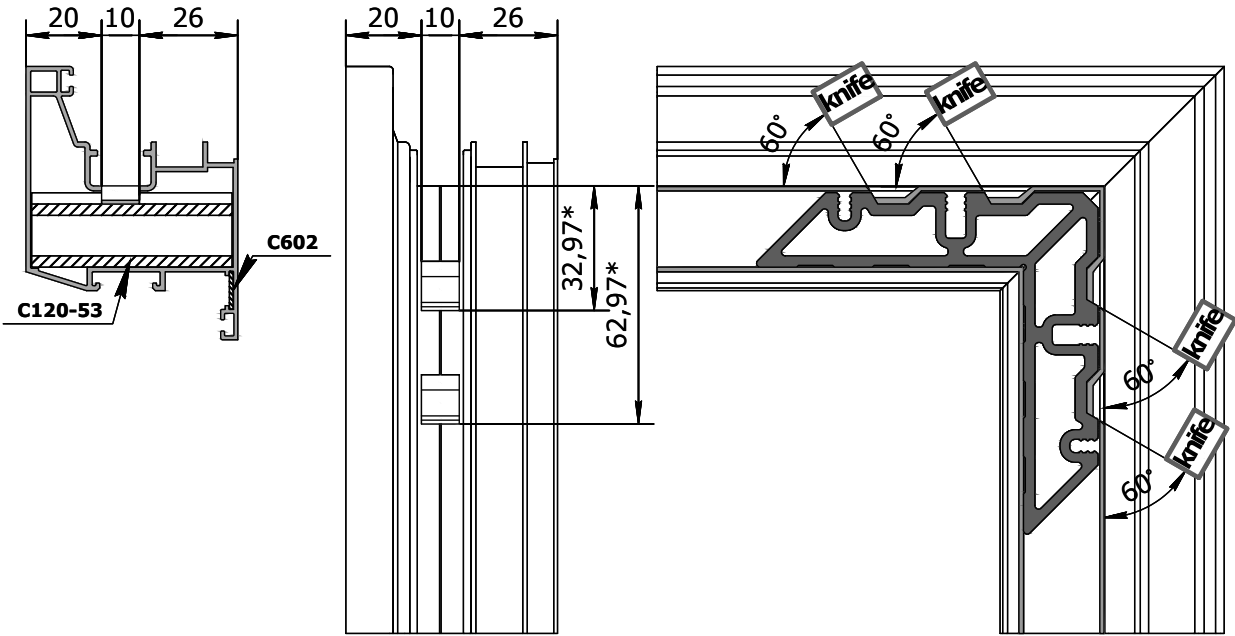


L-joint assembly: Sash P22-207

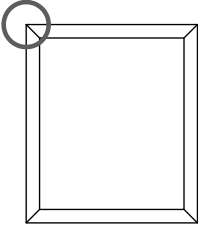
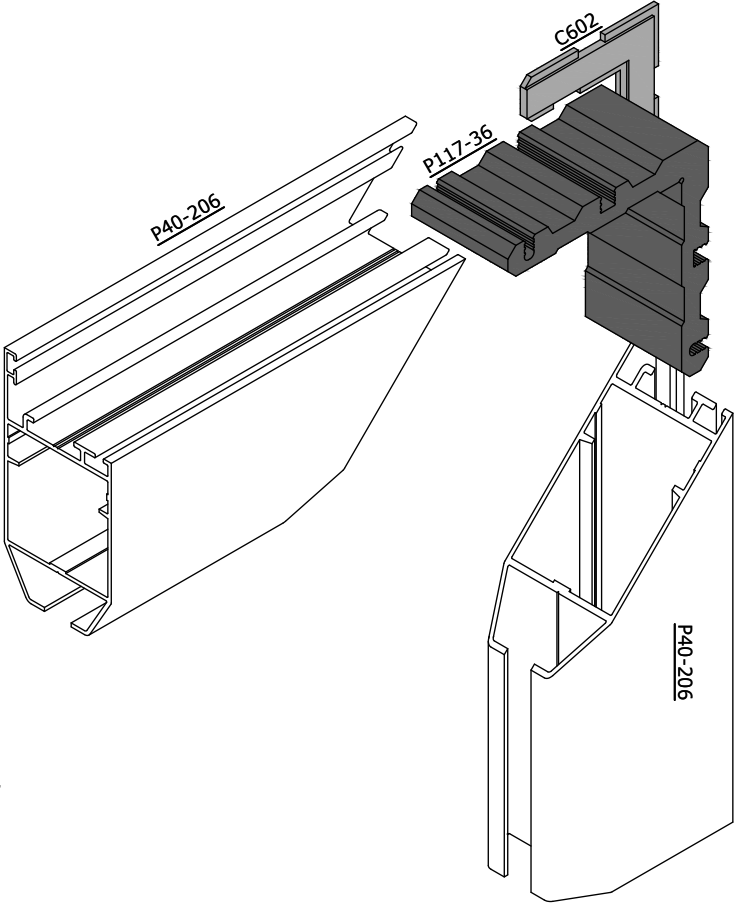
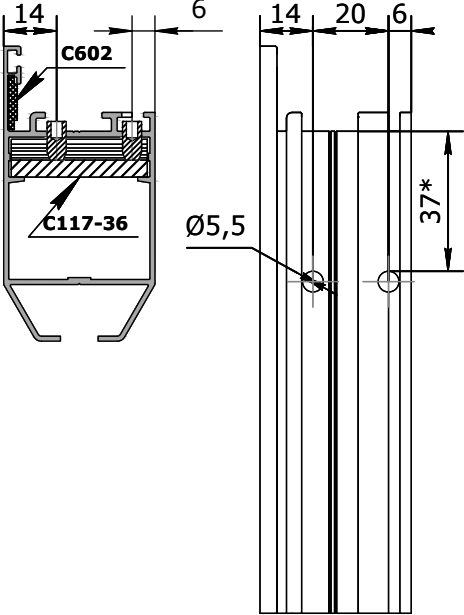
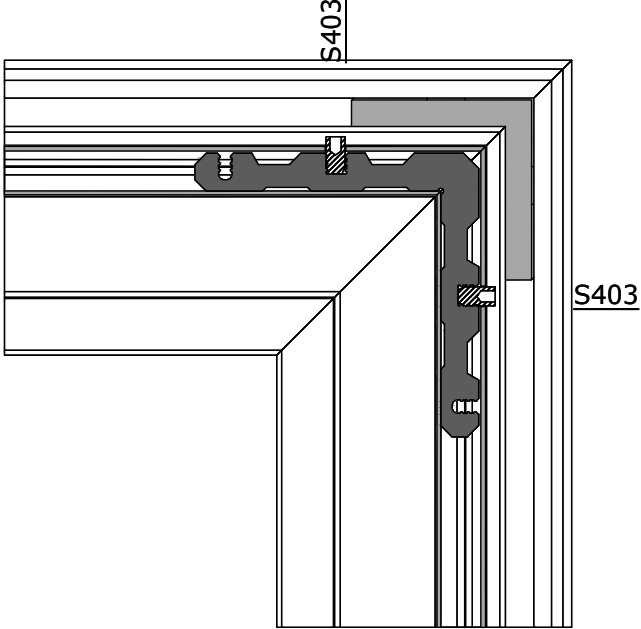


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

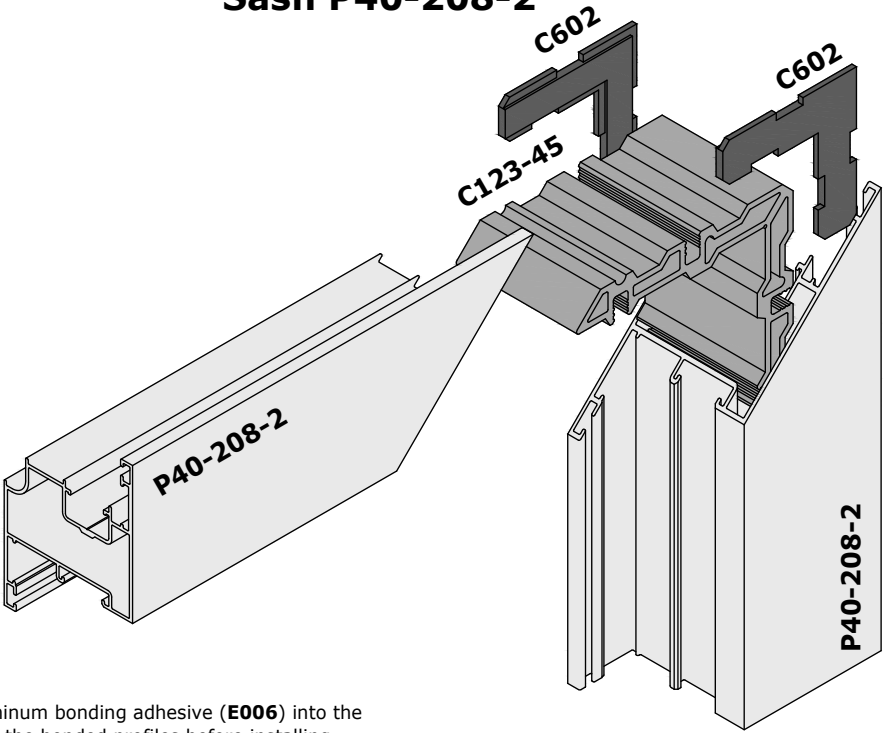
Assembly by squeezing



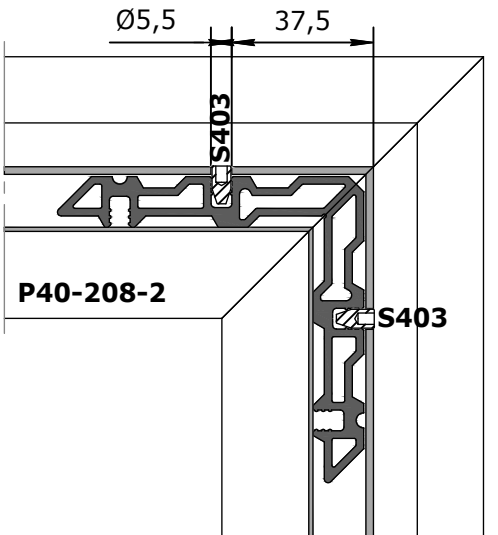
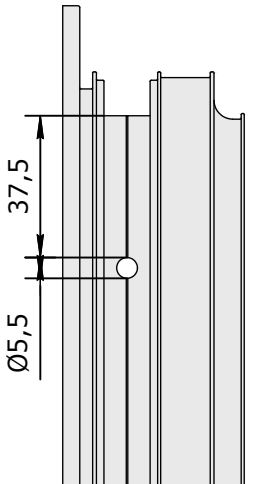
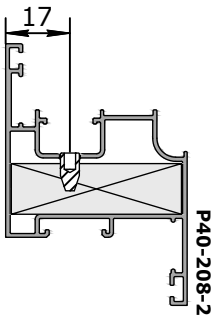
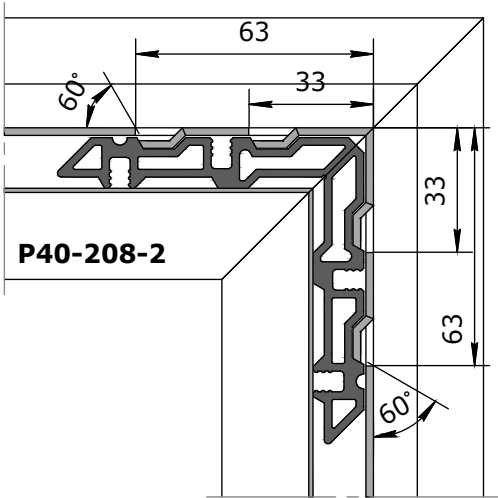
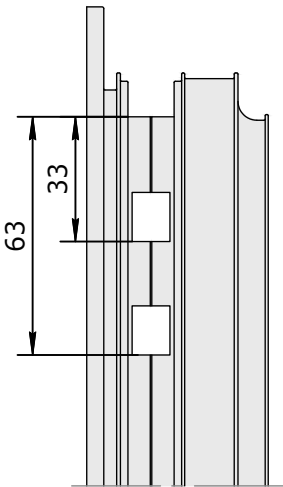
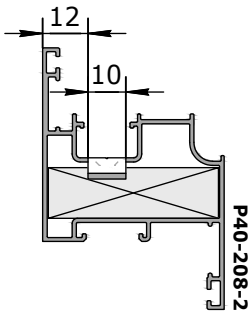
* — depends on the specific equipment make and precision of its adjustment.

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
												
L-joint assembly: Sash P40-206 												
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.												

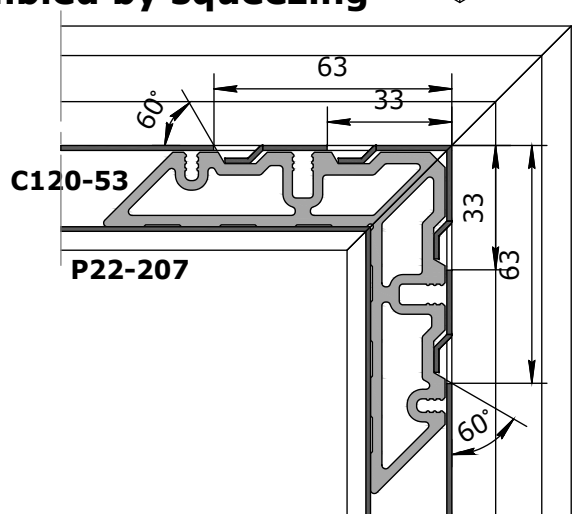
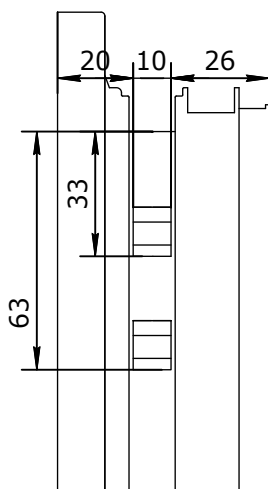
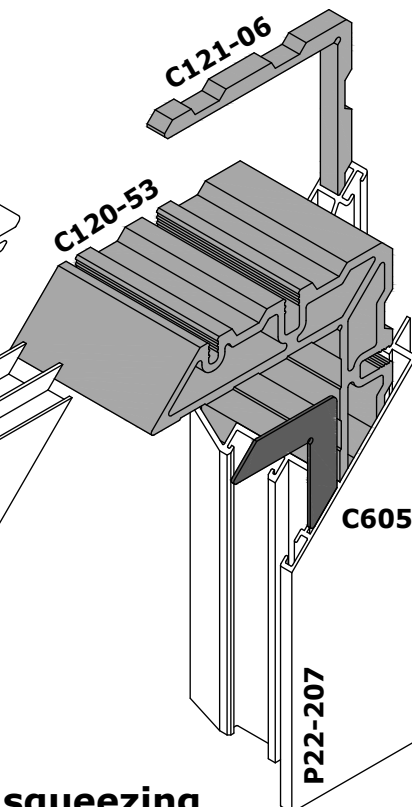
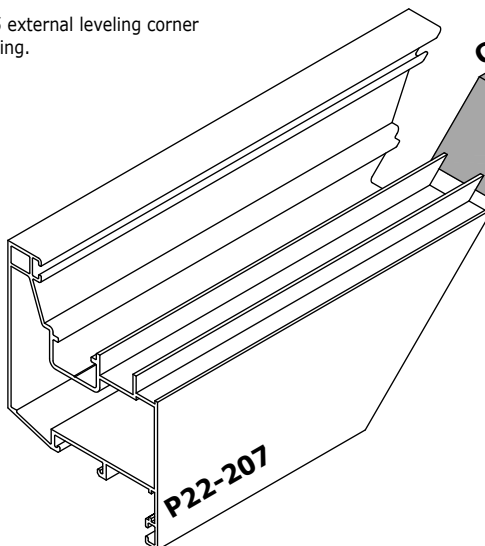
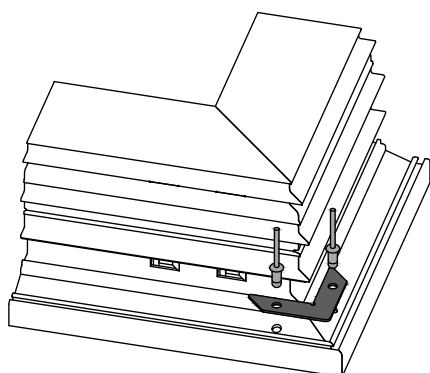
L-joint assembly
Sash P40-208-2



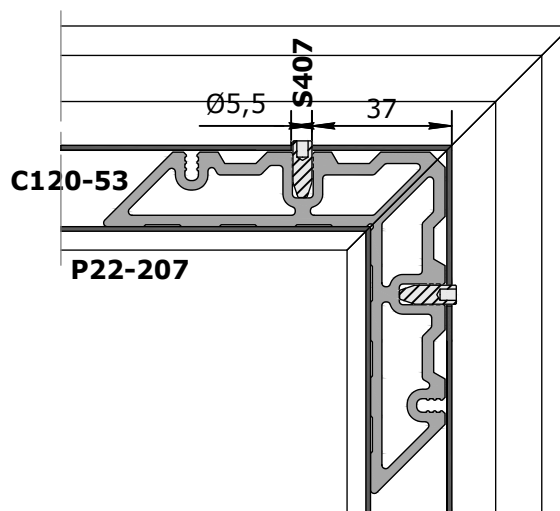
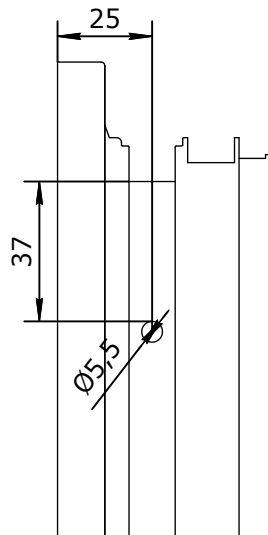
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



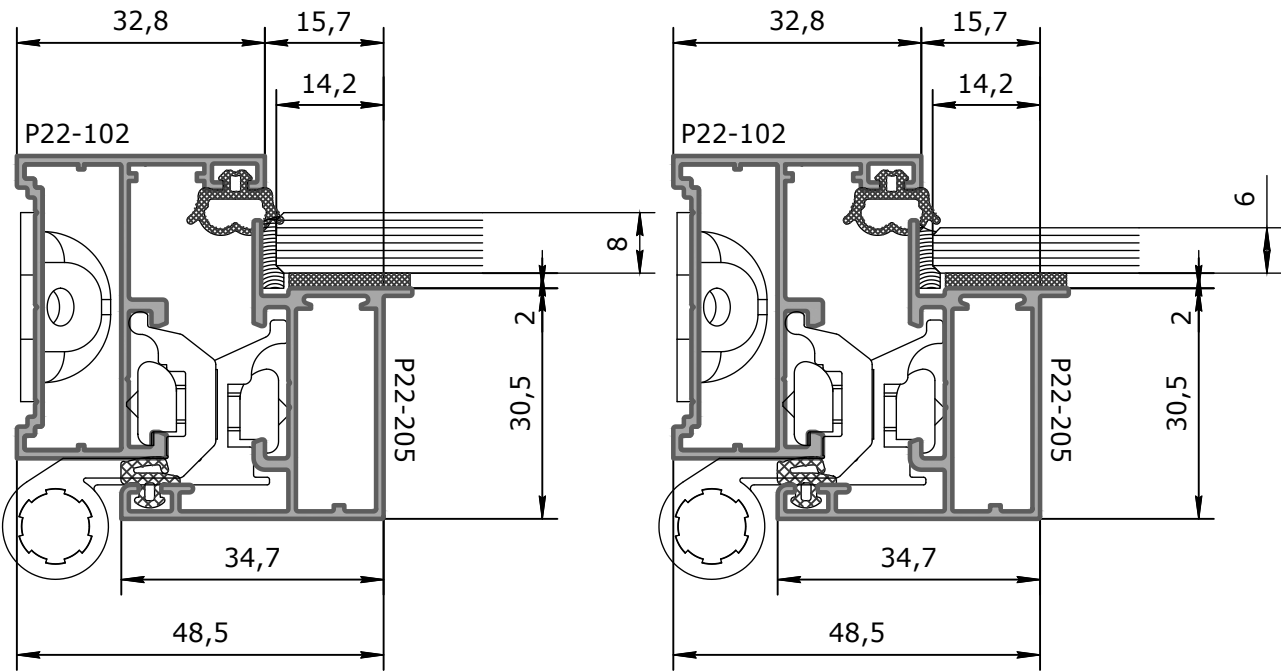
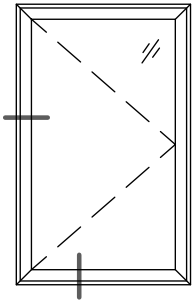
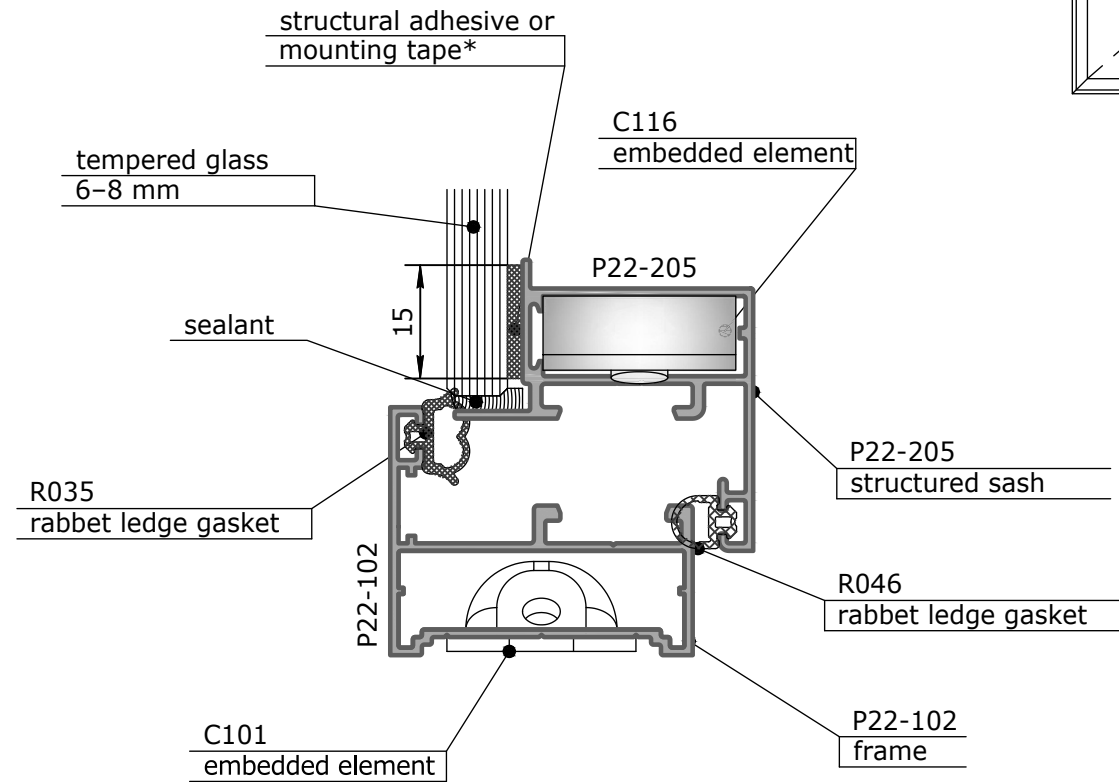
As an alternative to internal leveling corner piece, C605 external leveling corner piece can be installed, if provided with additional fastening.
by means of 4x10 rivets and adhesive.



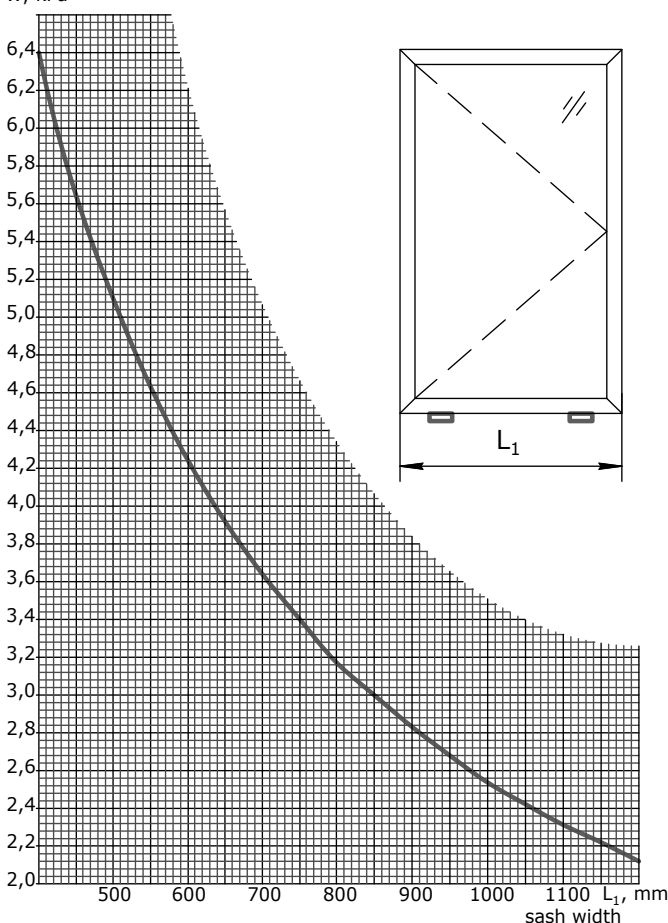
Technical drawing of a cross-section of a door or window frame assembly. The drawing shows a frame with a central opening. Dimensions are indicated: 25 units for the left side and 31 units for the right side. A hatched area is labeled 'C120-53'.



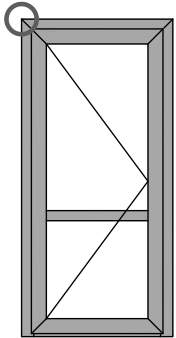
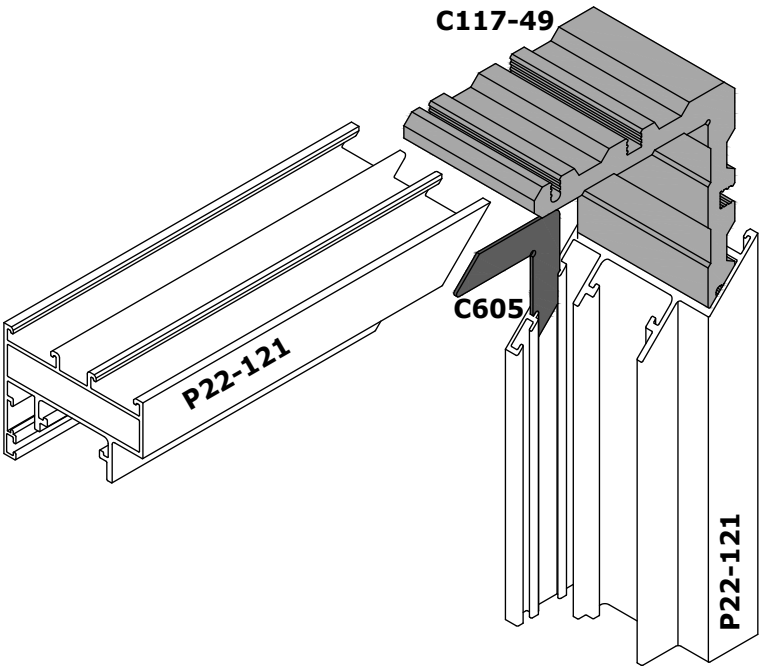
P22-205 — structured swing sash



* - 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.

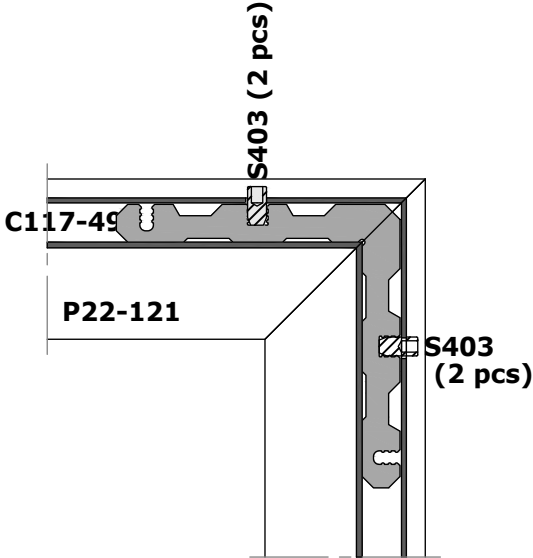
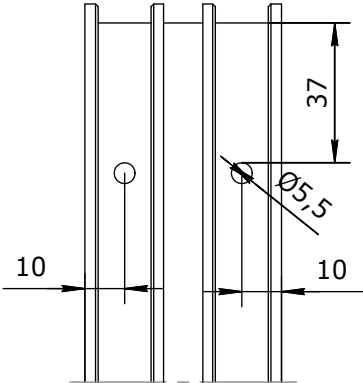
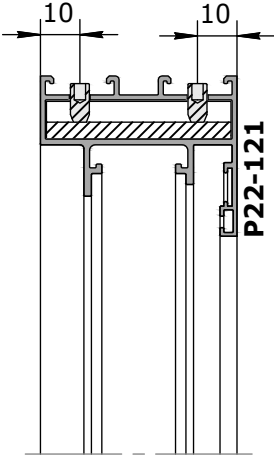
contents	Calculation of wind load rating for application of mounting tape				contents																				
profiles	Wind load W, kPa  $W^{\text{additional}} = \frac{85 * a}{0.5 * L_1}$ a — width of mounting tape used to glue in the glass, mm a = 15 mm (for sash P22-205) L₁— sash width, mm wind load measurement units: W: 1 kPa = 1000 N/m² = 101.97 kg/m² <table><tr><th colspan="4">W values for wind regions</th></tr><tr><th></th><th>I wind region</th><th>II wind region</th><th>III wind region</th></tr><tr><td>50 m from ground</td><td>0.47 kPa</td><td>0.62 kPa</td><td>0.79 kPa</td></tr><tr><td>100 m from ground</td><td>0.59 kPa</td><td>0.77 kPa</td><td>0.98 kPa</td></tr><tr><td>150 m from ground</td><td>0.67 kPa</td><td>0.88 kPa</td><td>1.11 kPa</td></tr></table> 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.				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	profiles
W values for wind regions																									
	I wind region	II wind region	III wind region																						
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scope of delivery					scope of delivery																				
profiles (1:1)					profiles (1:1)																				
sections					sections																				
glazing tables					glazing tables																				
sub-assemblies tables					sub-assemblies tables																				
fittings layout	Glass gluing-in instructions Materials and tools used. - 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. - Primer: Primer 94EF — It is necessary to use Primer 94EF on powder coating, applying it in a thin layer after abrasive processing. - 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. - 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. - Lint-free wipes - Plastic tape applicator. Ensures application of tape to the glass with minimum quantity of bubbles. - 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. - 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. - 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 - Check availability of all required tools and materials. - Make sure that the temperature on the premises is minimum +15 °C. - 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. - Clean the processed surface with isopropyl alcohol/water mixture (1:1 by volume). - Apply 94EF primer with a slightly soaked wipe. The primer should be applied only in one layer, in minimum quantity. - The tape must be attached within 5 minutes after treatment of surface with adhesion enhancer. Glass surface preparation - 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. - 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). - 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 - 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. - 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. - On glass corners apply tape with an overlap in such a way that the second layer is placed on top of the first. - 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. - Flatten the tape to the very end of the frame and desirably 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 re-performed. Corner part of the frame — bevel at 90 degrees angle - Fasten the tape to the frame so that in each corner the second layer of tape would overlap the first layer. - 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. - 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. - 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. - 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. - Only after that protective film can be removed from the tape. Joining - 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. - The glass should be moved by means of special devices (suction cups). - For connection, raise the glass, remove protective layer and lower the glass on the frame. - After connection, apply extra pressure to the tape by means of VULKAN manual pressing device or other similar equipment. - 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.				fittings layout																				
additional solutions					additional solutions																				
sub-assemblies					sub-assemblies																				
stained glass insulation					stained glass insulation																				
connections					connections																				
equipment and tools					equipment and tools																				

L-joint. Frame P22-121

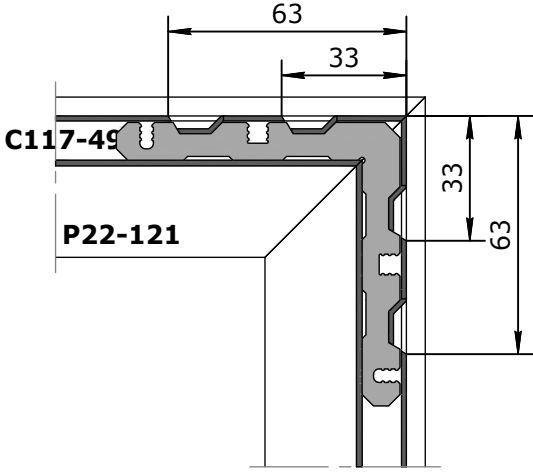
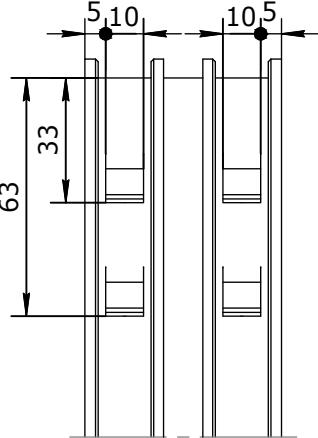
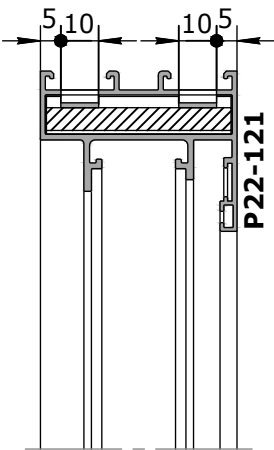


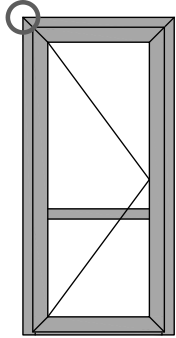
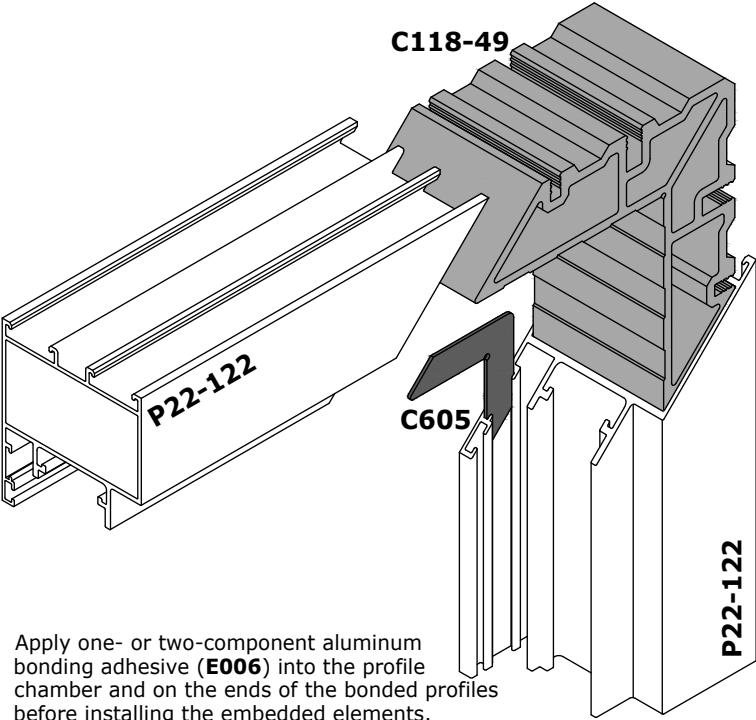
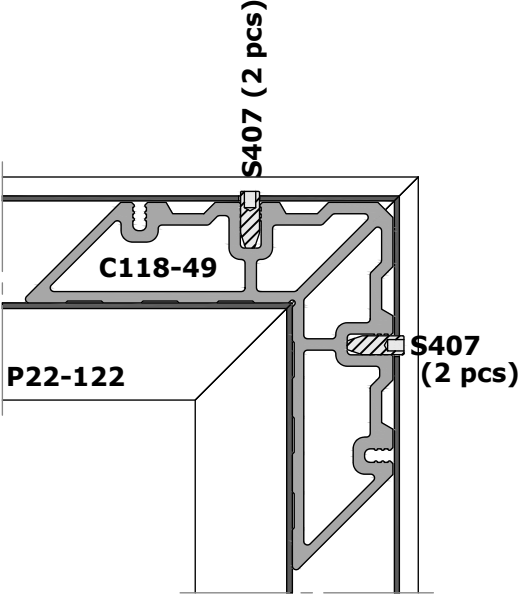
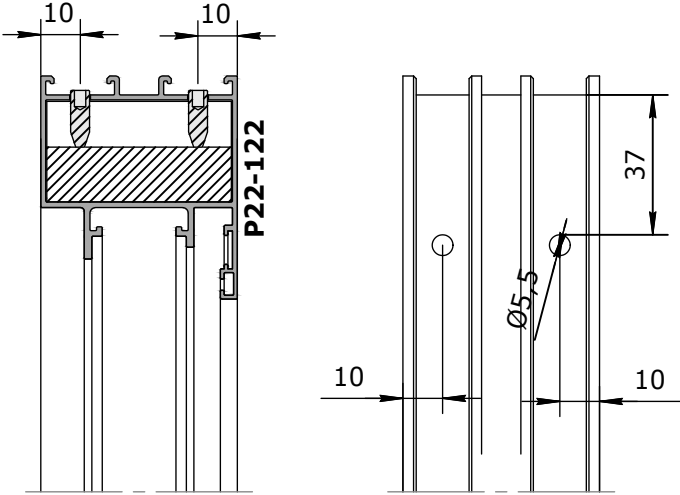
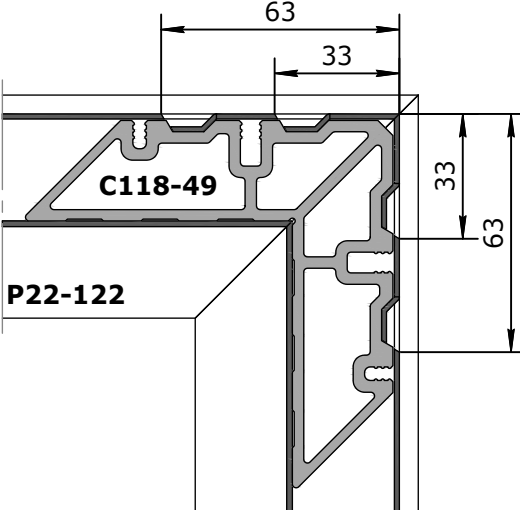
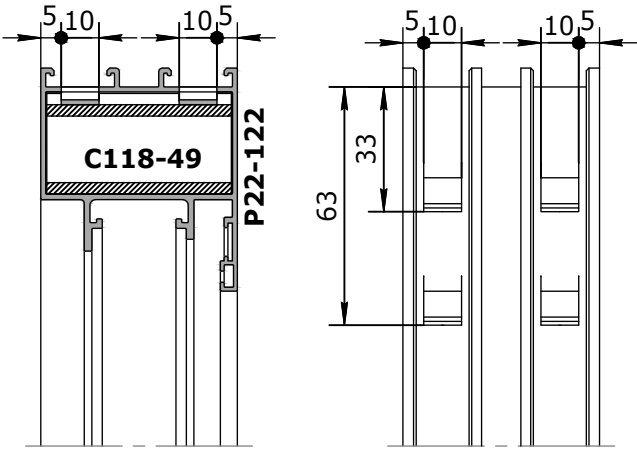
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

Corner joints are assembled on pins

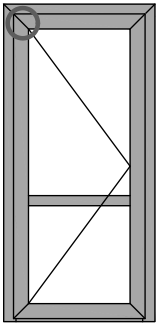
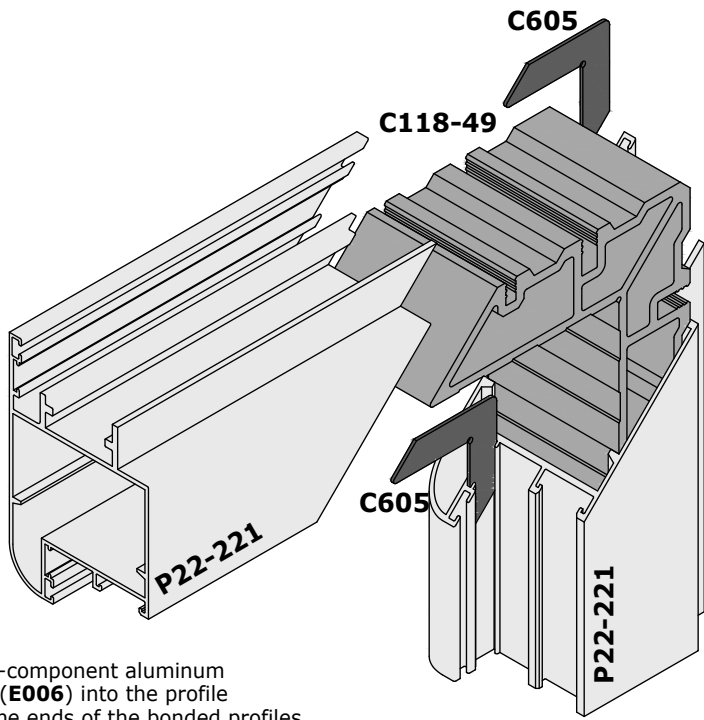


Corner joints are assembled by squeezing



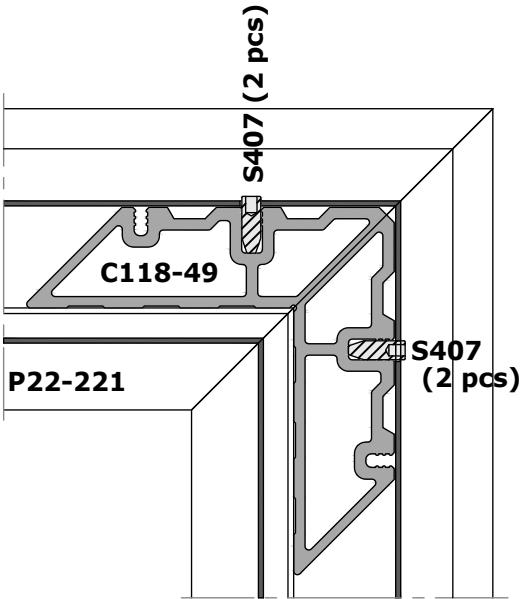
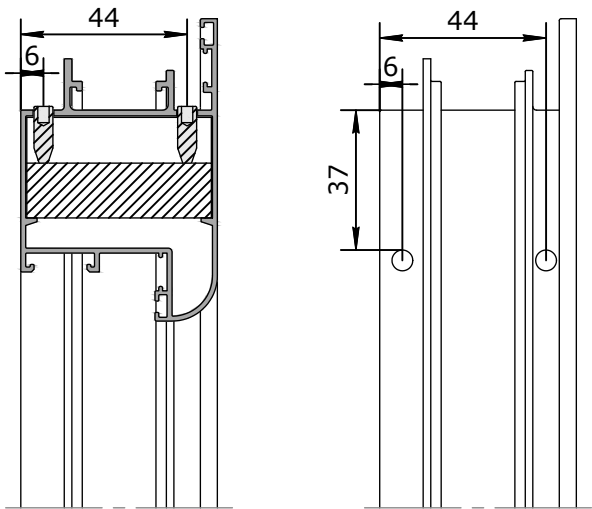
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
L-joint. Frame P22-122  Apply one- or two-component aluminum bonding adhesive (E006) into the profile 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. Sash P22-221

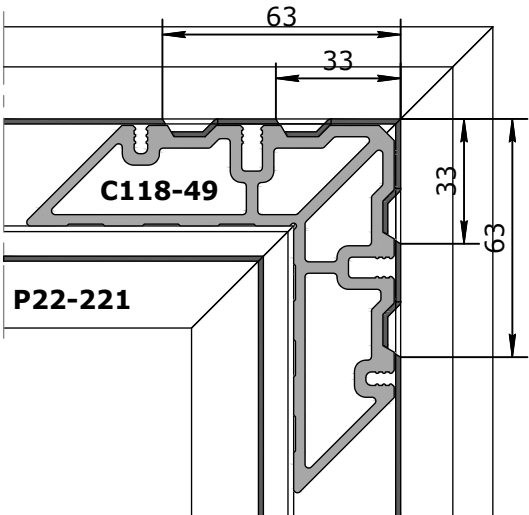
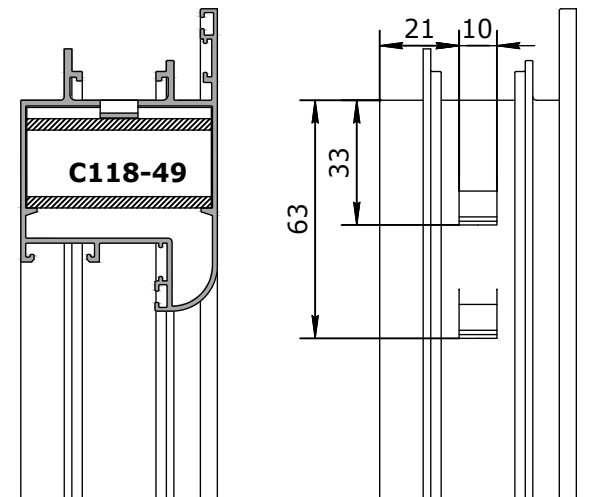


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

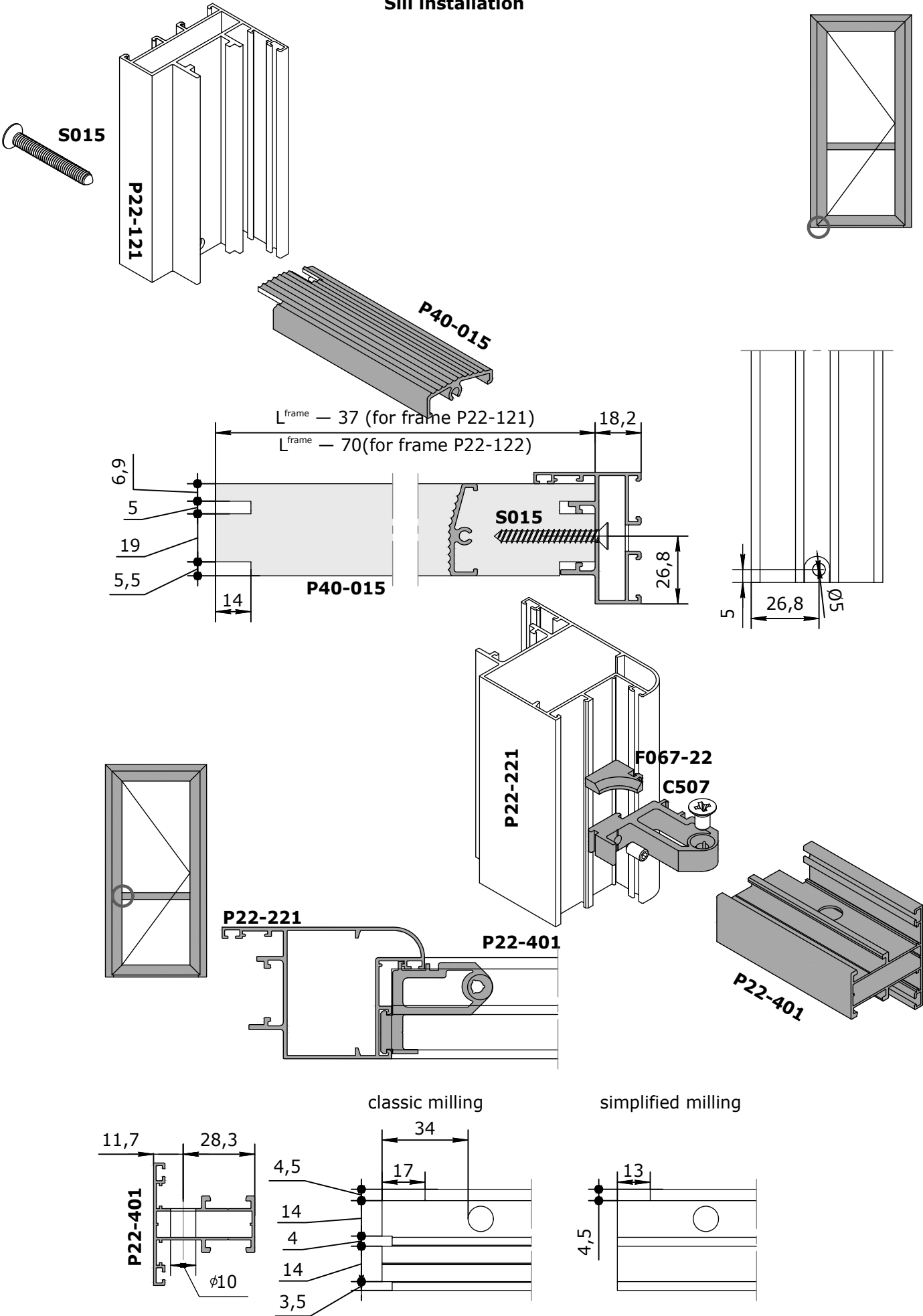
Corner joints are assembled on pins



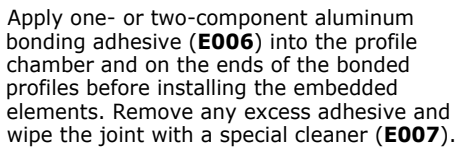
Corner joints are assembled by squeezing



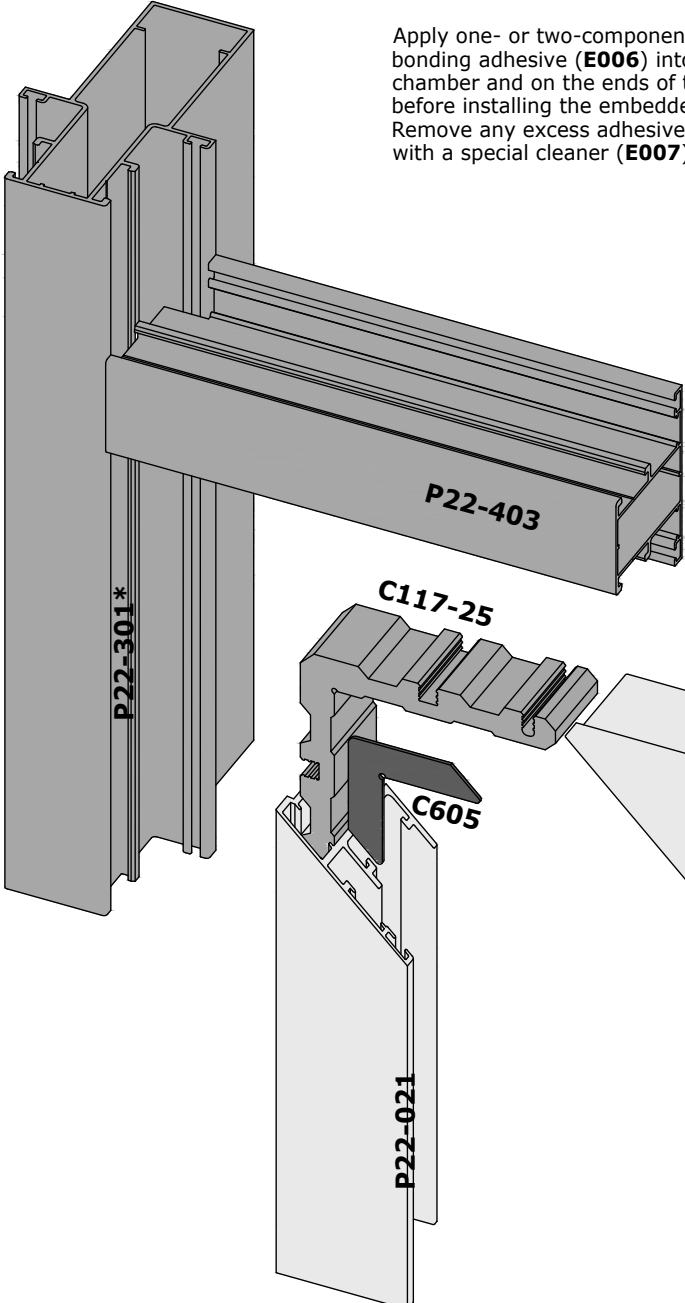
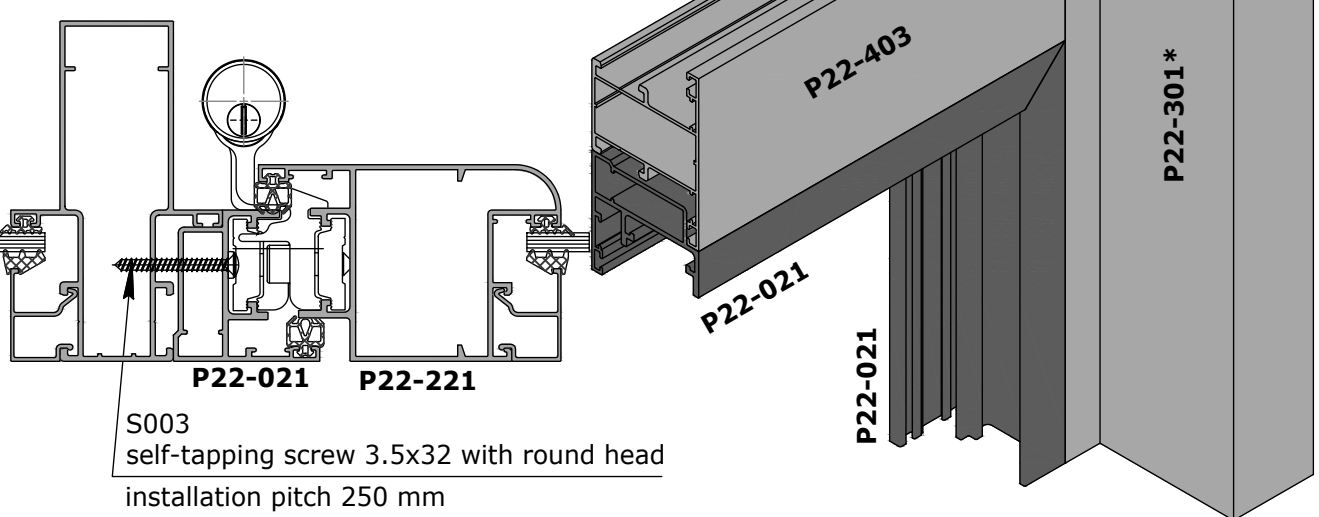
Sill installation



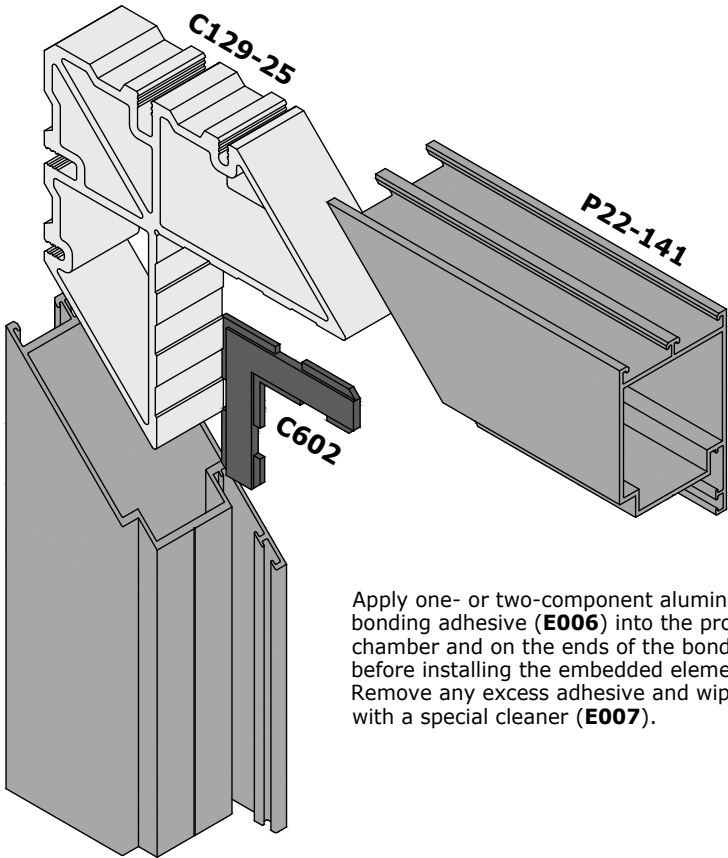
To prevent moisture leakage, seal the joints between the imposts and the vertical profile with a neutral sealant. Classic (complex) milling is preferred when machining the imposts.



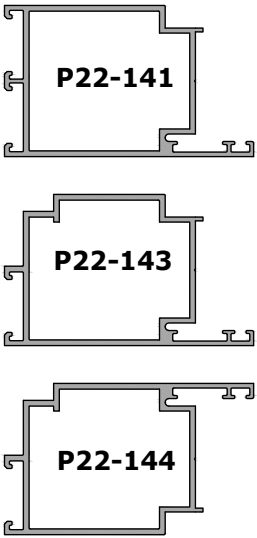
page 08-29

contents											contents
profiles											profiles
scope of delivery											scope of delivery
profiles (1:1)											profiles (1:1)
sections											sections
glazing tables											glazing tables
sub-assemblies tables											sub-assemblies tables
fittings layout											fittings layout
additional solutions											additional solutions
sub-assemblies	 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). 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.										sub-assemblies
stained glass insulation											stained glass insulation
connections	 S003 self-tapping screw 3.5x32 with round head installation pitch 250 mm										connections
equipment and tools											equipment and tools

L-joint assembly: Frame P22-141

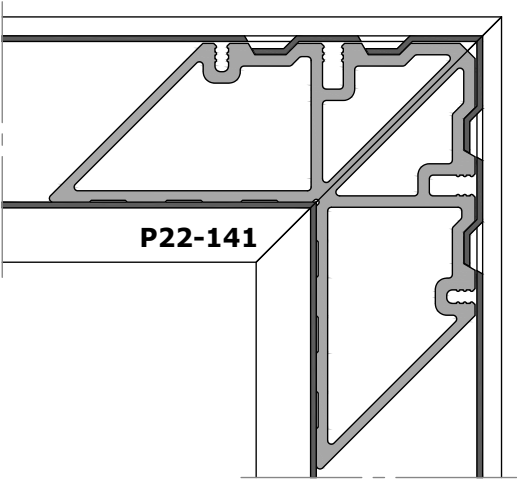


This assembly is valid for corner joints of the following profiles:

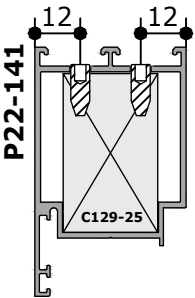
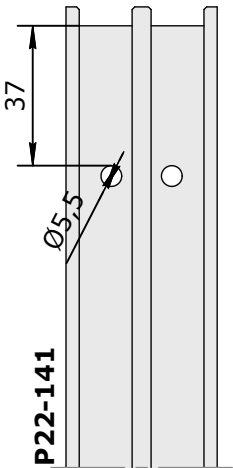
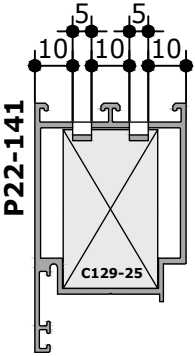
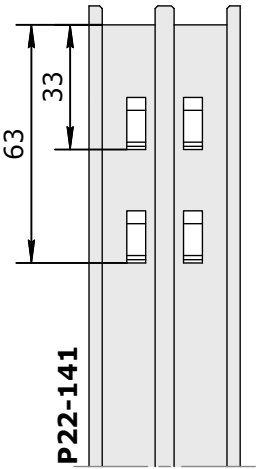
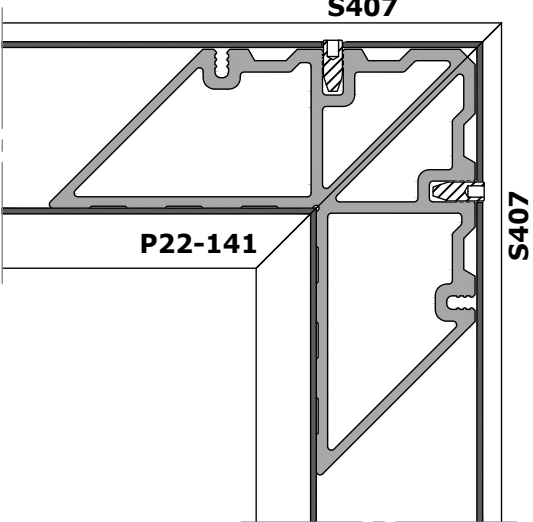


Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).

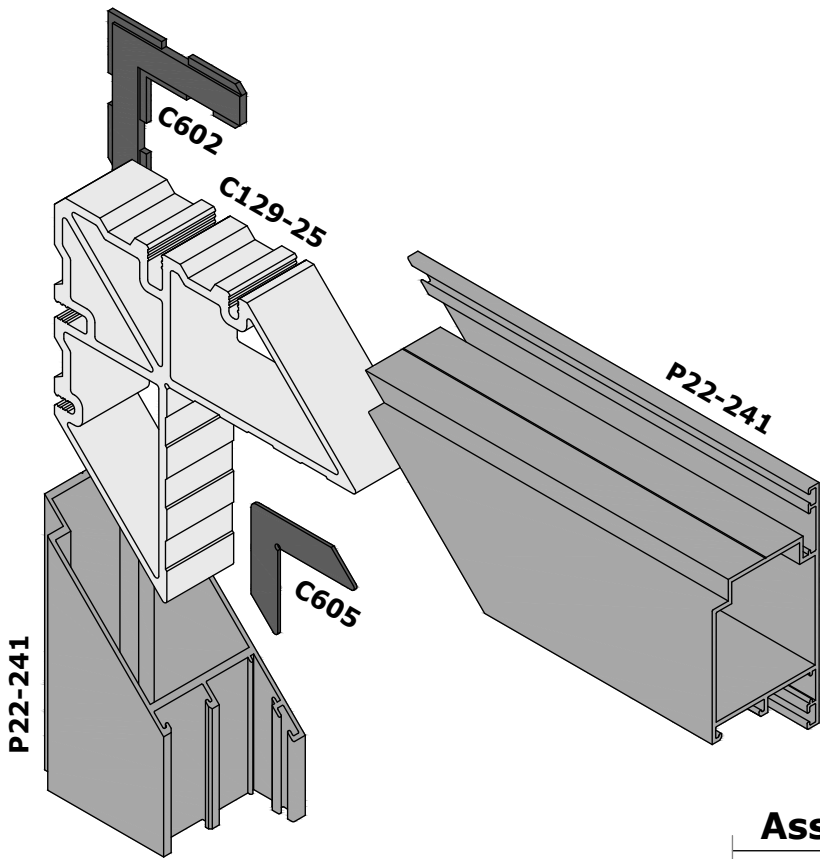
Assembly by squeezing



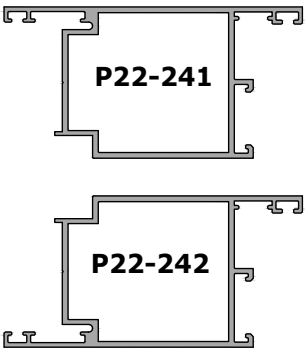
Assembled on pins



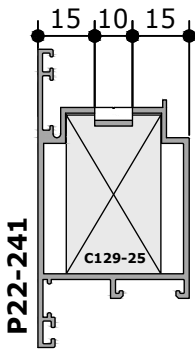
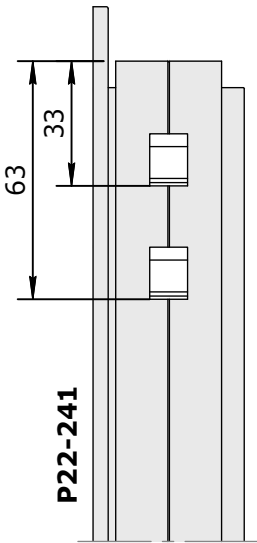
L-joint assembly: Sash P22-241



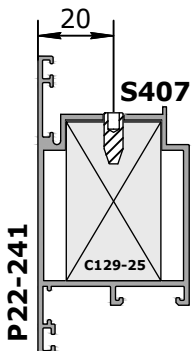
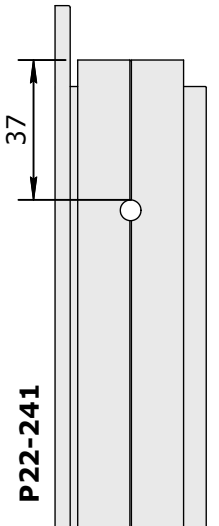
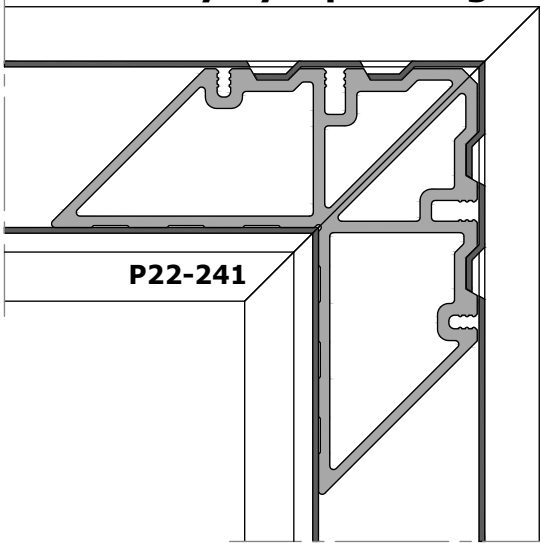
This assembly is valid for corner joints of the following profiles:



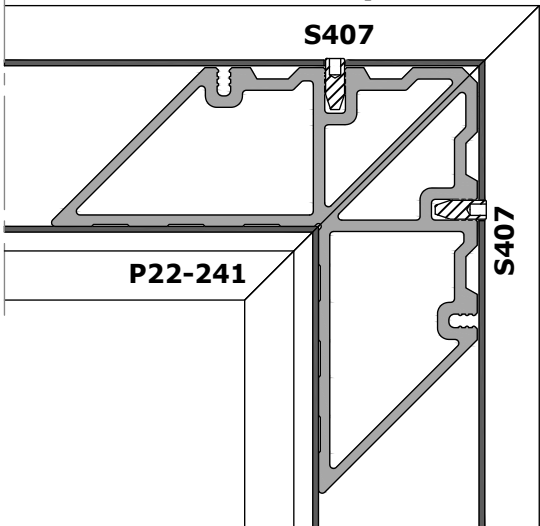
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



Assembly by squeezing

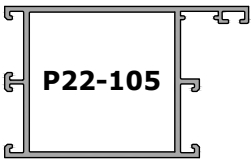


Assembled on pins

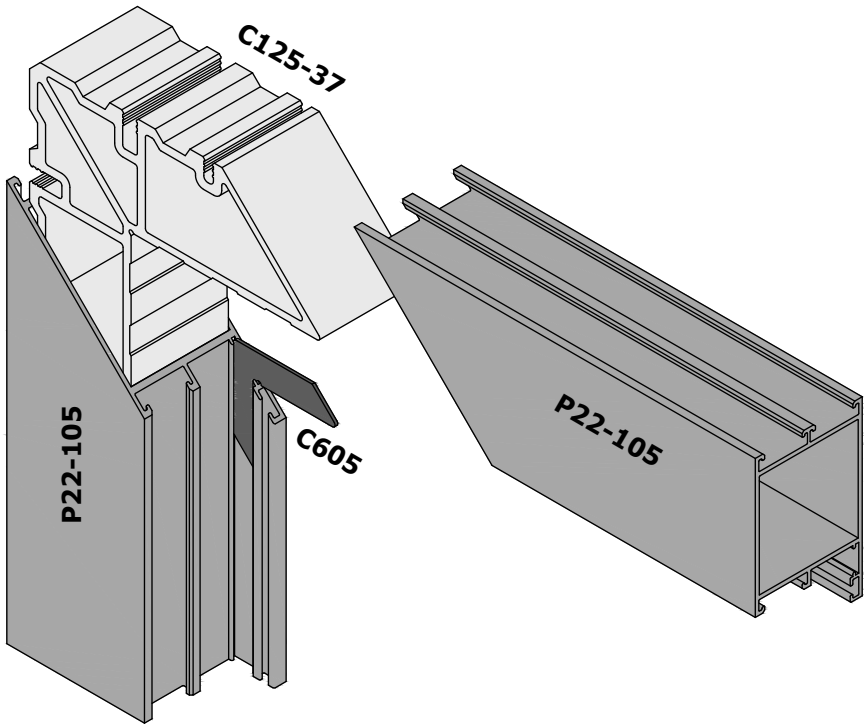


L-joint assembly: Frame P22-105

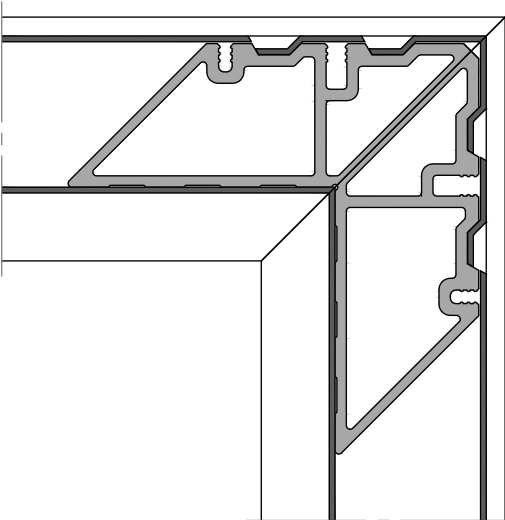
This assembly is valid for corner joints of the following profiles:



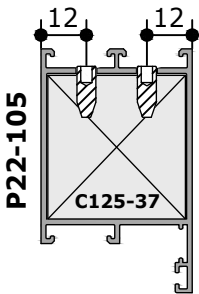
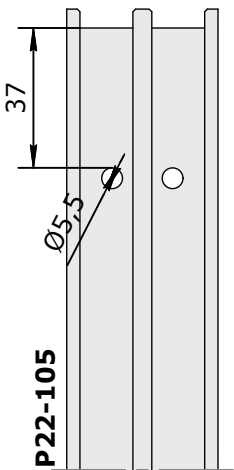
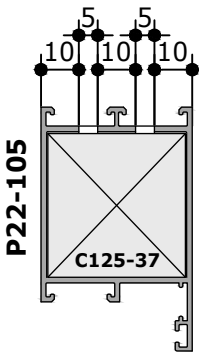
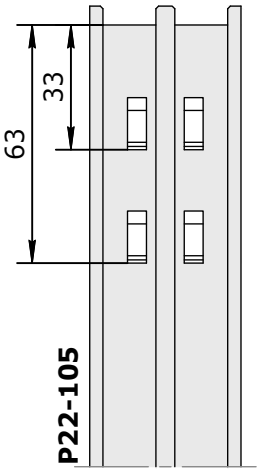
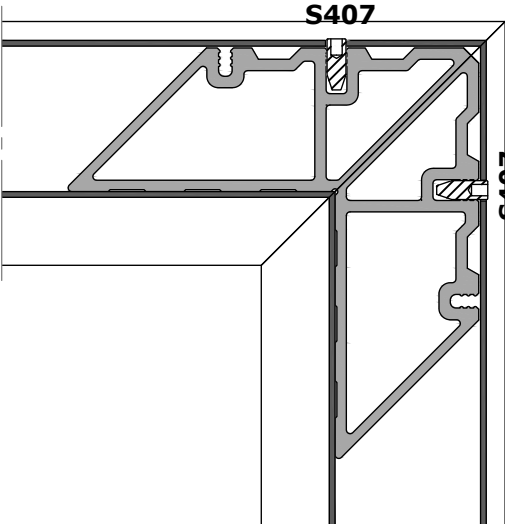
Apply one- or two-component aluminum bonding adhesive (**E006**) into the profile chamber and on the ends of the bonded profiles before installing the embedded elements. Remove any excess adhesive and wipe the joint with a special cleaner (**E007**).



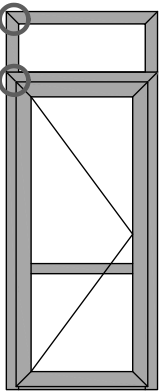
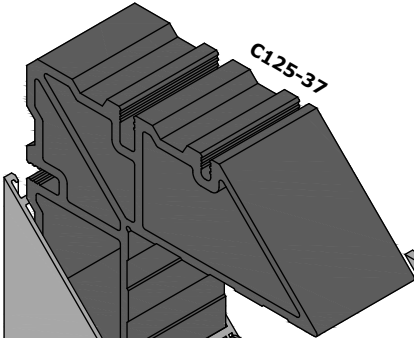
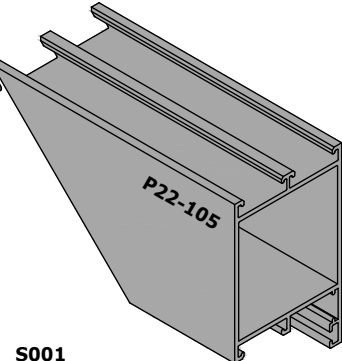
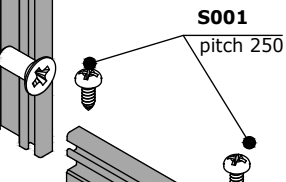
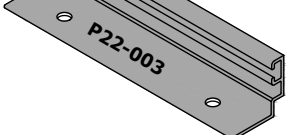
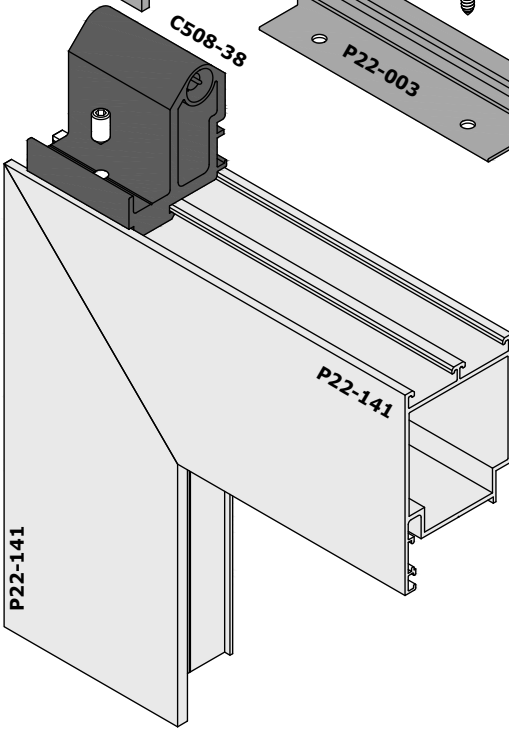
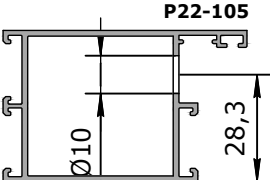
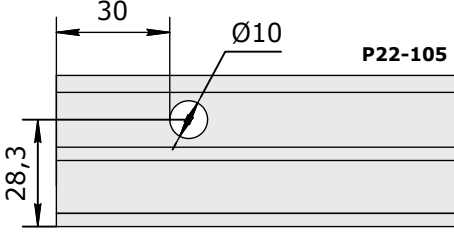
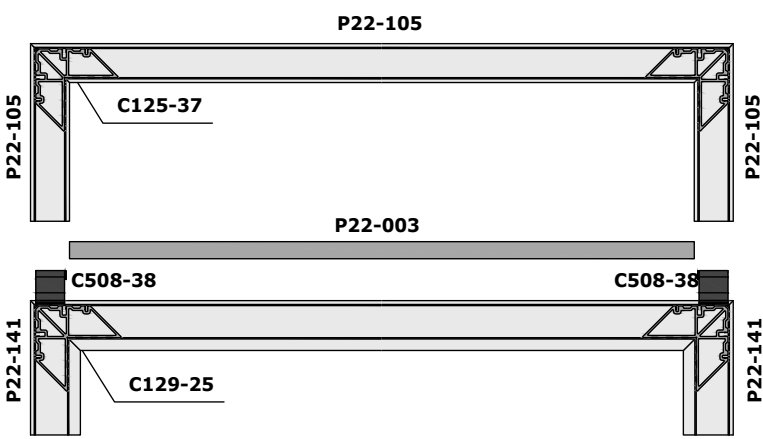
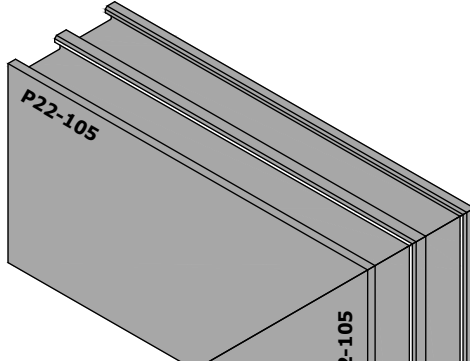
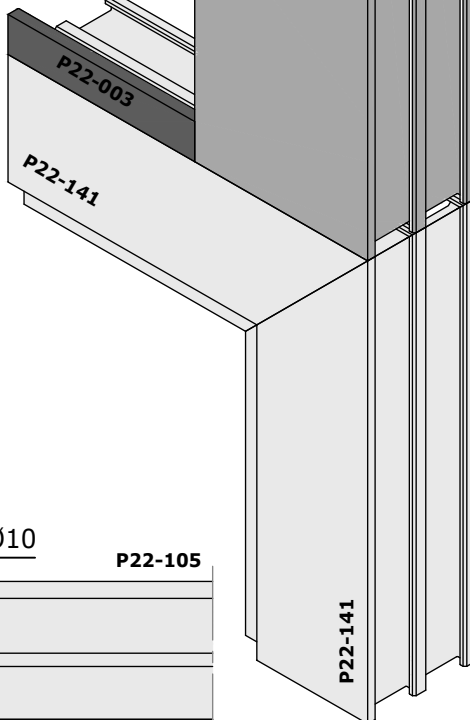
Assembly by squeezing



Assembled on pins

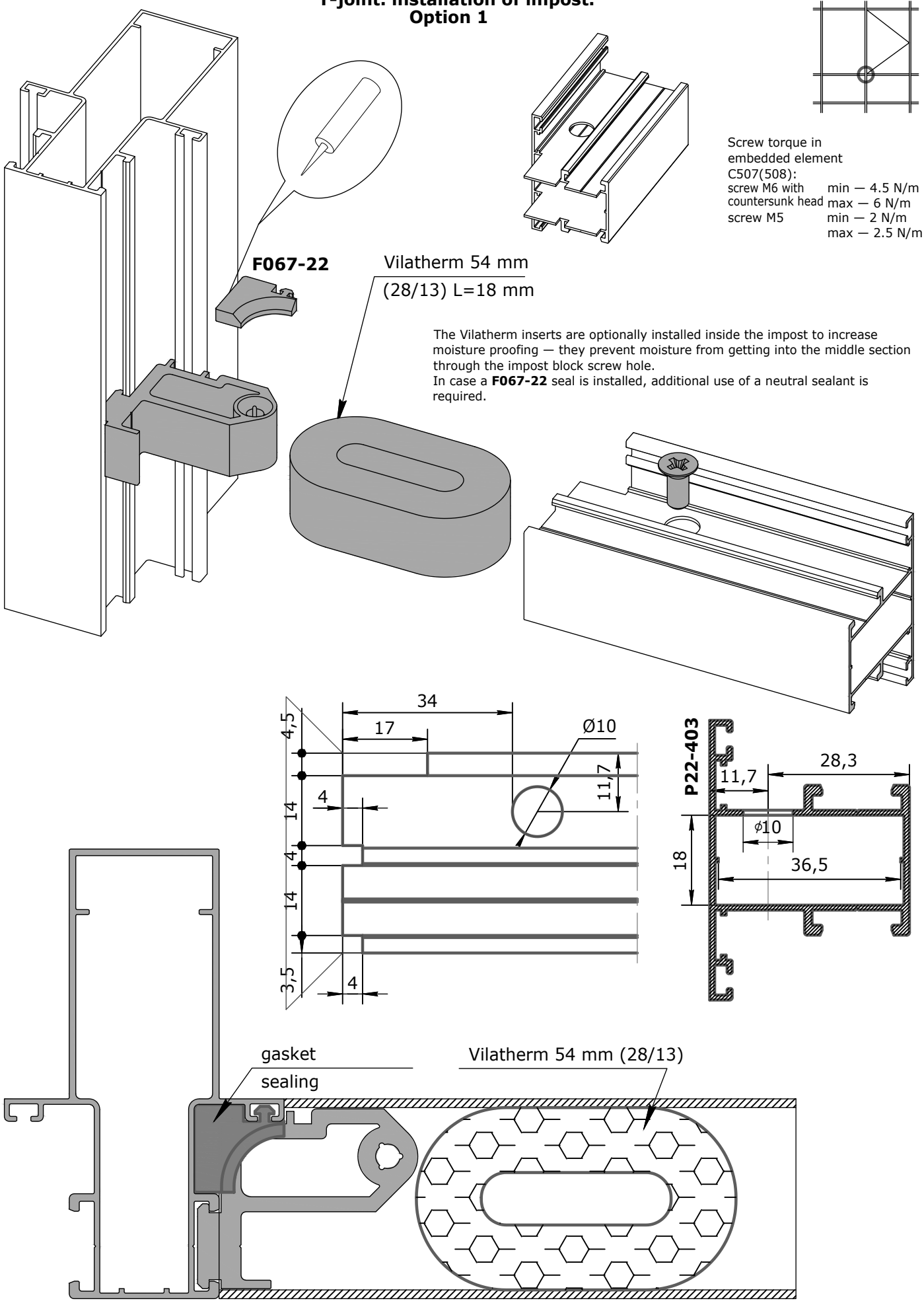


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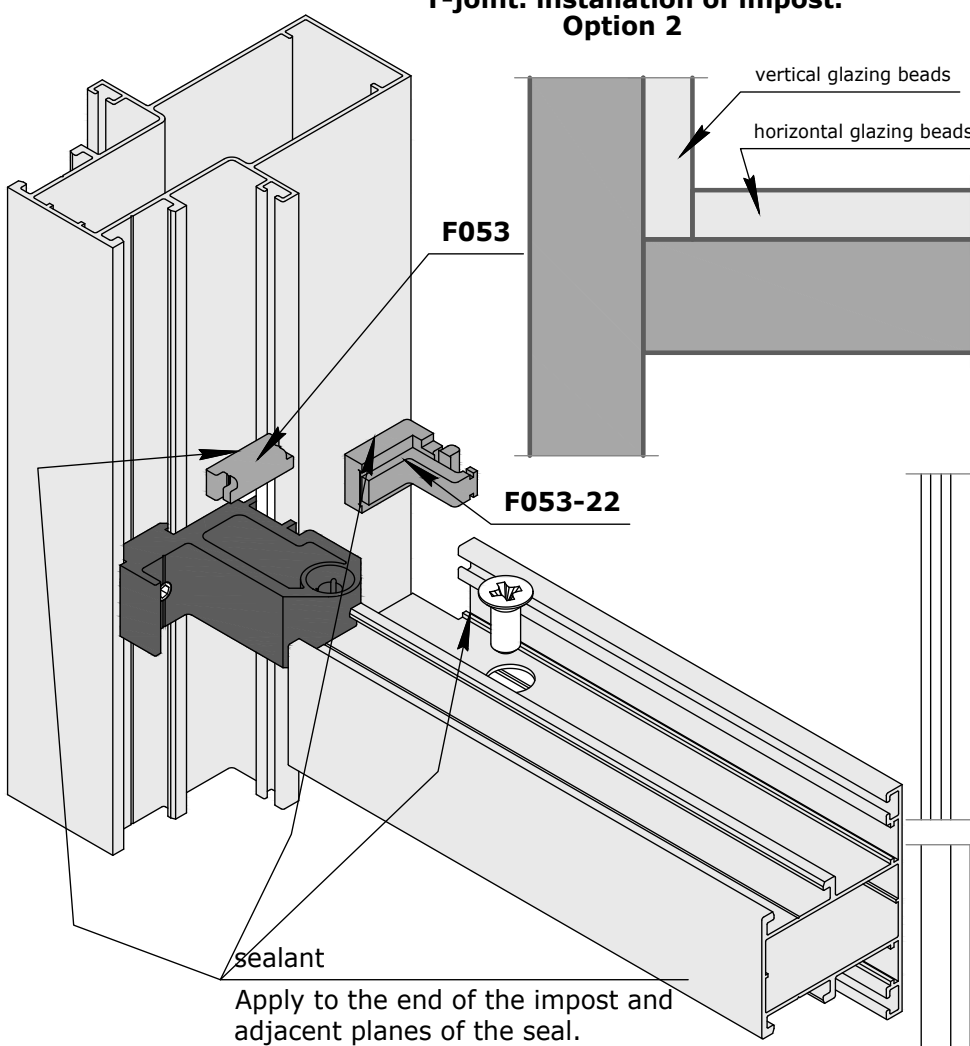
T-joint. installation of impost.
Option 1



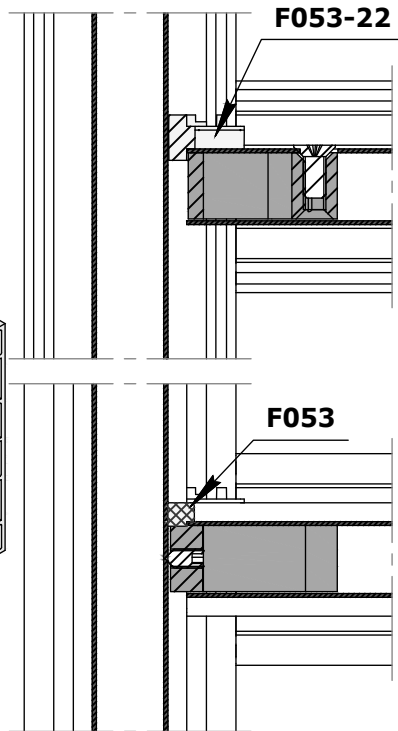
Screw torque in
embedded element
C507(508):
screw M6 with
countersunk head min — 4.5 N/m
max — 6 N/m
screw M5 min — 2 N/m
max — 2.5 N/m

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.

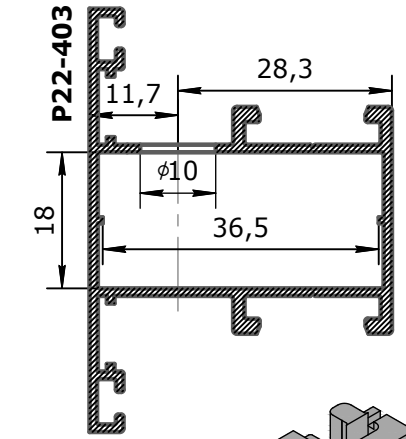
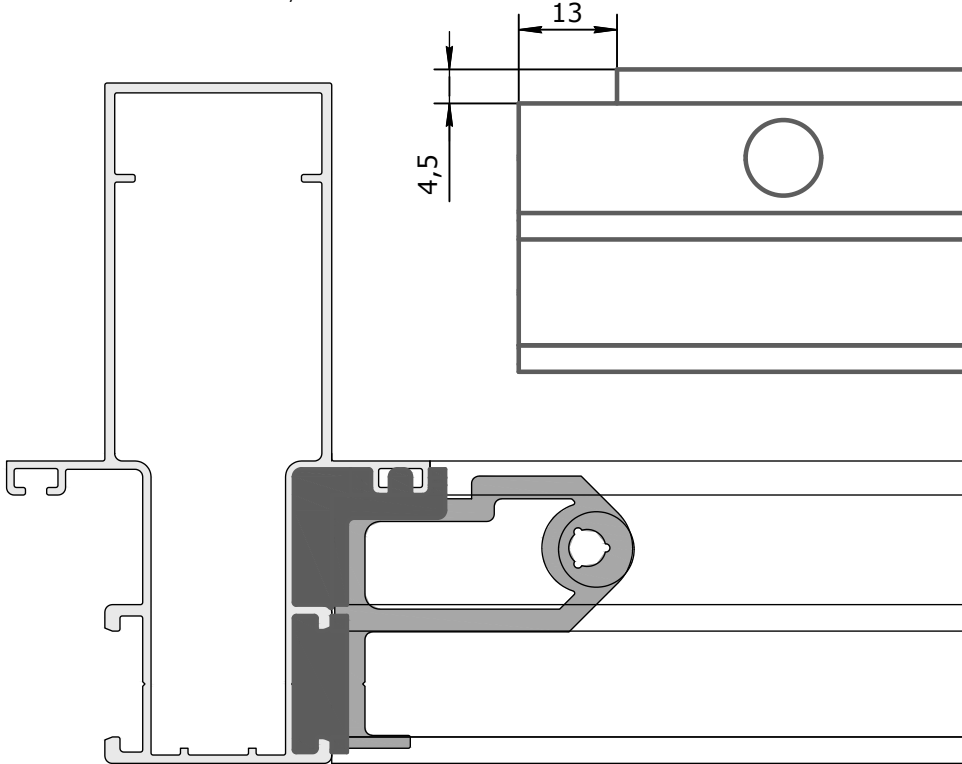
**T-joint. installation of impost.
Option 2**



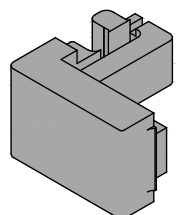
If a **F053** seals are used, first it is necessary to install vertical glazing beads, and then horizontal ones. In case **F053** and **F053-22** seals are installed, additional use of a neutral sealant is required.



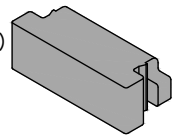
Screw torque in embedded element C507(508):
screw M6 with countersunk head min — 4.5 N/m max — 6 N/m
screw M5 min — 2 N/m max — 2.5 N/m



F053-22
cap of Masttech-22
external groove

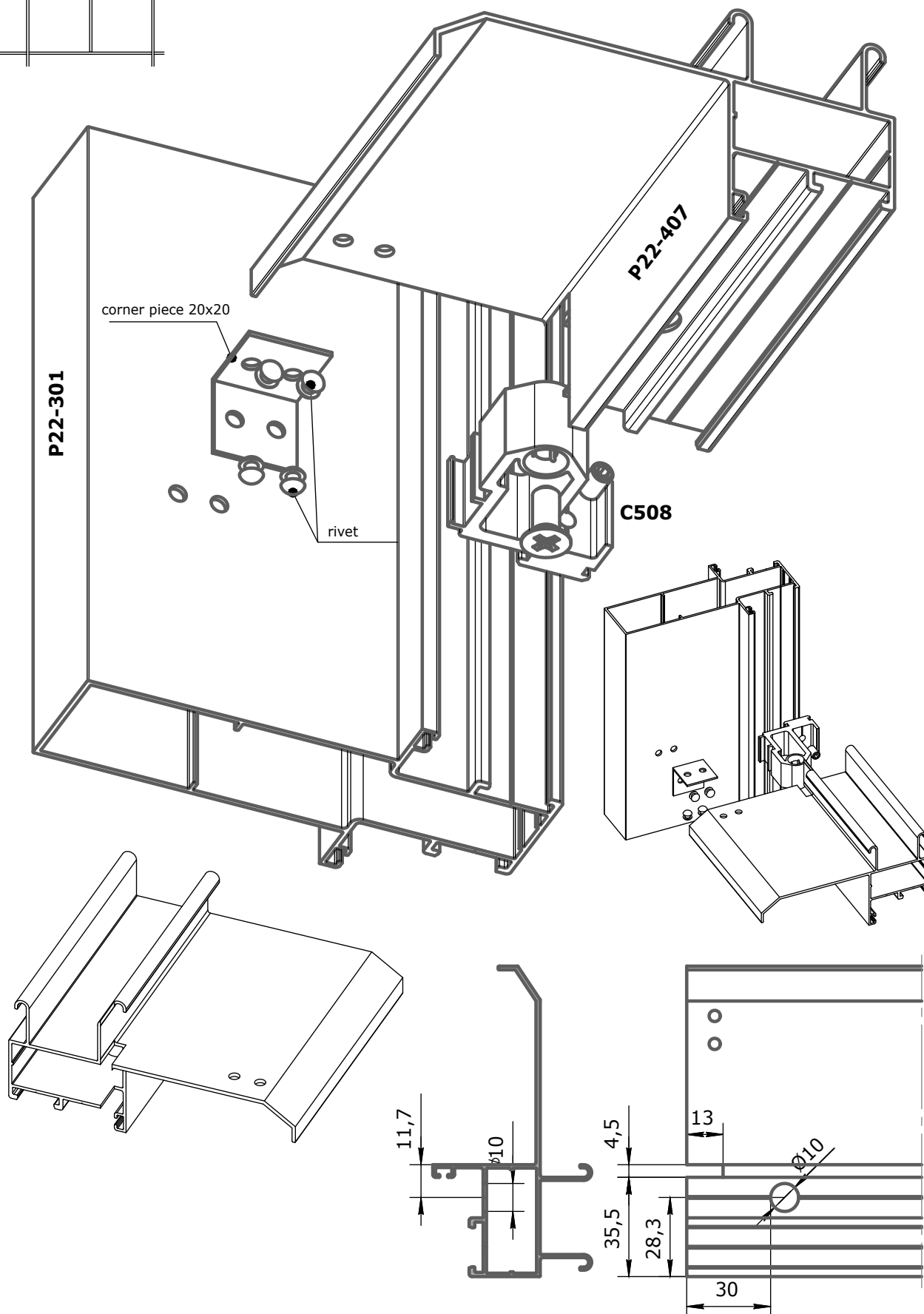
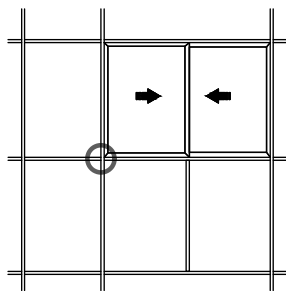


F053
cap of internal (fitting)
groove



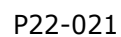
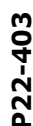
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant. If **F053** and **F053-22** sealing gaskets are installed during machining of the imposts, **simple milling** must be used.





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.

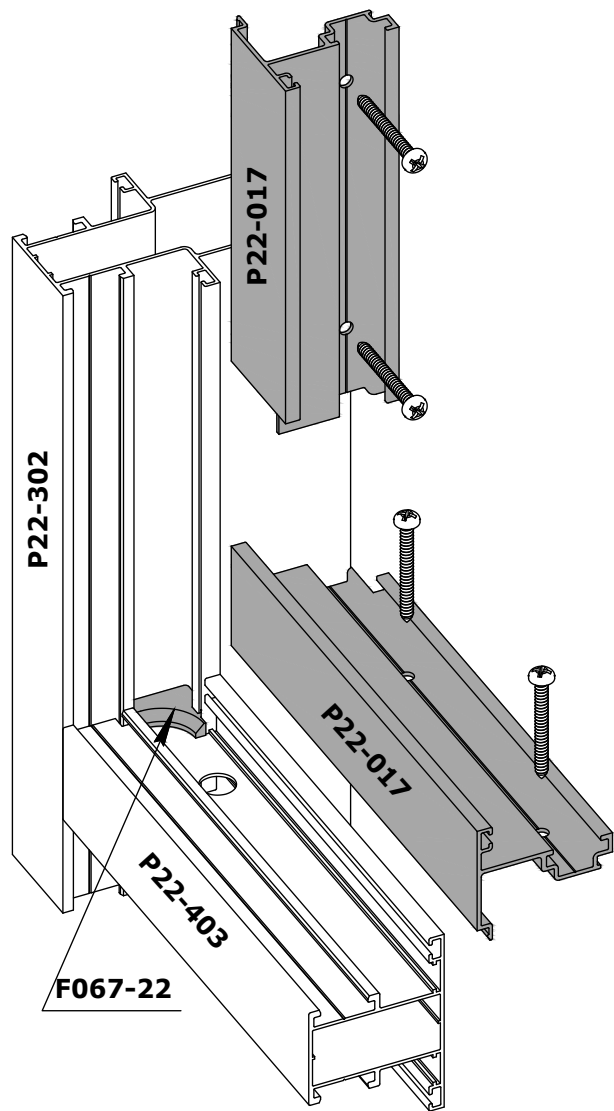
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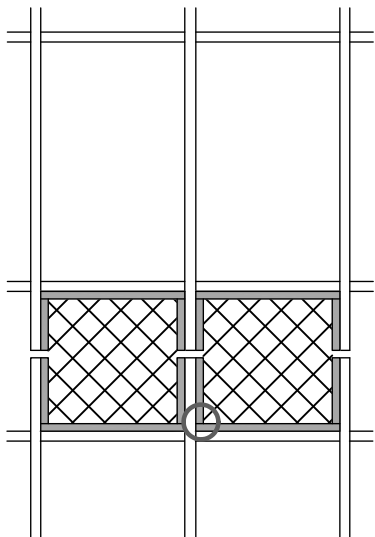
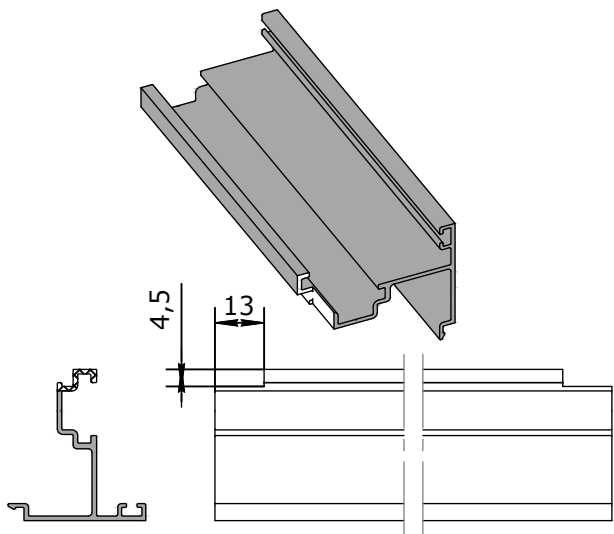
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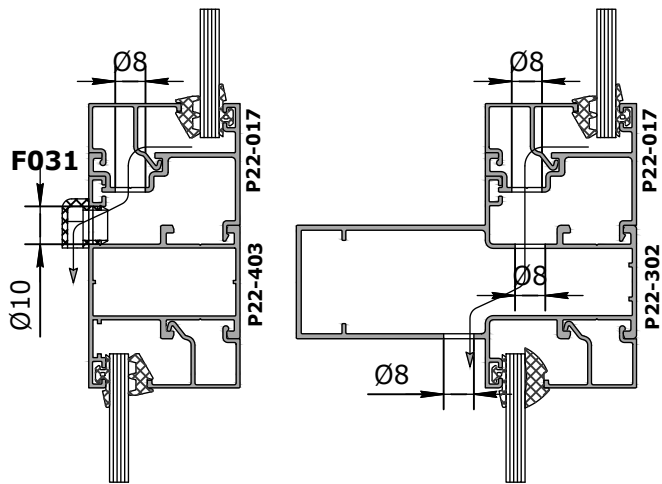
Installation of turning adapter



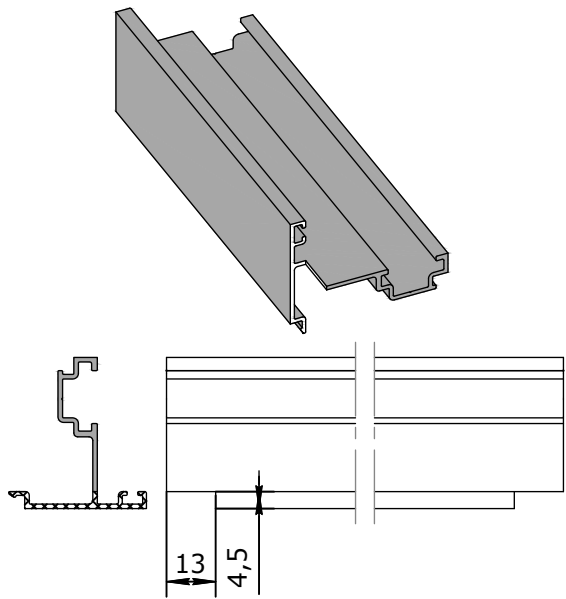
Horizontal adapter



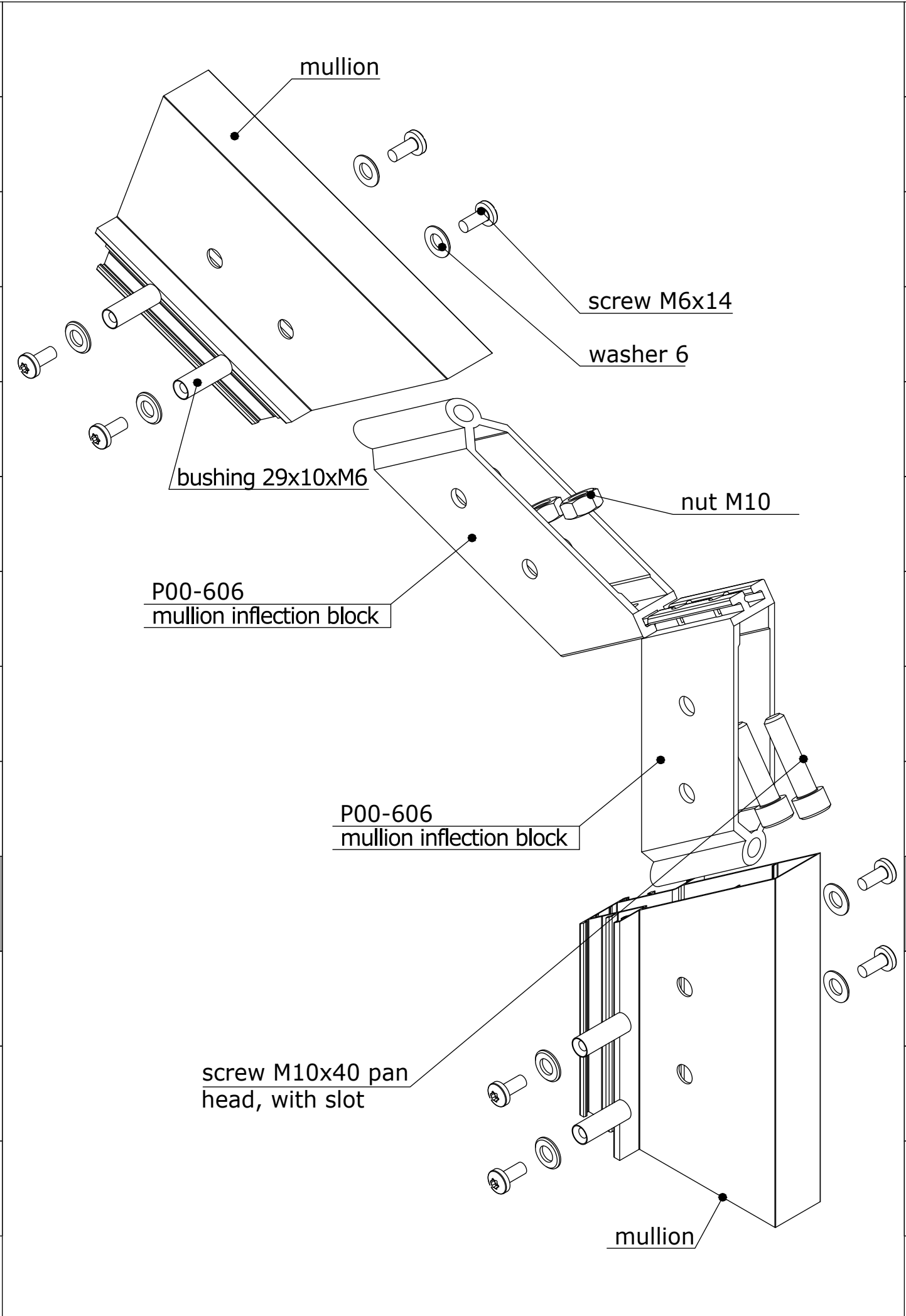
Moisture removal scheme



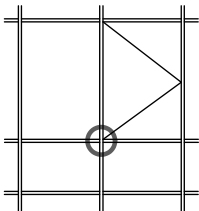
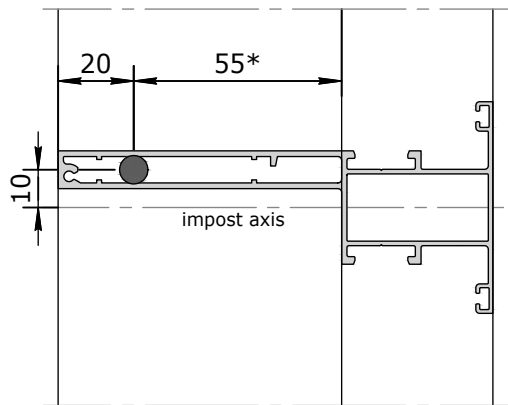
Vertical adapter



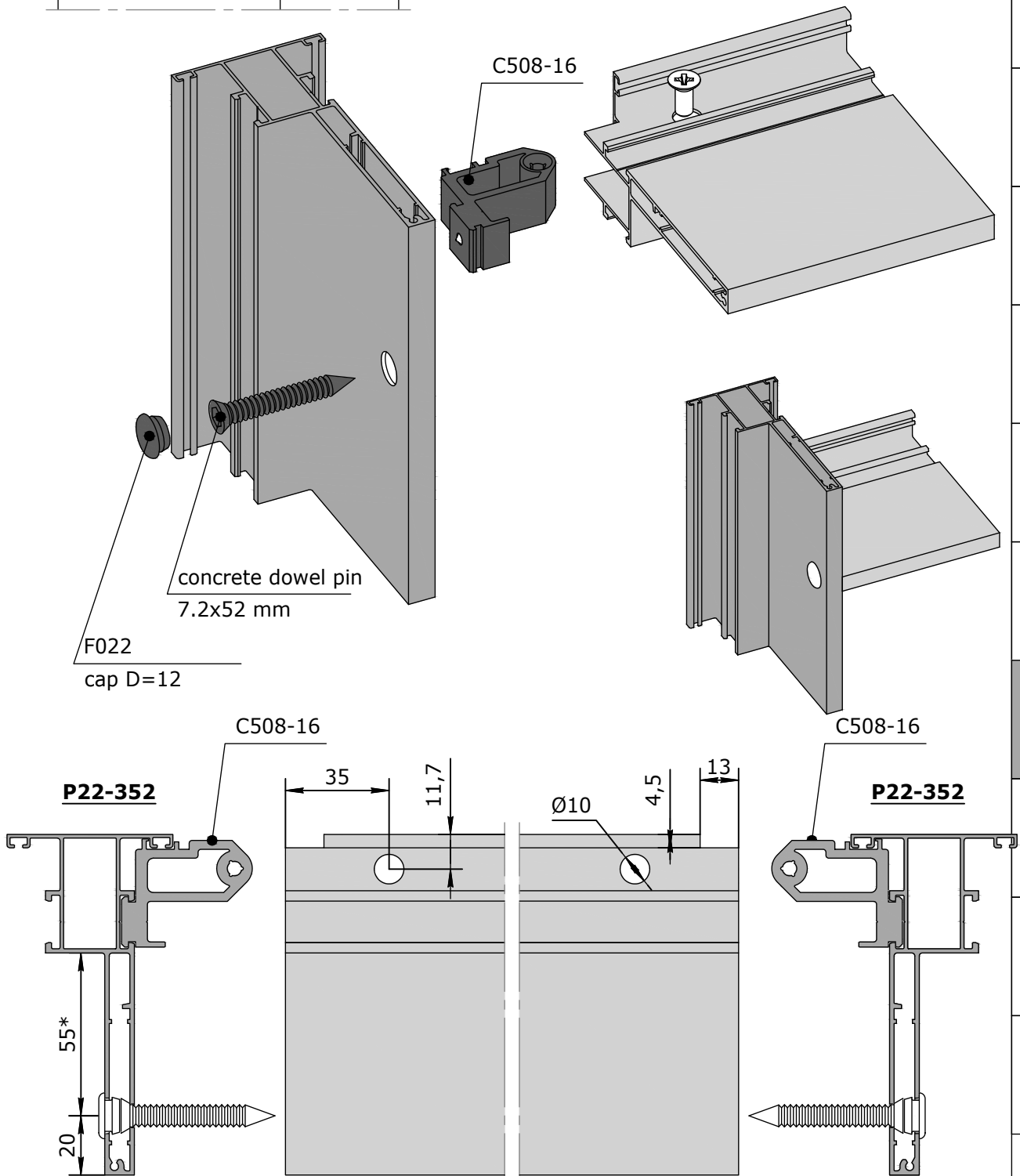
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant. Classic (complex) milling is preferred when machining the imposts.



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).

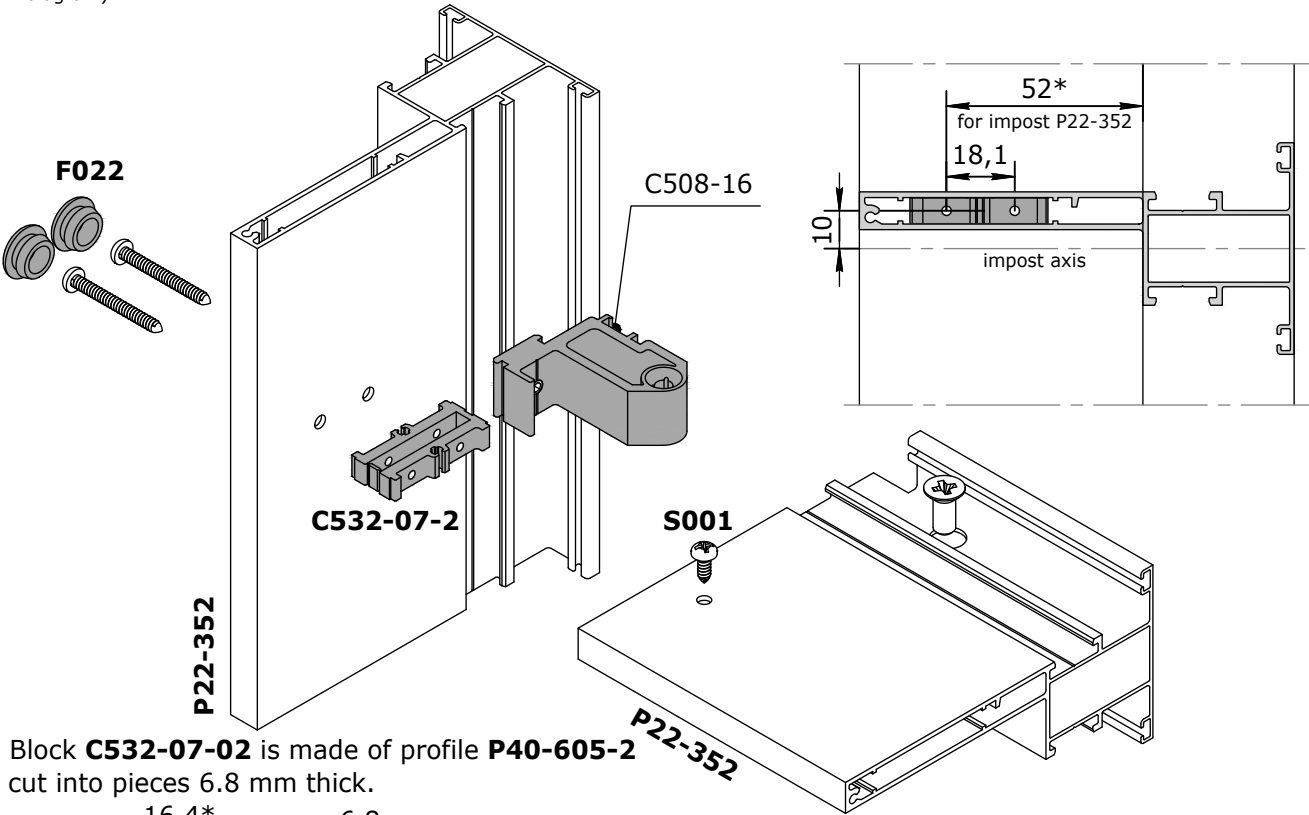
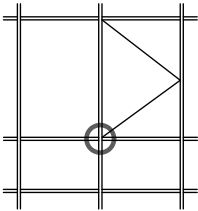


* — depends on size of mullion

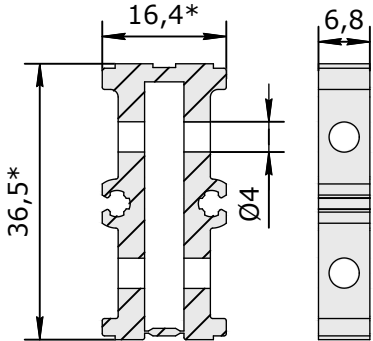
All profiles with inward reinforcement are assembled on C508-16

Fastening of reinforced impost to mullion with inward reinforcement

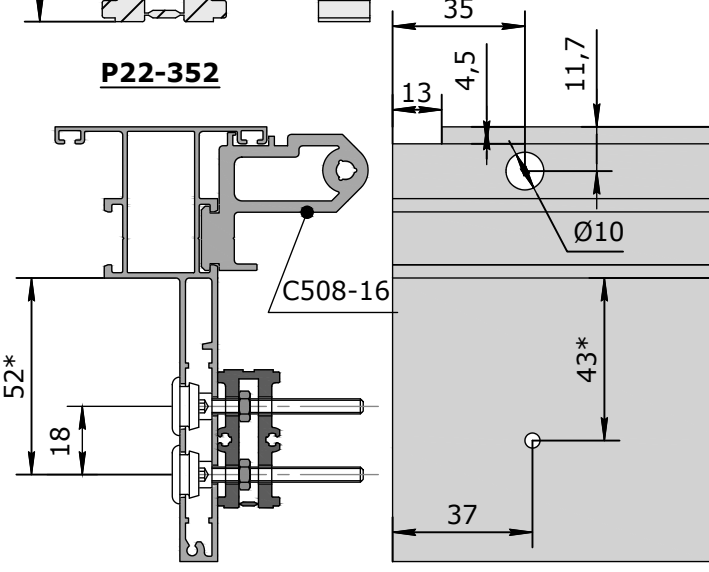
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals **F053** and **F053-22** (omitted for clarity on the diagram).



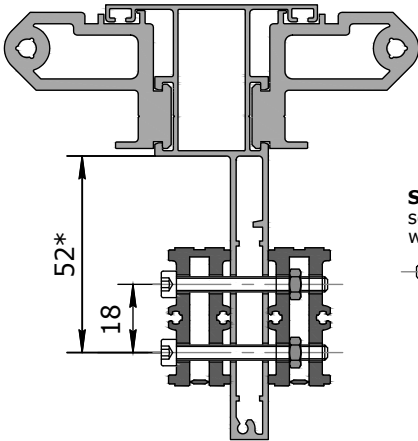
Block **C532-07-02** is made of profile **P40-605-2** cut into pieces 6.8 mm thick.



P22-352



P22-352



S222-04-40
screw M4x40 pan head,
with slot (DIN 912)

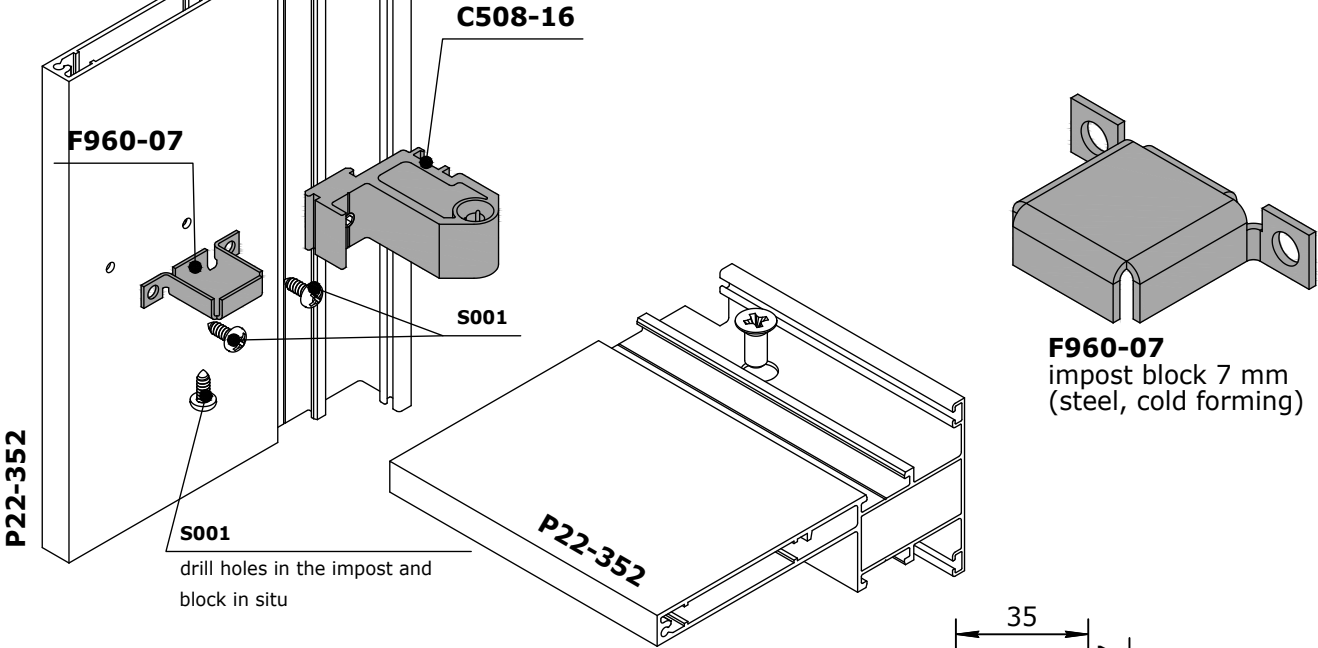
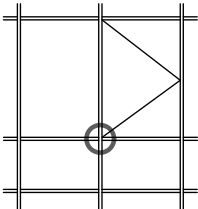
S306
nut M4

* — 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

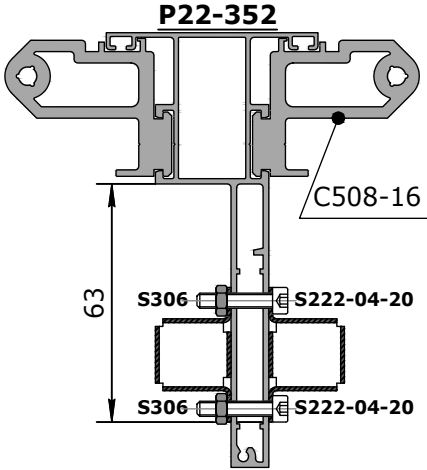
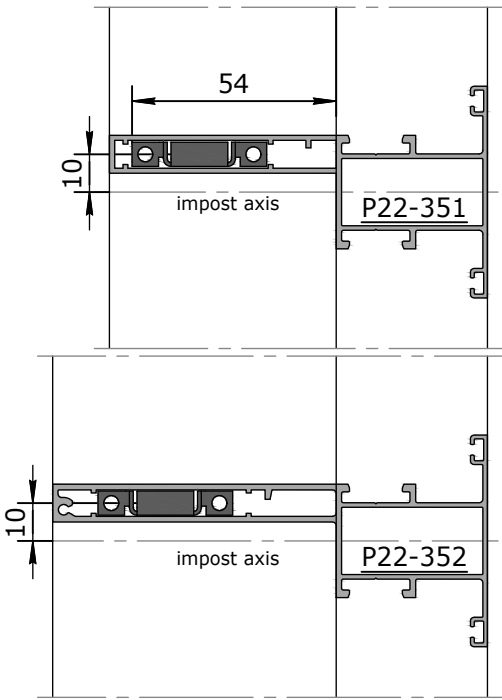
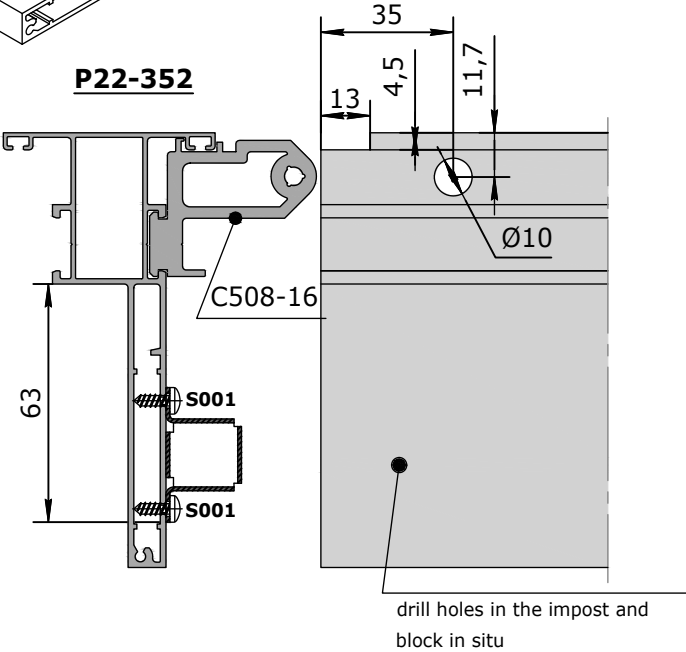
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install rubber seals **F053** and **F053-22** (omitted for clarity on the diagram).



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

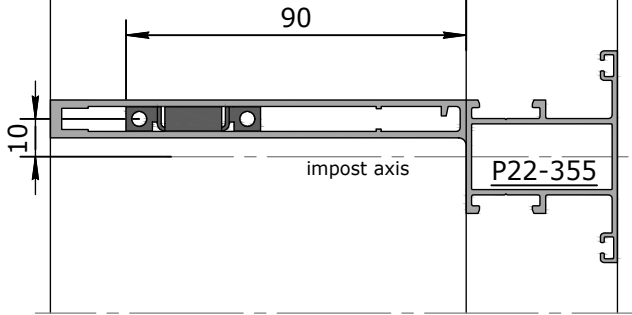
S001
drill holes in the impost and
block in situ

P22-352



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

S306
nut M4

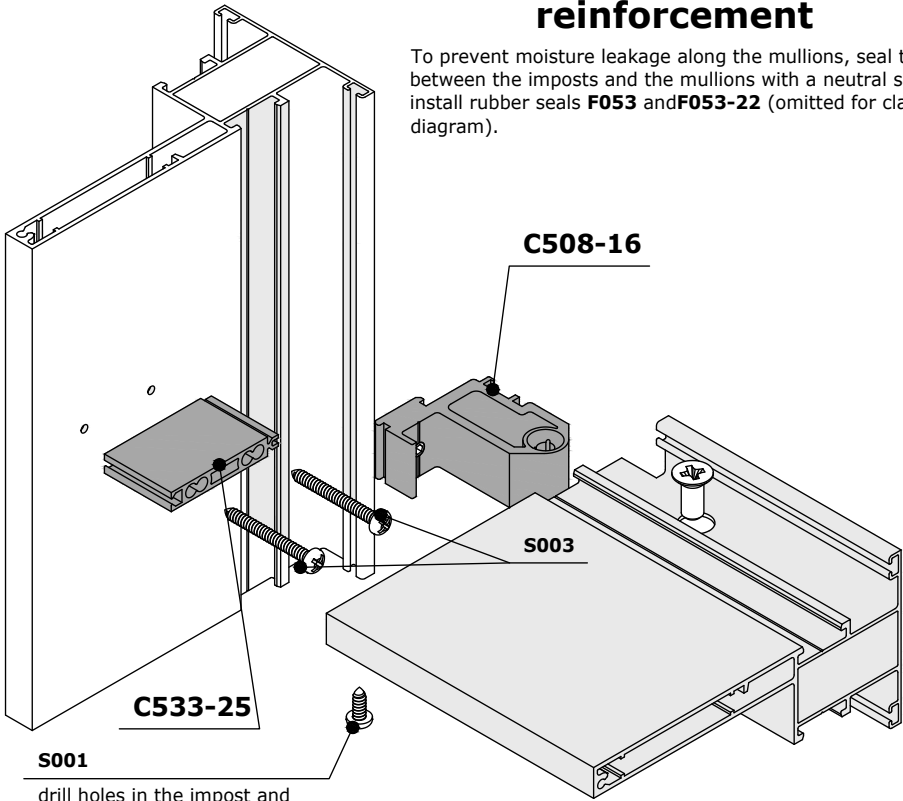
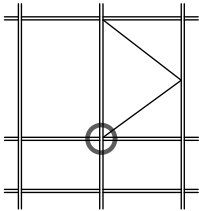


* — depends on the mullion/impost size

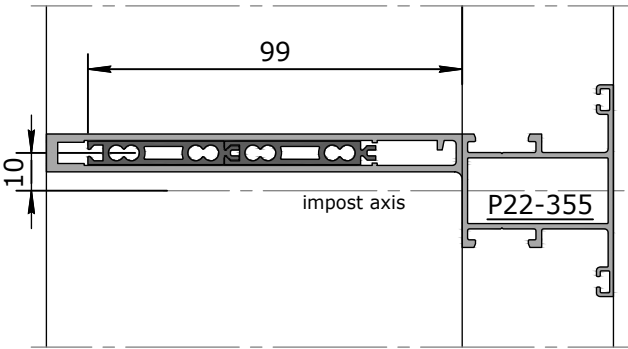
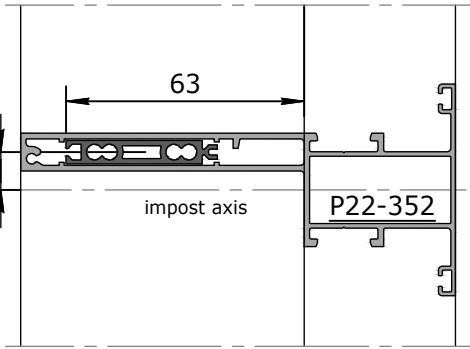
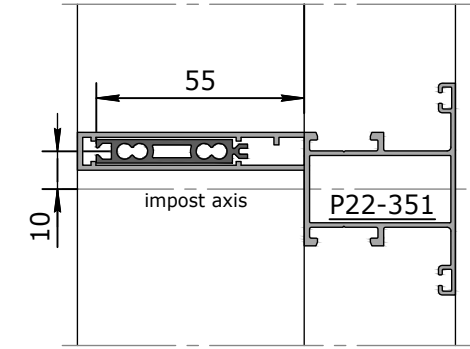
**All profiles with inward reinforcement
are assembled on C508-16**

Fastening of reinforced impost to mullion with inward reinforcement

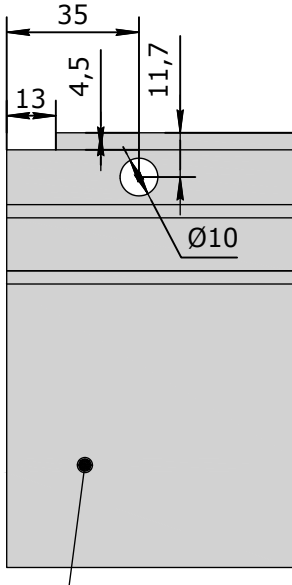
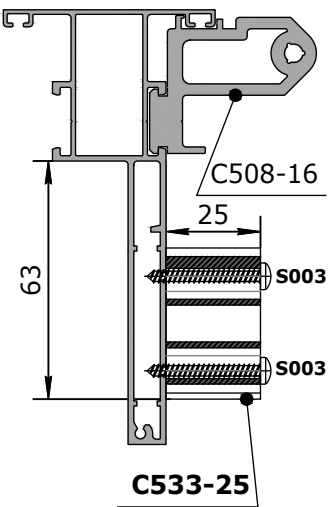
To prevent moisture leakage along the mullions, seal the joints between the impostes and the mullions with a neutral sealant and install rubber seals **F053** and **F053-22** (omitted for clarity on the diagram).



S001
drill holes in the impost and
block in situ

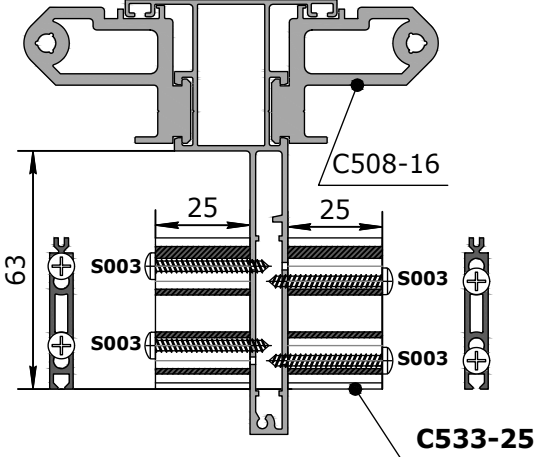


P22-352



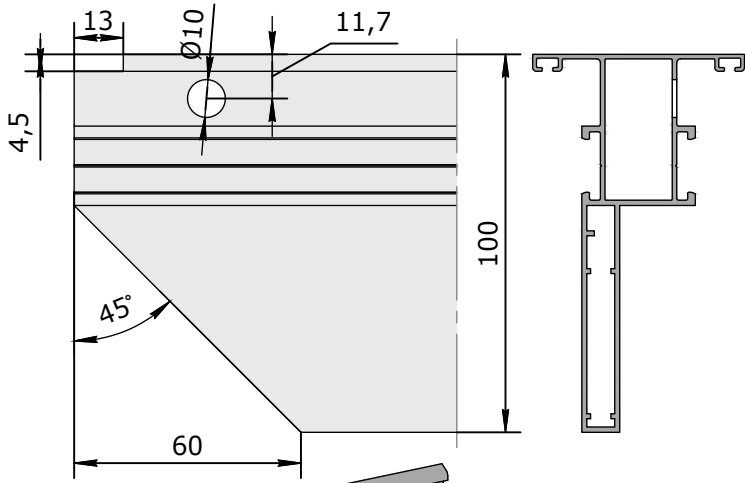
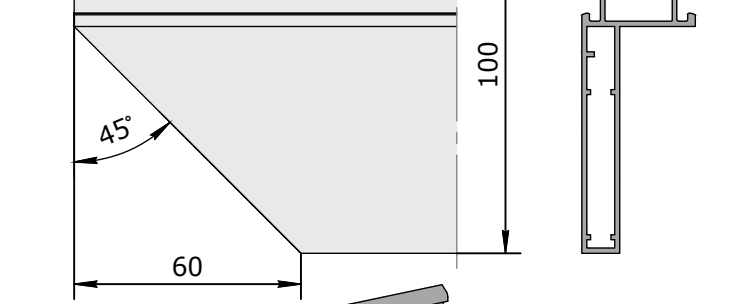
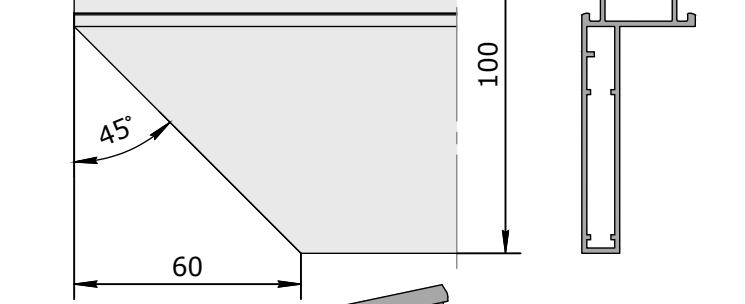
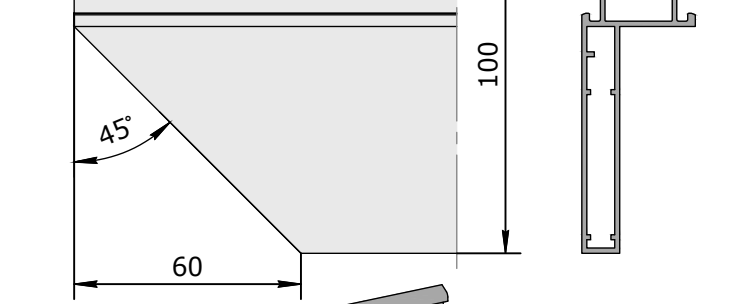
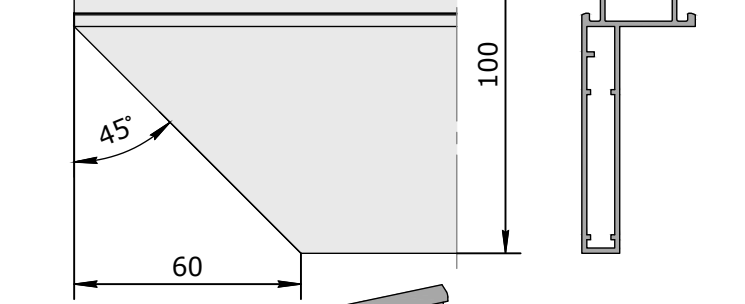
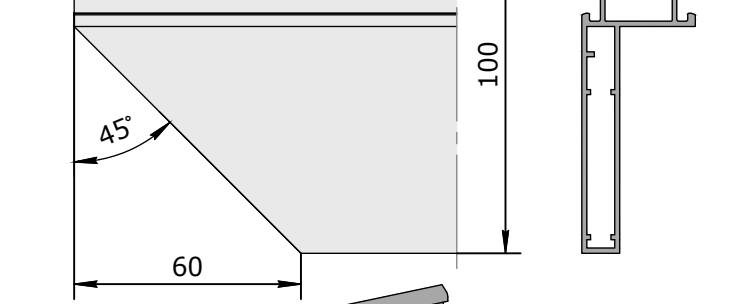
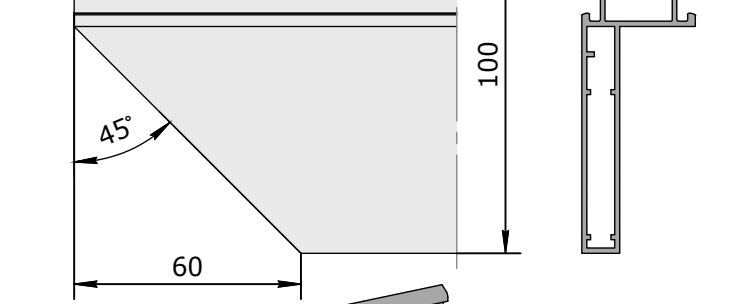
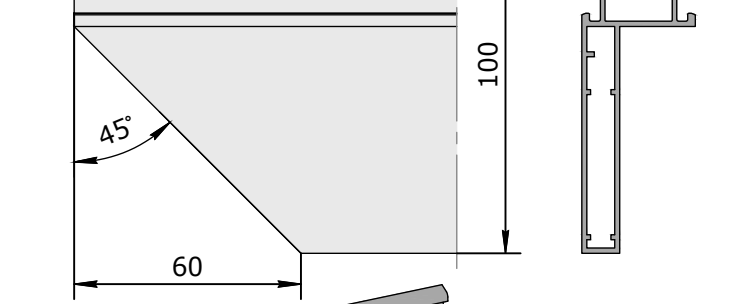
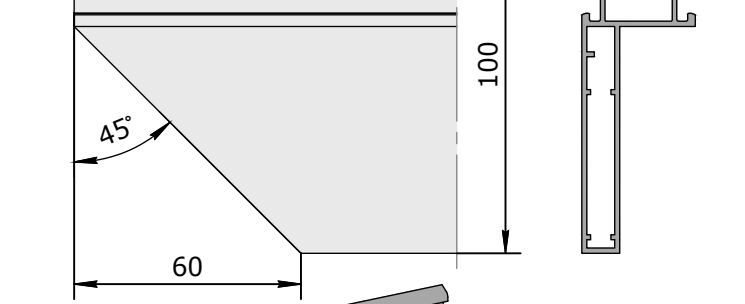
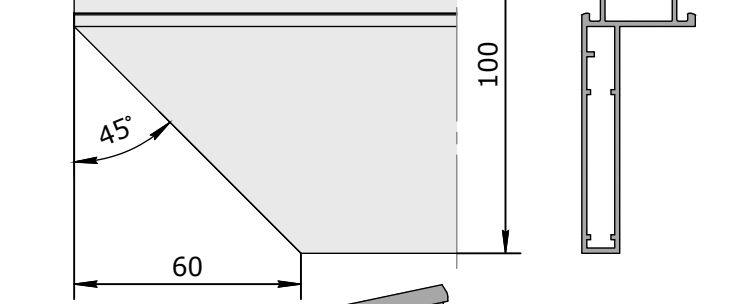
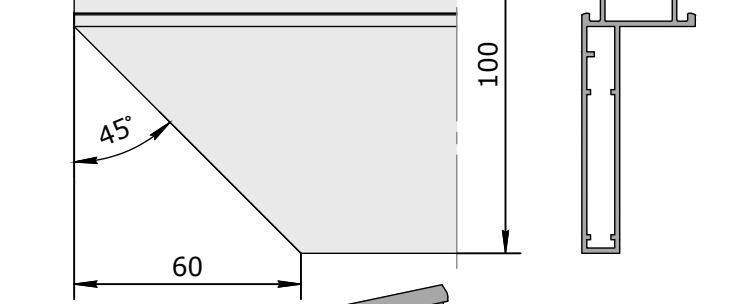
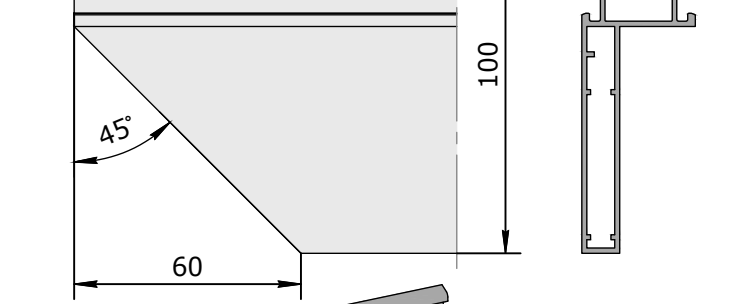
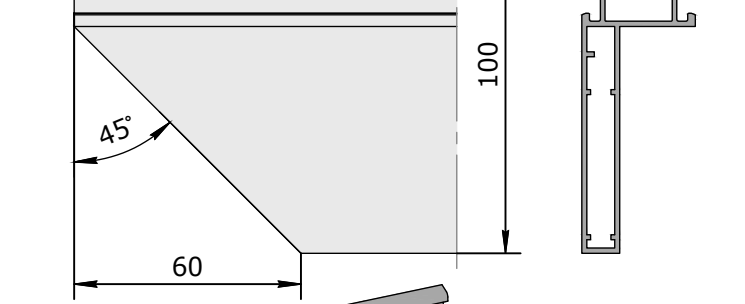
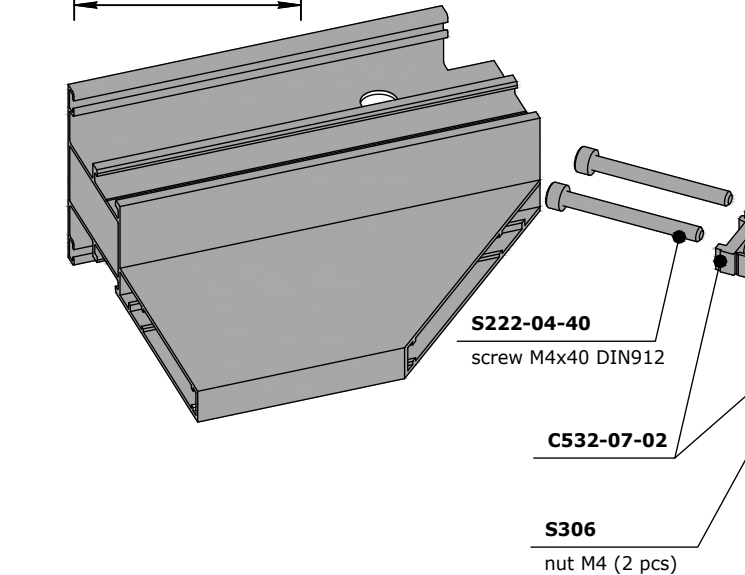
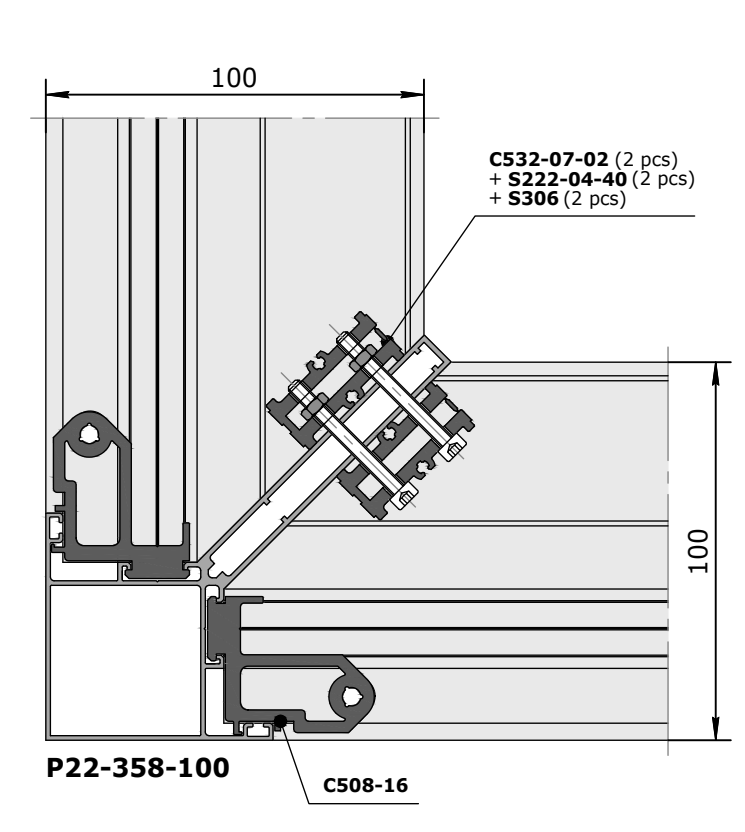
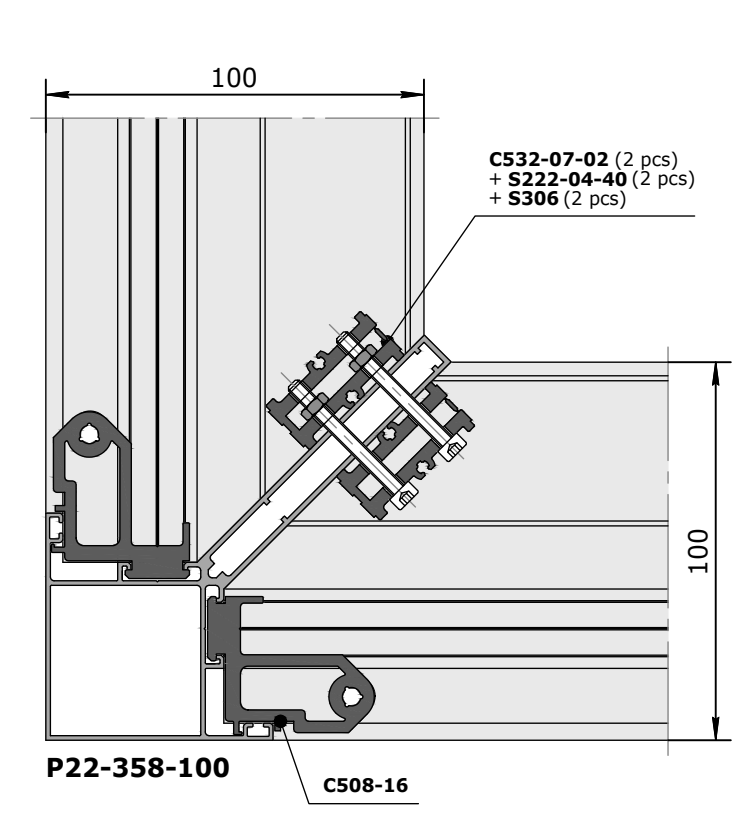
drill holes in the impost and
block in situ

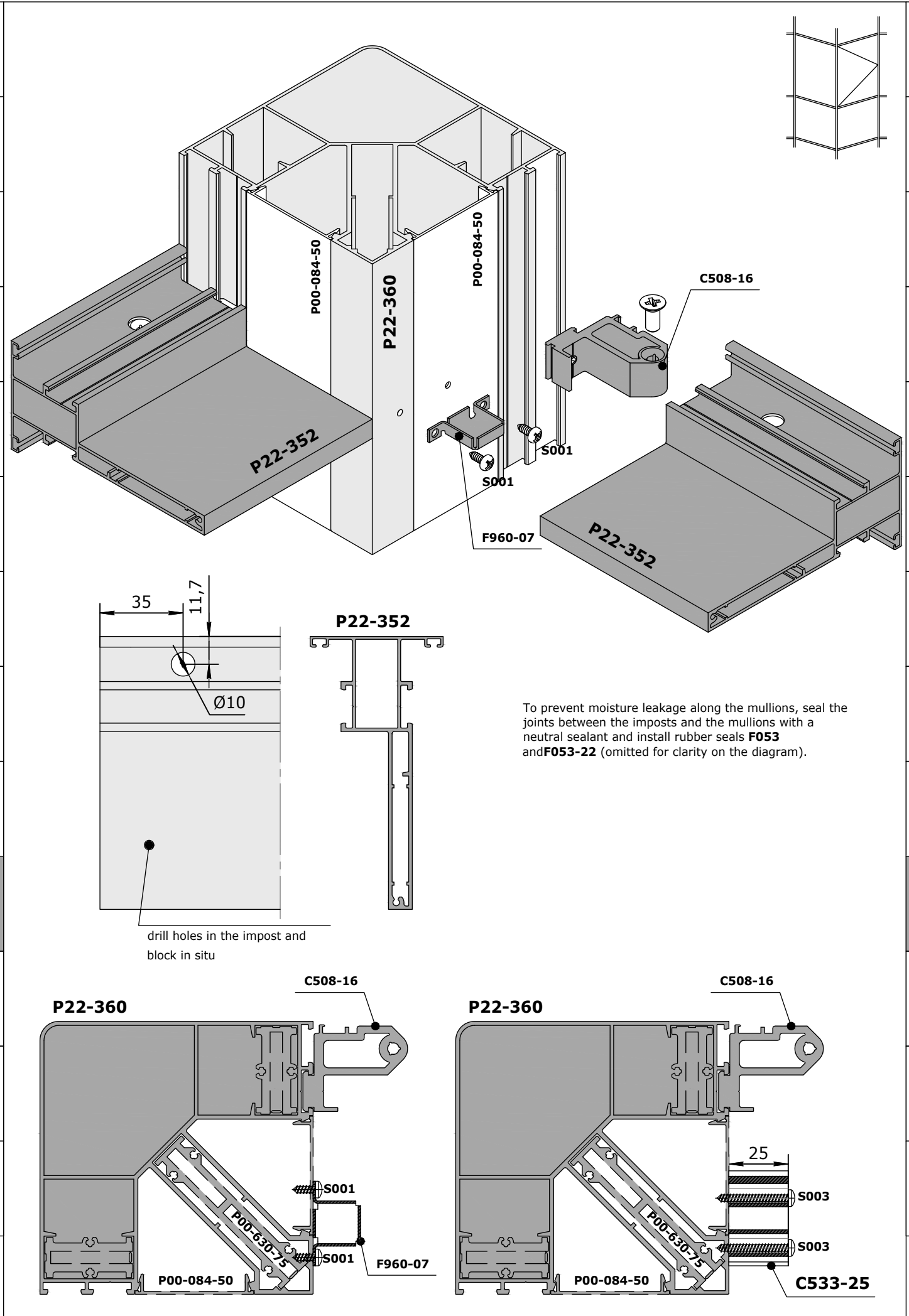
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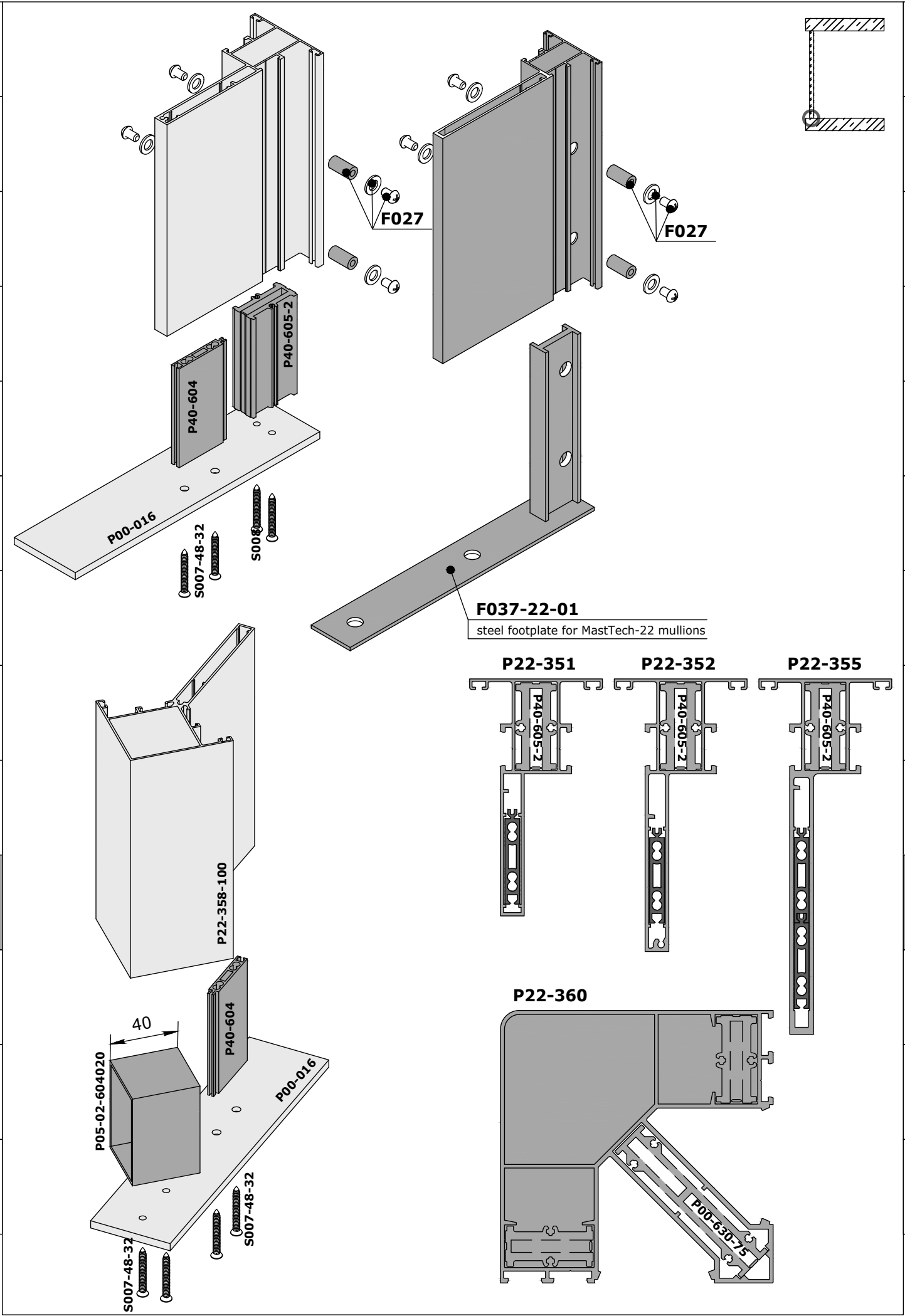


* — depends on the mullion/impost size

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

contents											contents									
profiles											profiles									
scope of delivery											scope of delivery									
profiles (1:1)											profiles (1:1)									
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glazing tables											glazing tables									
sub-assemblies tables											sub-assemblies tables									
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									
To prevent moisture leakage along the mullions, seal the joints between the imposts and the mullions with a neutral sealant and install seals F053 and F053-22 (omitted for clarity on the installation diagram).																				
 S222-04-40 screw M4x40 DIN912 C532-07-02 S306 nut M4 (2 pcs) P22-358-100 C508-16																				
Options of impost blocks for support of impost pylon  C532-07-02 (2 pcs) + S222-04-40 (2 pcs) + S306 (2 pcs) P22-358-100 C508-16																				
 F960-07 S222-04-20 S306 S003 C533-25																				



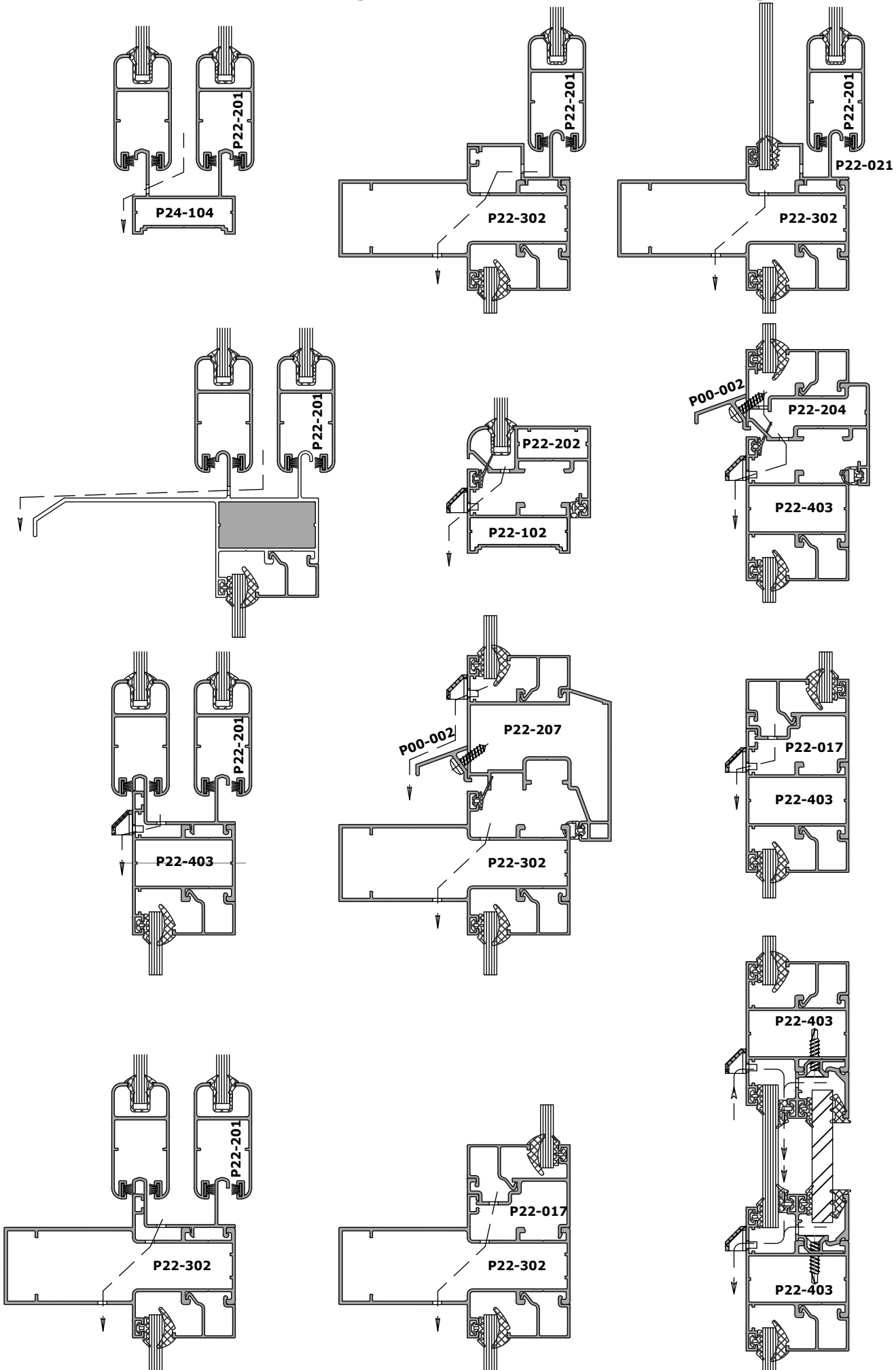


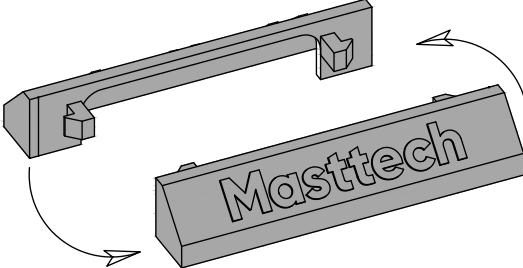
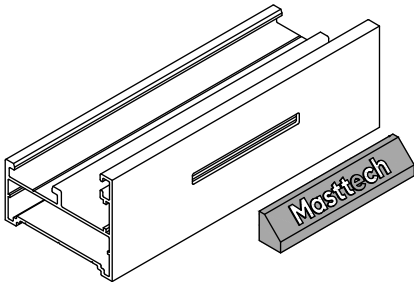
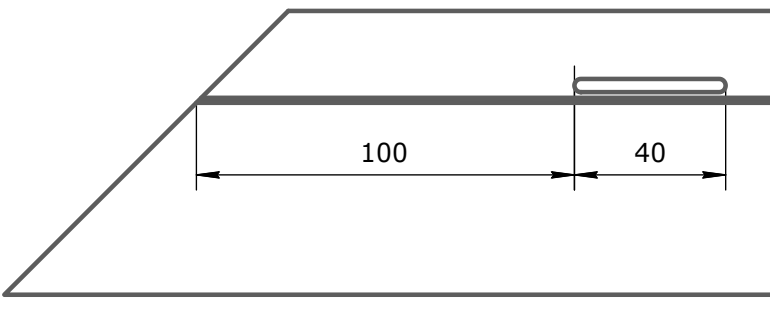
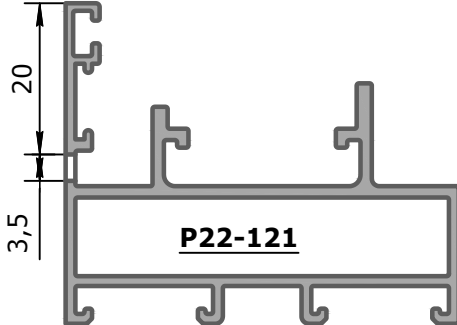
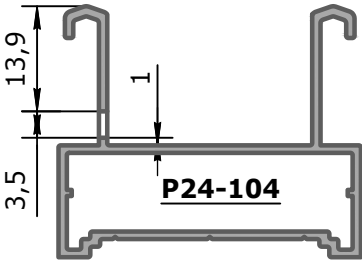
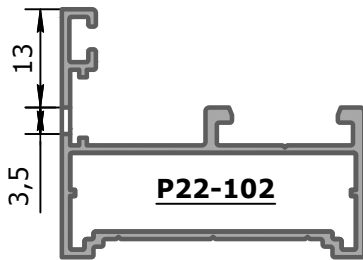
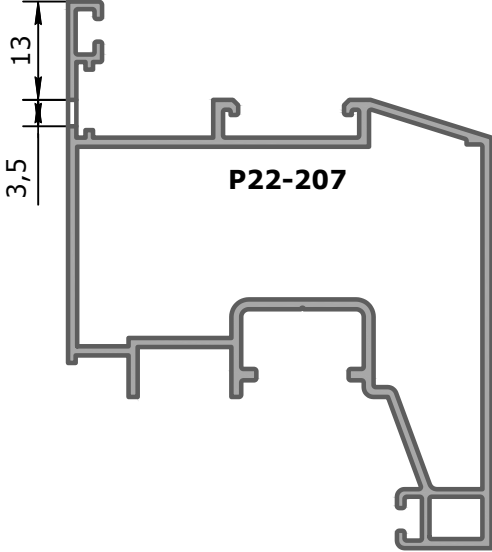
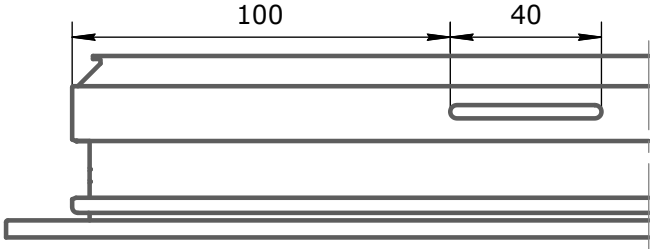
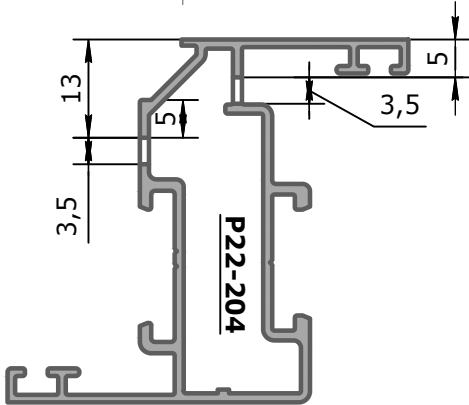
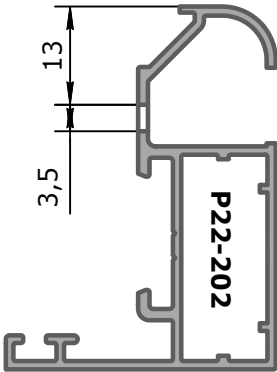
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[illegible]

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Arrangement of moisture removal system

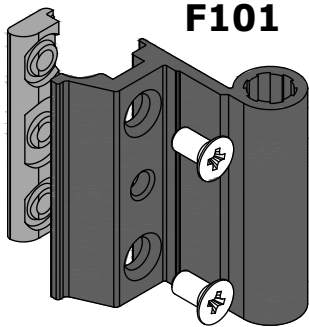
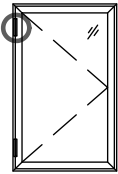


contents	F031-50 Water drain hole cap (for MastTech systems)												
profiles													
scope of delivery													
profiles (1:1)													
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connections													
equipment and tools													

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Hinge F101, rotary, double section

After installation of hinges on a window and their adjustment, they must be additionally fastened by means of a 3.9x19 self-tapping screw with countersunk head (S006) or by means of a M5x10 sharp-pointed setting screw (S205). Self-tapping and setting screws are not included in the hinges scope of supply.



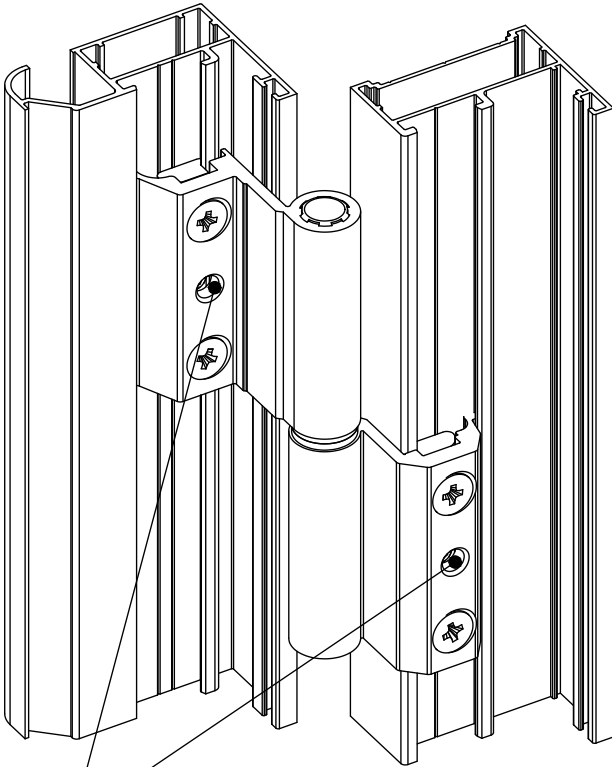
anti-friction bushing

metal axle

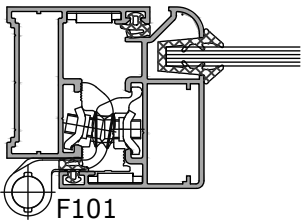


mating plate

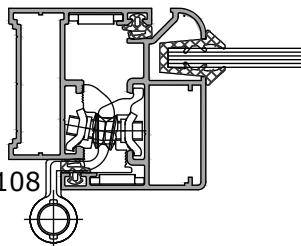
During hinge installation it is necessary to trim the rabbet ledge gasket on the sash



holes for additional fixing

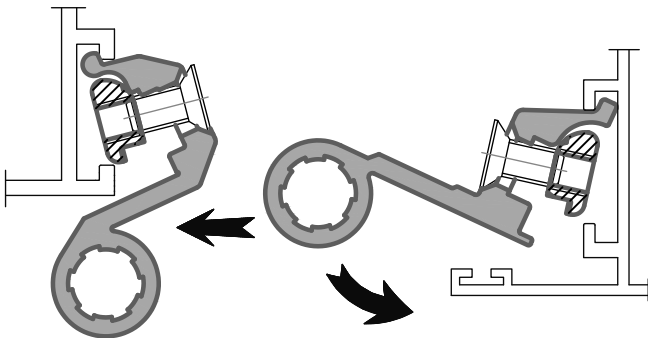


F101

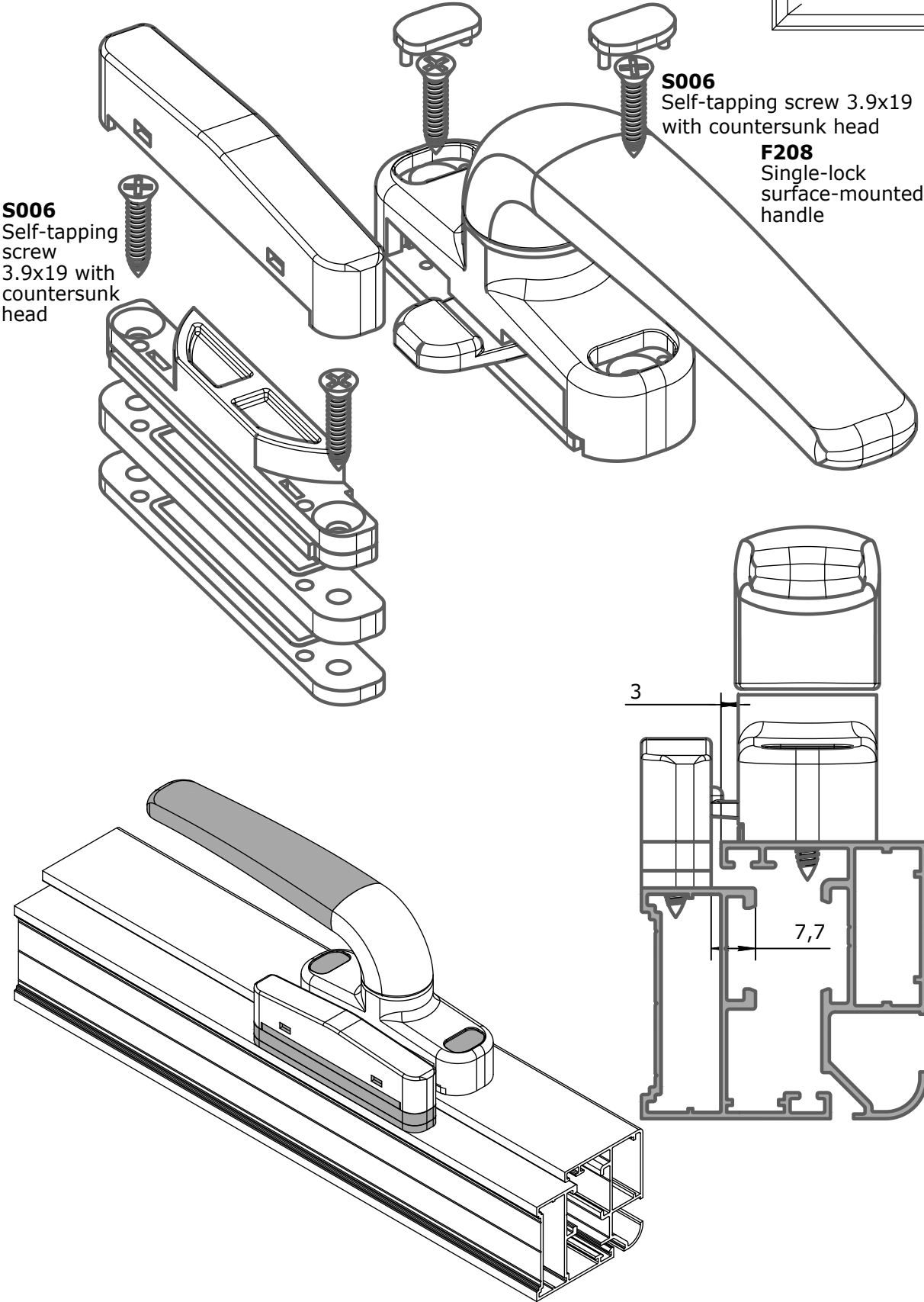
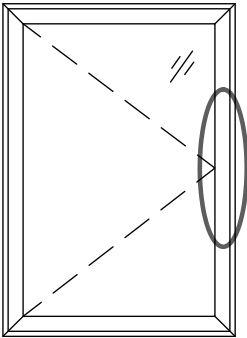


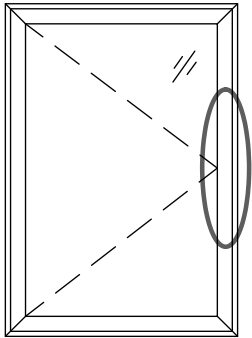
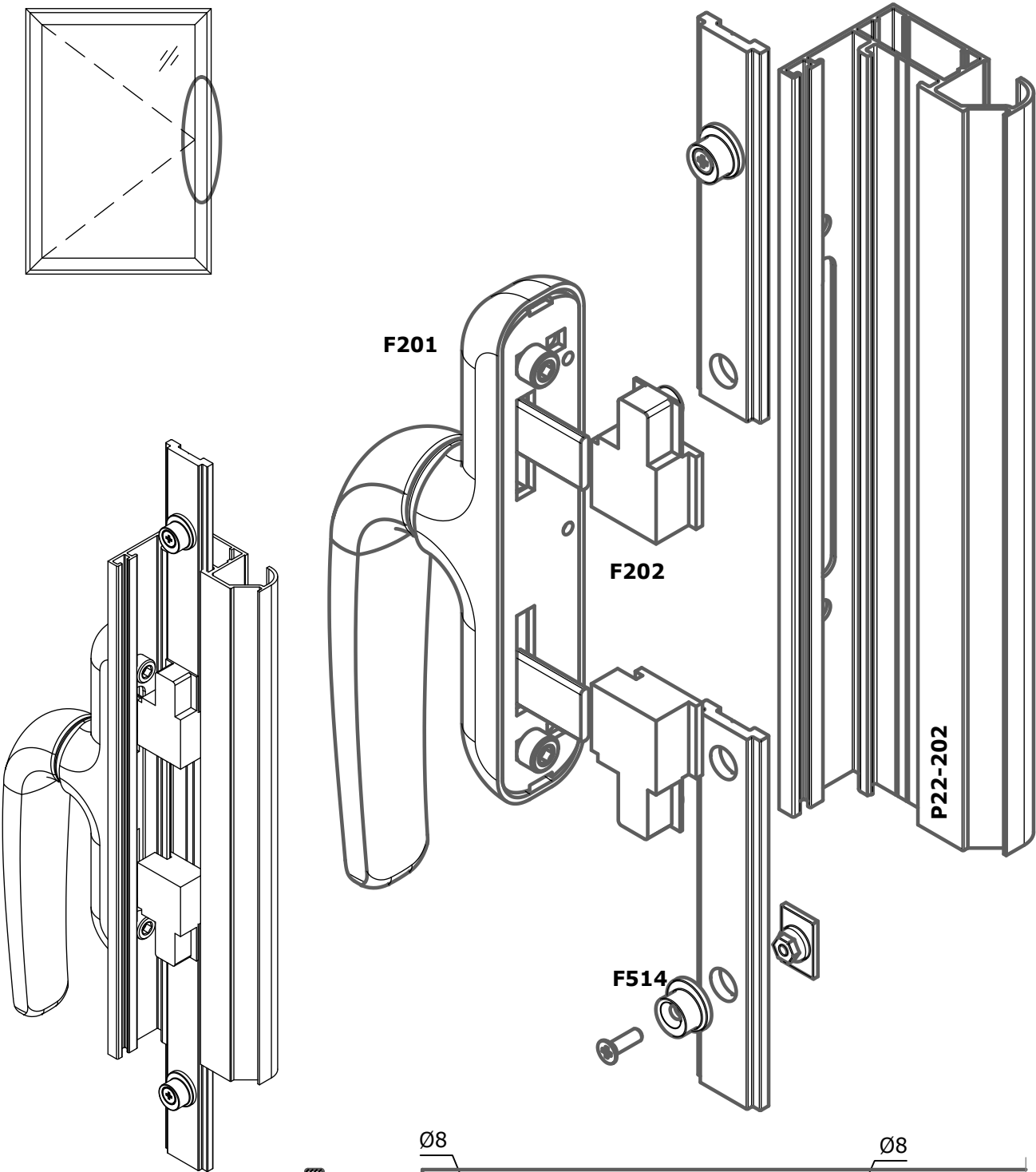
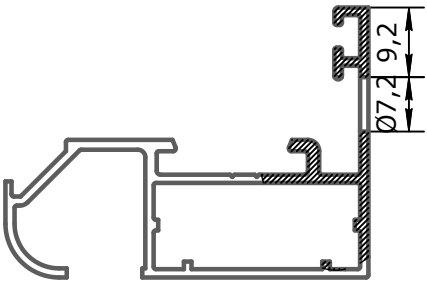
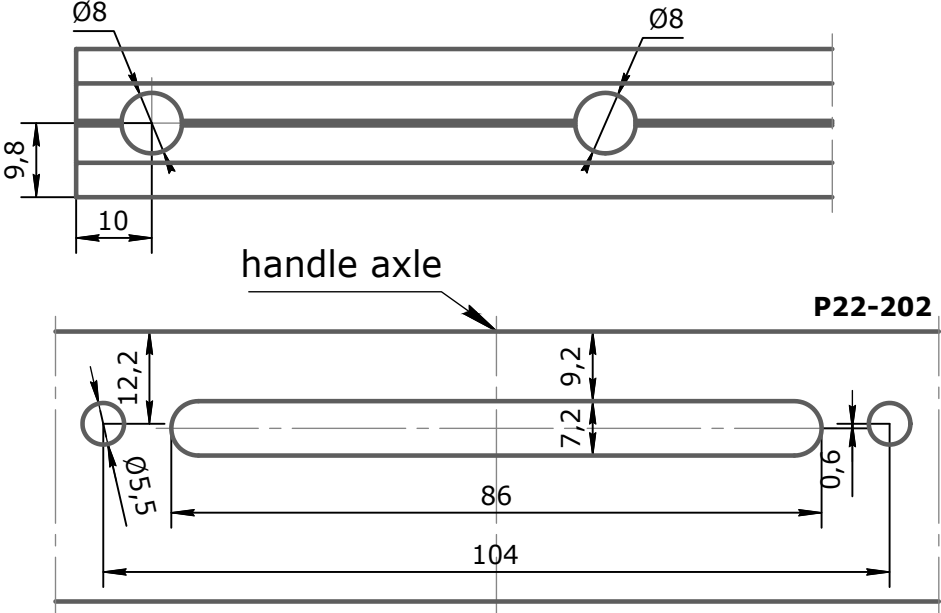
F108

Maximum load on the pair of hinges F101 (F108) — 60 kg.

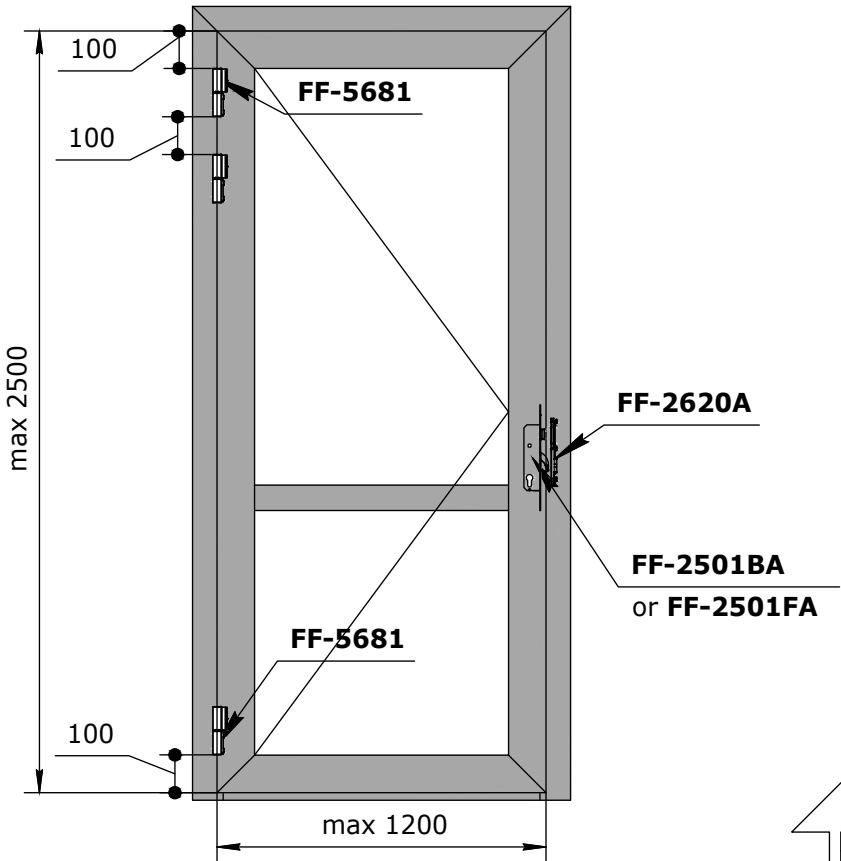


Installation of F208
single-lock handle

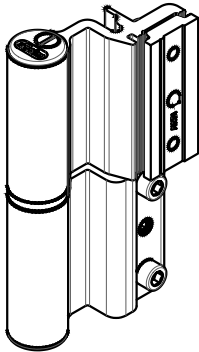


equipment and tools	connections	stained glass insulation	sub-assemblies	additional solutions	fittings layout	sub-assemblies tables	glazing tables	sections	profiles (1:1)	scope of delivery	profiles	contents
												
												

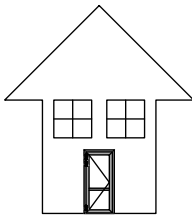
Fittings installation diagram



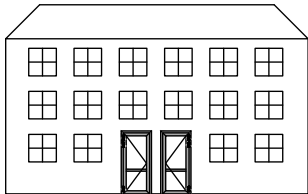
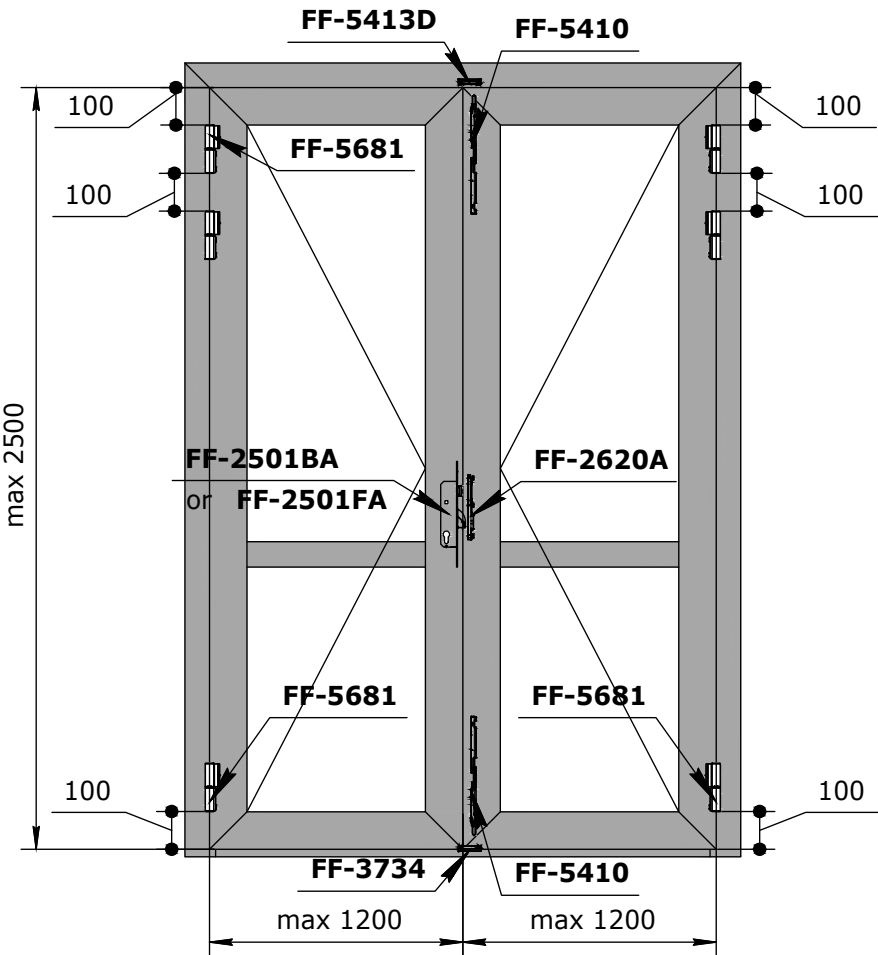
FF-5681
double-section
groove hinge



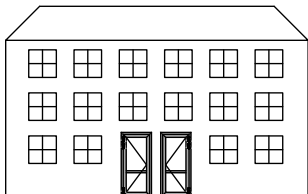
**Maximum load
on hinges**



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

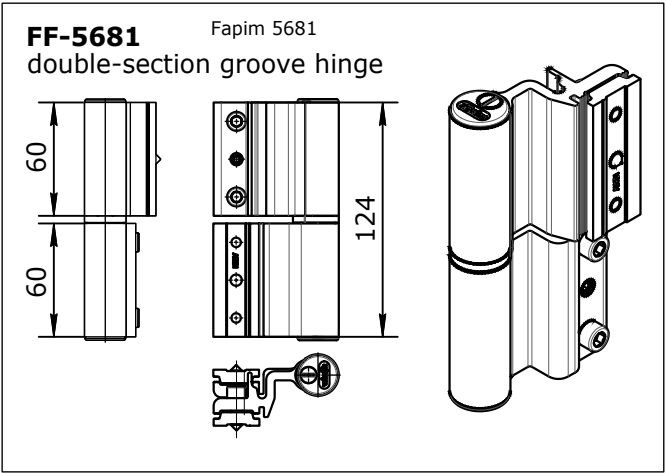
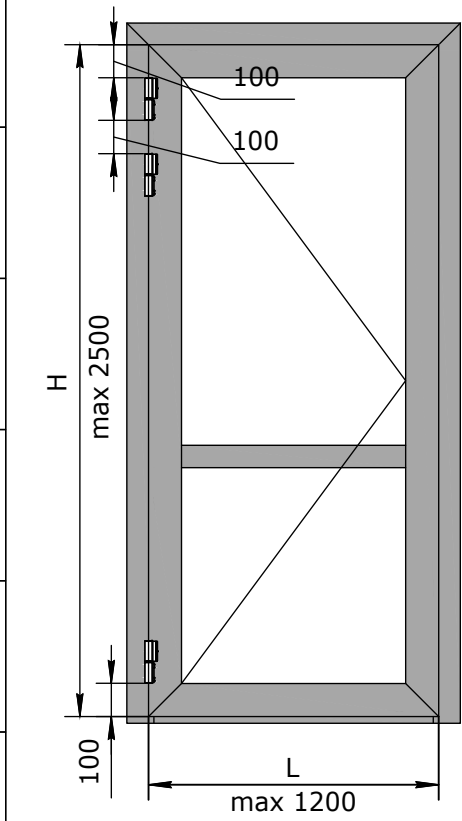


for public buildings
2 hinges — 110 kg
3 hinges — 126 kg

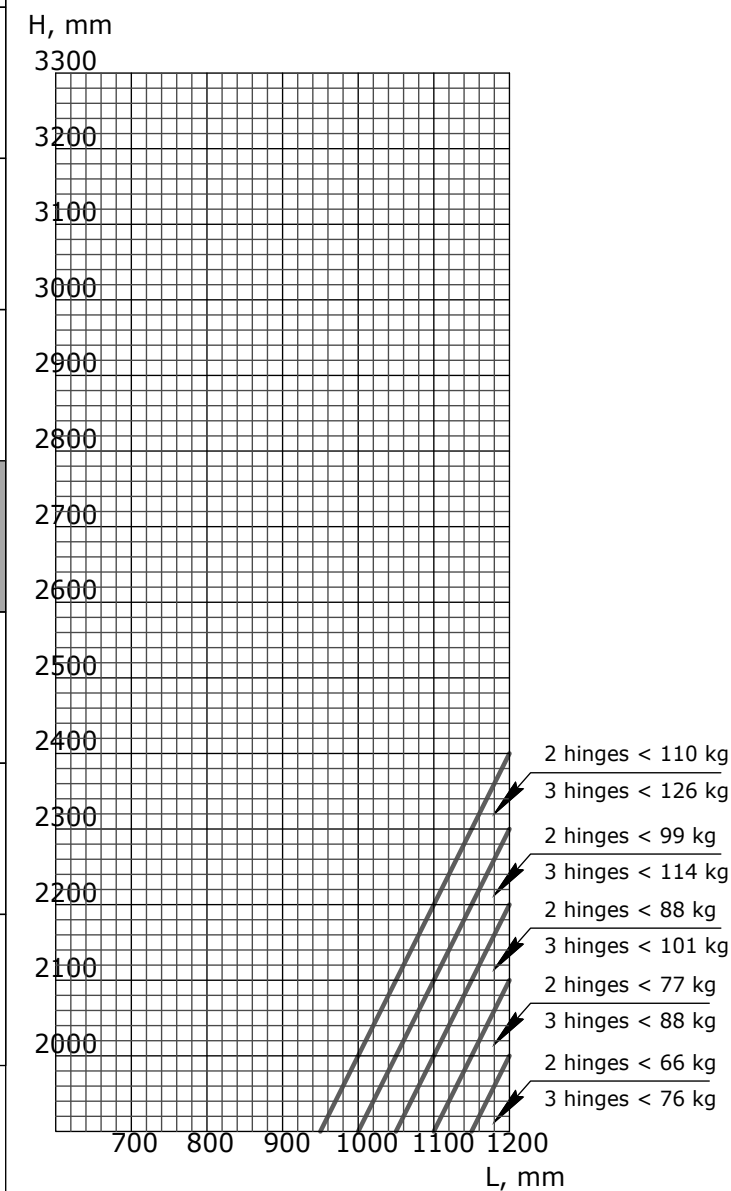


for public buildings, with
closer
2 hinges — 100 kg
3 hinges — 115 kg

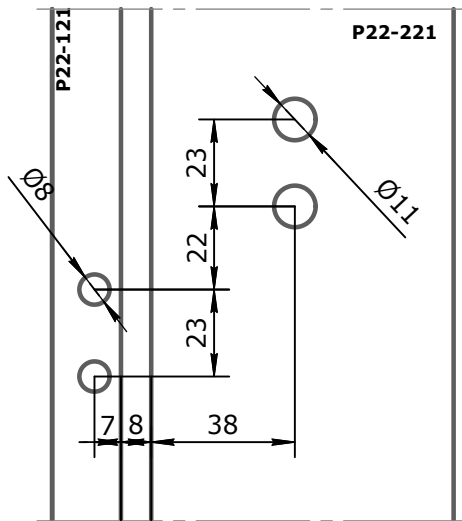
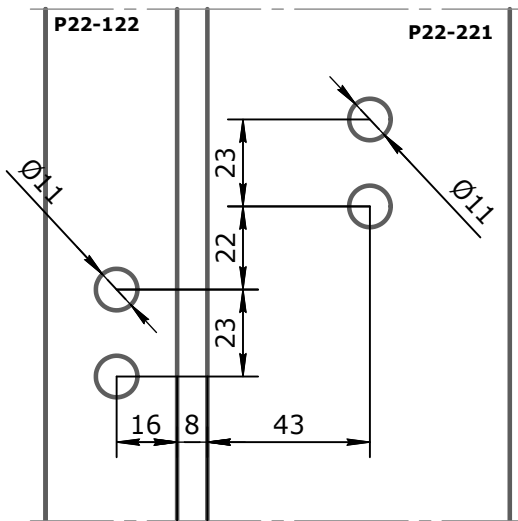
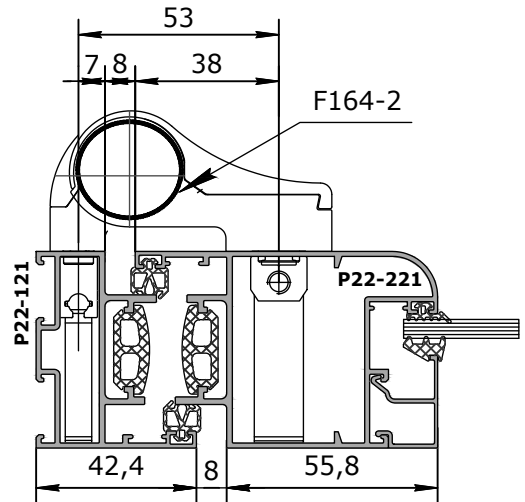
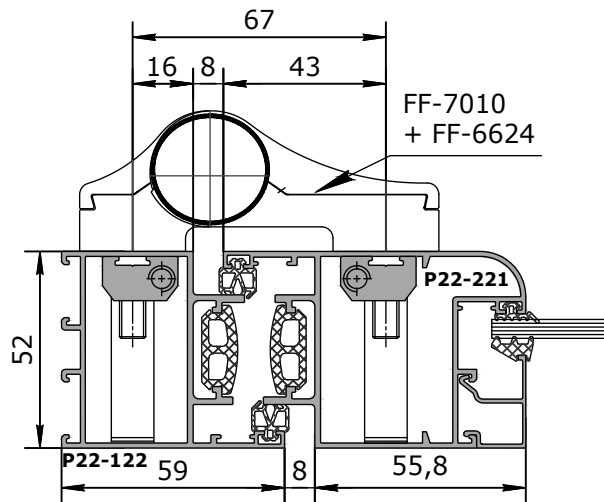
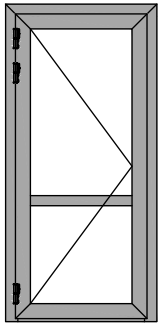
The sash weight should not exceed 126 kg



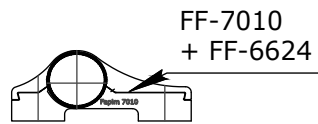
- Maximum load **for two hinges** is **110 kg** (for public buildings, without installation of door closer).
- Maximum load on hinges is indicated **for two hinges on a sash**, and for conditions when $H/L \geq 2$.
- In case H/L is below 2, maximum load is reduced by 10% for each value of the relation 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
2000	H/L=2.5 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=1.82 2 hinges < 88 kg 3 hinges < 101 kg	H/L=1.66 2 hinges < 66 kg 3 hinges < 76 kg
2100	H/L=2.6 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.1 2 hinges < 110 kg 3 hinges < 126 kg	H/L=1.9 2 hinges < 99 kg 3 hinges < 114 kg	H/L=1.75 2 hinges < 77 kg 3 hinges < 88 kg
2200	H/L=2.75 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.4 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=1.8 2 hinges < 88 kg 3 hinges < 101 kg
2300	H/L=2.87 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.5 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.1 2 hinges < 110 kg 3 hinges < 126 kg	H/L=1.9 2 hinges < 99 kg 3 hinges < 114 kg
2400	H/L=3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.6 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.4 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2 2 hinges < 110 kg 3 hinges < 126 kg
2500	H/L=3.1 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.7 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.5 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.08 2 hinges < 110 kg 3 hinges < 126 kg
2600	H/L=3.25 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.8 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.6 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.17 2 hinges < 110 kg 3 hinges < 126 kg
2700	H/L=3.37 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.7 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.4 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.25 2 hinges < 110 kg 3 hinges < 126 kg
2800	H/L=3.5 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.1 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.8 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.5 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.3 2 hinges < 110 kg 3 hinges < 126 kg
2900	H/L=3.6 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.9 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.6 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.4 2 hinges < 110 kg 3 hinges < 126 kg
3000	H/L=3.75 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.7 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.5 2 hinges < 110 kg 3 hinges < 126 kg
3100	H/L=3.8 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.4 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.1 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.8 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.58 2 hinges < 110 kg 3 hinges < 126 kg
3200	H/L=4 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.55 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.2 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.9 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.66 2 hinges < 110 kg 3 hinges < 126 kg
3300	H/L=4.125 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.33 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3.3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=3 2 hinges < 110 kg 3 hinges < 126 kg	H/L=2.75 2 hinges < 110 kg 3 hinges < 126 kg



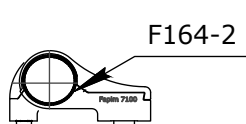
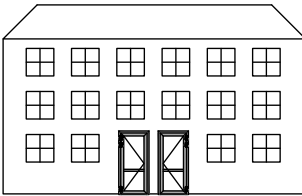
Maximum load on hinges



for public buildings

double-section hinges
2 hinges — 145 kg
3 hinges — 165 kg

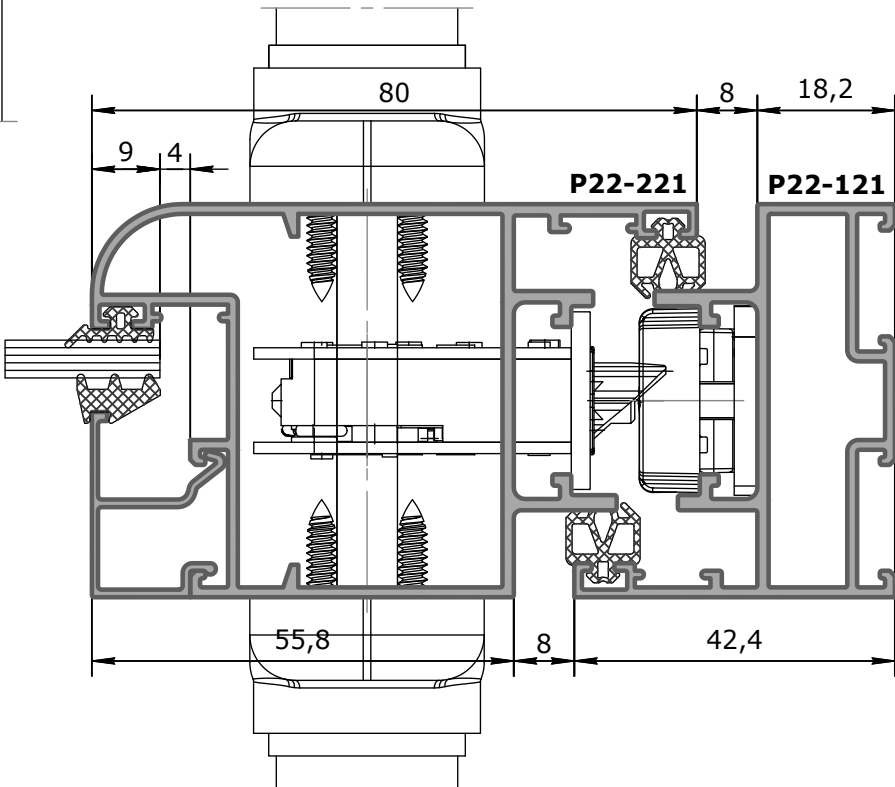
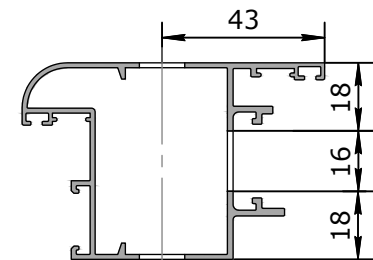
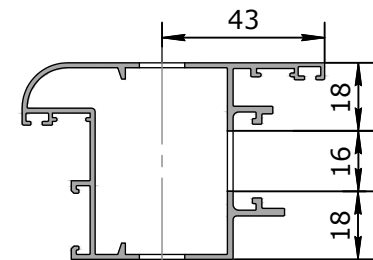
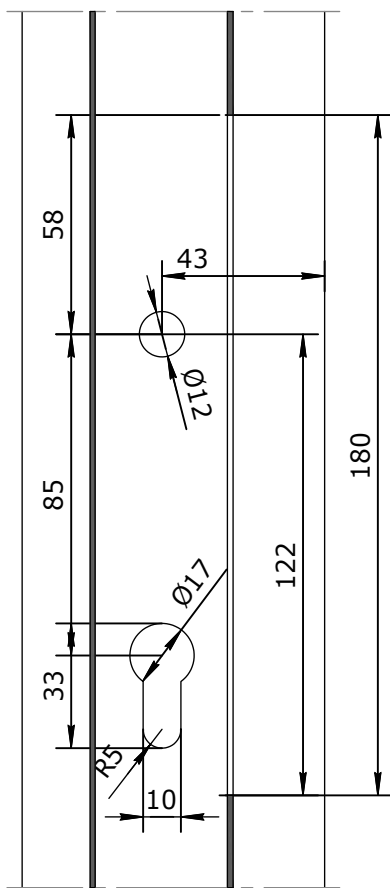
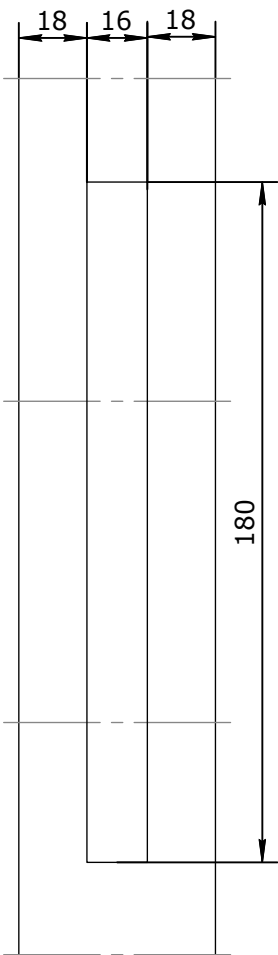
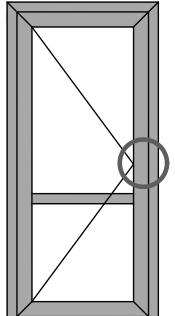
three-section hinges
2 hinges — 150 kg
3 hinges — 170 kg



for public buildings

double-section hinges
2 hinges — 90 kg
3 hinges — 100 kg

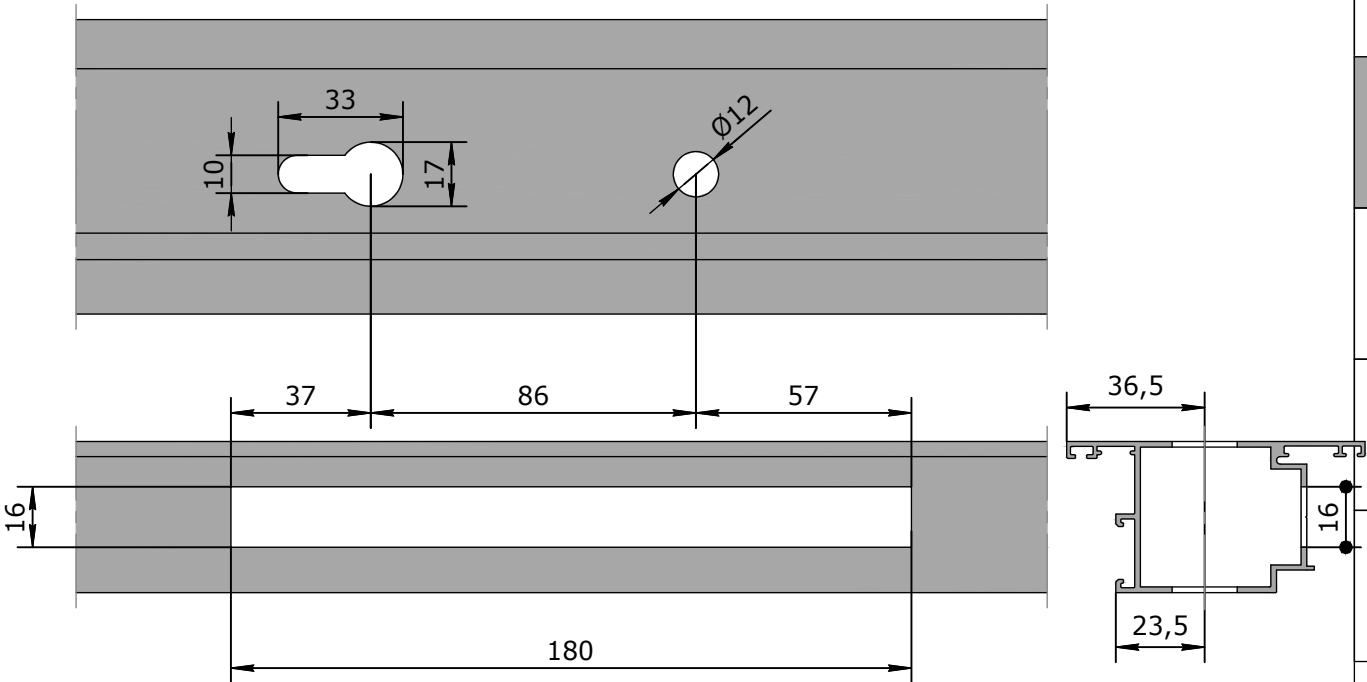
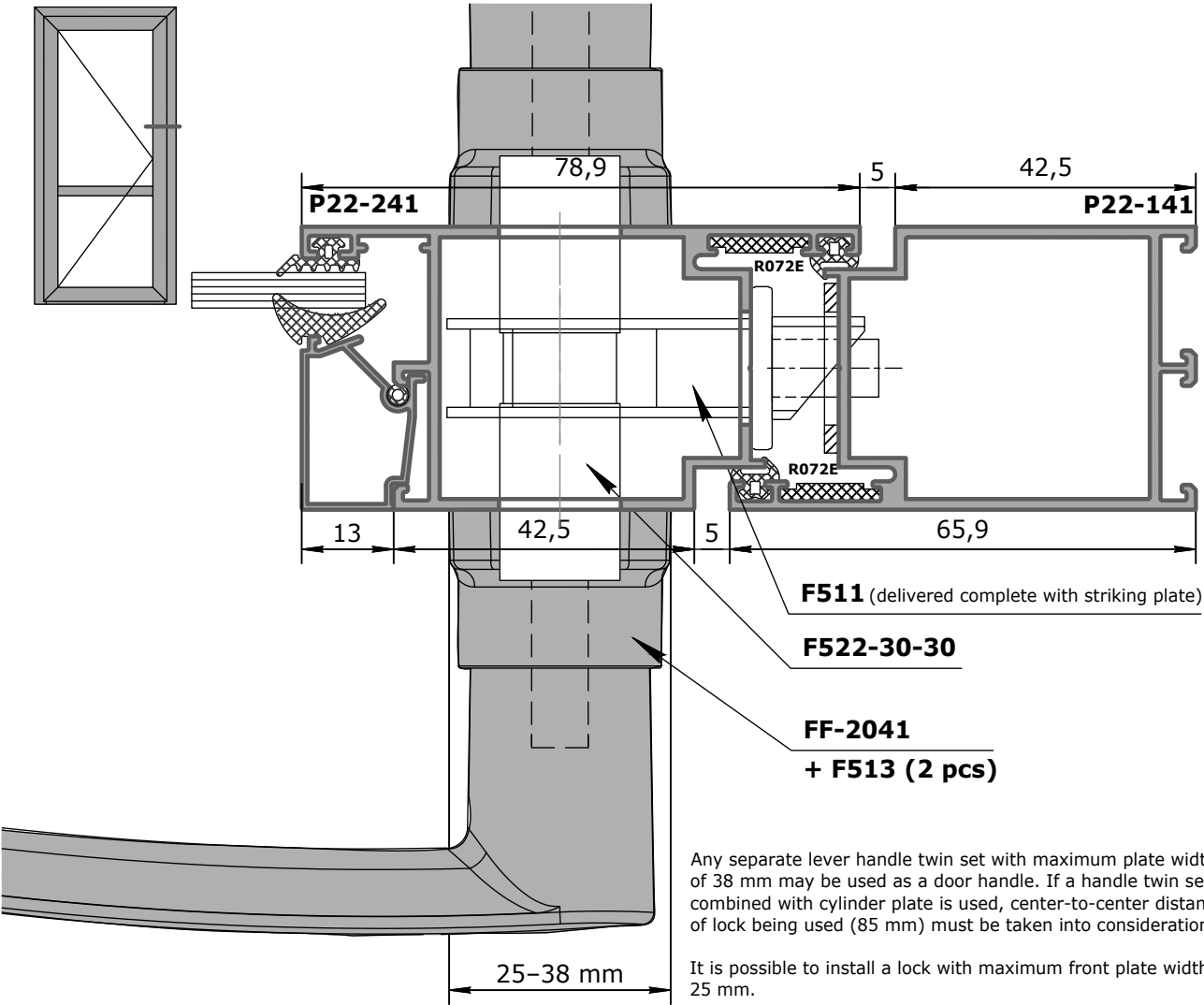
three-section hinges
2 hinges — 110 kg
3 hinges — 126 kg

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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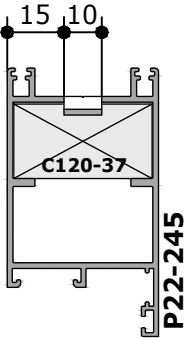
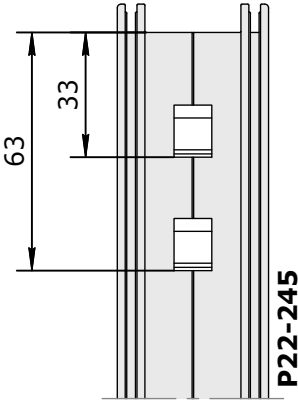
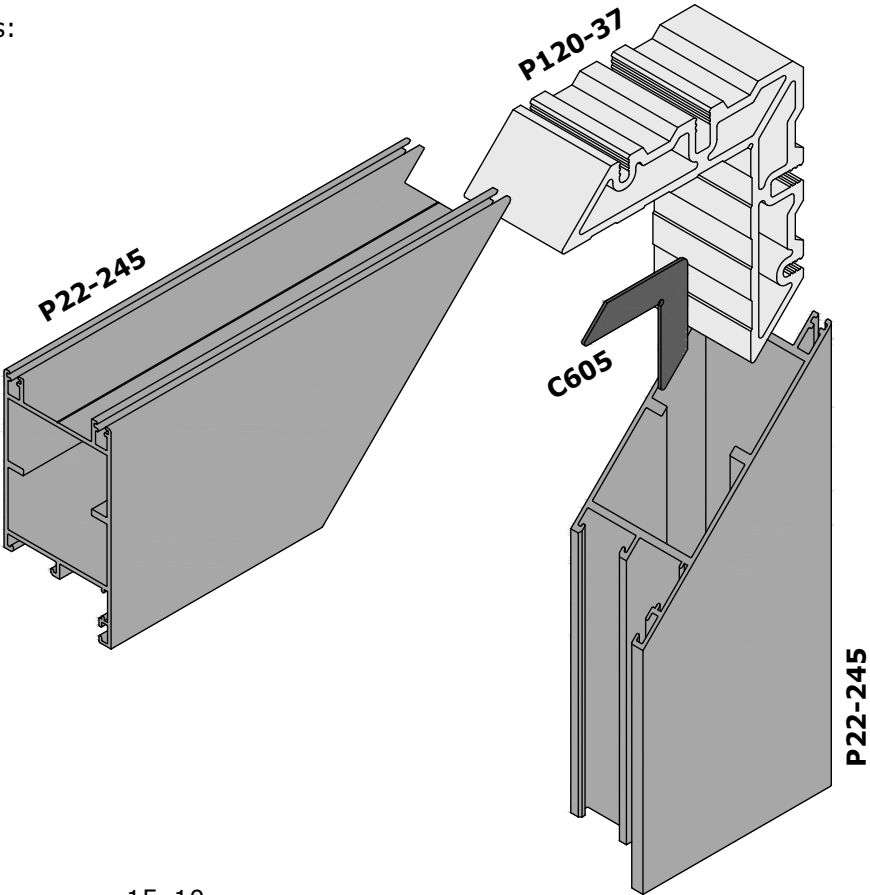
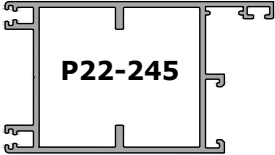
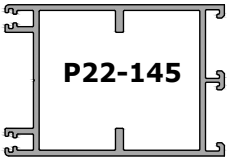
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page 08-72

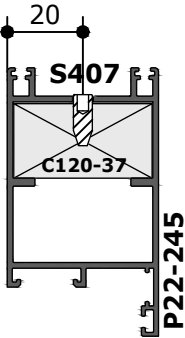
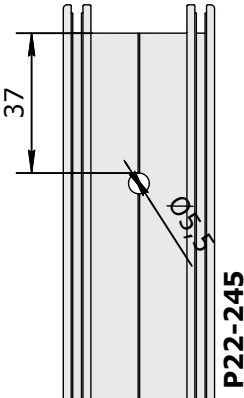
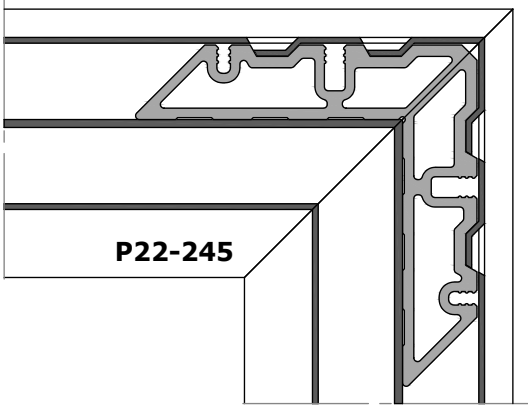


L-joint assembly: Sash P22-245

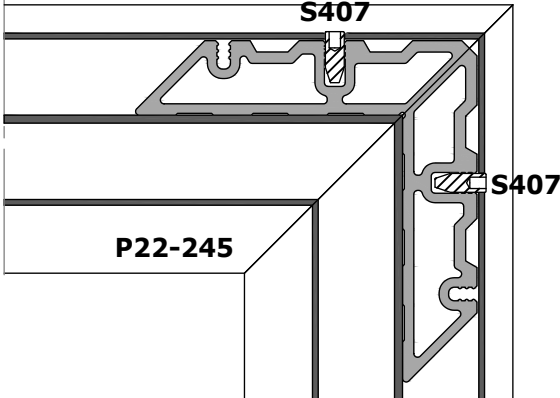
This assembly is valid (with small changes) for corner joints of the following profiles:



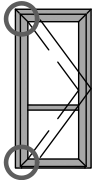
Assembly by squeezing



Assembled on pins

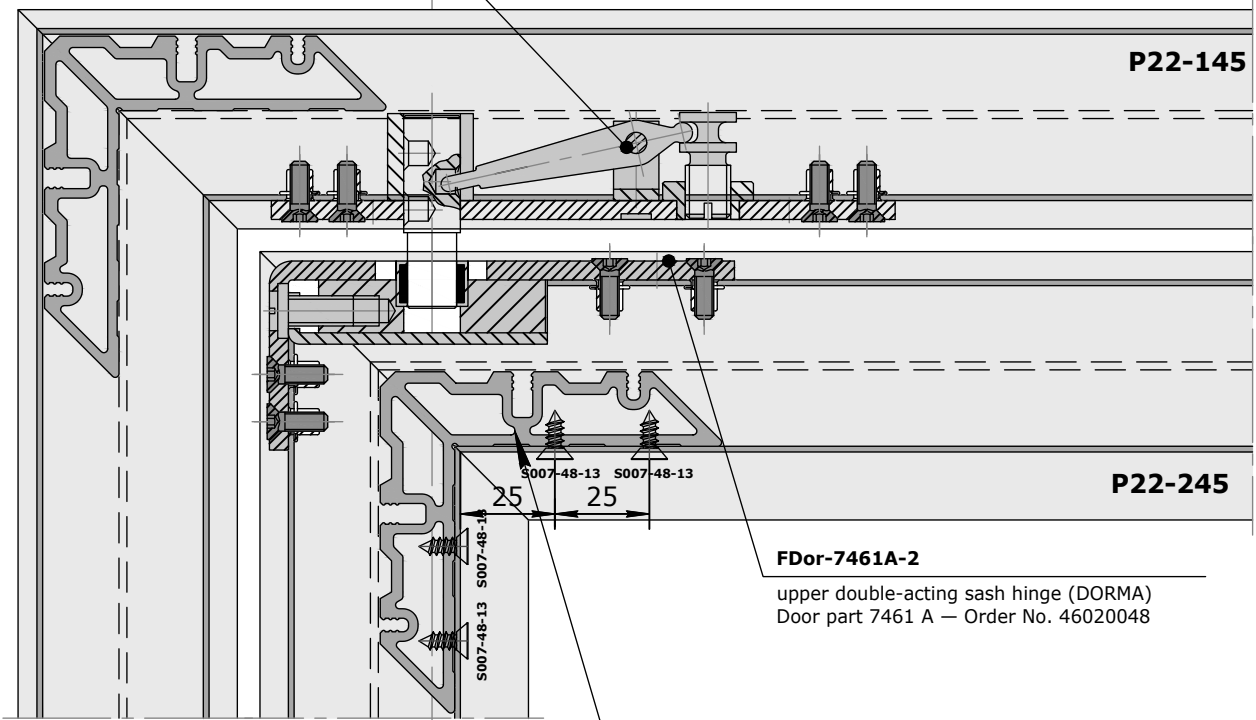


Installation
of double-acting fittings



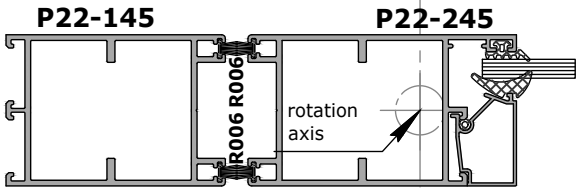
FDor-7461A-1

upper double-acting hinge
(DORMA)
Frame part 7461 A — Order No. 46020050

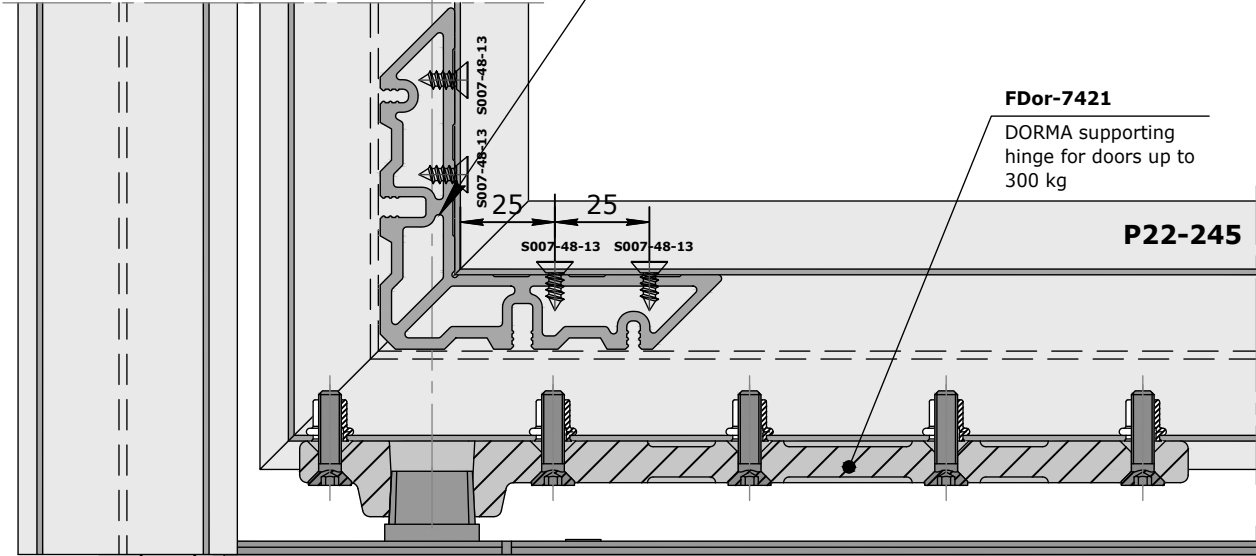


FDor-7461A-2

upper double-acting sash hinge (DORMA)
Door part 7461 A — Order No. 46020048



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-7421

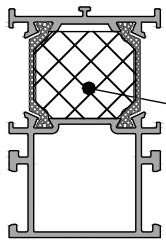
DORMA supporting
hinge for doors up to
300 kg

FDor-BTS80

DORMA floor closer

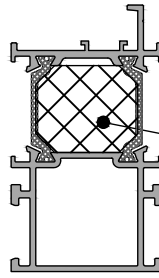
[illegible]

P71-016-01



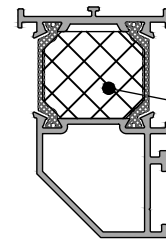
RPP-02-2327

P71-016-02



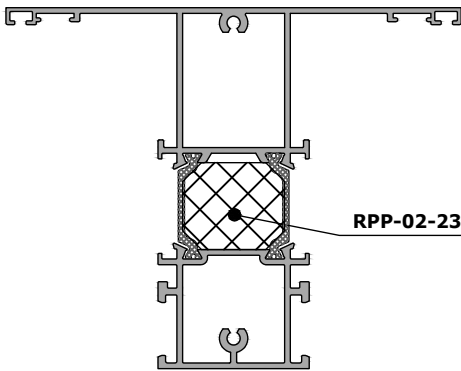
RPP-02-2327

P71-016-03



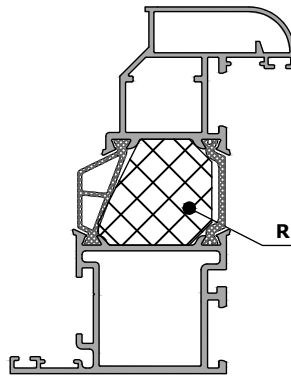
RPP-02-2327

P71-416-01



RPP-02-2327

P71v-207-22

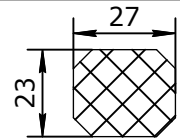


RPP-02-2830

RPP-02-2327

foamed
insert
23x27 mm

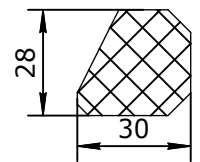
Scale 1:2



RPP-02-2830

foamed
insert
28x30 mm

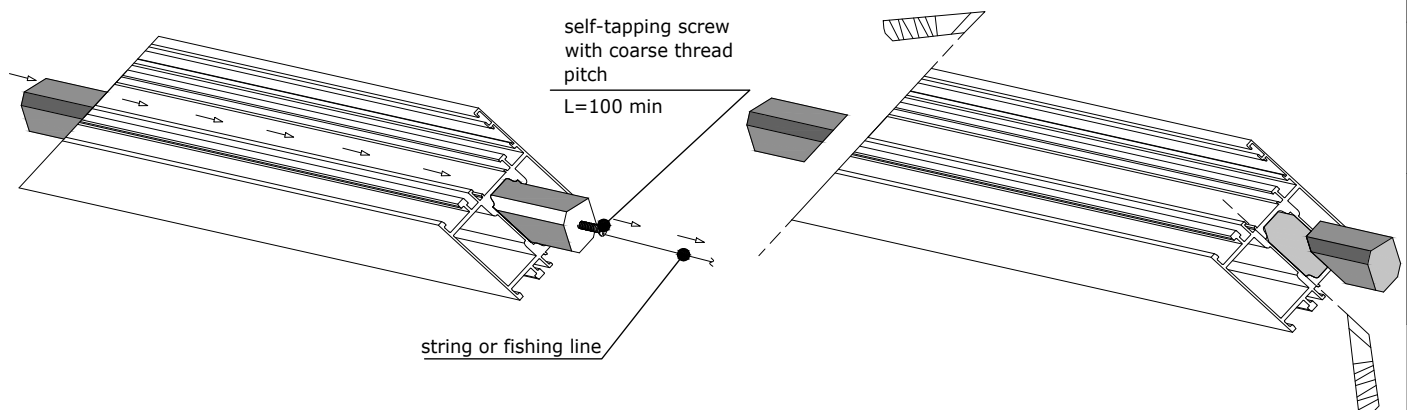
Scale 1:2



Installation of RPP in the cavities of thermal bridge chambers

- RPP installation is mandatory for all MastTech systems, all profiles with thermal bridges.
- After cutting the aluminum profiles (painted or anodized) to the required length and at the required angle, insert the RPP into the cavity between thermal bridges.
- Use a string or fishing line to draw the RPP into the cavity.
- Draw RPP with a 15 mm allowance for profiles cut at 90° and a 30mm allowance for profiles cut at other angles.
- Once the RPP is installed with an allowance on both ends of the profile, trim it with a mounting or stationery knife.

*** Installing the RPP in the profiles before cutting is PROHIBITED!**



page 09-03

[illegible]

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.

[illegible]

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.

[illegible]

profiles



profiles (1:1)



glazing tables



fittings layout



sub-assemblies

stained glass

connections

equipment

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

profiles

scope of delivery

profiles (1:1)

sections

glazing tables

assemblies

fittings layout

additional

sub-assemblies

stained glass
insulation

connections

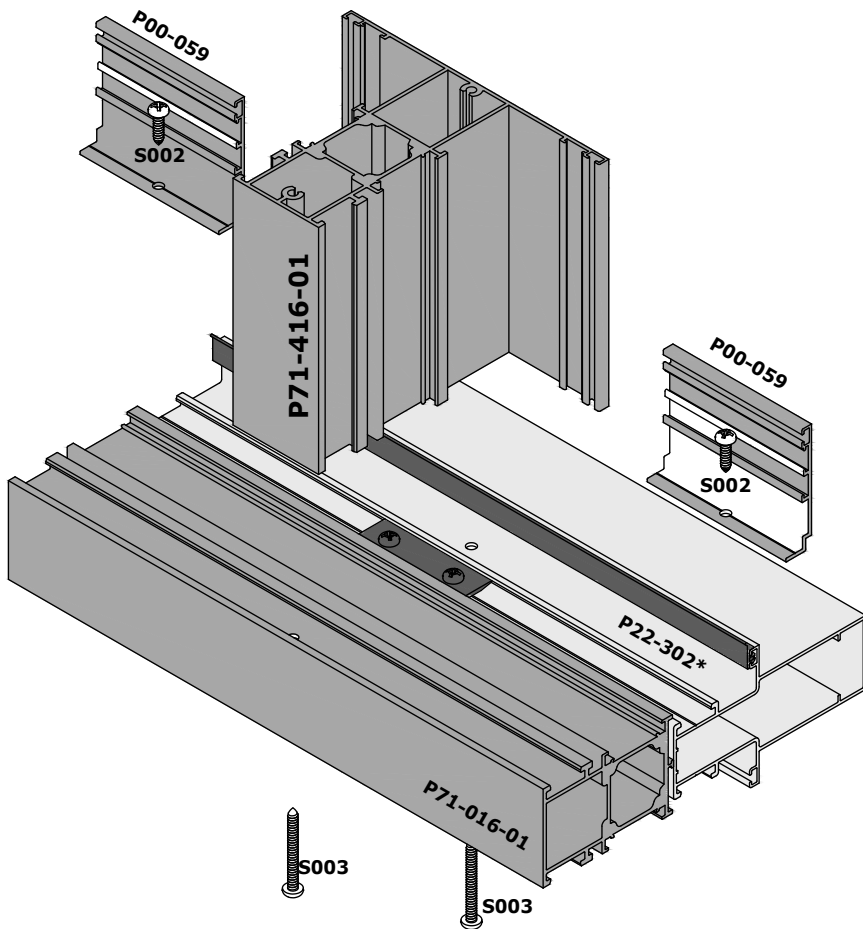
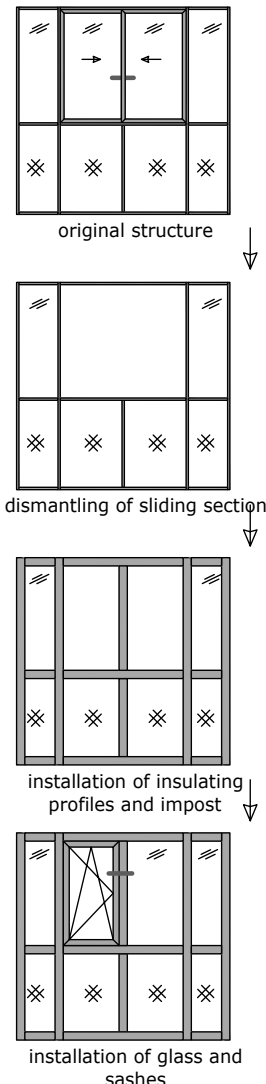
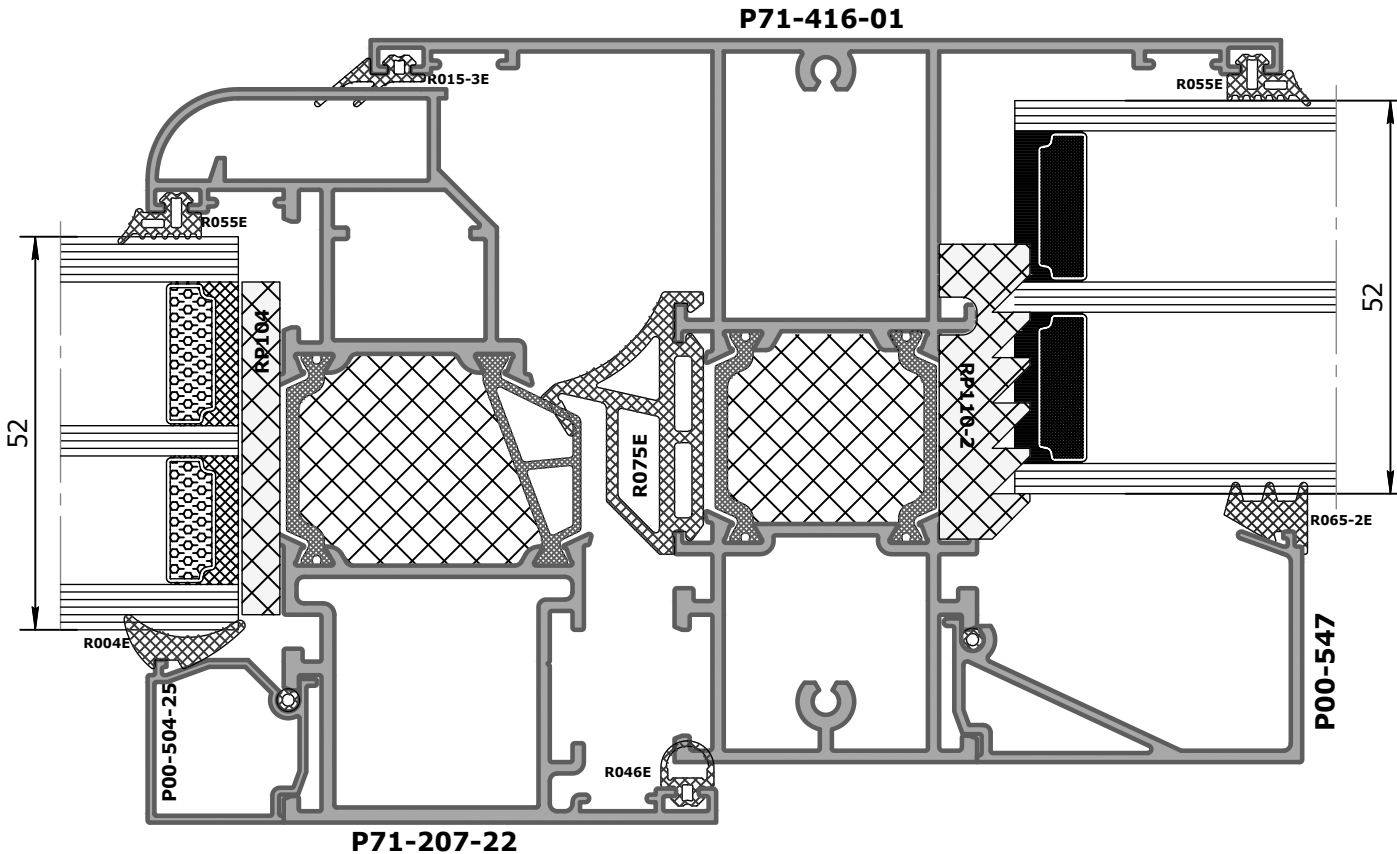
equipment

page 09-08

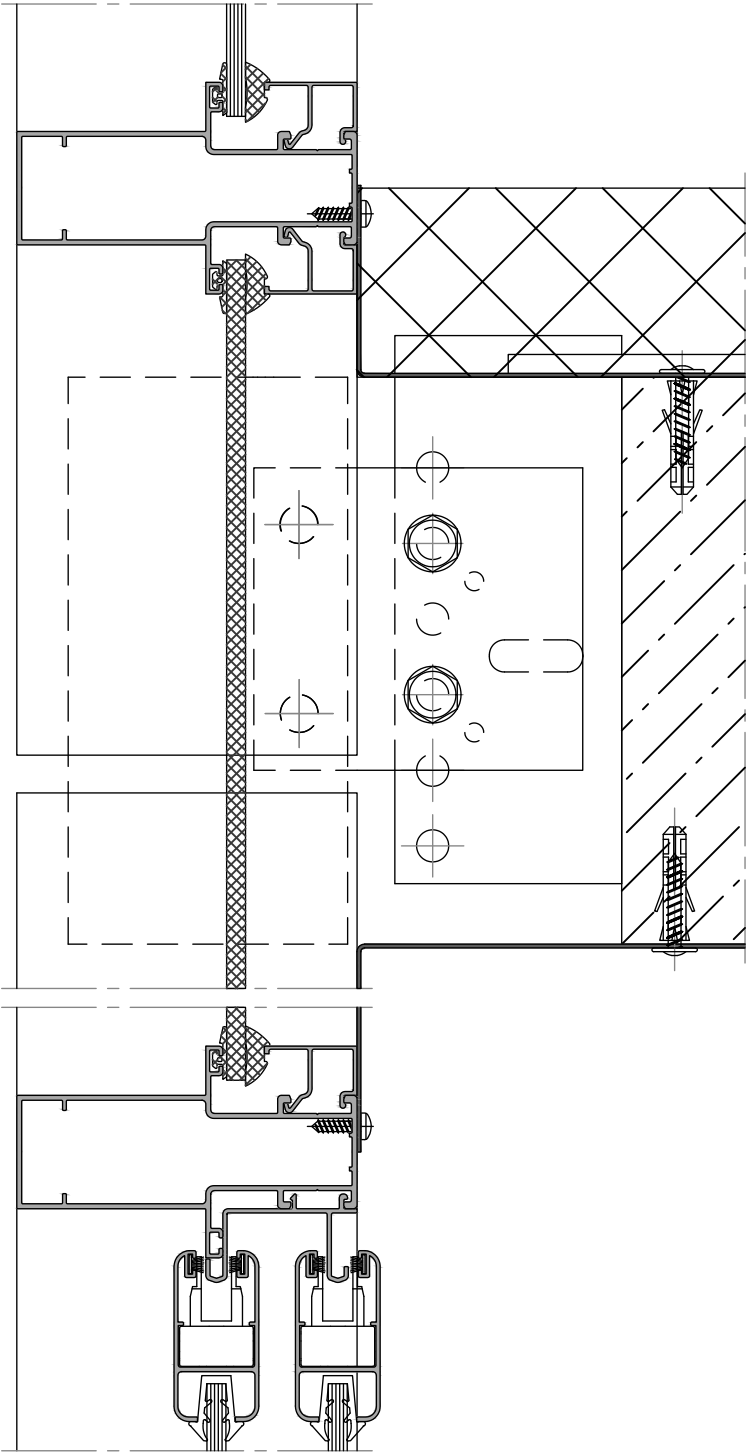
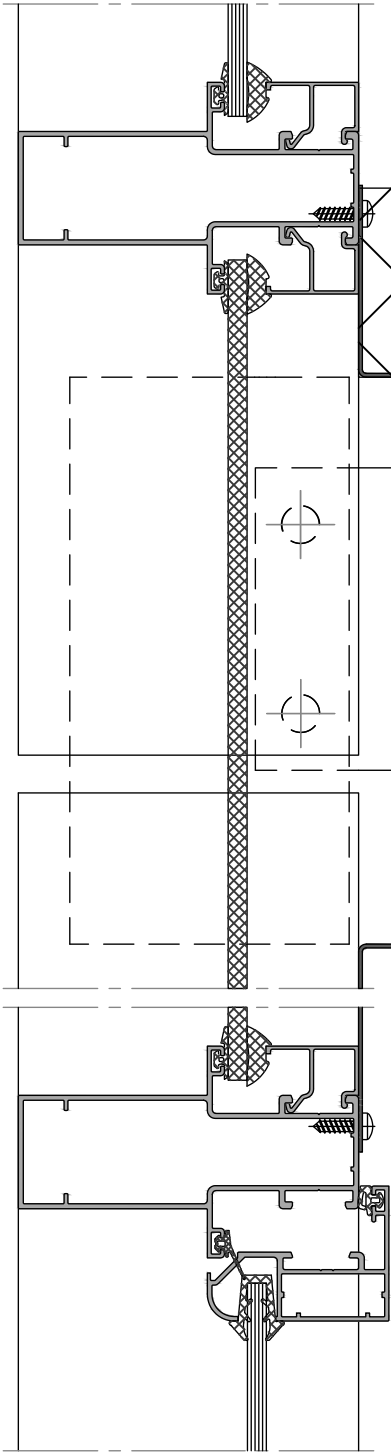
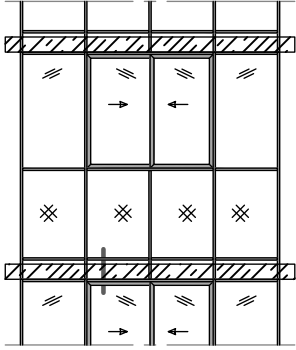
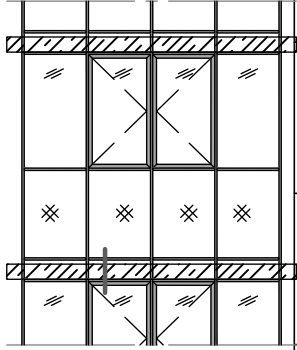
page 09-09

[illegible]

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 drawing illustrates a complex window assembly with multiple panes and structural elements. Key components and labels include: Labels: P22-014, P22-016, P22-016-43, P00-059, P00-030, P71-016-03, P71-207-22, P00-504-25, P00-507-2, P00-910-17p, P22-050, S003, S002, F22-050, R015-2E, R015-3E, R055E, R046E, R065-2E, R075E, R044, R004E. Dimensions: 52 (width of a base section), 300 (pitch for F22-050), 500 (pitch for F22-050). Structural Elements: A central circular opening, a large rectangular opening, and a base section with a width of 52. Assembly Details: Various profiles, sub-assemblies, and fittings are shown, including a central pane labeled P71-016-03 and a base pane labeled P00-504-25.												
Two 1:1 profile drawings are shown, illustrating the cross-sections of the window assembly. The left profile shows a cross-section of a pane with a central opening, and the right profile shows a cross-section of a pane with a central opening and a base section.												

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
												
												

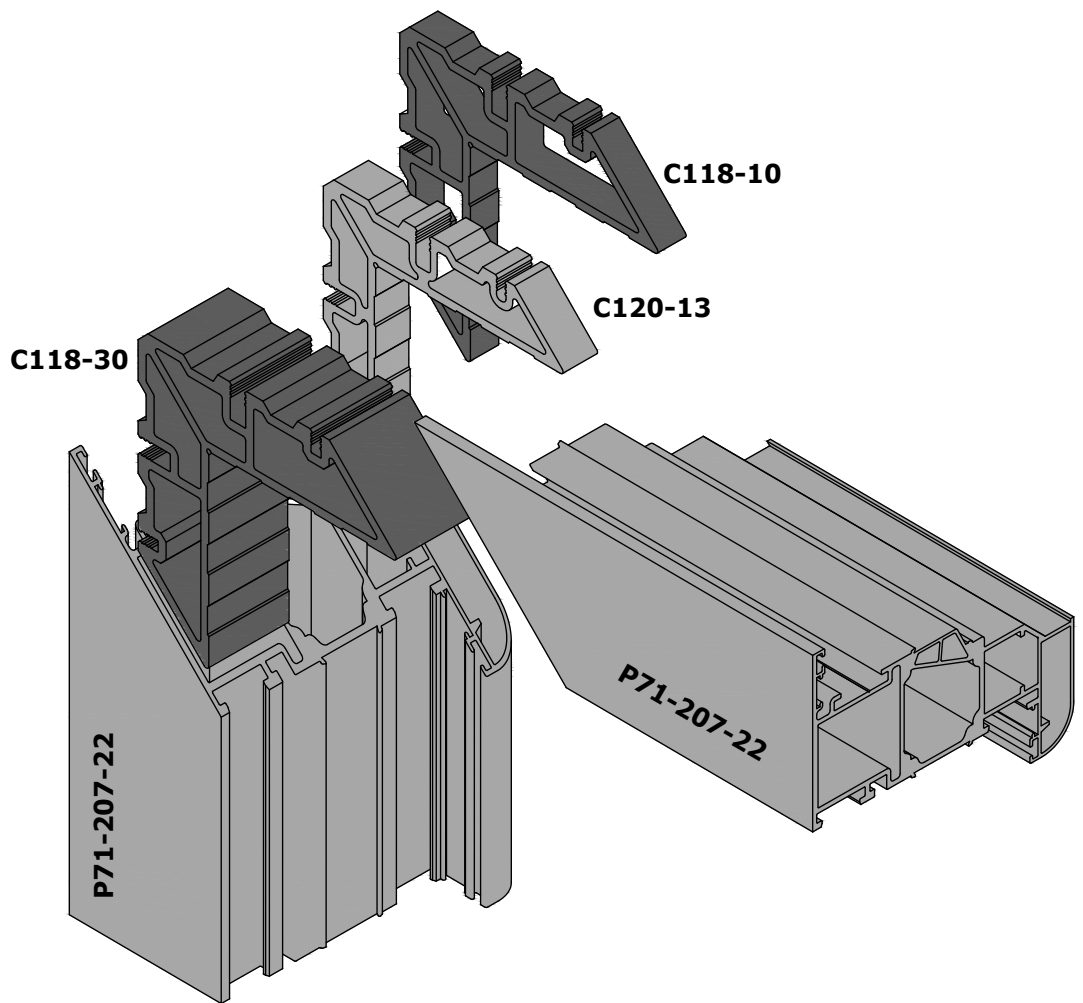
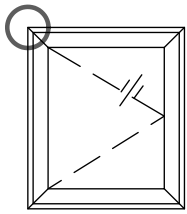
[illegible]

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
												
original assembly												
												
original assembly												
												
original assembly												
												
original assembly												

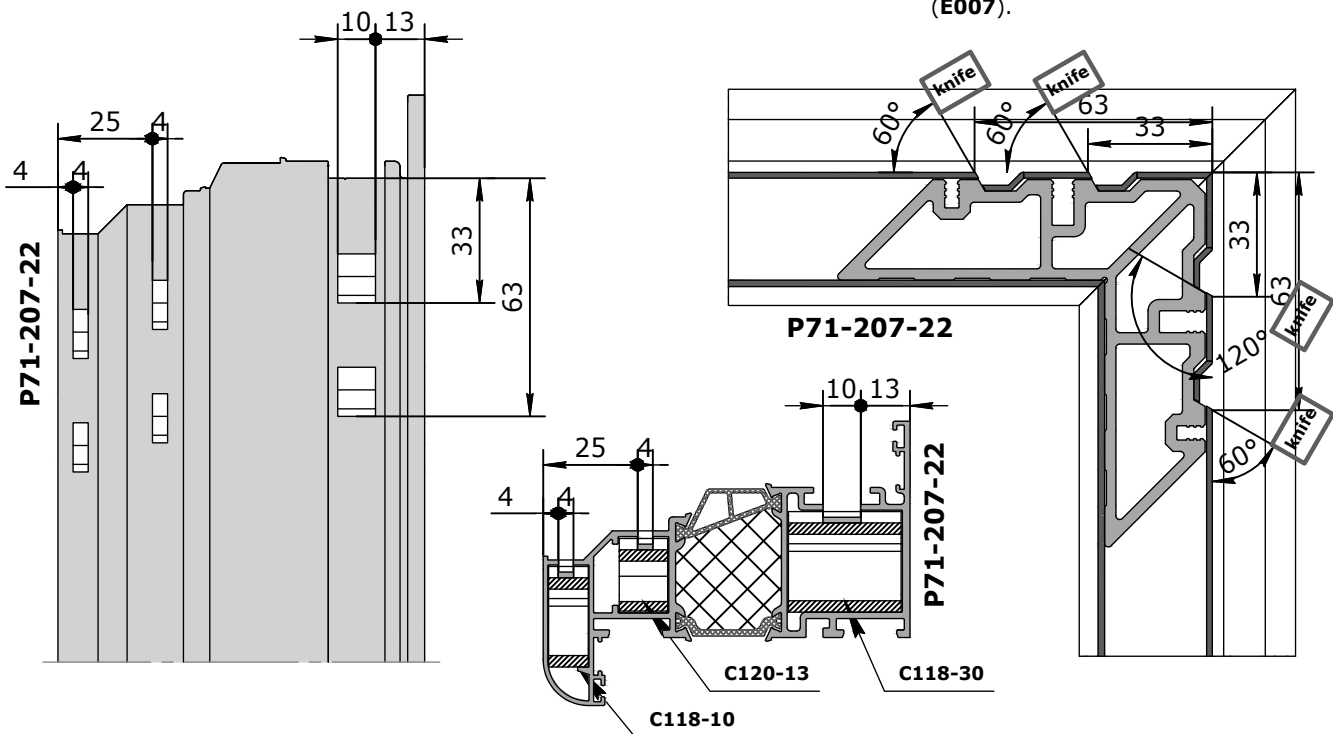
[illegible]

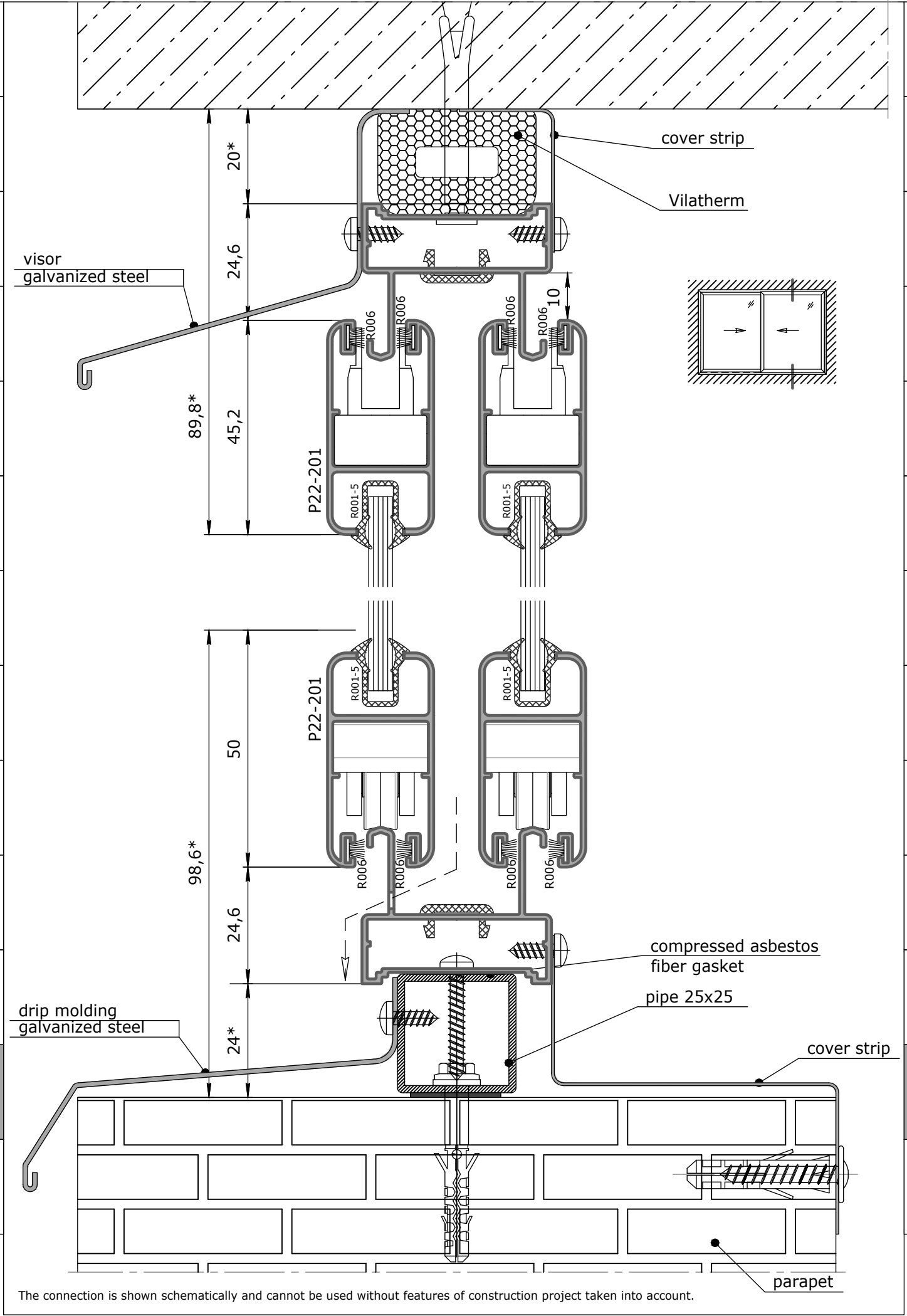
contents	Mullion plate installation area For installation on a Masttech-22 stained glass window, press against the internal projection. For installation on a Masttech-24 stained glass window, press against the external projection.	contents
profiles		profiles
scope of delivery		scope of delivery
profiles (1:1)		profiles (1:1)
sections		sections
glazing tables		glazing tables
sub-assemblies tables		sub-assemblies tables
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

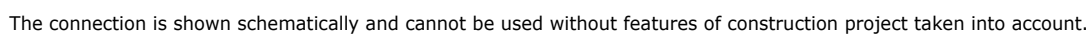
L-joint assembly: sash P71-207-22



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**).

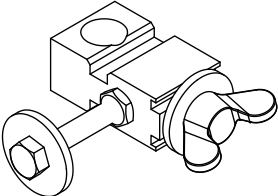
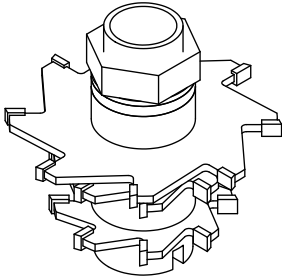
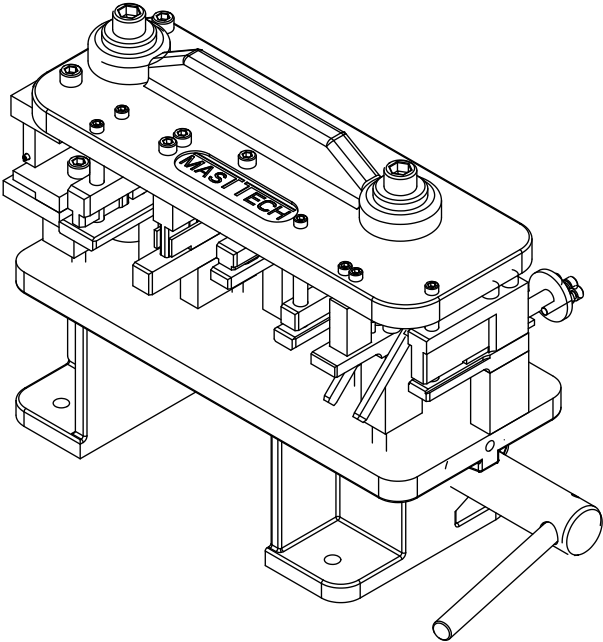
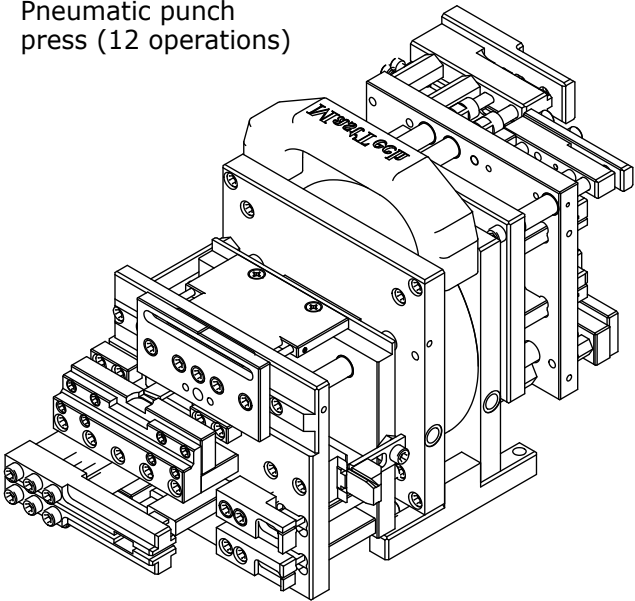






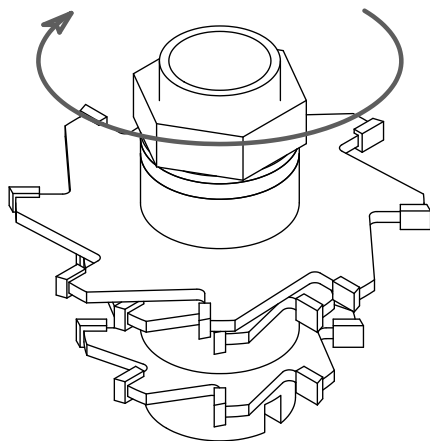
The connection is shown schematically and cannot be used without features of construction project taken into account.

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

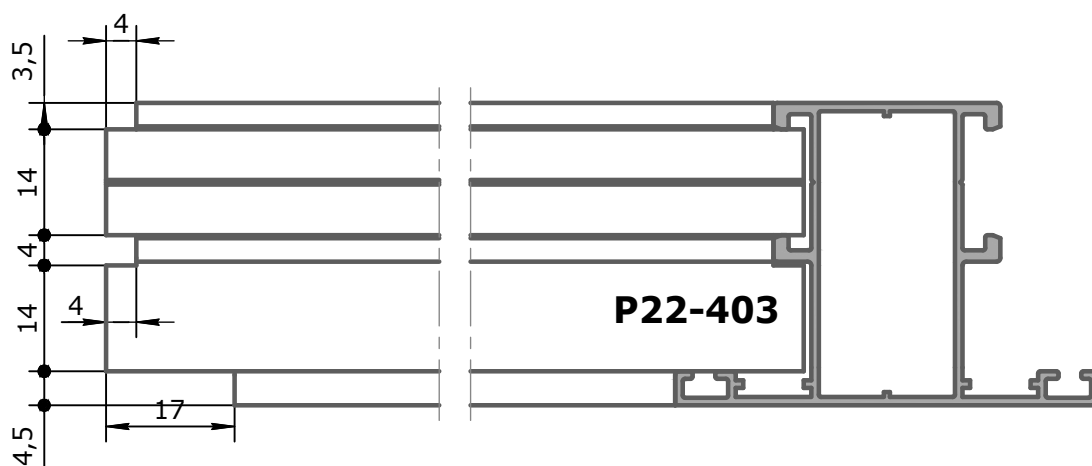
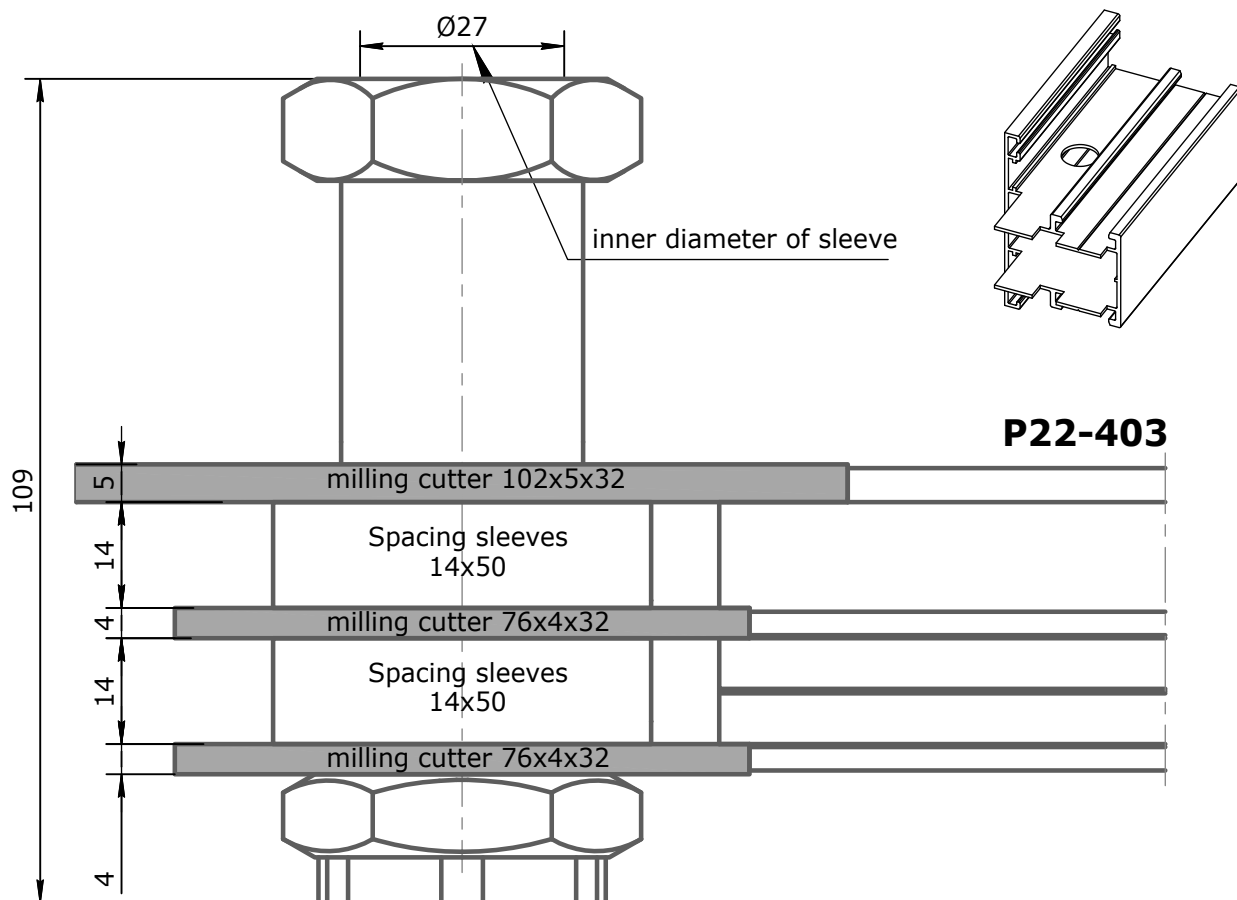
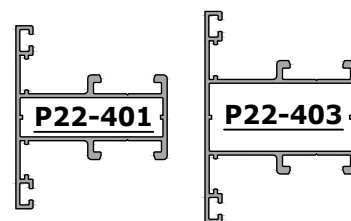
contents	profiles	scope of delivery	profiles (1:1)	sections	glazing tables	sub-assemblies tables	fittings layout	additional solutions	sub-assemblies	stained glass insulation	connections	equipment and tools
E001 Gasket packing roller												
E005 Cyanoacrylate adhesive for gaskets												
E006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

E405

Gang milling cutter for **MastTech-22** profiles

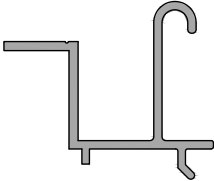


Profiles machined



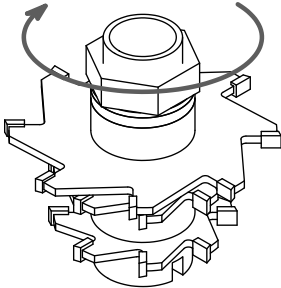
contents	contents
profiles	profiles
scope of delivery	scope of delivery
profiles (1:1)	profiles (1:1)
sections	sections
glazing tables	glazing tables
sub-assemblies tables	sub-assemblies tables
fittings layout	fittings layout
additional solutions	additional solutions
sub-assemblies	sub-assemblies
stained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

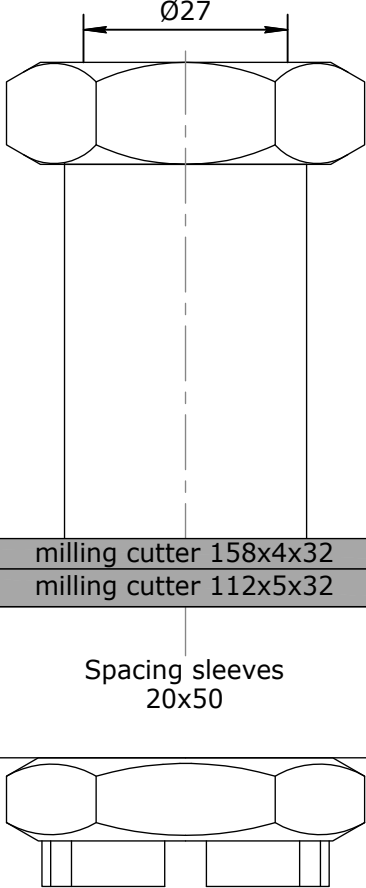
Profiles machined



P22-021

E418
Gang milling cutter for **MastTech-22**
profiles sliding section with fixed part

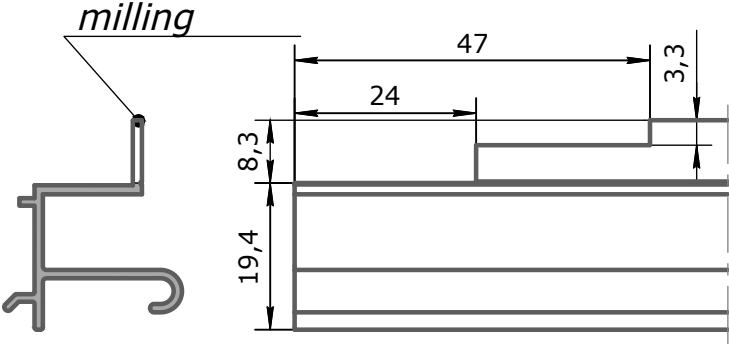




Ø27

milling cutter 158x4x32
milling cutter 112x5x32

Spacing sleeves
20x50



milling

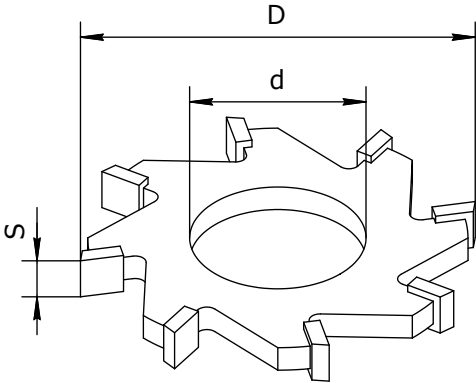
19,4

8,3

24

47

3,3



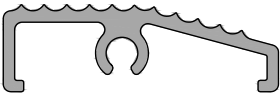
D

d

S

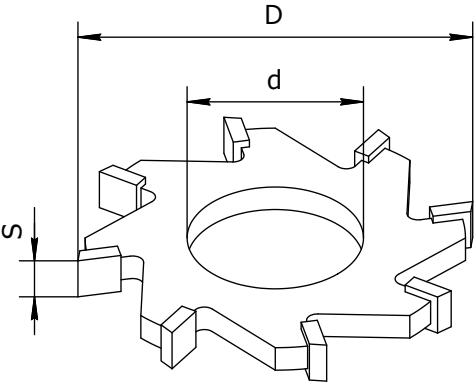
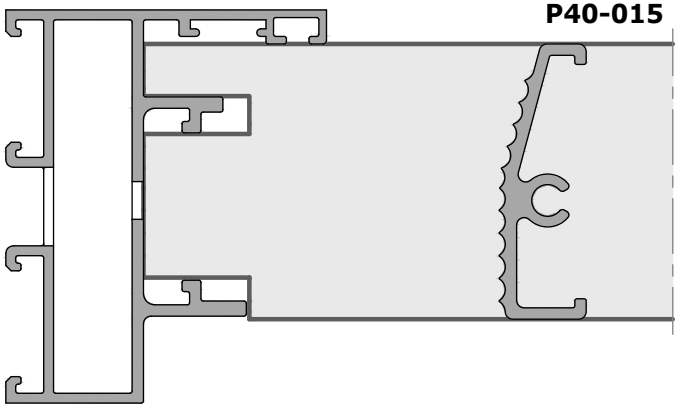
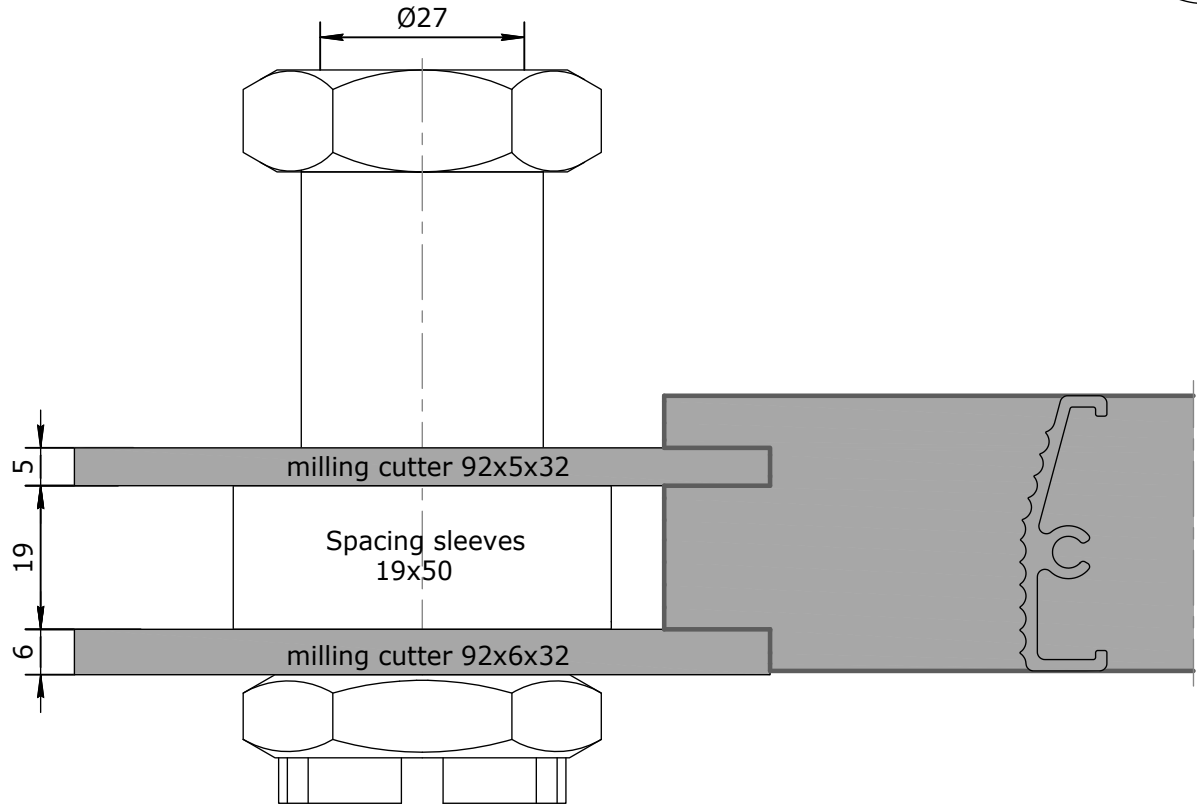
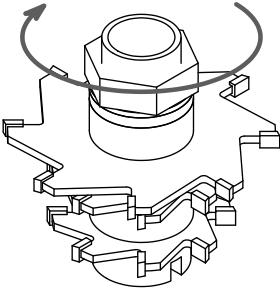
	D	S	d	qty
E400-158-4:	158	4	32	1
E400-112-5:	112	5	32	1

Profiles machined

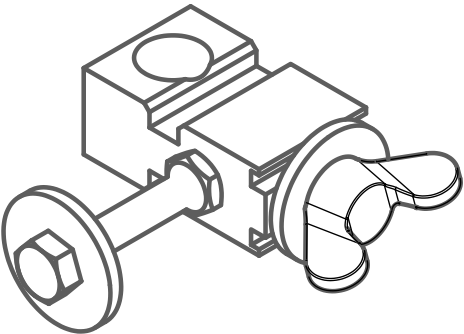
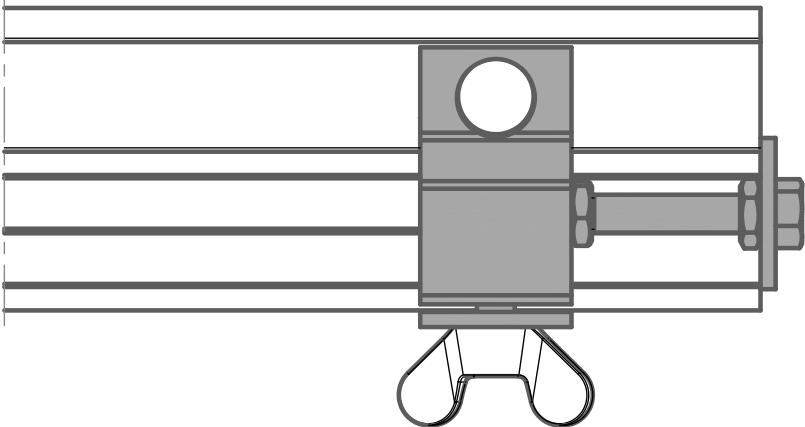
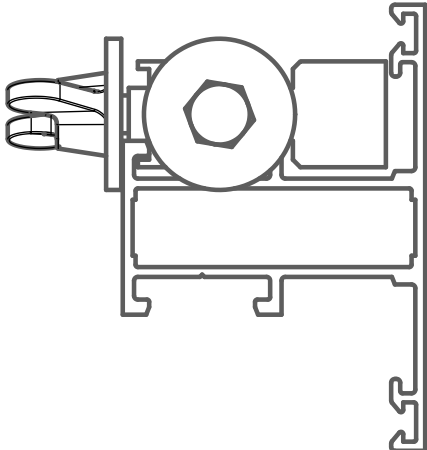
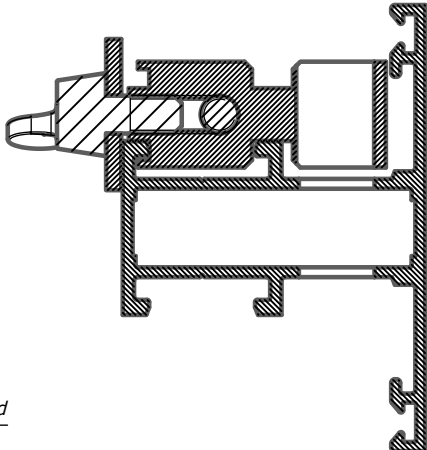
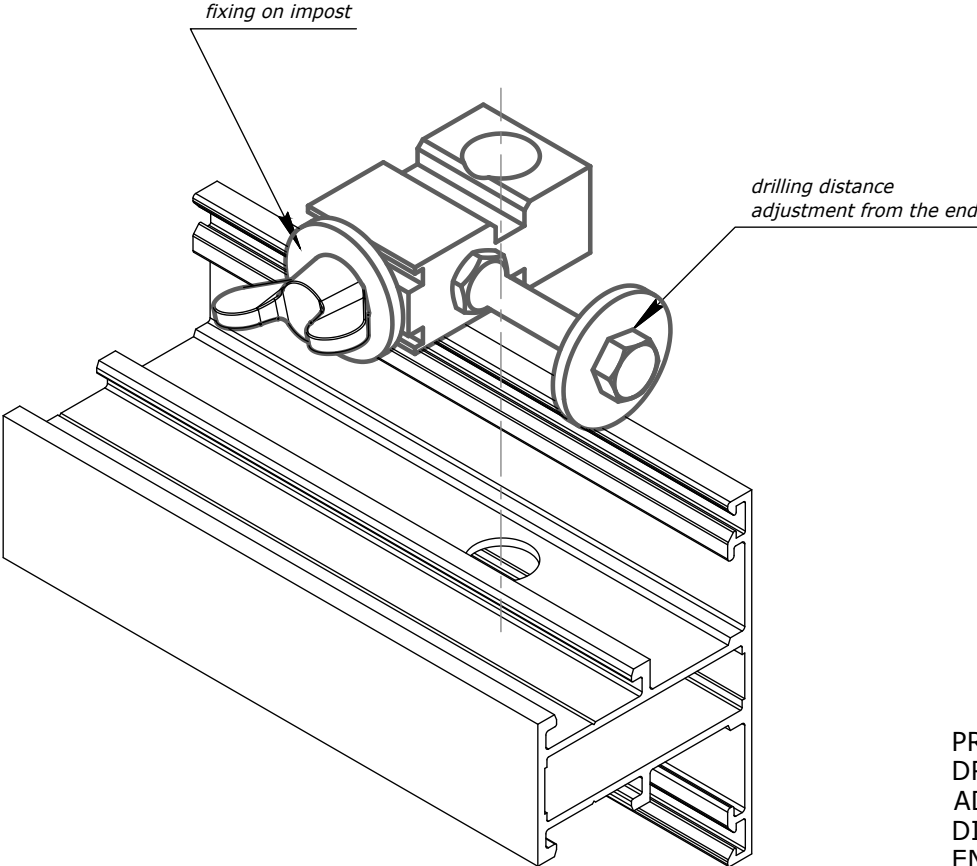


P40-015

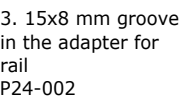
E415
Gang milling cutter for
MastTech-22 profiles doors



disk cutters used in the kit				
	D	S	d	qty
E400-92-6:	92	6	32	1
E400-92-5:	92	5	32	1

contents	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.  E104 — drilling jig for impost machining    <i>fixing on impost</i>  <i>drilling distance adjustment from the end</i> PRIOR TO SERIAL USE, THE DRILLING JIG MUST BE ADJUSTED, THE DRILLING DISTANCE FROM THE PROFILE END MUST BE SET.	contents
profiles		profiles
scope of delivery		scope of delivery
profiles (1:1)		profiles (1:1)
sections		sections
glazing tables		glazing tables
sub-assemblies tables		sub-assemblies tables
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

Manual punch press
(7 operations)

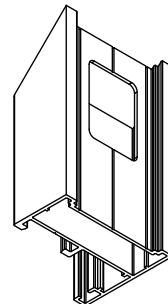
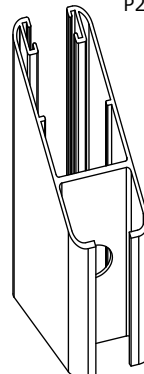


4. Hole and groove in the
profile for block C105
P40-101 P40-102
P40-201

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

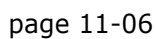
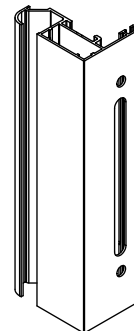
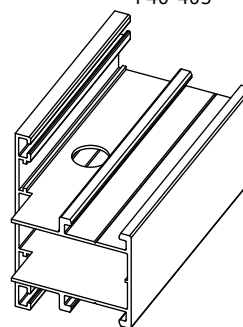
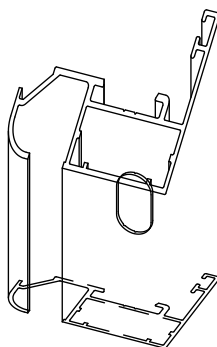
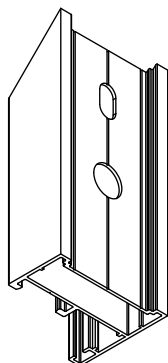
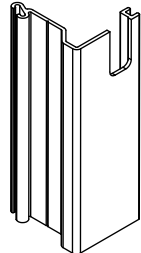
1. 10.5 mm hole in the
sash for block C102
P22-201 P24-201
P24-202

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



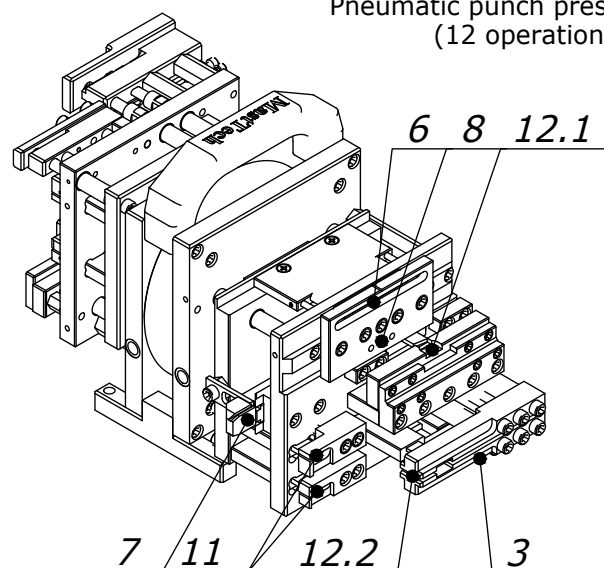
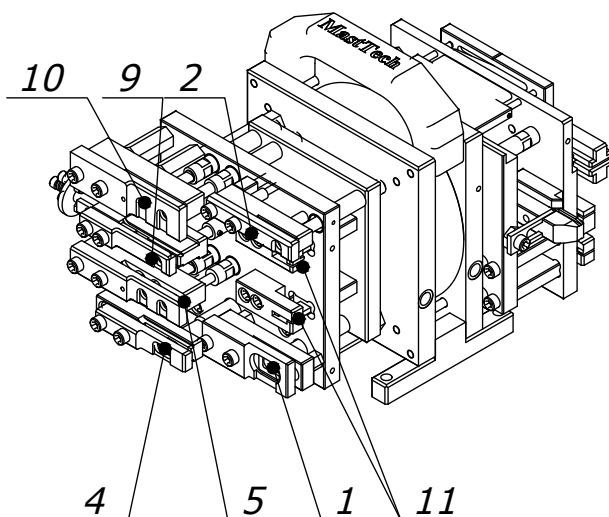
6. 10 mm hole in the
impot for block C502
P40-401 P40-402
P40-404 P40-403
P40-405

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



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

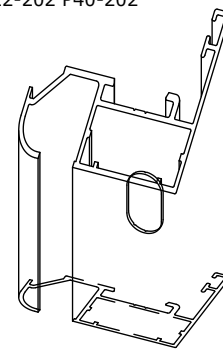
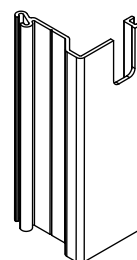
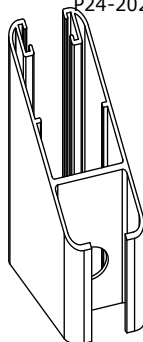
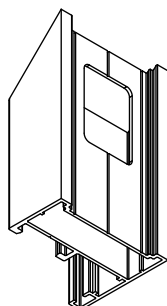
P22-201 P24-201
P24-202

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

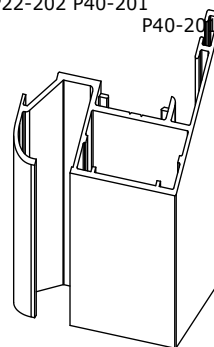
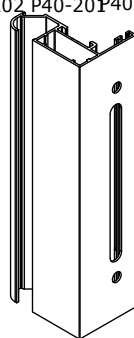
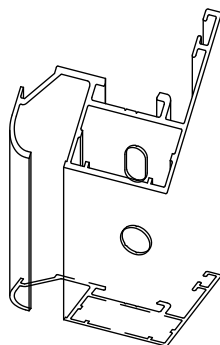
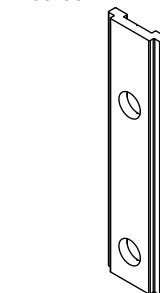
6. Groove and holes
in the sash for
handle.

P22-202 P40-20 P40-201

7. Fitting groove
opening

P22-202 P40-201
P40-202

8. 8 mm hole in
the pull rod



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

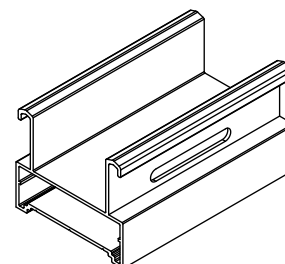
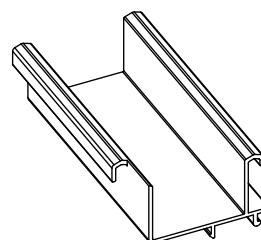
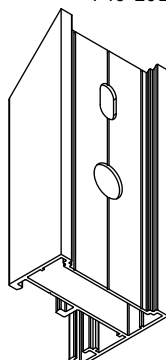
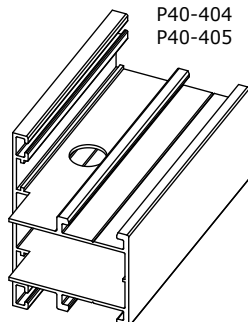
P22-102 P40-102
P40-201

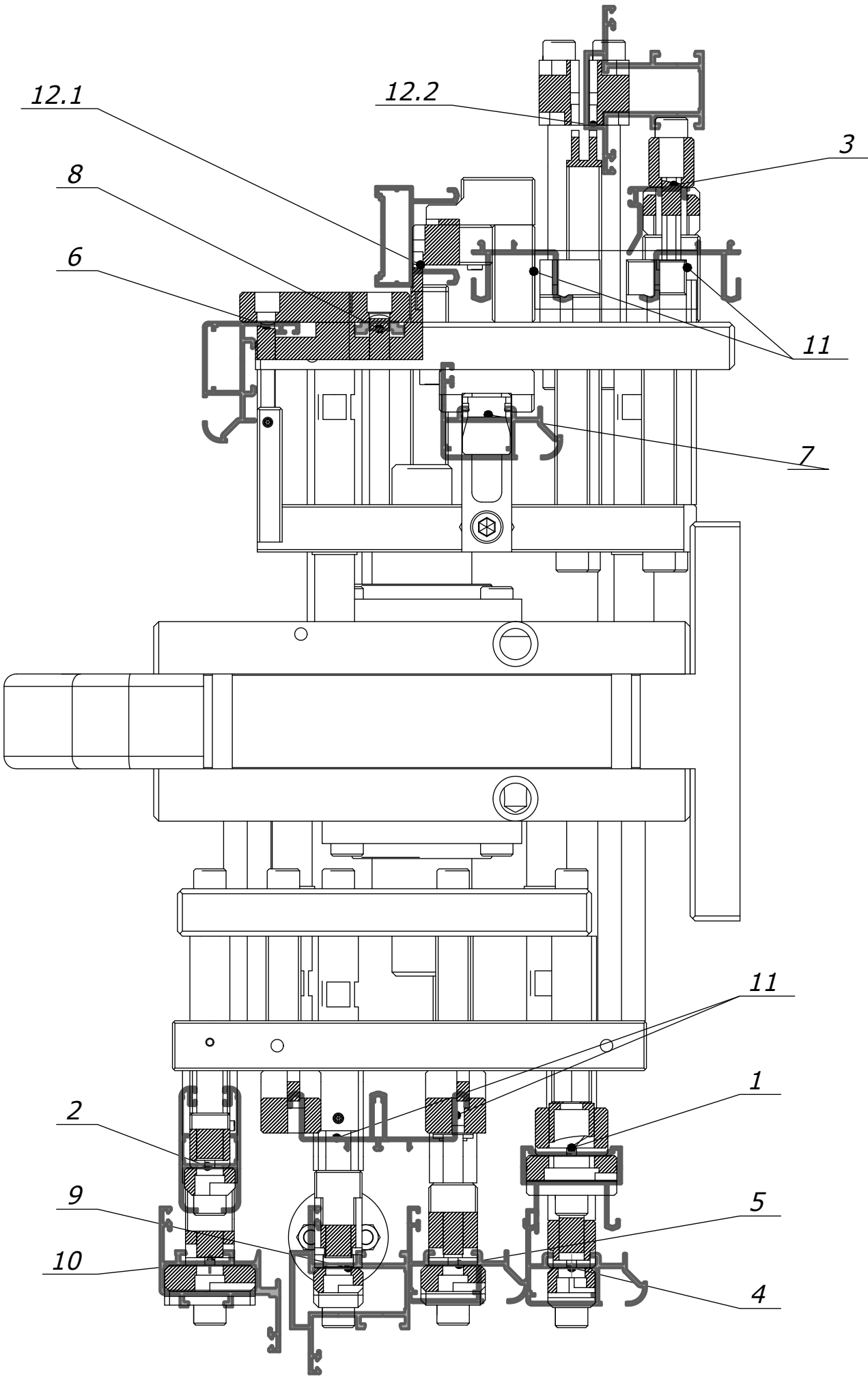
11. Groove
4.5x13 in the
guide

P22-013 P24-013

12. Groove
30x4 mm in the
frame for drainage

P24-103 P24-104 P40-402



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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