TECHNICAL CATALOGUE

SLIDING DOOR AND WINDOW SYSTEM WITH THERMAL BREAK

E45 E1600 E52 E19 E50 Q72 E75 E8000 E2300 E40 Q60 E85

ETEM

E50
WINDOW AND DOOR SYSTEM WITH THERMAL BREAK

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ETEM HISTORY

ETEM is a leading aluminium extrusion company. It was founded in 1971 as a part of the largest metal manufacturing holding in the Balkans. With over 40 years of experience ETEM is a fully integrated designer and producer of architectural systems and aluminium profiles for industrial applications.

Our mission is to listen and promptly respond to our customers' requests and design and manufacture aluminium products and systems, taking into consideration technical and aesthetic requirements.

ETEM focuses on sustainable development and has proven its concern about the protection of the natural environment by making considerable investments in anti-pollution measures and by optimizing production processes following the applicable standards of the European Union.

SERVICES WE PROVIDE

ETEM supports you with the following:

⊳ design of conventional and bespoke architectural system solutions

⊳ innovative engineering in the field of curtain walls, ventilated facades, doors, windows

⊳ professional consultation and adequate technical advices ensured by our engineering team with wide experience in the field of profile extrusion as well as architectural systems' engineering

⊳ reliable customer care constant support trainings, technical support and audits on site

⊳ high quality engineering which guarantees offering the best solution according to the specific features of every single project

⊳ managing the process of certification in accordance with the applicable European standards in Notified Bodies

⊳ production of non-standard length profiles and non-standard processing high quality powder coating

ETEM PRODUCTS AND SUSTAINABLE DEVELOPMENT

SUSTAINABLE DEVELOPMENT IS DEVELOPMENT THAT MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS.*

For many, sustainable development is about environmental conservation. This is true but it also includes two other aspects: a social aspect and an economic aspect.

Sustainable development means striking the right balance between economic development, social equity and environmental protection.

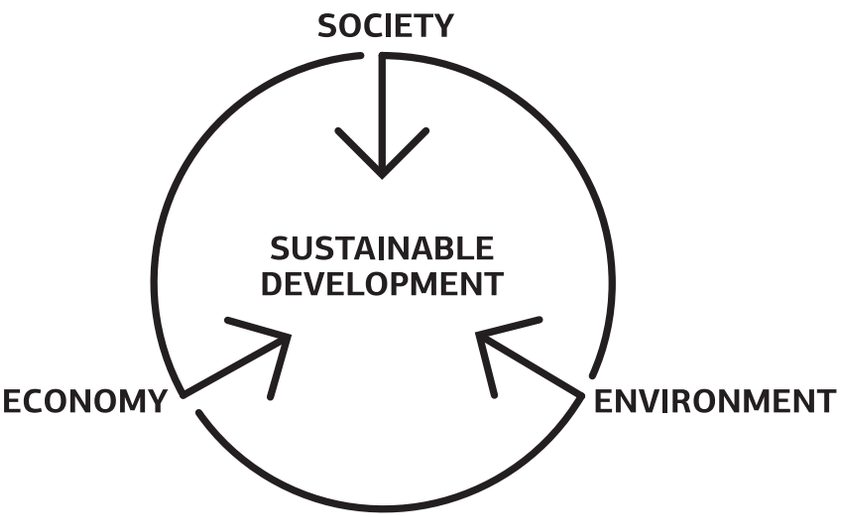
For us meeting this objective translates into the challenge of satisfying market demands at the lowest economic, social and environmental cost possible.

ETEM has always designed architectural systems which are in compliance with all requirements for achieving high energy efficiency.

In order to assure the comfort of the building inhabitants, ETEM systems adapt their functions to the changing environment.

As a moderator between outside and inside our systems provide:

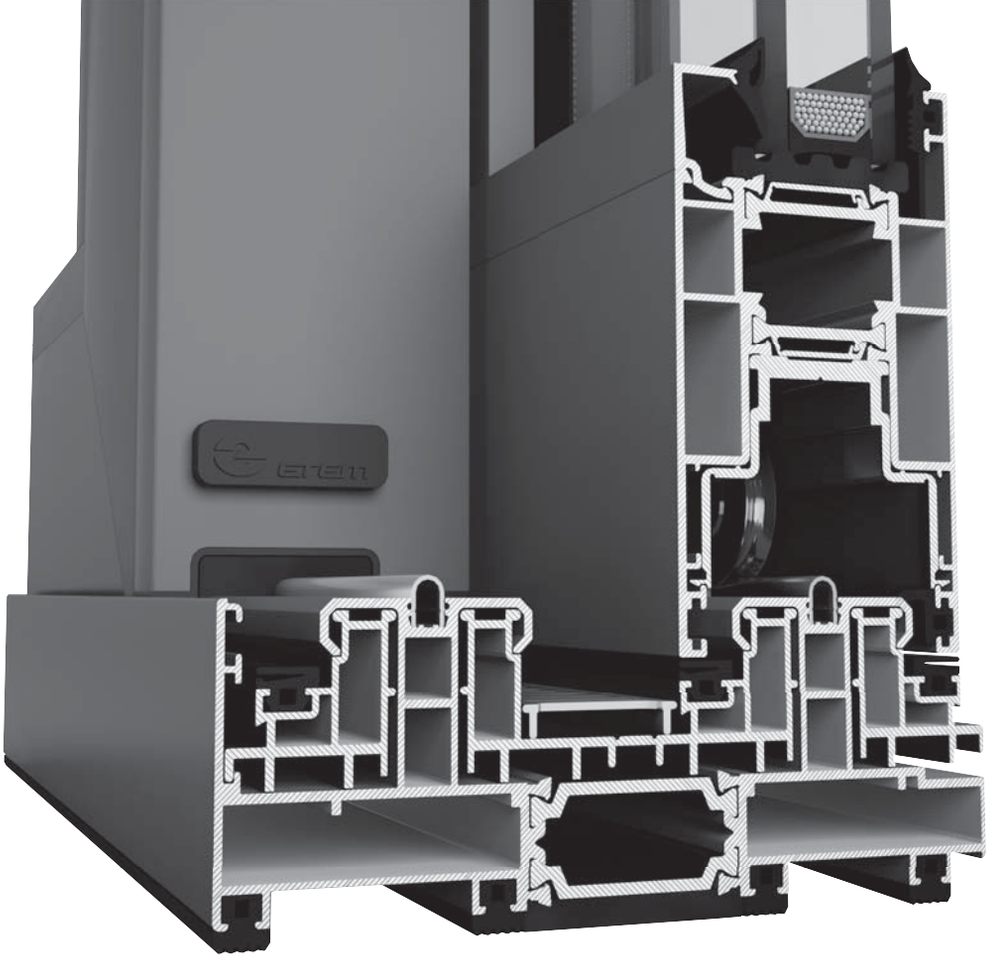
› ENERGY EFFICIENCY
› DAYLIGHT
› SUN-SHADING
› VENTILATION AND GOOD AIR QUALITY
› SAFETY AND SECURITY



* Extract from Brundtland Report, from the United Nations World Commission on Environment and Development WCED

GENERAL INFORMATION

CONCEPT / ADVANTAGES / CERTIFICATES

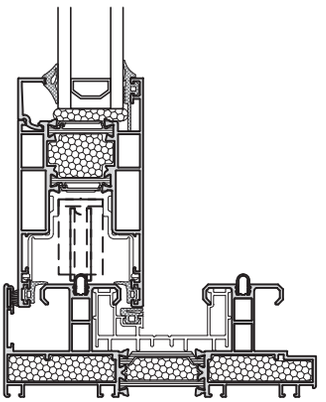


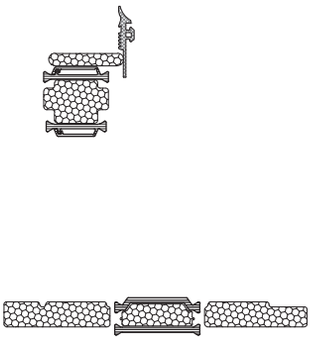
E50 WINDOW CONCEPT

E50 IS A HIGH-END SLIDING WINDOW SYSTEM WITH THERMAL BREAK, SUITABLE FOR OPPOSED & POCKET BALCONY DOORS AND WINDOWS WITH HIGH REQUIREMENTS FOR THERMAL INSULATION, FUNCTIONALITY AND AESTHETICS.

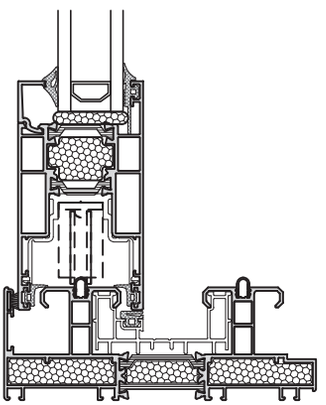
- Elegant straight design
- Excellent water-tightness and air-permeability
- High thermal insulation
- Glazing sash with 50.0 mm width allowing glass panel from 23.0 up to 34.0 mm
- Ability of excellent view, using narrow interlock profile
- Ability of construction single and double vent pocket doors and windows
- Maximum weight per sash 200 kg
- Optimum design for excellent ratio of weight per linear meter

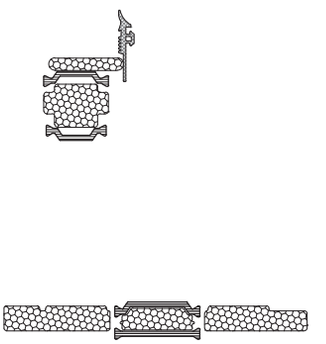
ADVANCED



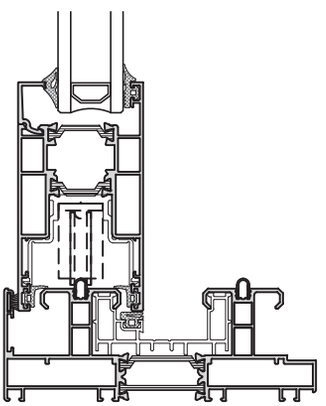


IMPROVED



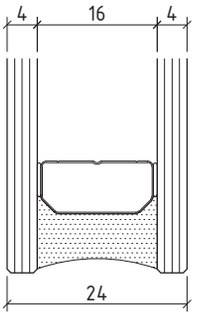
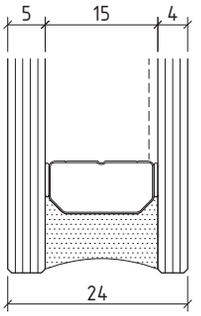
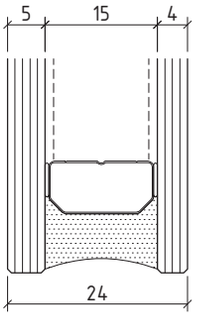


BASIC



ADVANTAGES AND COMBINATION

PERFORMANCE CHARACTERISTICS

	Type of glazing		
	Double Glazing	Double Glazing	Double Glazing
	4/16/4 Low Emission	5/15/4 Low Emission Argon	5sun guard/15/4 Low Emission
			
Uglass	1,4	1,1	1,0
Uwindow[1]	1,7	1,5	1,4
g value[2]	0,6	0,6	0,5

ADVANTAGES

Energy Efficincy		*	**	***
Sound Insulation		*	**	***
Ventilation		□	□	□
Daylight		****	***	**
Sunshading	E 66	*	**	***
Automation		□	□	□
Safety and security		□	□	□

Notes:
1. Uw value is calculating by using warm edge spacer for double vent window (exter. dimensions W4000 x H2500)
2. g value is calculating without external sunshading.
* good
** better
*** the best
****excellent
□ compatible

COMPLIANCE WITH APPLICABLE REGULATIONS
Production management

Quality Management system is certified in accordance with EN ISO 9001:2008.

Environmental management system is certified in accordance with EN ISO 14001.

Factory production control system is certified according to the requirements of EN 15088. All ETEM profiles are CE marked and in compliance with applicable European Standards.

ETEM is authorized to use the QUALICOAT quality sign for paint, lacquer and powder coating on aluminium for architectural applications.

Occupational Health & Safety Management System is certified in accordance with OHSAS 18001.

PERFORMANCE CHARACTERISTICS OF E50

Characteristic	**Classification / value**	**Standard**
Air permeability	Up to class 4	EN 1026 / EN 12207
Watertightness	Up to class E1200	EN 1027 / EN 12208
Resistance to wind load	Up to class C3	EN 12211 / EN 12210
Thermal transmittance	from 2,04 $W/m^2.K$	EN ISO 10077-2
Sound insulation	41 (-1, -3) dB	EN ISO 10140-2

CLASSIFICATION OF CHARACTERISTICS

for windows without resistance to fire and/or smoke leakage characteristics according to EN 14351-1

Characteristic / value / dimension	Classification / Value										
Resistance to wind load Test pressure P1 (Pa)	npd	1 (400)		2 (800)		3 (1200)		4 (1600)		5 (2000)	Exxxx (>2000)
Resistance to wind load Frame deflection	npd	A (≤1/150)				B (≤1/200)				C (≤1/300)	
Resistance to snow and permanent load	npd	Declared information on the infill (e.g. type and thickness of glass)									
Reaction to fire	npd	F		E		D		C		B	A2	A1
External fire performance	npd	According to EN 13501-5									
Watertightness Non-shielded (A) Test pressure (Pa)		1A (0)	2A (50)	3A (100)	4A (150)	5A (200)	6A (250)	7A (300)	8A (450)	9A (600)	Exxxx (>600)
Watertightness Shielded (B) Test pressure (Pa)	npd	1B (0)		2B (50)		3B (100)		4B (150)	5B (200)	6B (250)	7B (300)
Dangerous substances	npd	As required by regulations									
Impact resistance Drop height (mm)	npd	200		300		450		700		950	
Load-bearing capacity of safety devices	npd[a]	Threshold value									
Acoustic performance Sound insulation R_w ($C;C_{tr}$) (dB)	npd	Declared values									
Thermal transmittance U_w ($W/(m^2.K)$)	npd	Declared values									
Radiation properties Solar factor (g)	npd	Declared values									
Radiation properties Light transmittance (τv)	npd	Declared values									
Air permeability Max. test pressure (Pa) Reference air permeability at 100 Pa ($m^3/(h \cdot m^2)$ or $m^3/(h \cdot m)$)	npd	1 (150) (50 or 12.50)			2 (300) (27 or 6.75)			3 (600) (9 or 2.25)		4 (600) (3 or 0.75)	
Operating forces[b]	npd	1						2			
Mechanical strength	npd	1			2			3		4	
Ventilation Air flow exponent n Air flow characteristic K Air flow rates	npd	Declared values									
Bullet resistance	npd	FB1	FB2		FB3	FB4		FB5	FB6	FB7	FSG
Explosion resistance Shock tube	npd	EPR1			EPR2			EPR3		EPR4	
Explosion resistance Range test	npd	EXR1			EXR2		EXR3		EXR4		EXR5
Resistance to repeated opening and closing Number of cycles	npd	5000				10 000				20 000	
Behaviour between different climates	npd	Under development									
Burglar resistance	npd	1		2		3		4		5	6

NOTE 1: npd: no performance determined
NOTE 2: The figures in brackets are for information

[a] Only if safety device(s) is(are) not provided

[b] Manually operated windows only

BUILDING PHYSICS

DIMENSIONING / FORMULAS / EXAMPLES

ALUMINIUM AS MATERIAL

ALUMINIUM IS A VERY YOUNG METAL, EXTRACTED FOR THE FIRST TIME IN 1854. COMMERCIALLY PRODUCED AS A PRECIOUS METAL FROM 1886, ITS INDUSTRIAL PRODUCTION FOR CIVIL APPLICATIONS ONLY ACHIEVED WIDE USE IN THE 1950'S.

NOW ALUMINIUM PLAYS A KEY ROLE FOR THE SUSTAINABILITY OF NEW BUILDINGS AND THE RENOVATION OF EXISTING ONES. THANKS TO ITS PERFORMANCE PROPERTIES ALUMINIUM CONTRIBUTES TO THE ENERGY PERFORMANCE, SAFETY AND COMFORT OF NEW BUILDINGS.

ADVANTAGES

DESIGN FLEXIBILITY

The extrusion process offers an almost infinite range of forms and sections, allowing designers to integrate numerous functions into one profile

LONG SERVICE LIFE

Aluminium building products are made from alloys that are weatherproof, corrosion-resistant and immune to the harmful effects of UV rays, ensuring optimal performance over a very long period of time

HIGH STRENGTH-TO-WEIGHT RATIO

Thanks to the metal's inherent strength and stiffness, aluminium window and curtain wall frames can be very narrow. Material's light weight makes it easier to transport and handle on-site, reducing the risk of work-related injury

HIGH-REFLECTIVITY

This characteristic feature makes aluminium a very efficient material for light management. Aluminium shading devices can be used to reduce the need for air conditioning in summer

FIRE SAFETY

Aluminium does not burn and therefore is classified as a non-combustible construction material (European Fire Class A1). Aluminium alloys will nevertheless melt at around 6500 C, but without releasing harmful gases

NO RELEASE OF DANGEROUS SUBSTANCES

Several studies have proved that aluminium building products do not present a hazard to occupants or the surrounding environment. Aluminium building products have no negative impact, either on indoor air quality or on soil, surface and groundwater

OPTIMAL SECURITY

Where high security is required, specially designed, strengthened aluminium frames can be used. While the glass for such applications may well be heavy, the overall weight of the structure remains manageable thanks to the light weight of the aluminium frames.

ALLOYS

Aluminium in its pure form is a very soft metal. Thanks to the addition of alloying elements such as copper, manganese, magnesium, zinc, etc. and thanks to suitable production processes, the physical and mechanical properties can be varied in a wide range to satisfy the requirements of a large number of different applications.

ETEM profiles are extruded from the following alloys:
EN AW-1050 [Al 99.5]
EN AW-6060 [Al Mg Si]
EN AW-6063 [Al Mg0,7 Si]
EN AW-6061 [Al Mg1 Si Cu]
EN AW-6005 [Al Si Mg]
EN AW-6082 [Al Si1 Mg Mn]

The most common aluminium alloy which is used by ETEM is EN AW 6063.
Here are the properties of this alloy:

MATERIAL PROPERTIES	
Aluminium alloy	EN F22
Ultimate tensile strength	Rm = 210 N/mm^2
Yield strength	$R_{p0.2}$ = 160 N/mm^2
Modulus of elasticity	Eal=70 000 N/mm^2 = 7.10^9 kg/m^2
Coefficient of thermal expansion	α=0.023 mm/m .K (up to 1.2 mm/m for difference up to 50°C)

EXTRUSION PROCESS

ETEM profiles are obtained through extrusion process, which consists of pushing a hot cylindrical bullet of aluminium through a shaped die. The extrusion process offers almost infinite range of forms and sections, allowing our designers to integrate numerous functions into one single profile.

FINISHING

POWDER COATING
It is a type of paint that is applied as a dry powder. Coating is applied on ETEM profiles electrostatically and then is cured under heat to allow it to flow and form a ''skin''.
ETEM is authorized to use the quality sign QUALICOAT for powder coatings on aluminium for architectural applications. A wide range of colors and gloss levels can be achieved.
ETEM also offers timber imitations painting, in addition to all RAL colors. The technology EZY provides the following colors: Golden Oak, Acero, Betulla, Mogano, Verde Scuro, Wenge, Noce Fiammato, Noce Chiaro, Ciliegio Rosso, Acacia Scuro, Ciliegio Antico, Noce Reale, Ciliegio Reale.

ANODIZING
It is an electrochemical process whereby to reinforce the natural oxide film on the aluminium surface, increasing hardness, corrosion and abrasion resistance. Anodizing gives a very decorative silver matt surface finish, and colored can also be obtained by sealing metallic dyes into the anodized layer.

MAINTENANCE

Apart from routine cleaning for aesthetic reasons, ETEM aluminium profiles do not require any maintenance which translates into a major cost and ecological advantage over lifetime of the product.

RECYCLING

Aluminium scrap can be repeatedly recycled without any loss of value or properties.
In many instances, aluminium is combined with other materials such as steel or plastics, which are most frequently mechanically separated from aluminium before being molten.

WIND LOAD

Wind action

The main influence over the facade is wind action, which depends mainly on the heigh of the curtain wall and location.

As a guideline, the wind pressure values with respect to the structure height are given in the table below:

Building Height	Wind Velocity	Wind Load		Wind Pressure		Wind Suction in a middle zone				Wind Suction in an edge zone	
h	v	$q = \frac{V^2}{16}$		$Wp^* = 1.25 \times cp \times q$ $c_p = 0.8$		$h/b \le 0.25$ $W_s = c_p \times q$ $c_p = 0.5$		$h/b \ge 0.5$ $W_s = c_p \times q$ $c_p = 0.7$		$b/8 \le 2$ m $W_s = c_p \times q$ $c_p = 2.0$	
m	m/s	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2	kg/m^2
0 – 8	28.3	50	0.5	50	0.5	25	0.25	35	0.35	100	1.0
8 – 20	35.8	80	0.8	80	0.8	40	0.40	56	0.56	160	1.6
20 – 100	42.0	110	1.1	110	1.1	55	0.55	77	0.77	220	2.2
> 100	45.6	130	1.3	130	1.3	65	0.65	91	0.91	260	2.6

where:

h – building height, m
b – building width, m
v – wind velocity, m/s
q – wind load, kg/m^2 and kN/m^2
$w_{p/s}$ – wind pressure / suction, kN/m^2
c_p – correction factor

*Note: When calculating wind pressure w_p the load is increased with 25%

UNITS CONVERTER

1 m = 100 cm = 1000 mm

1 kg = 10 N
1 kN = 100 kg = 1000 N

1 kg/m^2 = 0.01 kN/m^2
1 Pa = 1 N/m^2 = 0.1 kg/m^2
1 kPa = 1000 Pa = 1 kN/m^2 =100 kg/m^2
1 MPa = 1000 kPa = 1 000 000 Pa
1 MPa = 1 N/mm^2 = 0.1 kN/cm^2 =100 000 kg/m^2

CALCULATION OF REQUIRED MOMENT OF INERTIA

* Wind load actions:

The required moment of inertia of a mullion due to the wind action is given by:

a) triangle load

If $\frac{H}{c} \le 1, \quad J_{yc} \ge \frac{w.(H/2).H^4.10^8}{120.E_{el}.f_{max}}, cm^4$

or

b) trapezoid load

If $\frac{H}{c} > 1, \quad J_{yc} \ge \frac{w.(c/2).H^4}{1920.E_{al}.f_{max}}.10^8.\left[25-40.\frac{(c/2)^2}{H^2}+16.\frac{(c/2)^4}{H^4}\right], cm^4$

Use the same method to calculate J_{yd}

Total of required moment of inertia:

$J_y = J_{yc} + J_{yd}$, cm4

where:

J_y	– Moment of inertia of a transom,	cm4
w	– wind pressure,	kg/m^2
E_{al}	– Modulus of Elasticity of aluminium,	kg/m^2
f_{max}	– Maximum transom deflection,	m
H	– Length of a mullion,	m
a,b	– Distance between mullions,	m

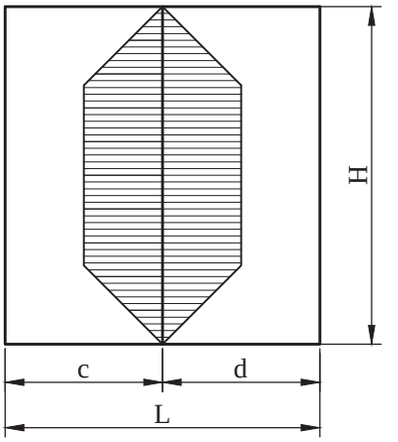
Maximum transom deflection fmax by wind load:

$f = \frac{H}{200}, m$ or 0,015 m – whichever is less (EN 14351-1)

Use ETEM Catalogue to choose the appropriate mullion with Jy exceeding or equal to the required Jy.

Use ETEM Catalogue to choose the appropriate profile which characteristics exceed or are equal to both calculated values Jx and Jy.

Example:



Initial data:

H = 2,5 m w = 120 kg/m^2

c = 1,8 m E_{al} = 7.10^9 kg/m^2

d = 1,8 m

$$f = \frac{H}{200} = \frac{2,5}{200} = 0,0125m \quad \text{(EN 14351-1)}$$

$\Rightarrow f_{max} = 0,015m$ in the following formulas:

$$\frac{H}{c} = \frac{2,5}{1.8} = 1.39 > 1$$

$$\frac{H}{c} > 1, \; J_y = \frac{w\,(c/2)\,H^4}{1920\;E_{al} f_{max}}\;10^8\left[25-40\;\frac{(c/2)^2}{H^2}+16\;\frac{(c/2)^4}{H^4}\right], cm^4$$

$$J_{yc} = \frac{120\;(1.8/2)\;2.5^4}{1920\;7x10^9\;0.015}\;10^8\left[25-40\;\frac{(1.8/2)^2}{2.5^2}+16\;\frac{(1.8/2)^4}{2.5^4}\right] \Rightarrow J_{yc} = 42cm^4$$

$$\frac{H}{d} = \frac{2,5}{1.8} = 1.39 > 1$$

$$J_{yd} = \frac{w\,(d/2)\,H^4}{1920\;E_{al} f}\;10^8\left[25-40\;\frac{(d/2)^2}{H^2}+16\;\frac{(d/2)^4}{H^4}\right], cm^4$$

$$J_{yd} = \frac{120\;(1.8/2)\;2.5^4}{1920\;7x10^9\;0.015}\;10^8\left[25-40\;\frac{(1.8/2)^2}{2.5^2}+16\;\frac{(1.8/2)^4}{2.5^4}\right] \Rightarrow J_{yd} = 42cm^4$$

$$J_y = J_{yc} + J_{yd} = 42 + 42 = 84 \; cm^4$$

In this case the combined moment of inertia of sash E50201 + interlock E50501 + ET080204 must be

$$J_y \ge 84 \; cm^4$$

The moment of inertia of the combination is: $J_y = 85 \; cm^4$

CALCULATION OF GLASS PANE THICKNESS

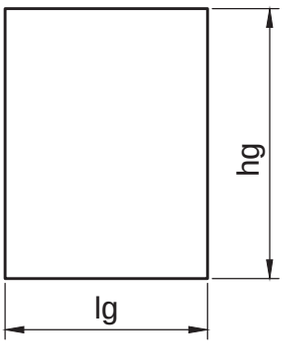
* Glazing thickness:

For single glazing the minimum thickness is given by the following equations:

a) If $\frac{h_g}{l_g} \le 3$, $t = \sqrt{\frac{10 \cdot l_g \cdot h_g \cdot w}{72}}, mm$

or

b) If $\frac{h_g}{l_g} > 3$, $t = \frac{l_g \cdot \sqrt{10 \cdot w}}{4,9}, mm$



where:

t	– Minimum theoretical glass thickness,	mm
w	– Wind pressure,	kg/m^2
l_g	– The smallest dimension of the glass pane,	m
h_g	– The largest dimension of the glass pane,	m

For double glazing, the total thickness of both glasses in the panel is equal to the thickness of a single glass pane (evaluated using the above equations) multiplied by 1.5

For triple glazing, the total thickness of all glasses in the panel is equal to the thickness of a single glass pane (evaluated using the above equations) multiplied by 1.7

Always consult façade engineer or glazing manufacturer when calculating for required glazing thickness and maximum allowable dimensions.

Example:

Initial data:

l_g = 2,8 m

h_g = 3 m

w = 120 kg/m^2

$$\frac{h_g}{l_g} = \frac{3}{2.8} = 1.07 \Rightarrow \frac{h_g}{l_g} \le 3 \Rightarrow$$

$$t = \sqrt{\frac{10 \times l_g \times h_g \times w}{72}} = \sqrt{\frac{10 \times 2.8 \times 3 \times 120}{72}} \Rightarrow t = 11.8mm$$

For double glazing t_{req} = 1,5 x 11.8 = 18 mm

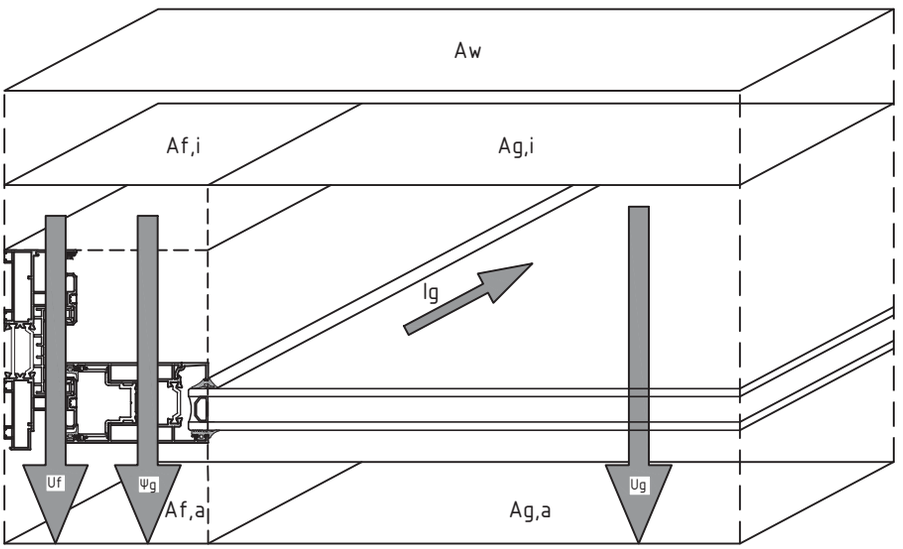
We choose double glazing 10/spacer/4+4

ATTENTION: PLEASE NOTE THAT THE ABOVE CALCULATIONS ARE INDICATIVE

Method for calculation according to EN ISO 10077-1

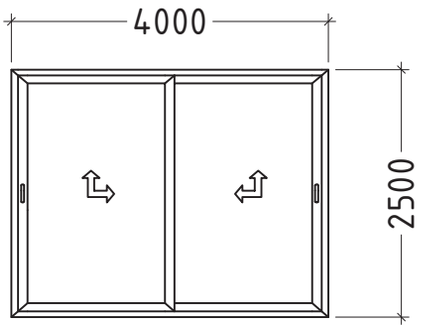
$$U_w = \frac{A_g \times U_g + A_f \times U_f + l_g \times \psi_g}{A_g + A_f}$$

U_w – thermo-transmittance coefficient of the whole structure
U_g – glass thermo-transmittance coefficient
U_f – thermo-transmittance coefficient of the aluminium frame (frame and sash)
ψ_g – spacer linear thermal transmittance
l_g – total length of the spacer
A_g – glass area
A_f – aluminium frame area (frame and sash)
U_w – is calculated by formula (1)
U_g – is given by the glass manufacturer
U_f – is given by the manufacturer of the aluminium profiles



Example for calculating thermal transmission coefficient

frame:	E 50	U_f	2.29	W/(m²K)
spacer:	Warm Edge	ψ_g	0.08	W/(mK)
glass:	double insulated glass	U_g	0.9	W/(m²K)



window width:	4.00 m
window height:	2.50 m
length of glass edge lg:	16.0 m
window type:	double vent sliding

$$U_w = \frac{8.0 \times 0.9 + 1.84 \times 3.34 + 16.2 \times 0.08}{8.1 + 2}$$

$$U_w \approx 1{,}45 \text{ W/(m}^2\text{K)}$$

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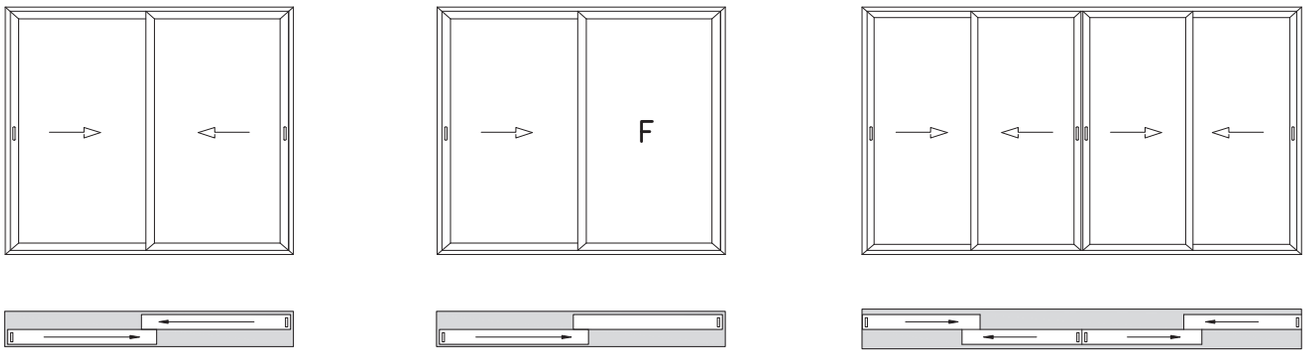
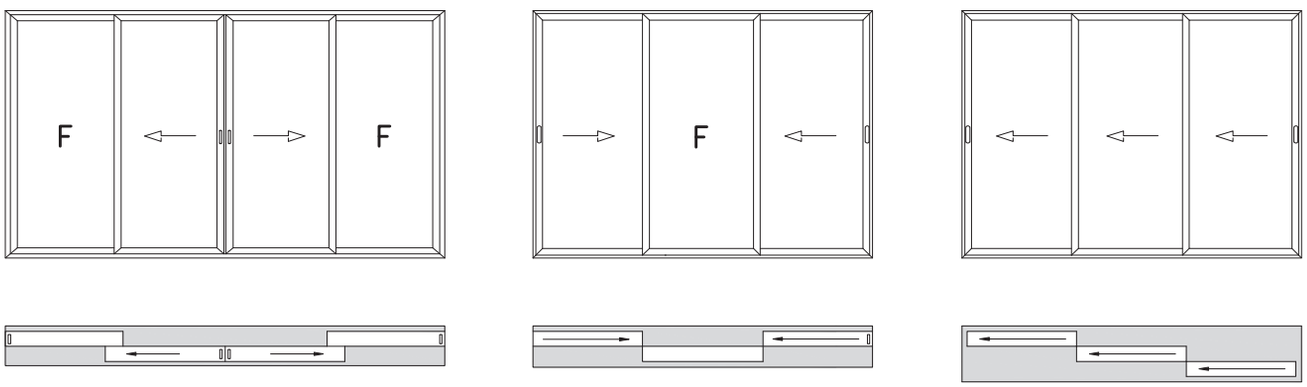
TABLES

TYPOLOGIES / LIST OF PROFILES / CHARACTERISTICS

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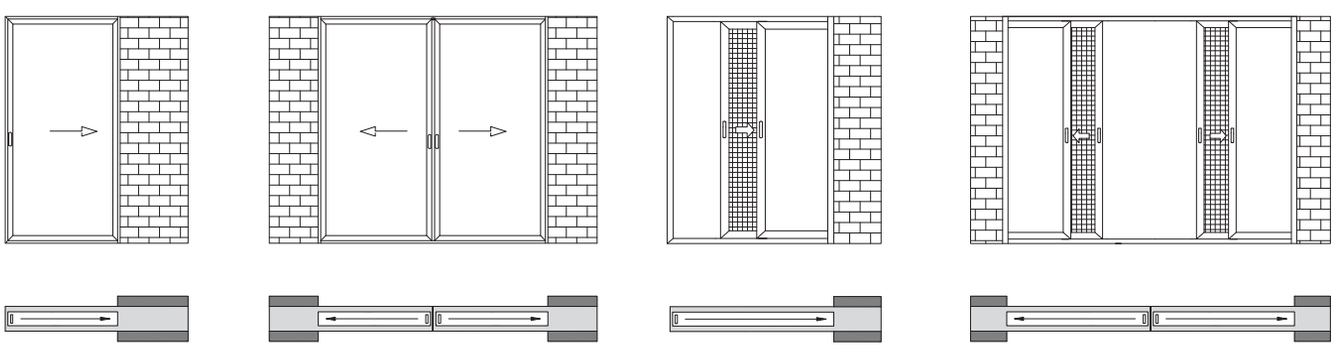
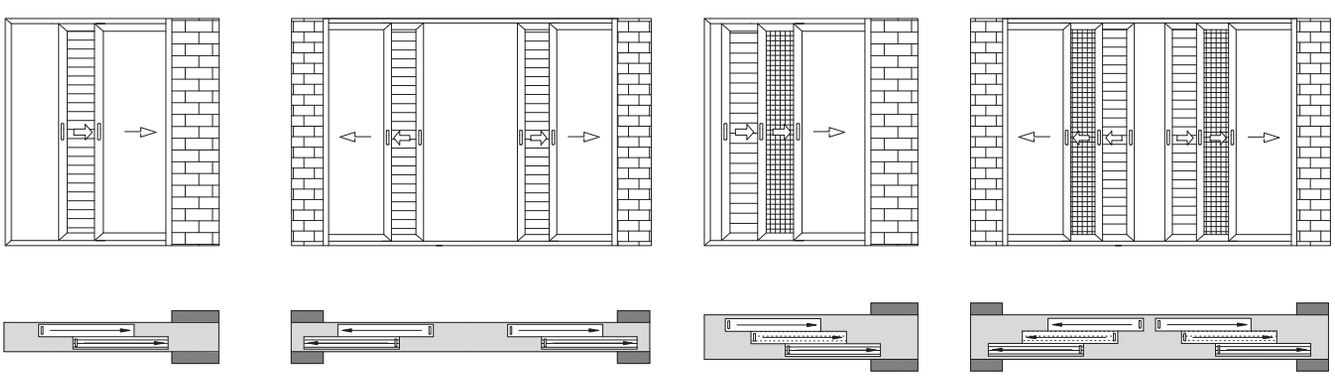
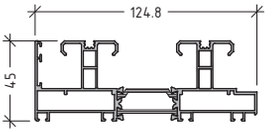
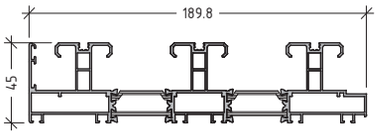
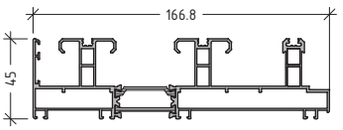
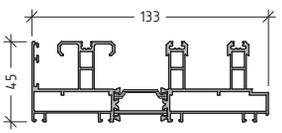
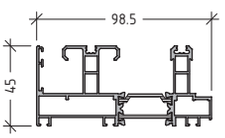
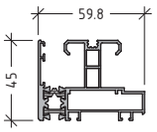
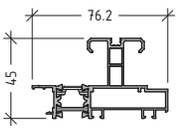
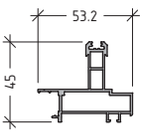
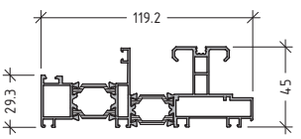
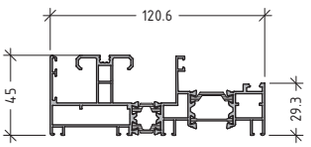
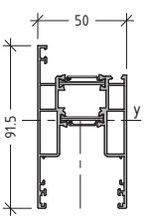
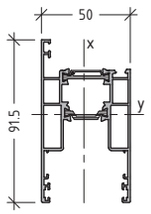
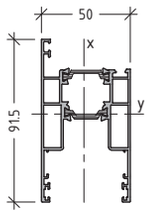
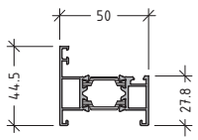
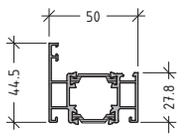
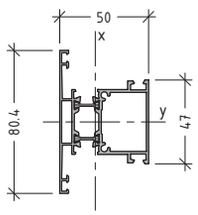
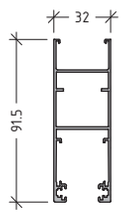
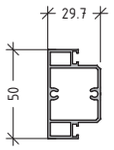
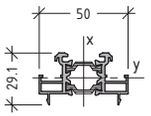
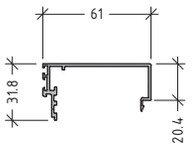
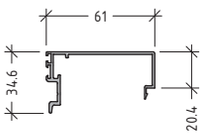
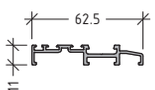
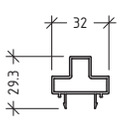


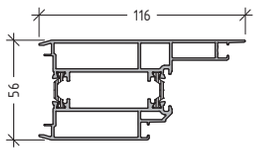
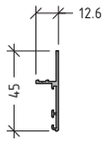
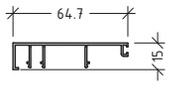
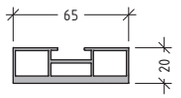
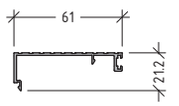
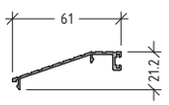


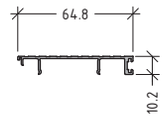
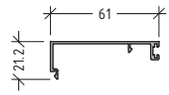
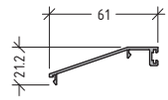
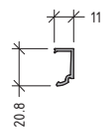
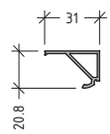
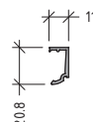
code	profile	weight length moment of inertia
E50100 Double rail		2098 g/m L=6.01 m
E50102 Triple rail		3169 g/m L=6.01 m
E50103 Triple rail		2643 g/m L=6.01 m
E50104 Triple rail		2398 g/m L=6.01 m
E50105 Rail for glazing & insect screen		1836 g/m L=6.01m
E50110 Single rail		1313 g/m L=6.01 m

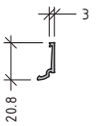
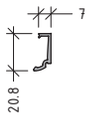
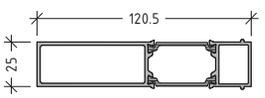
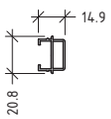
code	profile	weight length moment of inertia
E50111 Additional fly screen rail		1216 g/m L=6.01 m
E50112 Suplementary profile		724 g/m L=6.01 m
E50150 Frame for sliding-fixed window		2052 g/m L=6.01 m
E50155 Frame for sliding-fixed window		2190 g/m L=6.01 m
E50201 Sash		1662 g/m L=6.01 m Jx=22.4 cm⁴ Jy=33.8 cm⁴

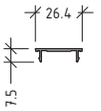
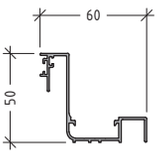
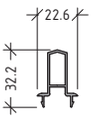
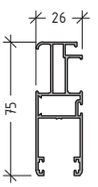
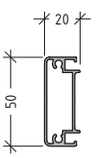
code	profile	weight length moment of inertia
E50202 Sash		1649 g/m L=6.01 m Jx=22.2 cm⁴ Jy=32.8 cm⁴
E50203 Sash		1633 g/m L=6.01 m Jx=22.2 cm⁴ Jy=32.8 cm⁴
E50250 Narrow sash interlock		922 g/m L=6.01 m Jx=11.1 cm⁴ Jy=3.33 cm⁴
E50251 Narrow sash interlock		1015 g/m L=6.01 m Jx=11.9 cm⁴ Jy=5.33 cm⁴
E50301 Sash transom		1328 g/m L=6.01 m Jx=14.3 cm⁴ Jy=15.2 cm⁴
E50210 Sash for blinds		1064 g/m L=6.01 m

code	profile	weight length moment of inertia
E50350 'T' profile for rails		776 g/m L=6.01 m
E50500 Adjoining profile with wings		830 g/m L=6.01 m Jx=6.01 cm⁴ Jy=1.8 cm⁴
E50501 Interlock profile		537 g/m L=6.01 m Jx=1.6 cm⁴ Jy=10.5 cm⁴
E50502 Interlock profile for E50250 & E50251		554 g/m L=6.01 m Jx=2.0 cm⁴ Jy=10.98 cm⁴
E50503 Inverted interlock		470 g/m L=6.01 m Jx=0.13 cm⁴ Jy=6.03 cm⁴
E50510 Adjoining profiles for blinds		396 g/m L=6.01 m

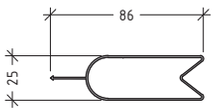
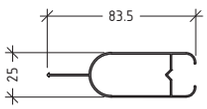
code	profile	weight length moment of inertia
E50520 Adjoining corner profile for 90°		2252 g/m L=6.01 m Jx=25.60 cm⁴ Jy=76.12 cm⁴
E50600 Drip profile		221 g/m L=6.01 m
E50601 Suplementary profile for rail-frames		418 g/m L=6.01 m
E50602 Reinforcement profile for sashes E50250 &E20251		1220 g/m L=6.01 m
E50650 Rail cover		352 g/m L=6.01 m
E50651 Rail cover		296 g/m L=6.01 m

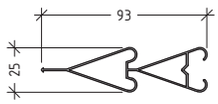
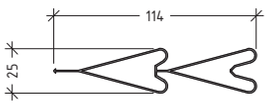
code	profile	weight length moment of inertia
E50652 Rail cover		338 g/m L=6.01 m
E50660 Rail cover		365 g/m L=6.01 m
E50661 Rail cover		313 g/m L=6.01 m
E50680 Glazing bead		154 g/m L=6.01 m
E50681 Glazing bead		300 g/m L=6.01 m
E50682 Glazing bead ONLY for anodizing		157 g/m L=6.01 m

code	profile	weight length moment of inertia
E50683 Glazing bead		125 g/m L=6.01 m
E50687 Glazing bead		140 g/m L=6.01 m
E50690 Indermidiate profile		1550 g/m L=6.01 m
E50900 Connecting rod		186 g/m L=6.01 m
E50901W1 Aluminium drainage grill (available only perforated)		124 g/m L=6.01 m
E50902W1 Aluminium drainage grill (available only perforated)		100 g/m L=6.01 m

code	profile	weight length moment of inertia
E19641 Cover for E 70640		130 g/m L=4.80 m
E70640 Wall joining profile		597 g/m L=4.80 m
E19512 Adjoining profile for fly screen		284 g/m L=4.80 m
E22214 Fly screen sash		857 g/m L=6.01 m
E22215 Transom for fly screen sash		591 g/m L=6.01 m

sliding system with thermal break E50

code	profile	weight length moment of inertia
E1505 Shutter blind		510 g/m L=6.01 m
E1507 Shutter blind		427 g/m L=6.01 m

code	profile	weight length moment of inertia
E1508 Shutter blind		545 g/m L=6.01 m
E1509 Shutter blind		664 g/m L=6.01 m

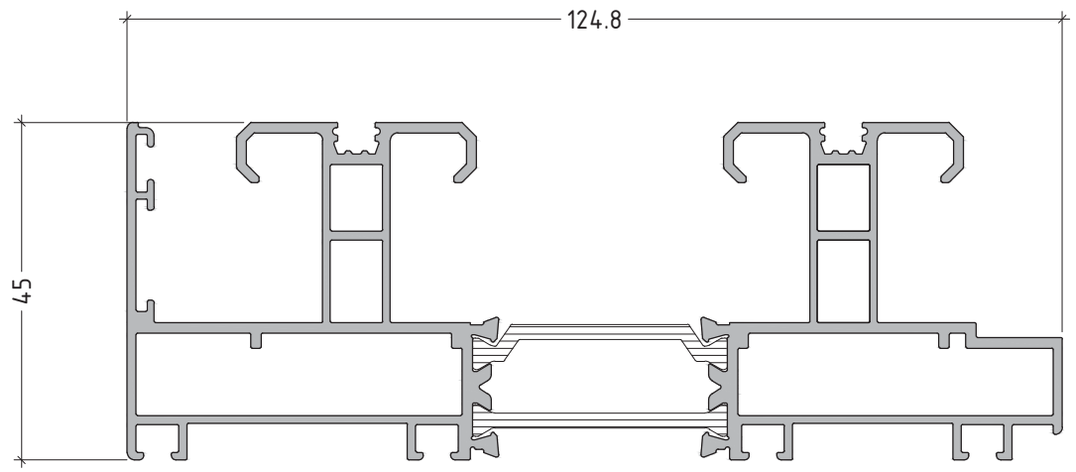
PROFILES

DRAWINGS / SCALE 1:1

E50100

Double rail

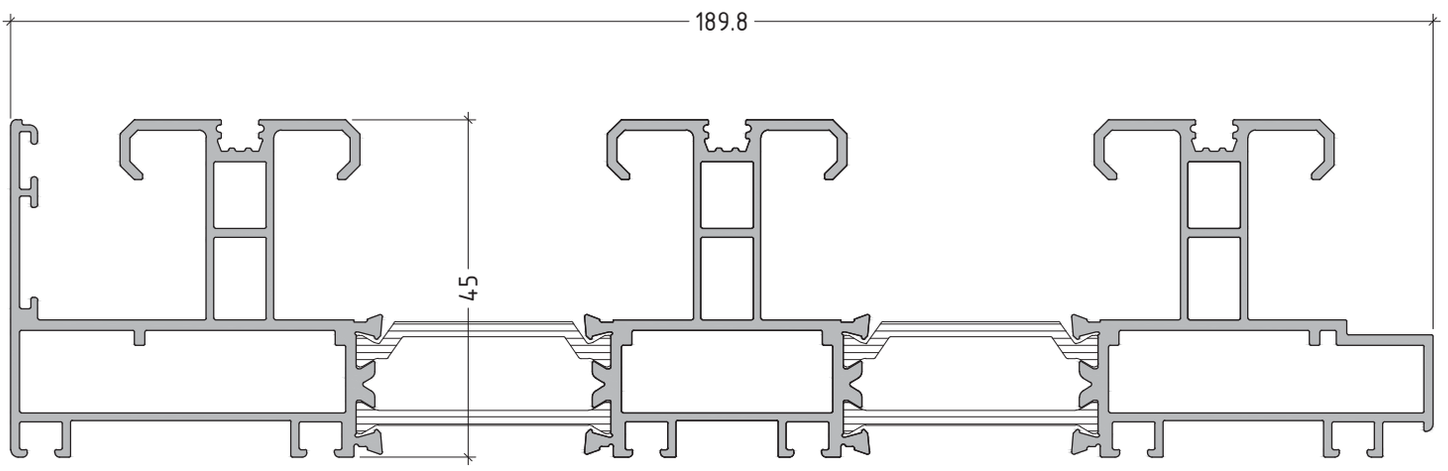
2098 gr/m



E50102

Triple rail

3169 gr/m

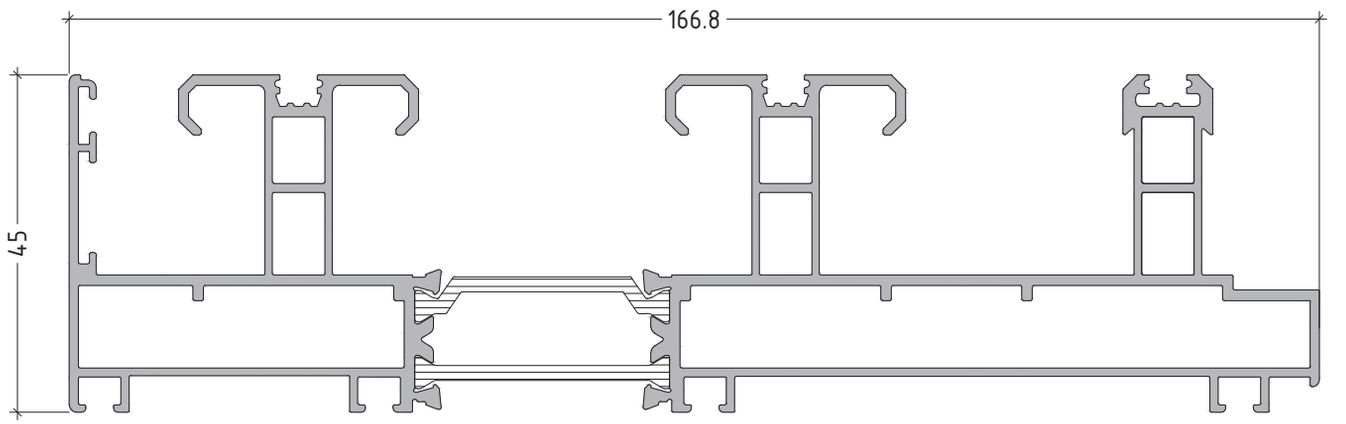


scale : 1:1

E50103

Triple rail

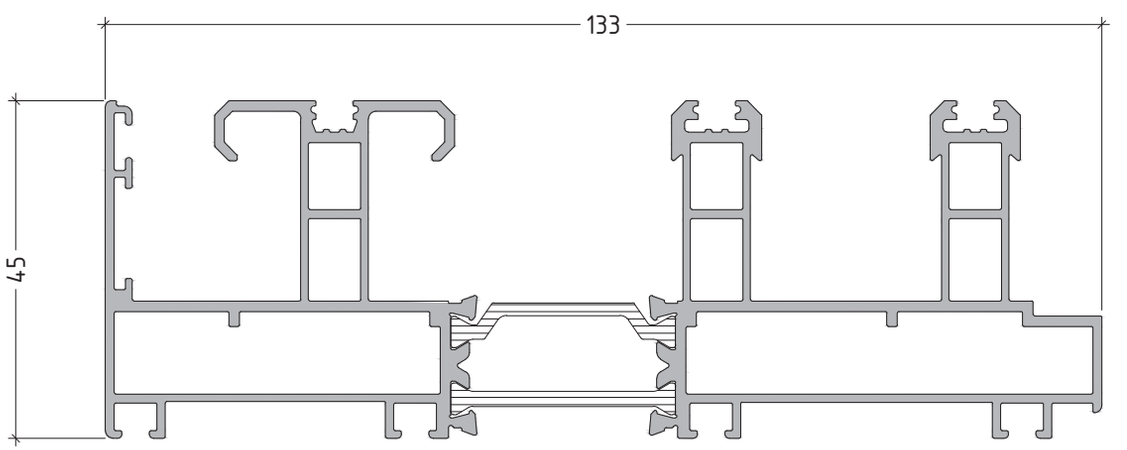
2643 gr/m



E50104

Triple rail

2398 gr/m

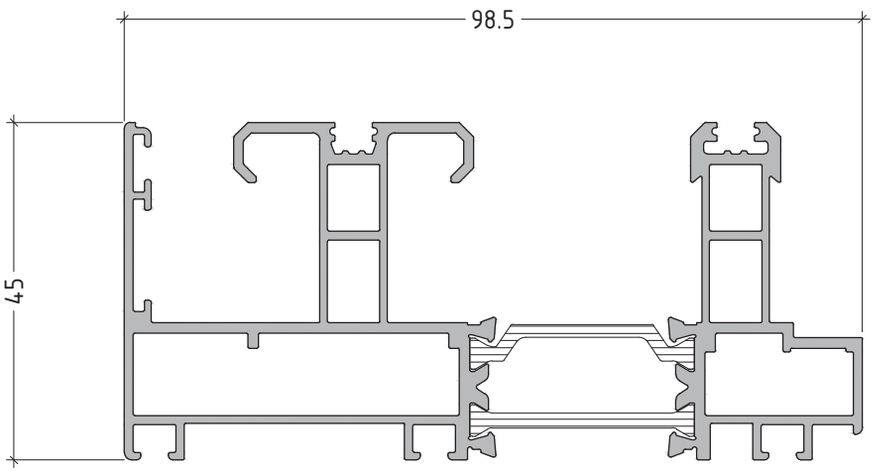


scale : 1:1

E50105

Rail for glazing - screen

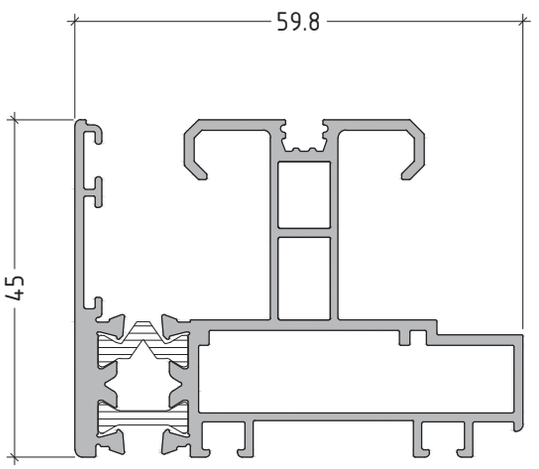
1836 gr/m



E50110

Single rail

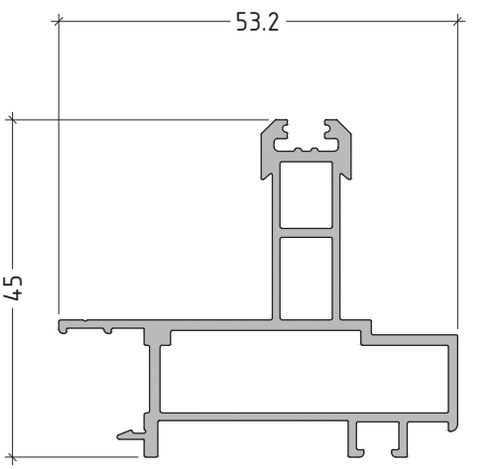
1313 gr/m



E50112

Additional fly screen rail

724 gr/m

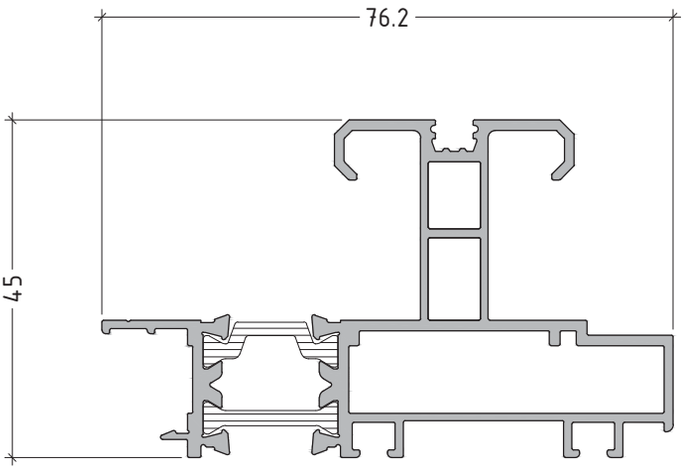


scale : 1:1

E50111

Additional single glazing rail

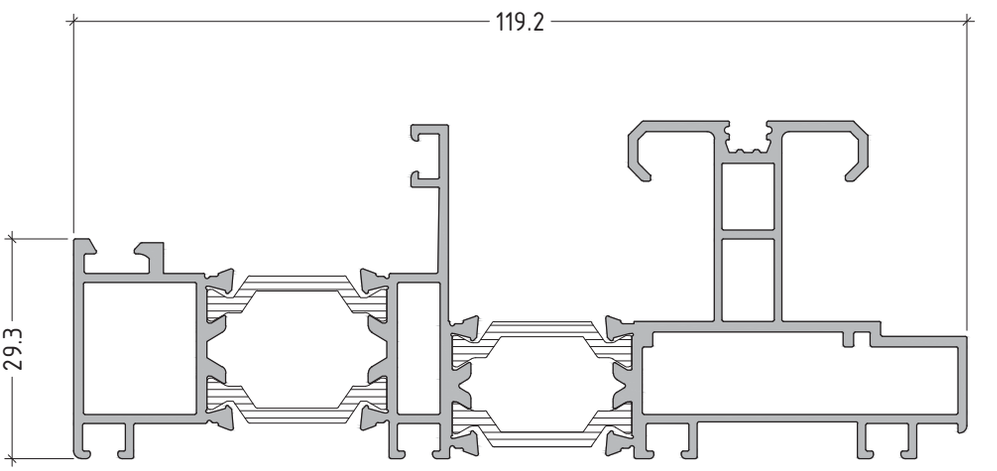
1216 gr/m



E50150

Frame for sliding-fixed window

2052 gr/m

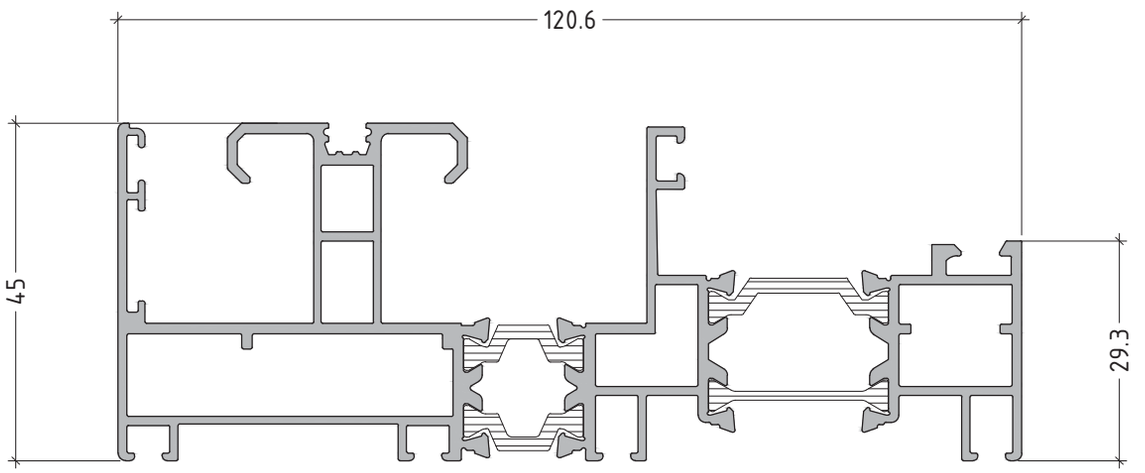


scale : 1:1

E50155

Frame for sliding-fixed window

2190 gr/m



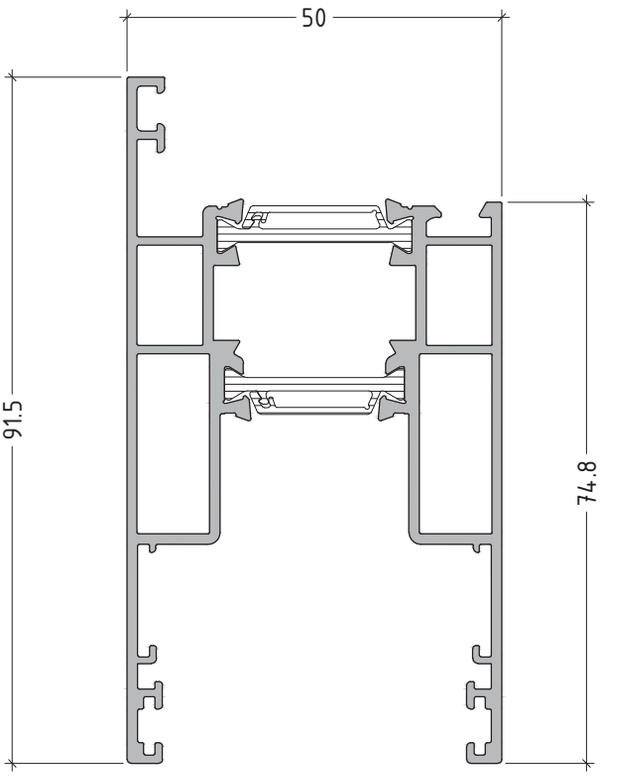
scale : 1:1

Note:
The difference between sashes E50201, E50202 and E50203 is in the type of polyamide!

E50201

Sash

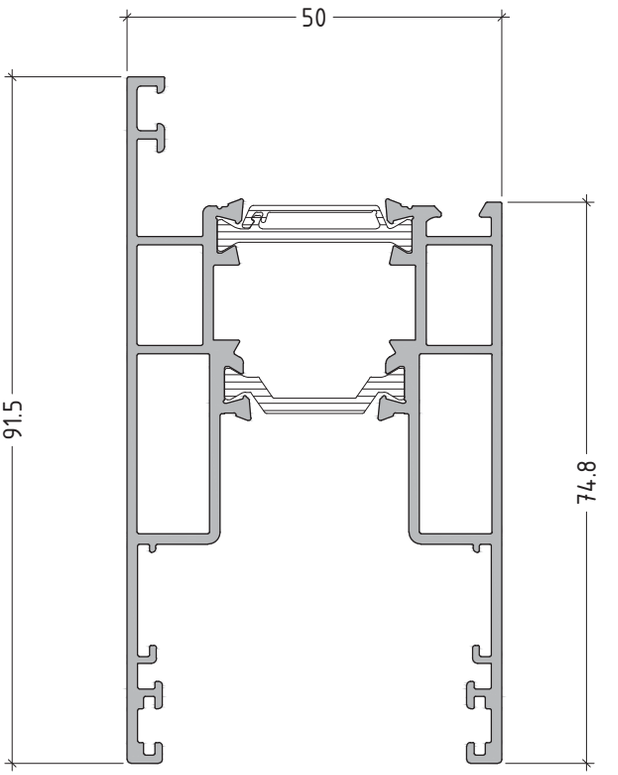
1662 gr/m



E50202

Sash

1649 gr/m



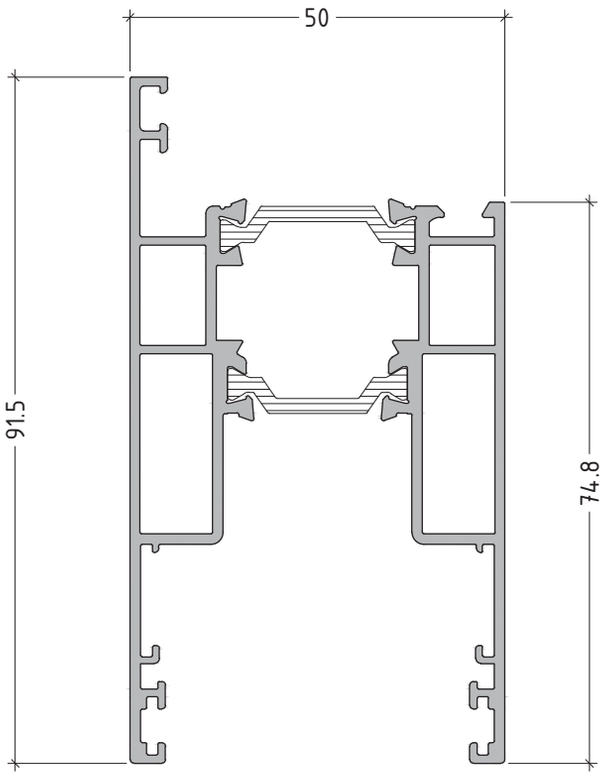
scale : 1:1

Note:
The difference between sashes E50201, E50202 and E50203 is in the type of polyamide!

E50203

Sash

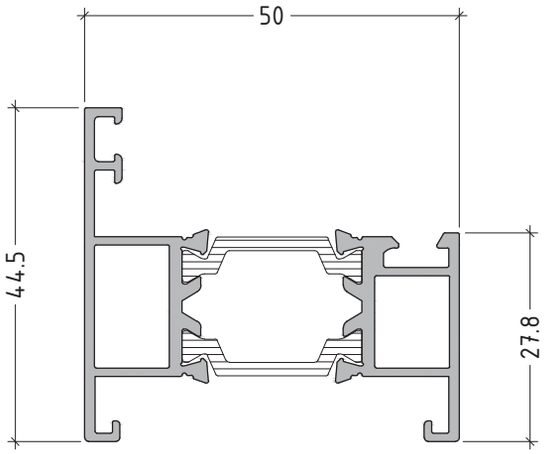
1633 gr/m



E50250

Narrow sash-interlock

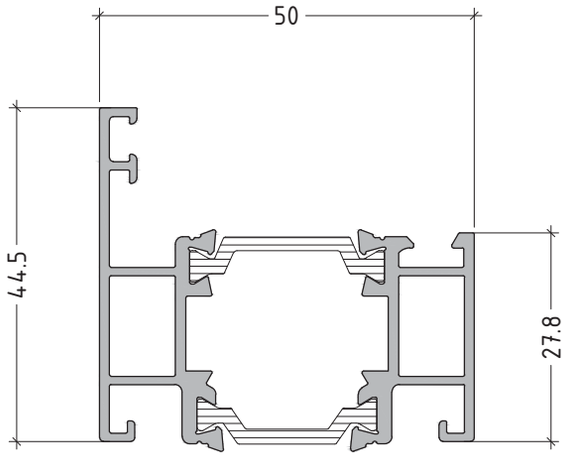
922 gr/m



E50251

Narrow sash-interlock

1015 gr/m

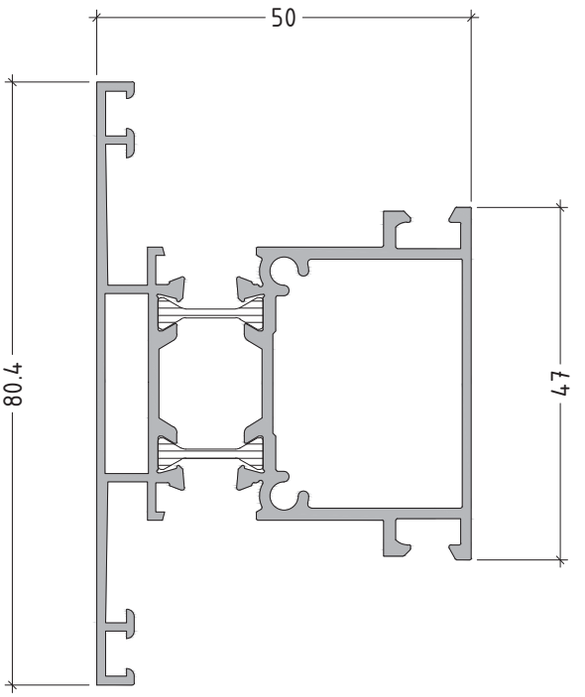


scale : 1:1

E50301

Sash transom

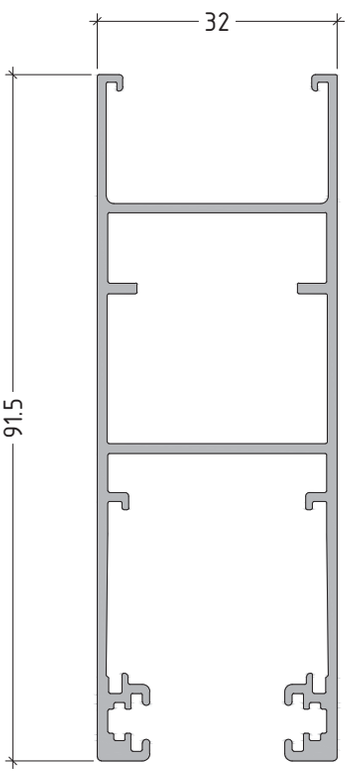
1328 gr/m



E50210

Sash for blinds

1064 gr/m

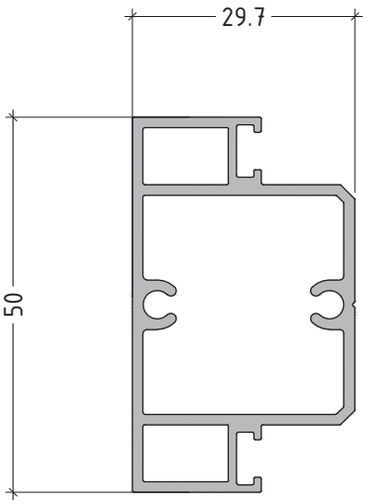


scale : 1:1

E50350

"T" profile for rails

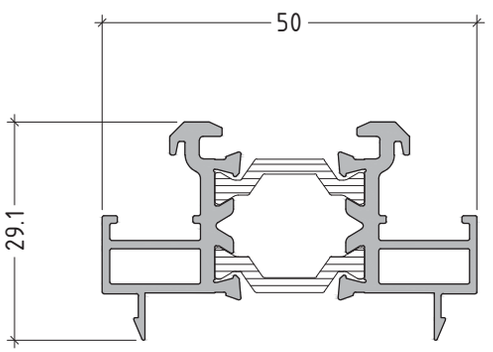
776 gr/m



E50500

Adjoining profile
with wings

830 gr/m

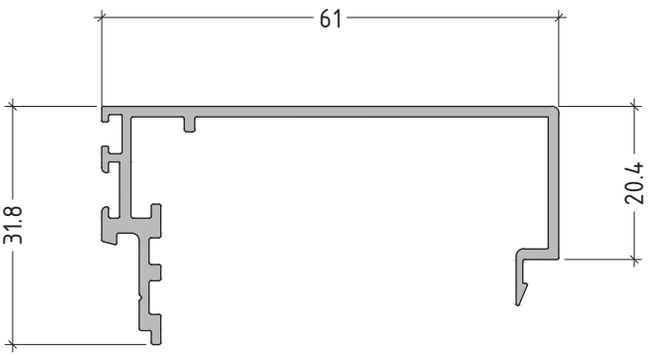


scale : 1:1

E50501

Interlock profile

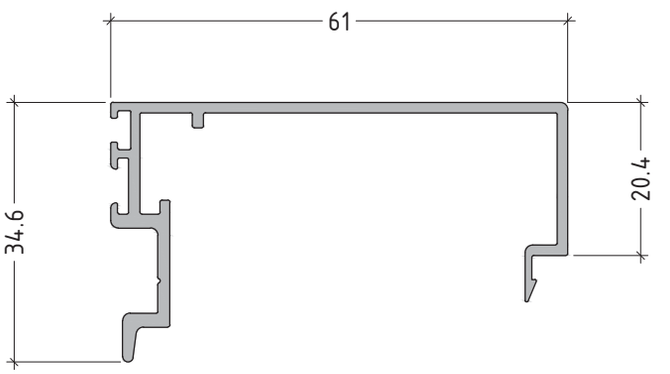
537 gr/m



E50502

Interlock profile for E50250
& E50251

554 gr/m

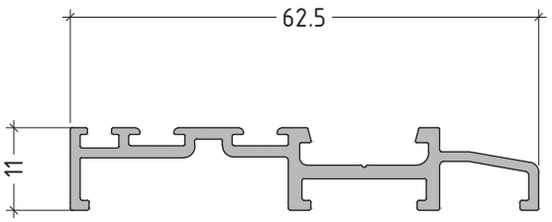


scale : 1:1

E50503

Inverted interlock

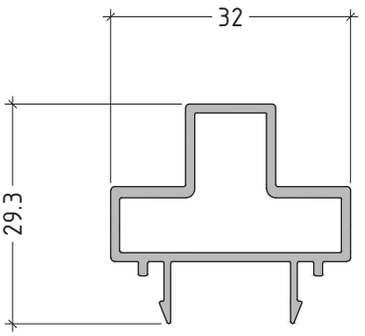
470 gr/m



E50510

Adjoining profile
for blinds

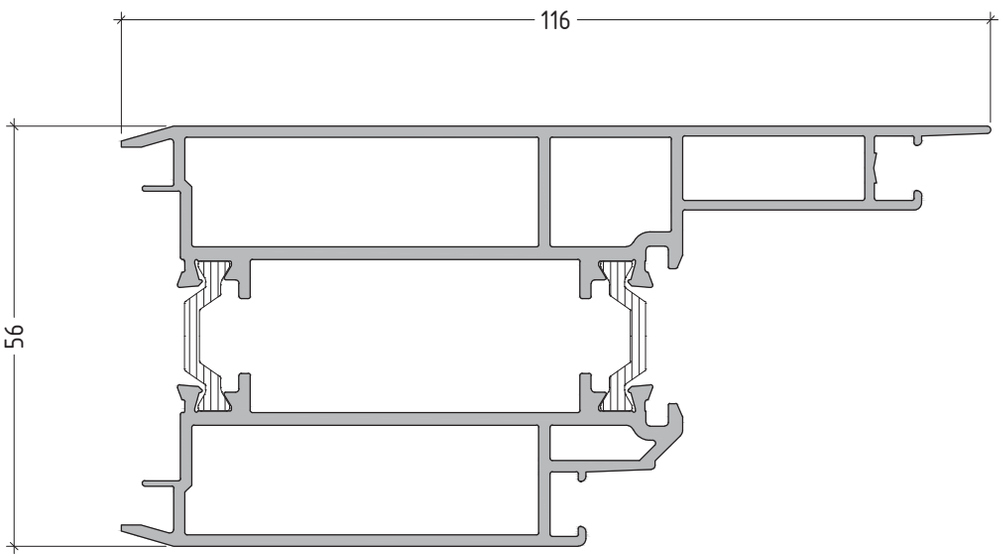
396 gr/m



E50520

Adjoining corner profile
for 90°

2252 gr/m

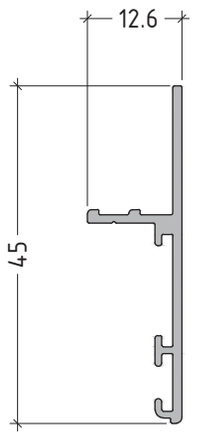


scale : 1:1

E50600

Drip profile

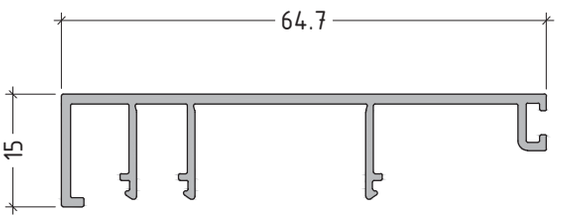
221 gr/m



E50601

Suplementary profile
for rail-frames

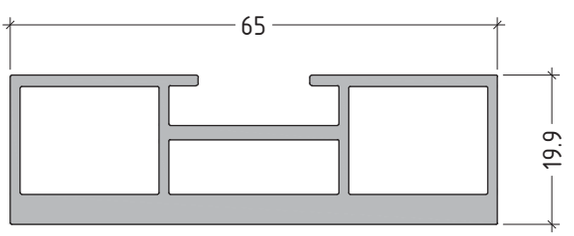
418 gr/m



E50602

Reinforcement profile
for sashes E50250 & E50251

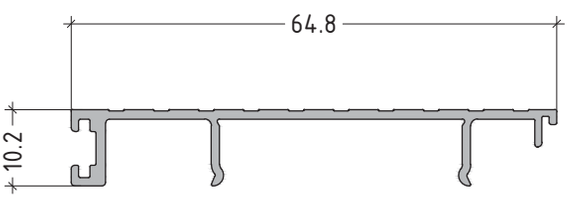
1220 gr/m



E50652

Rail cover

338 gr/m

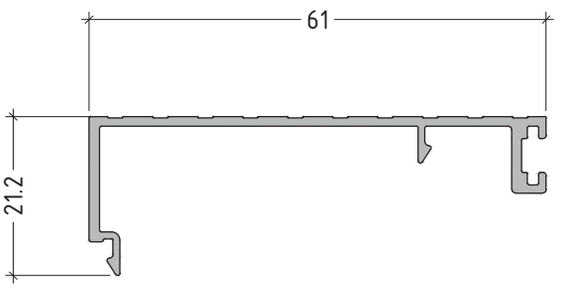


scale : 1:1

E50650

Rail cover

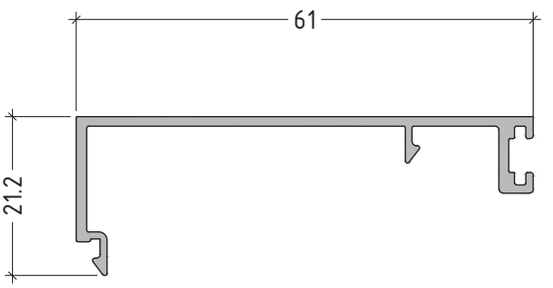
352 gr/m



E50660

Rail cover

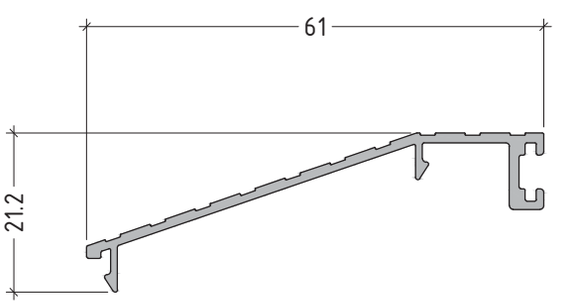
365 gr/m



E50651

Rail cover

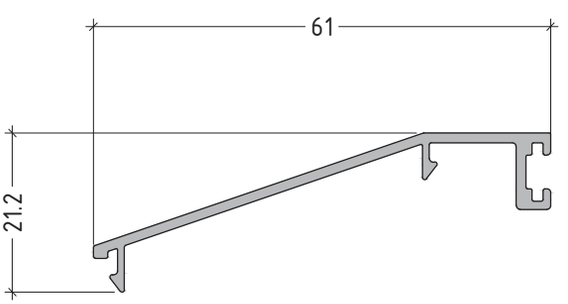
296 gr/m



E50661

Rail cover

313 gr/m

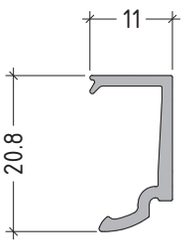


scale : 1:1

E50680

Glazing bead

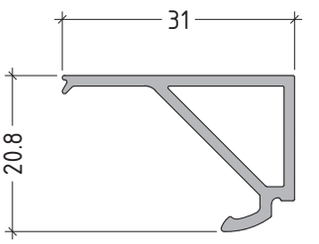
154 gr/m



E50681

Glazing bead

300 gr/m

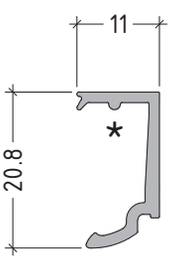


E50682

Glazing bead

⚠ only for anodising
(* check marking)

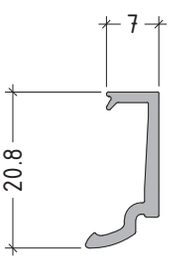
157 gr/m



E50687

Glazing bead

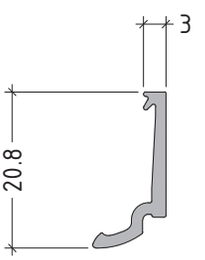
140 gr/m



E50683

Glazing bead

125 gr/m

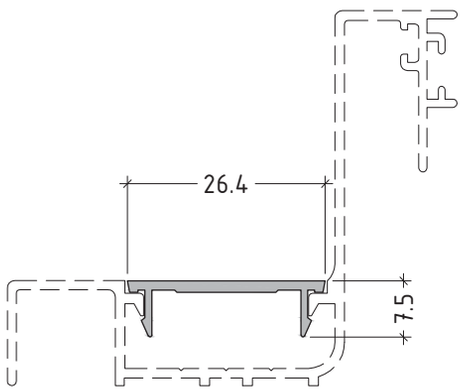


scale : 1:1

E19641

Cover for E 70640

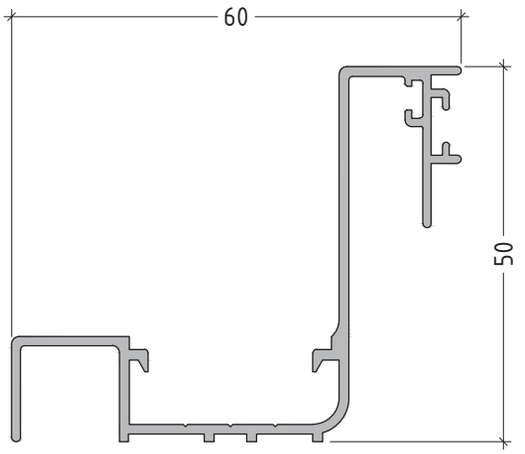
130 gr/m



E70640

Wall joining profile

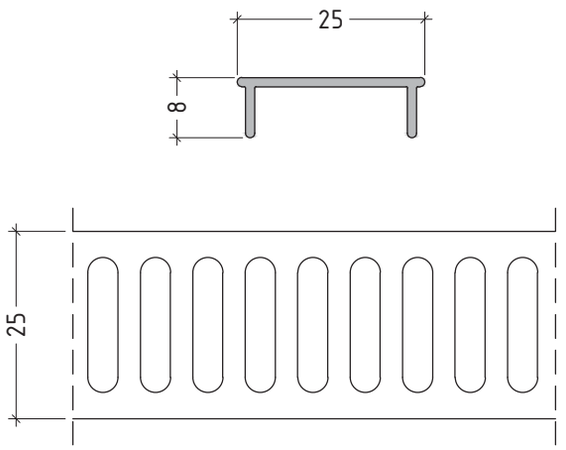
597 gr/m



E50901W1

Aluminium drainage grill
(available only perforated)

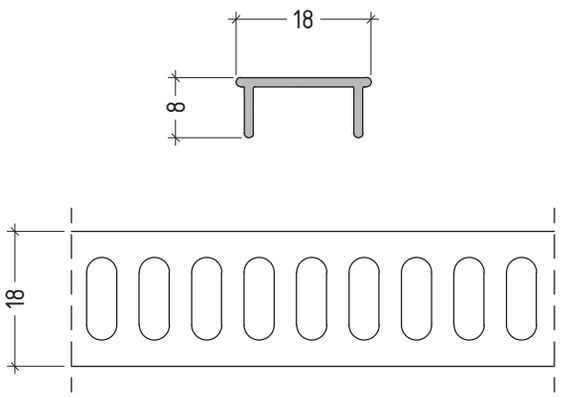
124 gr/m



E50902W1

Aluminium drainage grill
(available only perforated)

100 gr/m

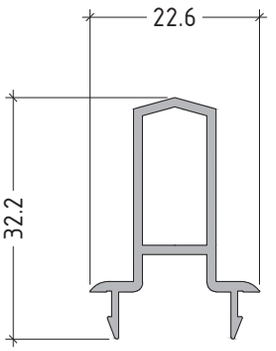


scale : 1:1

E19512

Adjoining profile
for fly screen

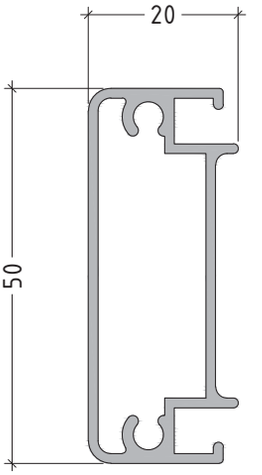
284 gr/m



E22215

Transom for
fly screen sash

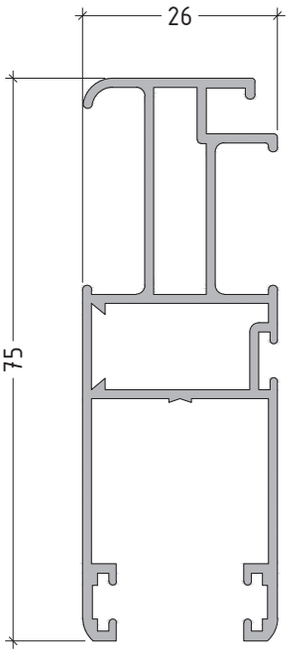
591 gr/m



E22214

Fly screen
sash

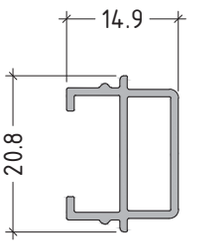
857 gr/m



E50900

Connecting rod

186 gr/m

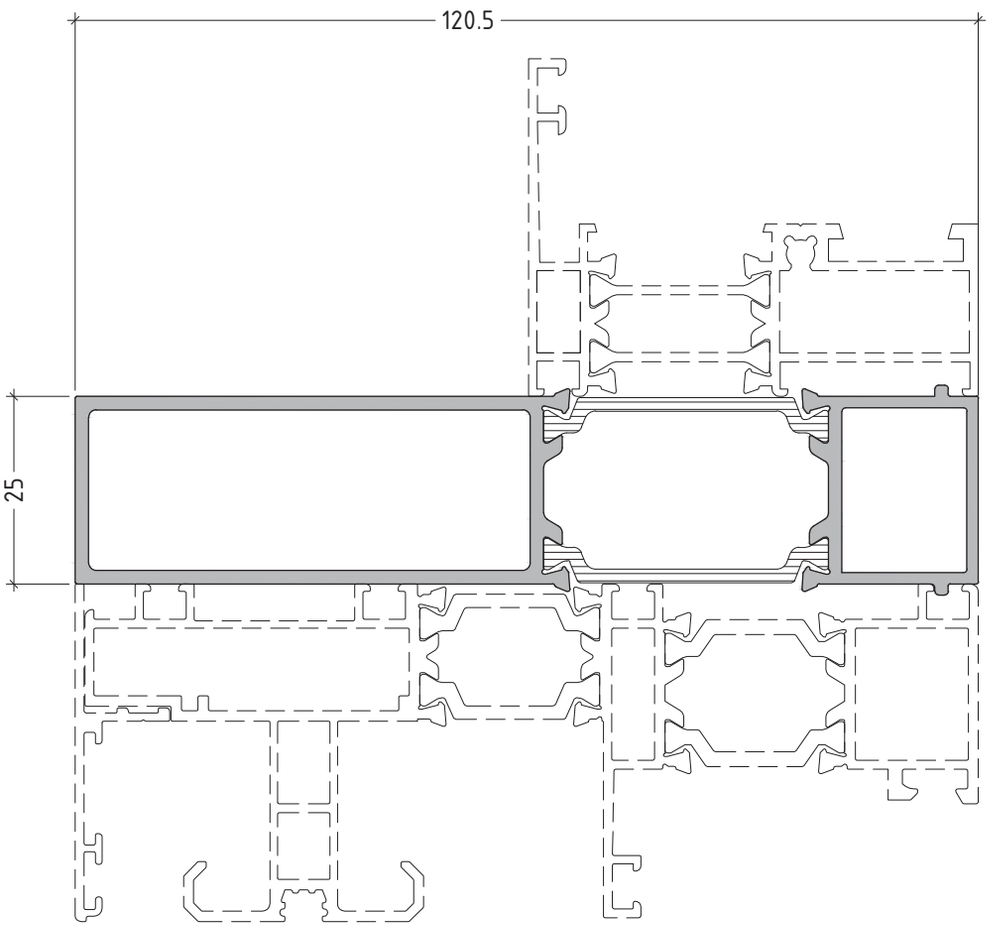


scale : 1:1

E50690

Indermidiate profile

1550 gr/m



scale : 1:1

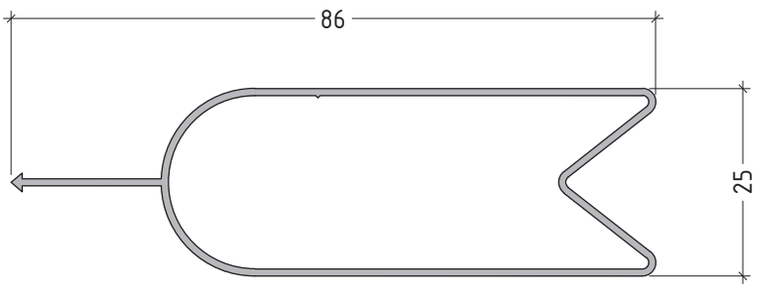
E1505

6.9 kg/m²

Shutter blind

14 pcs/m²

510 gr/m



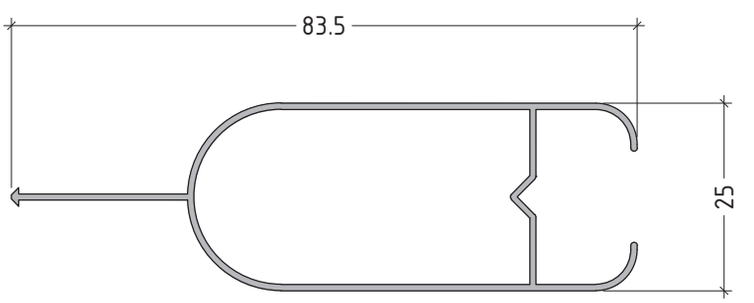
E1507

6.3 kg/m²

Shutter blind

14.7 pcs/m²

427 gr/m



scale : 1:1

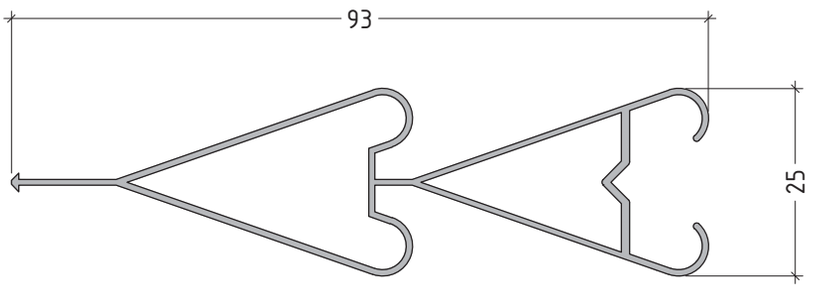
E1508

6.8 kg/m²

Shutter blind

12.5 pcs/m²

545 gr/m



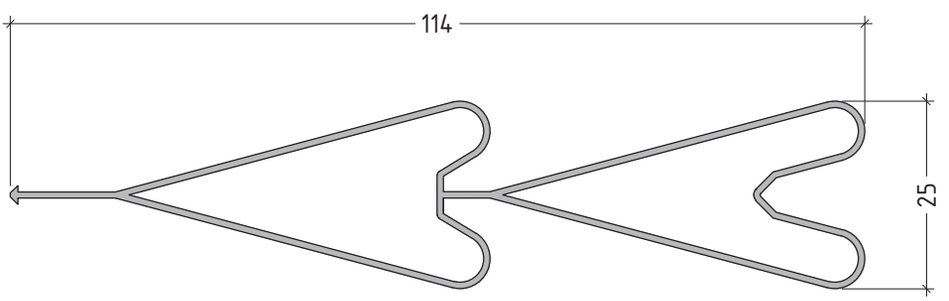
E1509

6.6 kg/m²

Shutter blind

10 pcs/m²

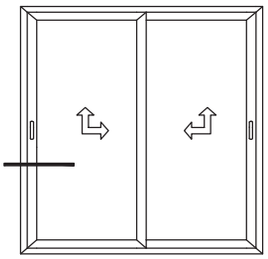
664 gr/m

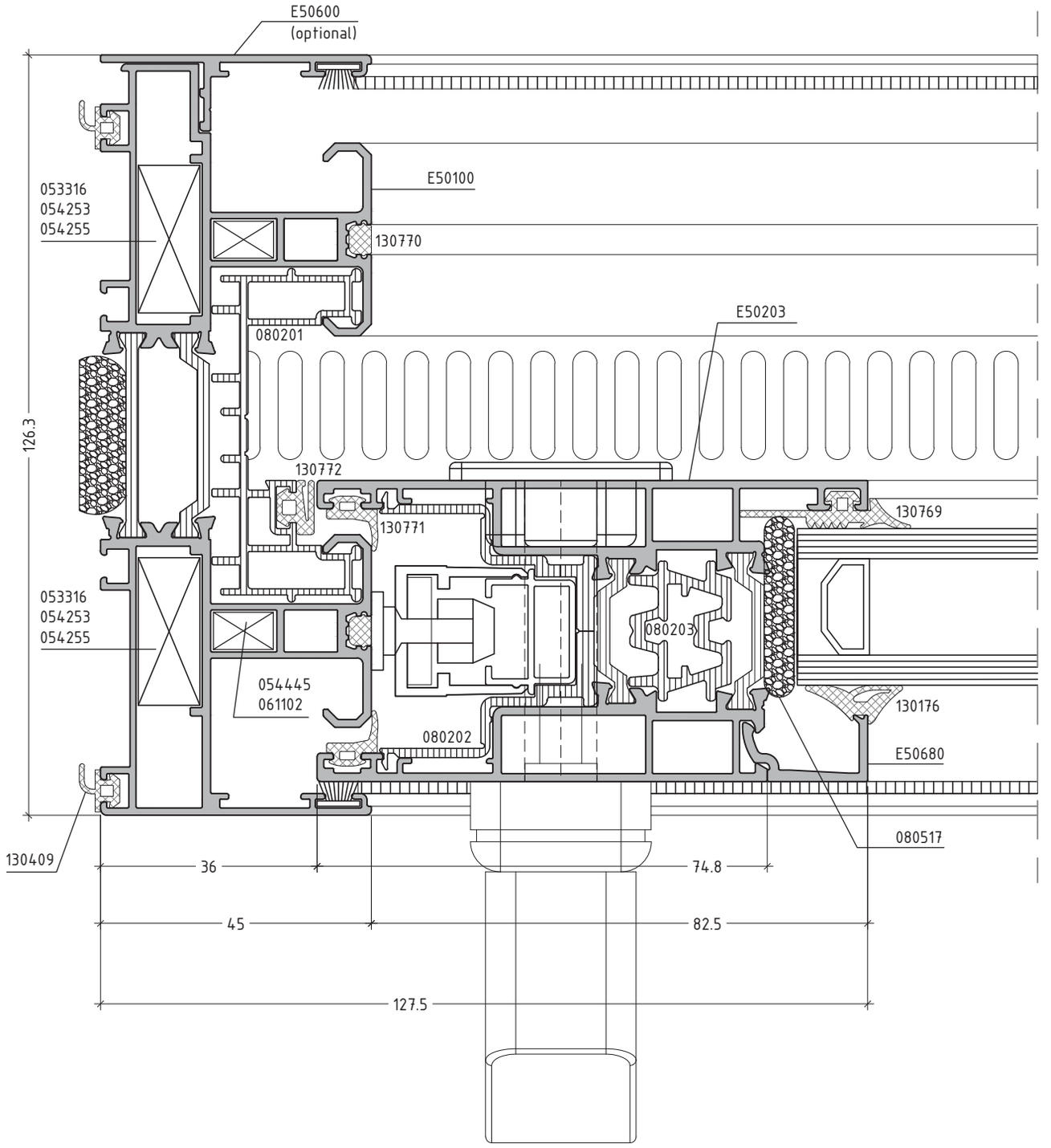


scale : 1:1

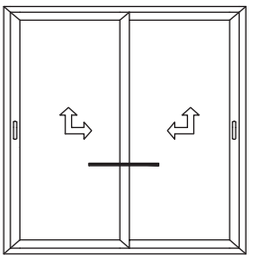
SECTIONS

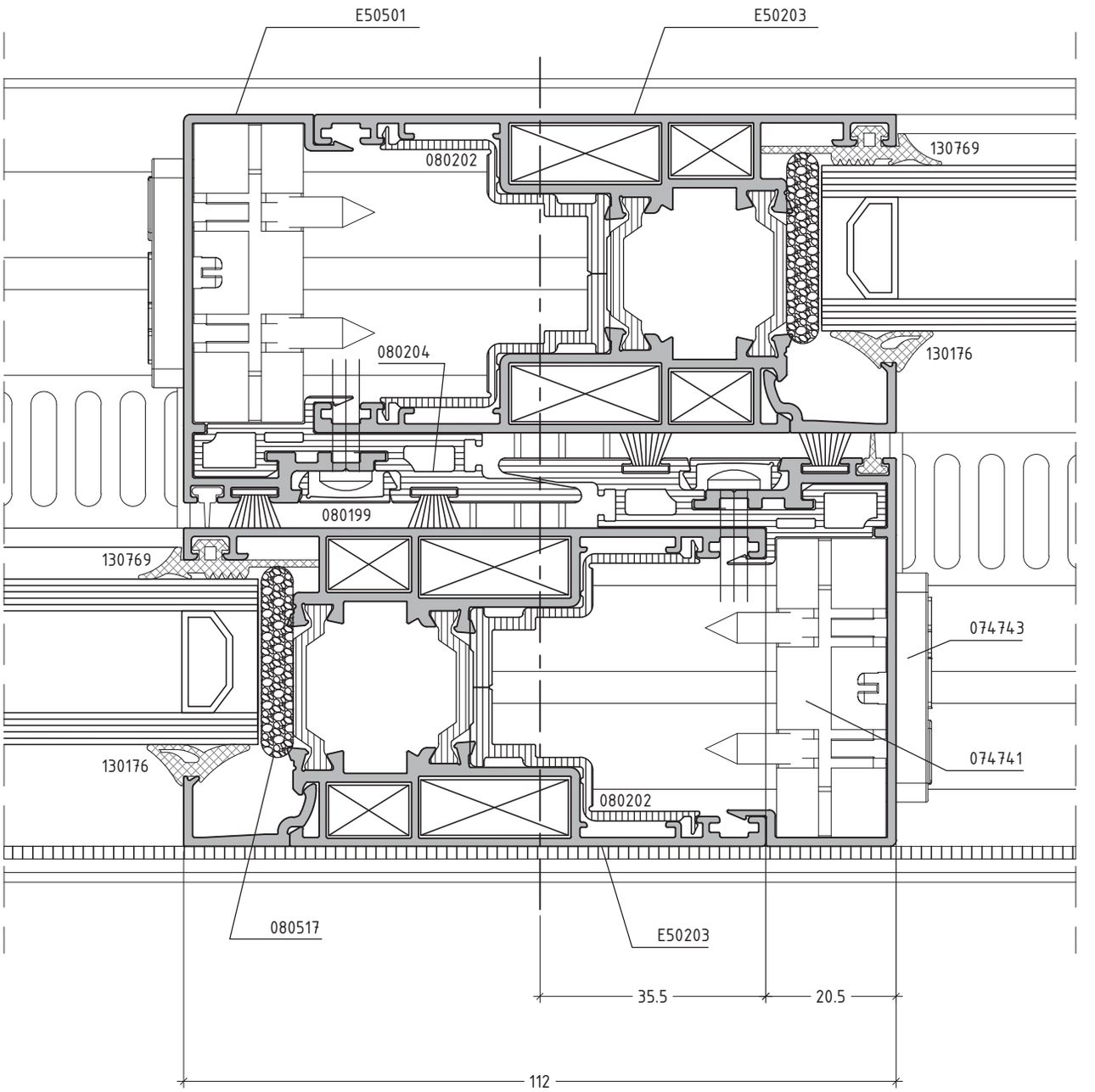
SECTIONS / DETAILS



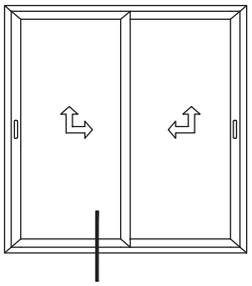


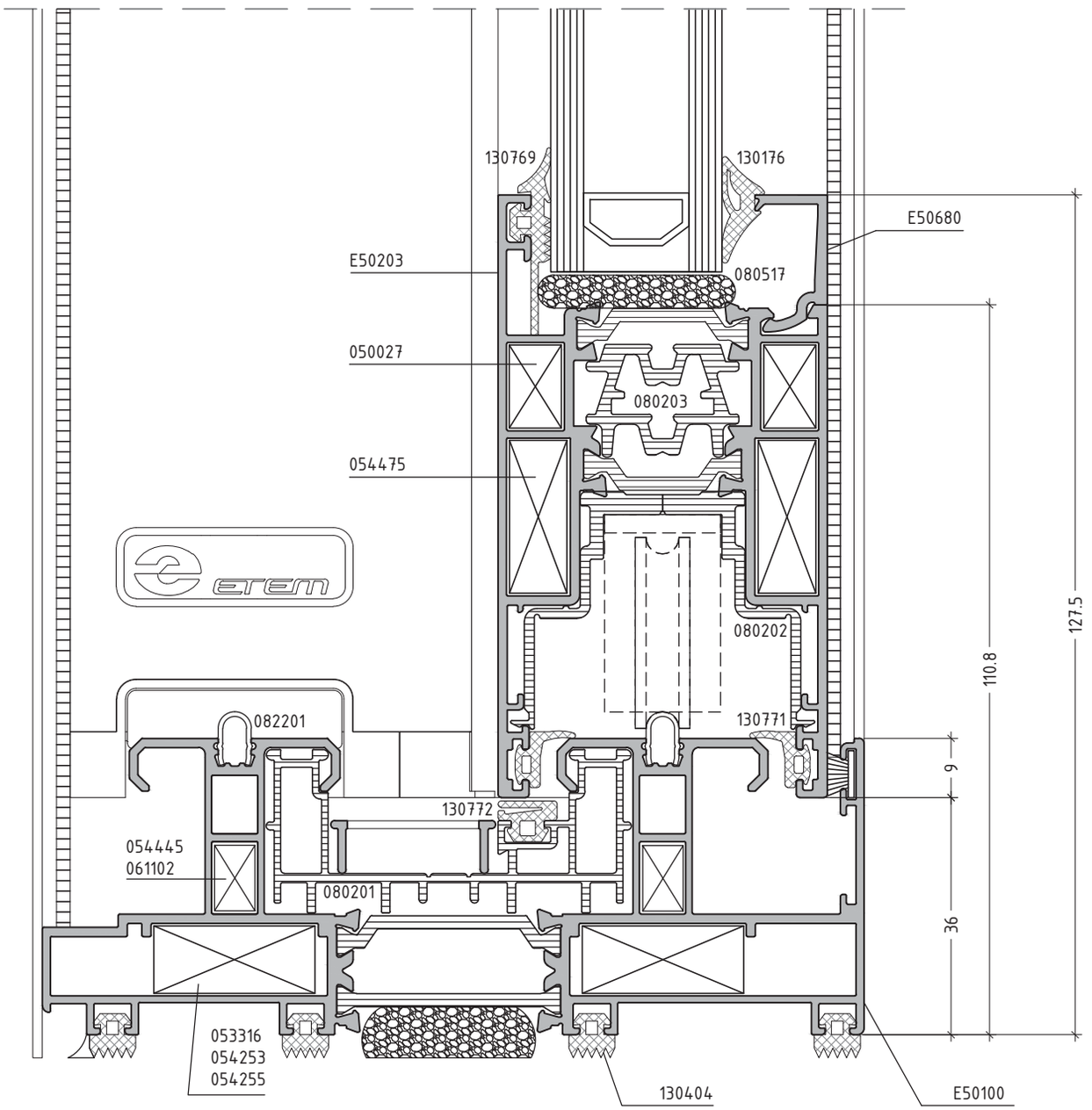
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.



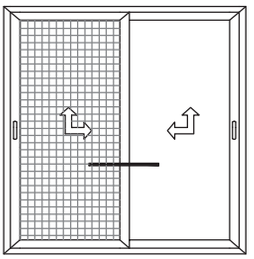


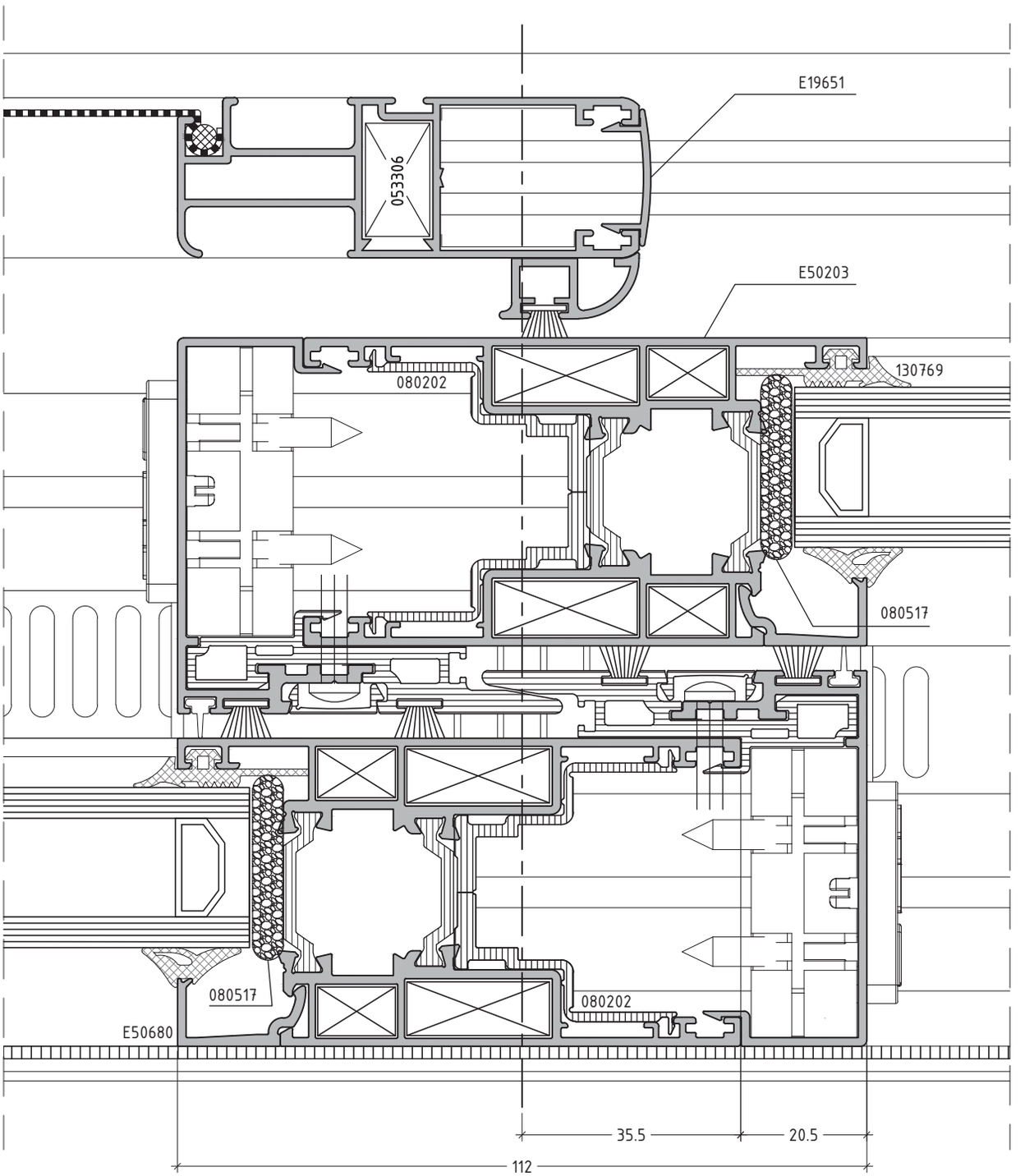
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.



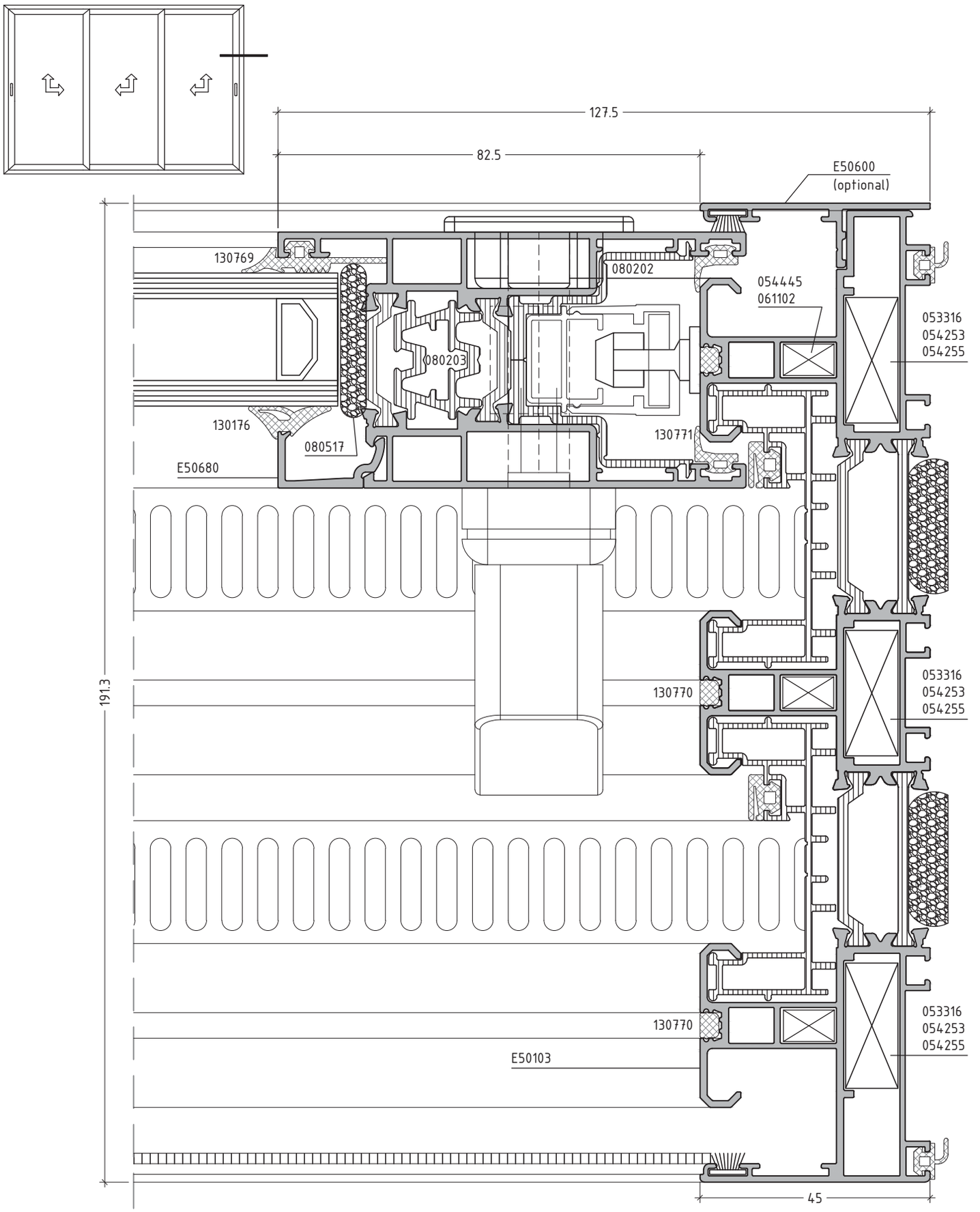


scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.



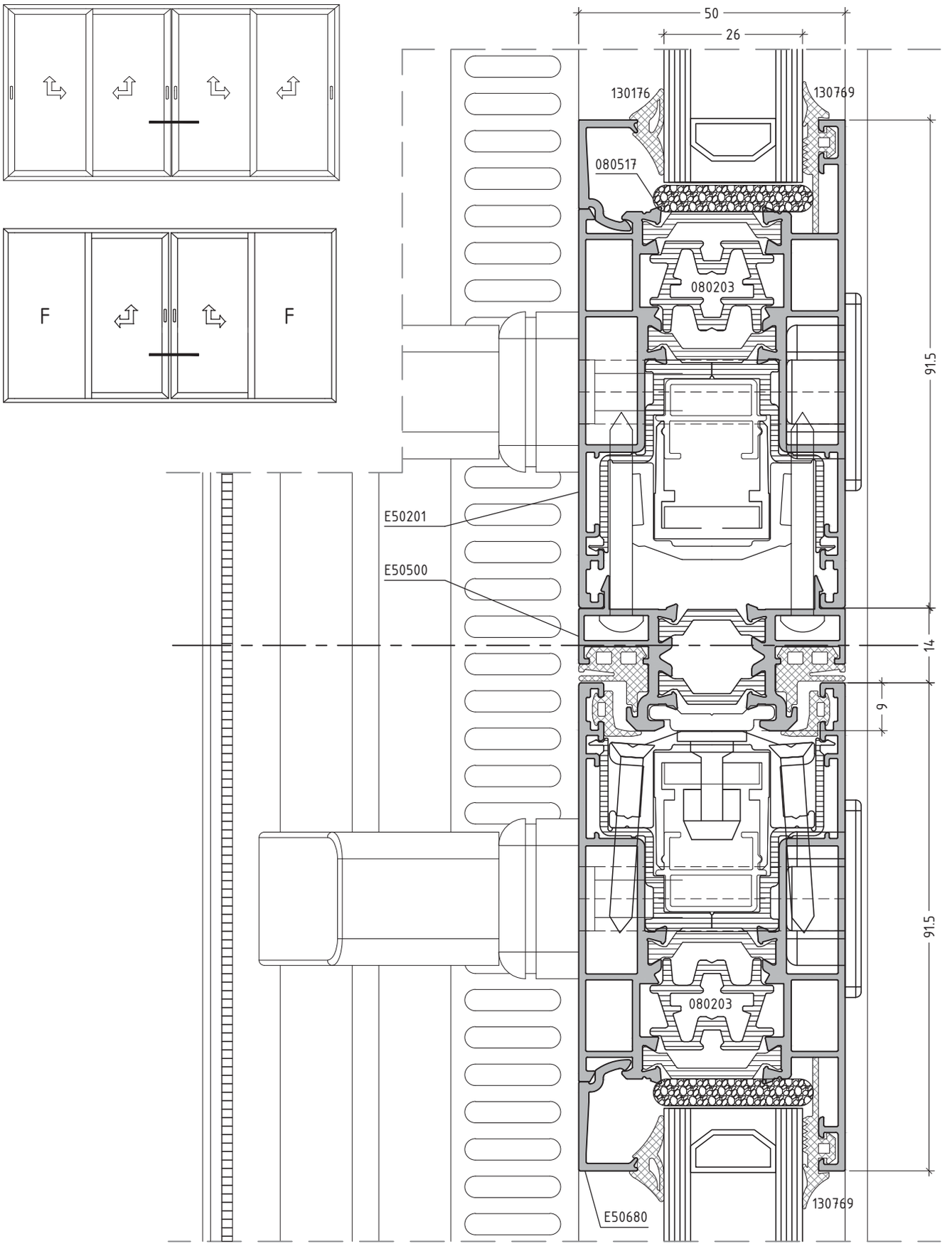


scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

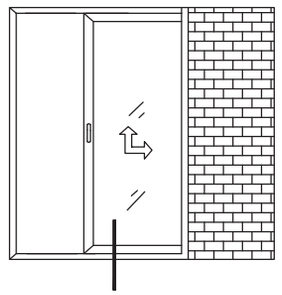


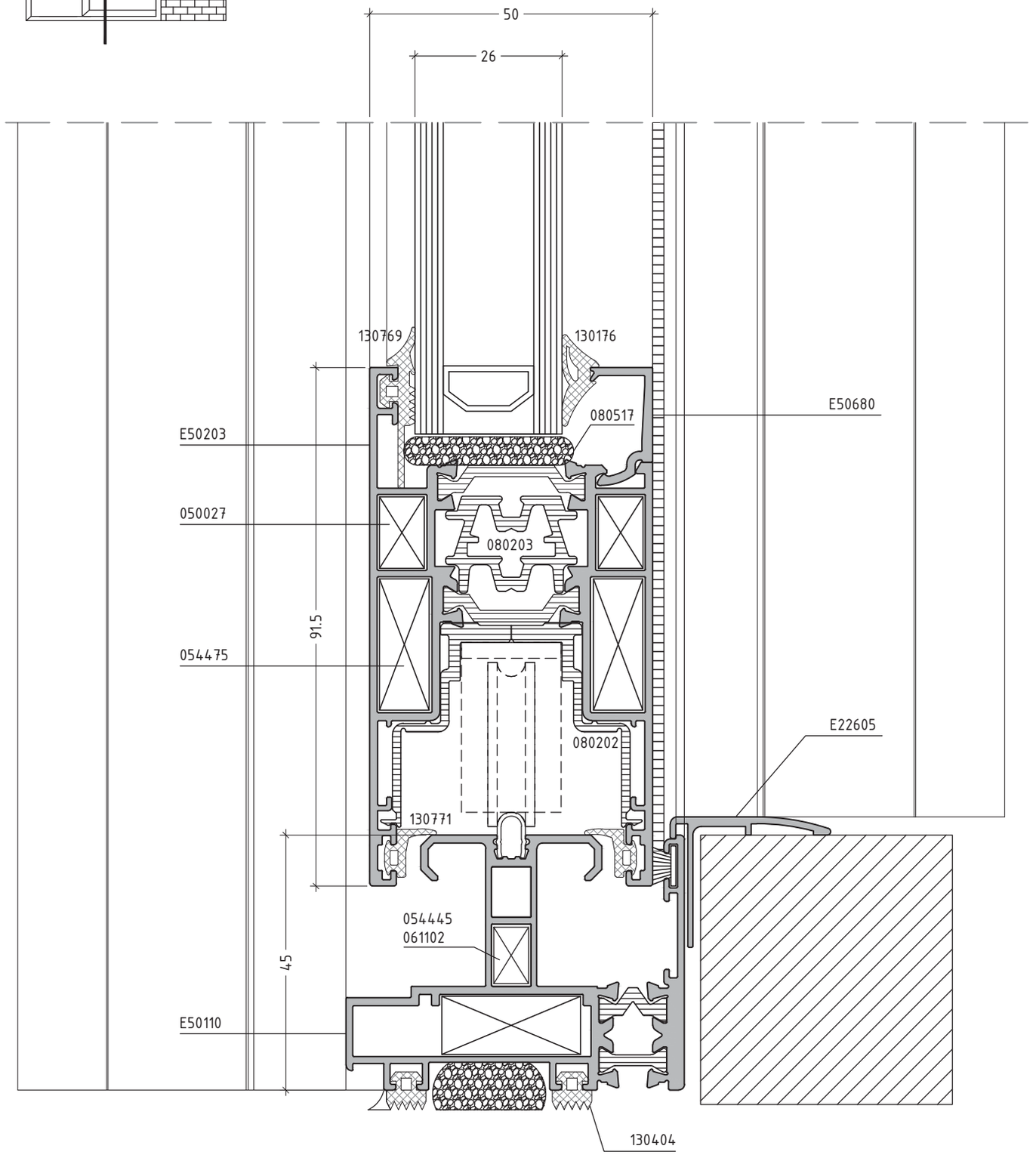
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

sliding system with thermal break E50

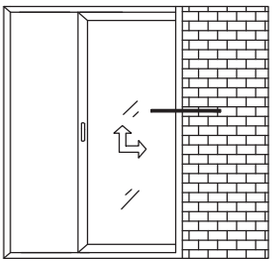


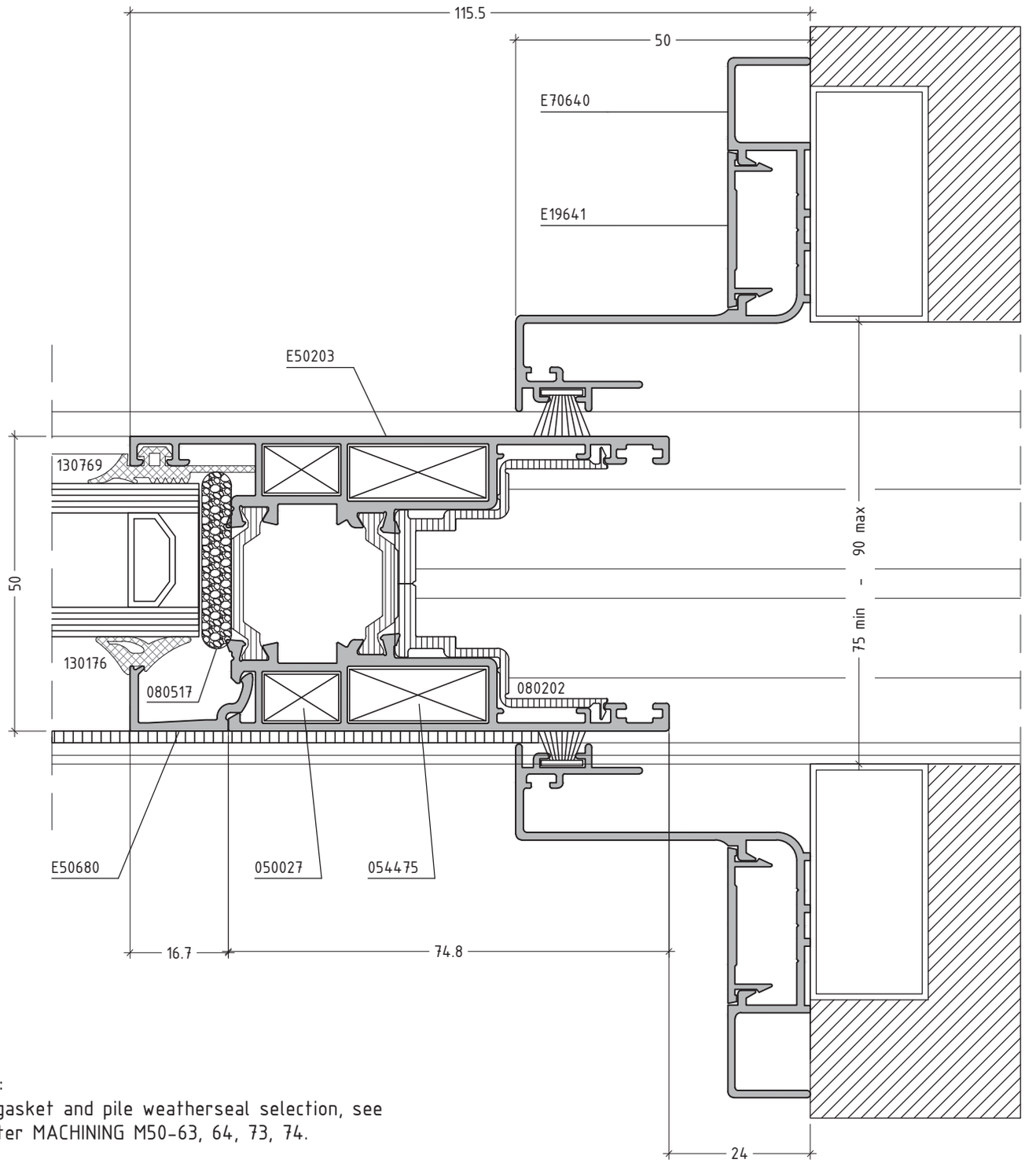
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.





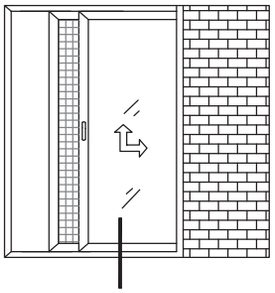
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

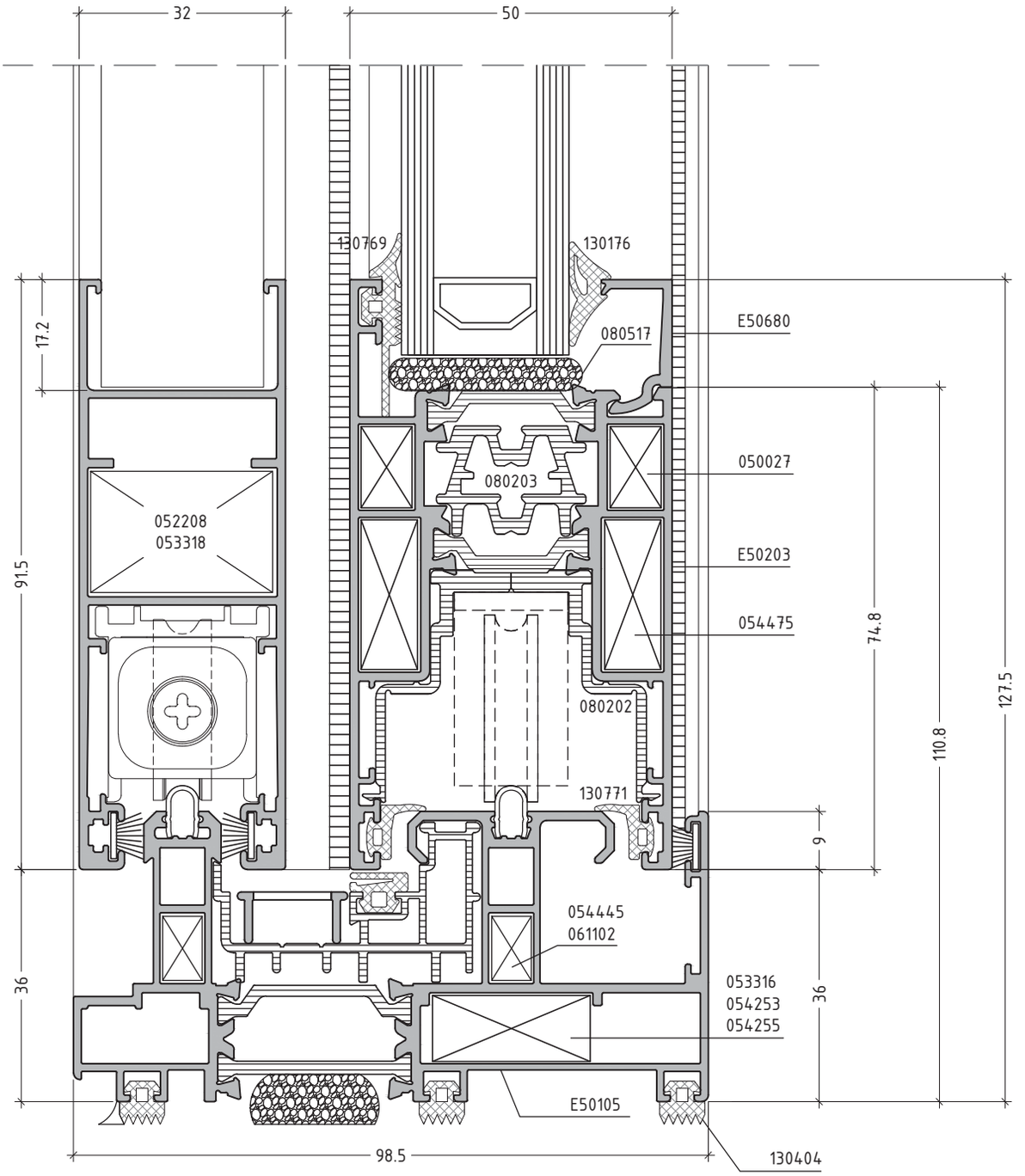




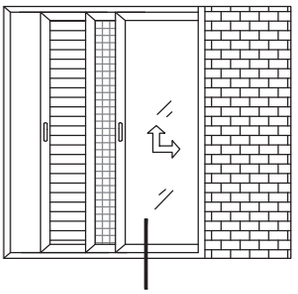
Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

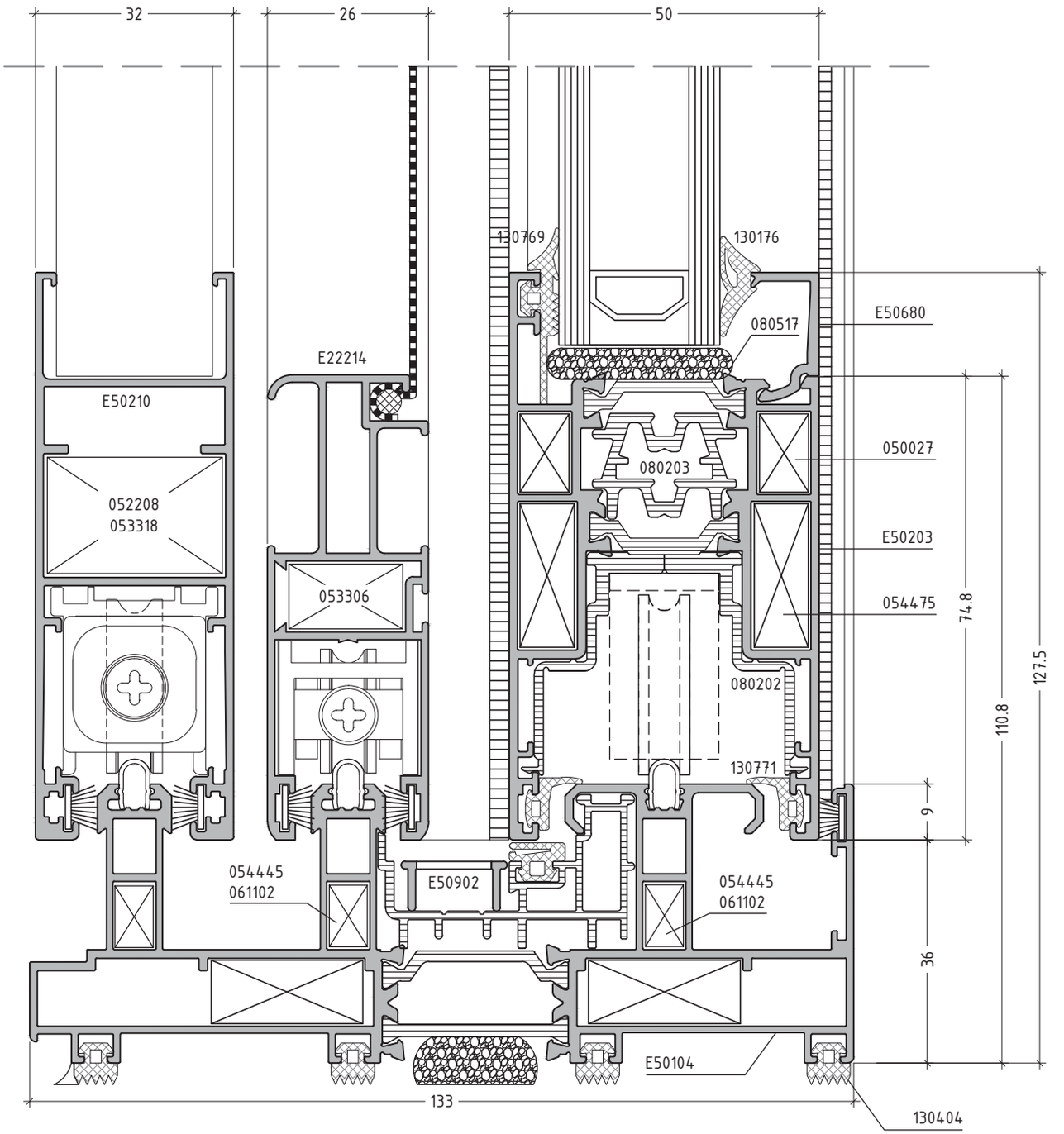
scale : 1:1



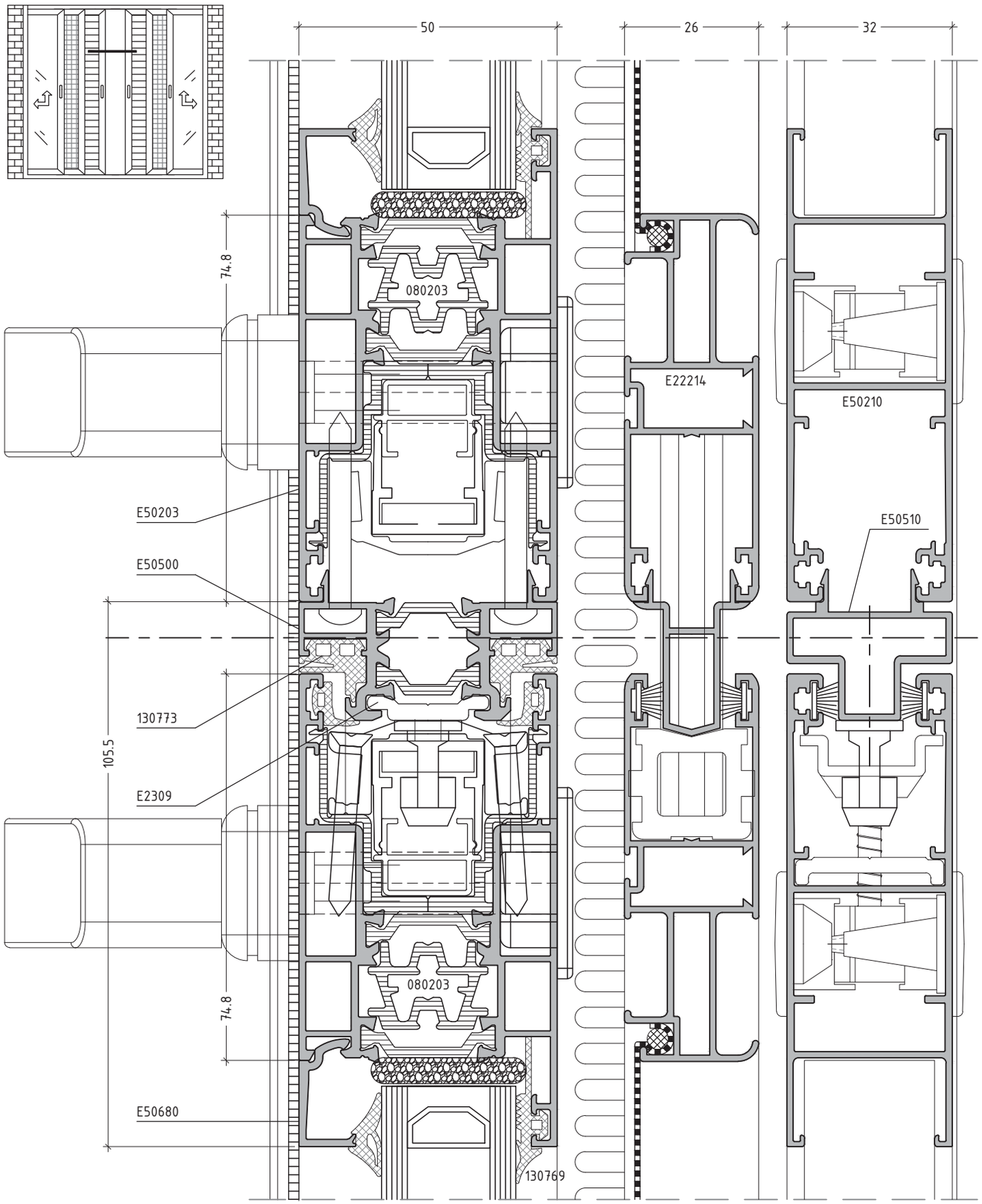


scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

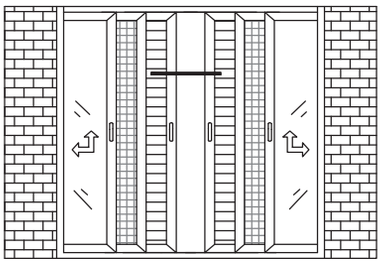


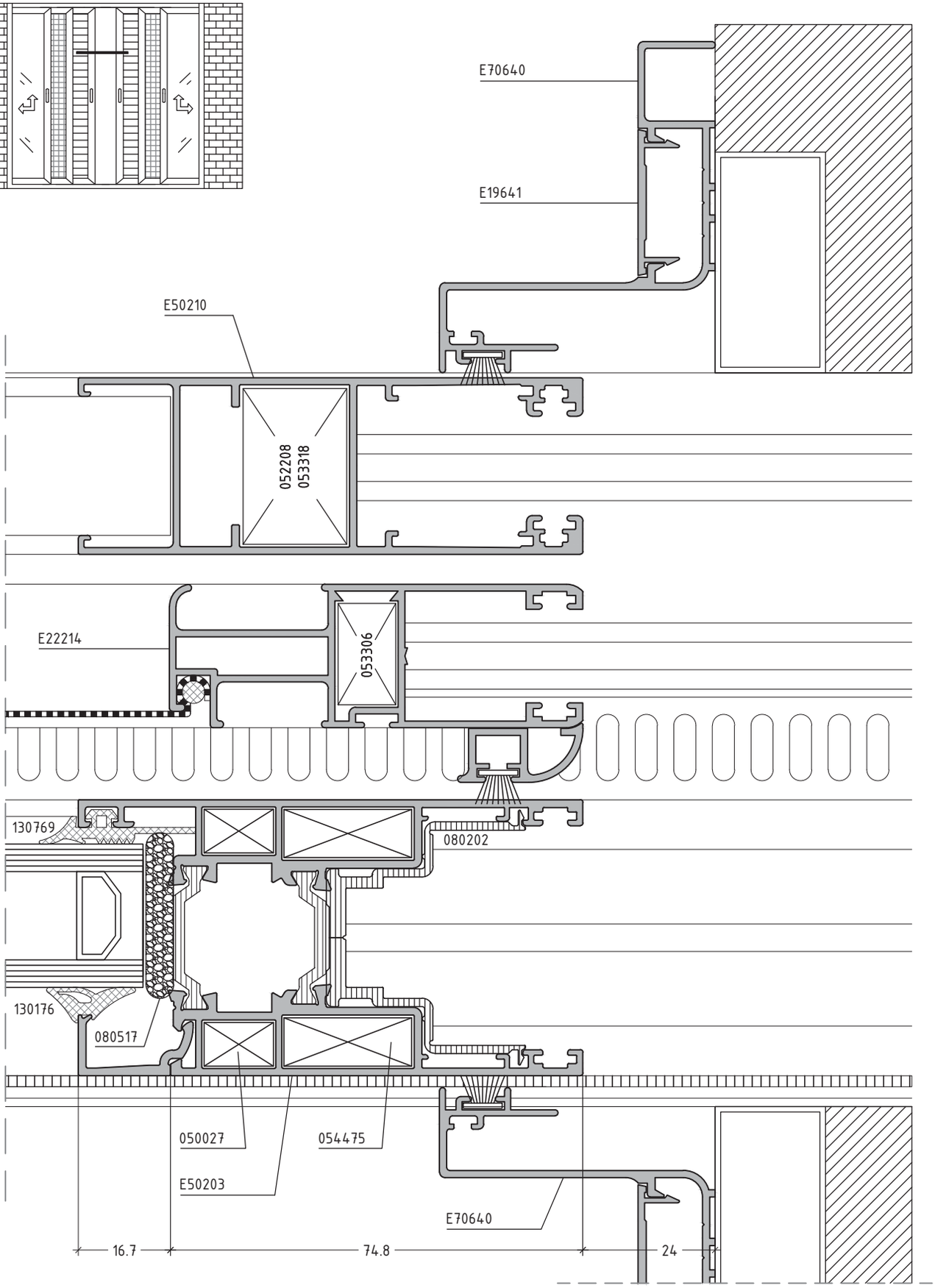


scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

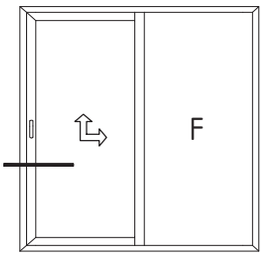


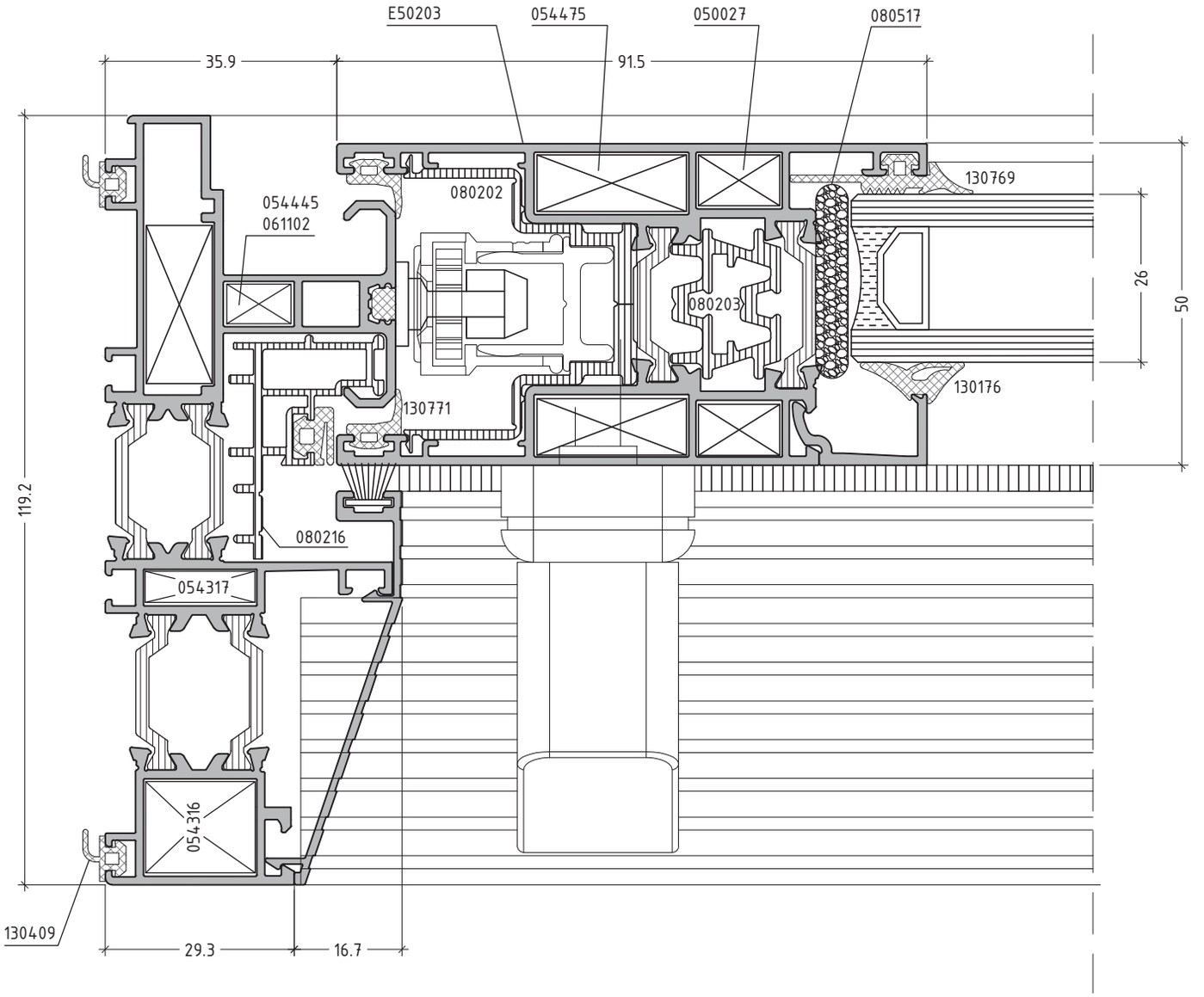
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.



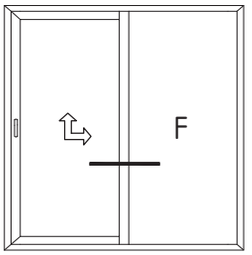


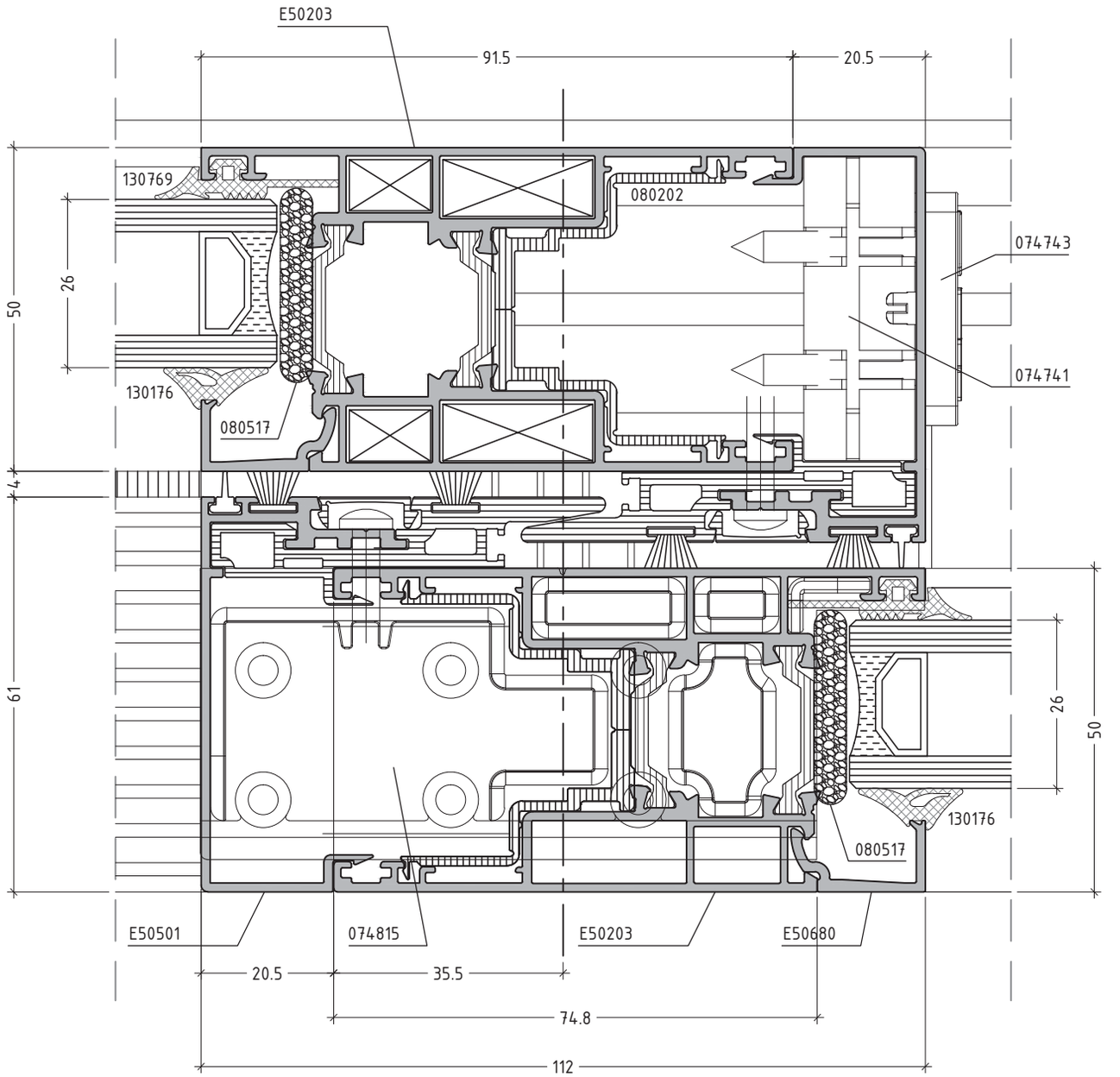
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.





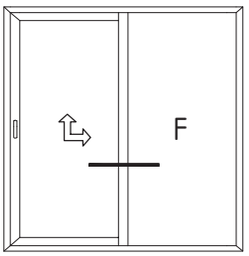
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

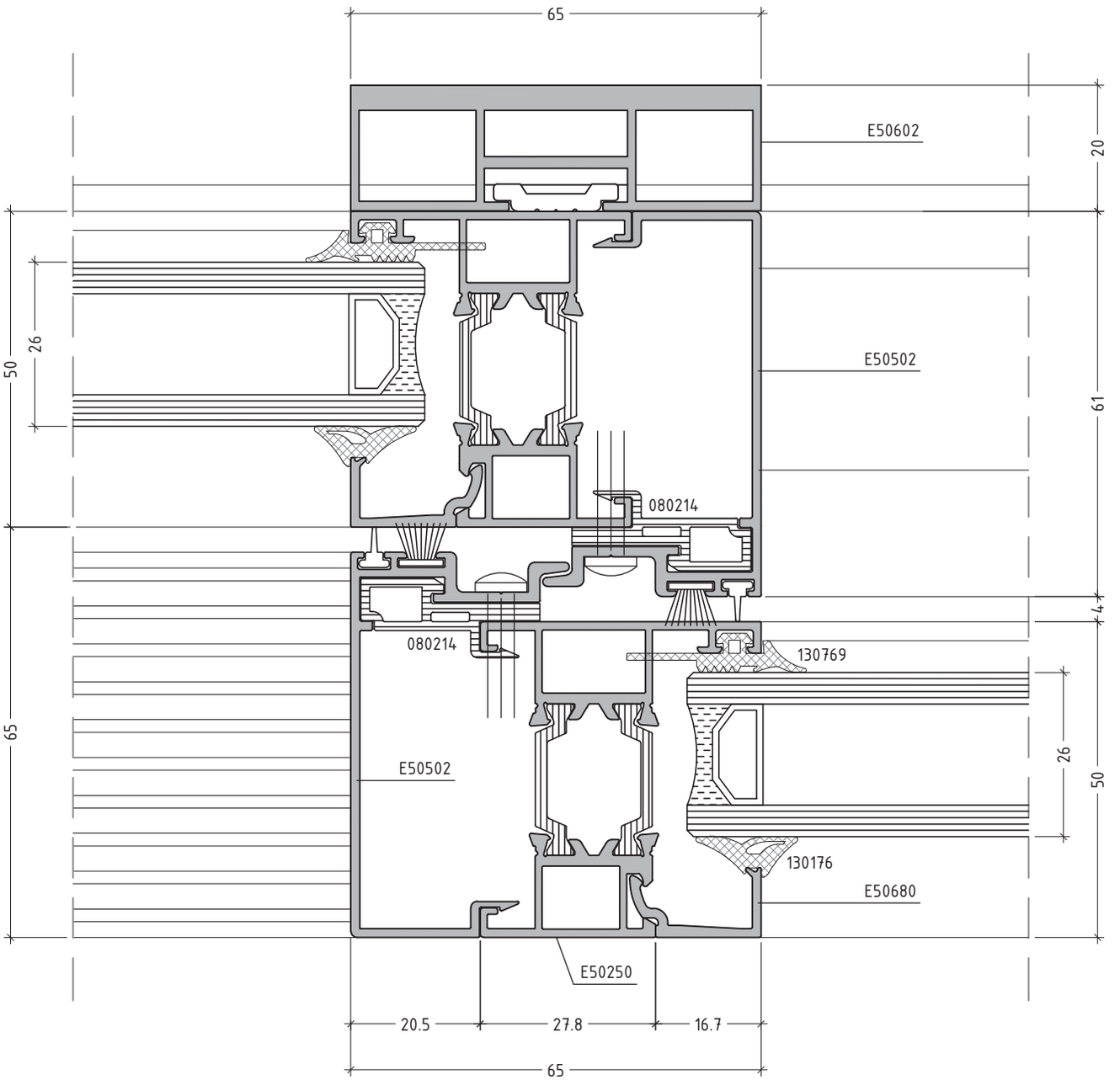




Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

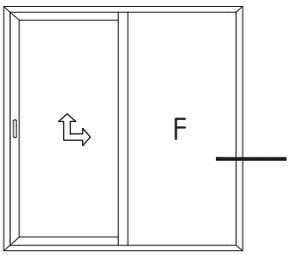
scale : 1:1

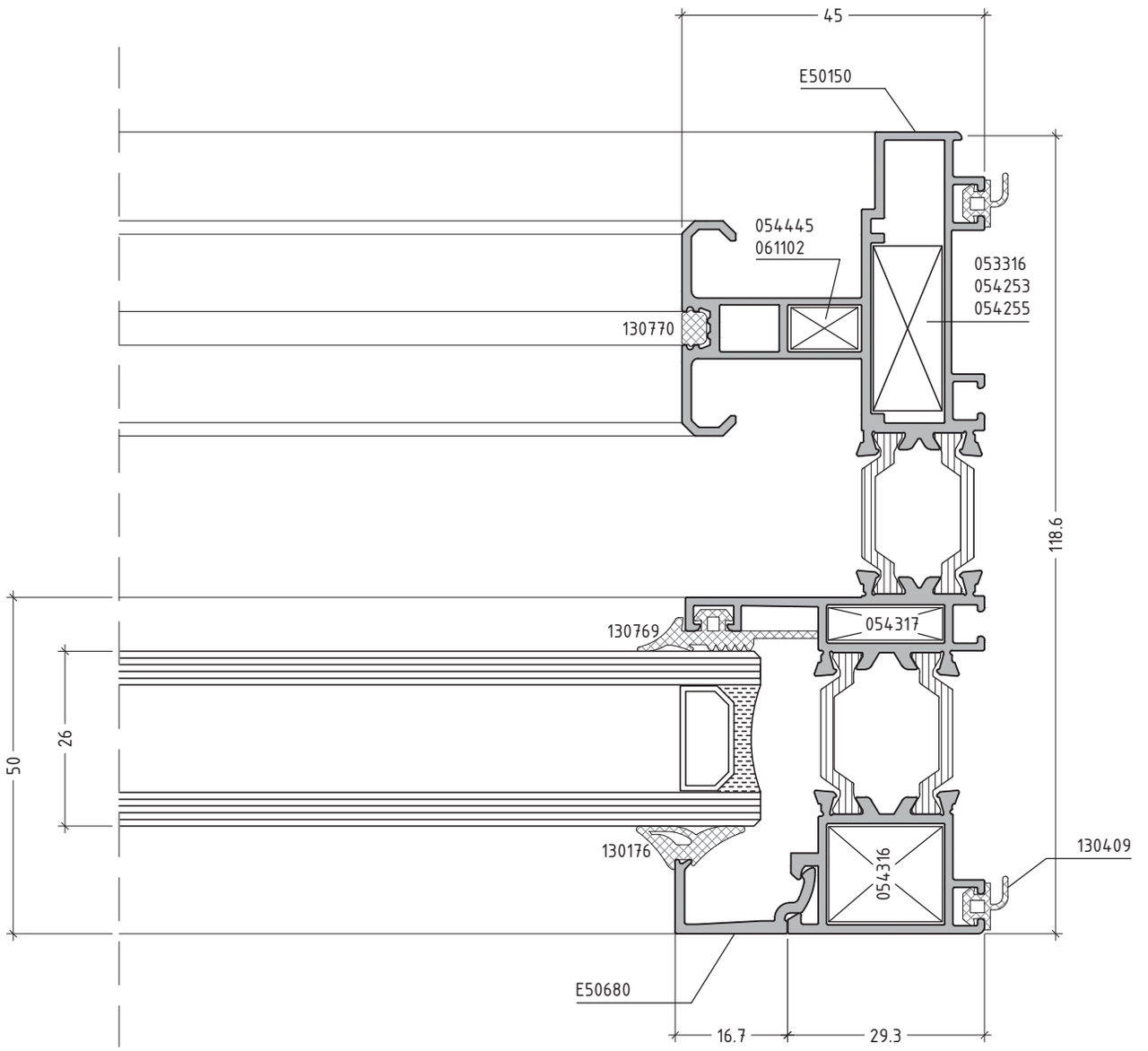




Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

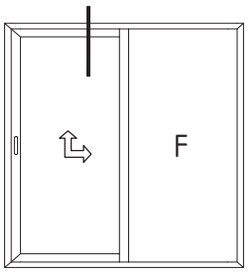
scale : 1:1

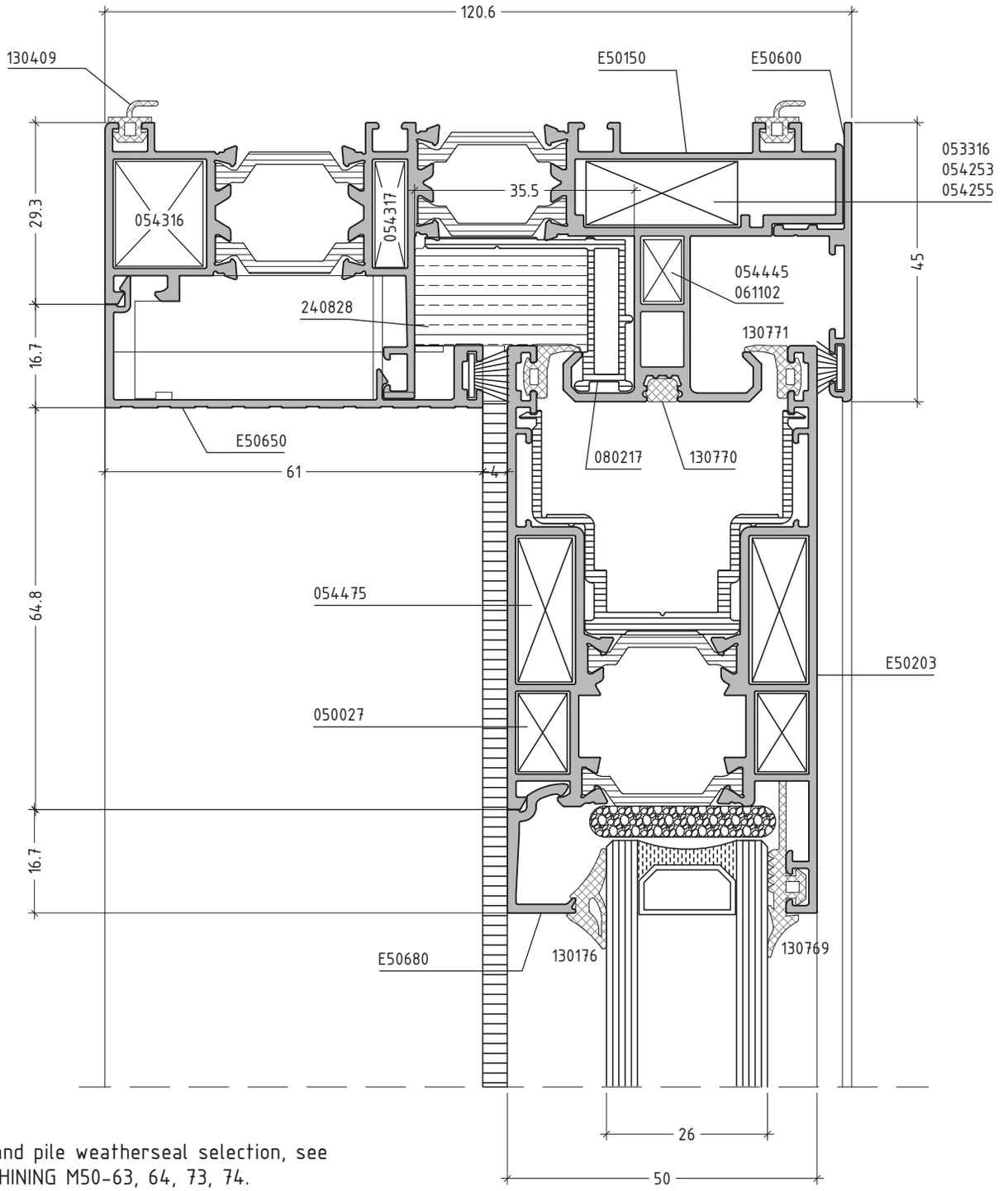




Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

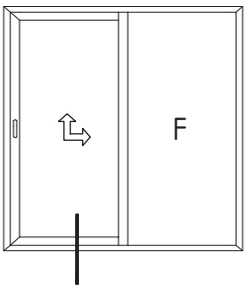
scale : 1:1

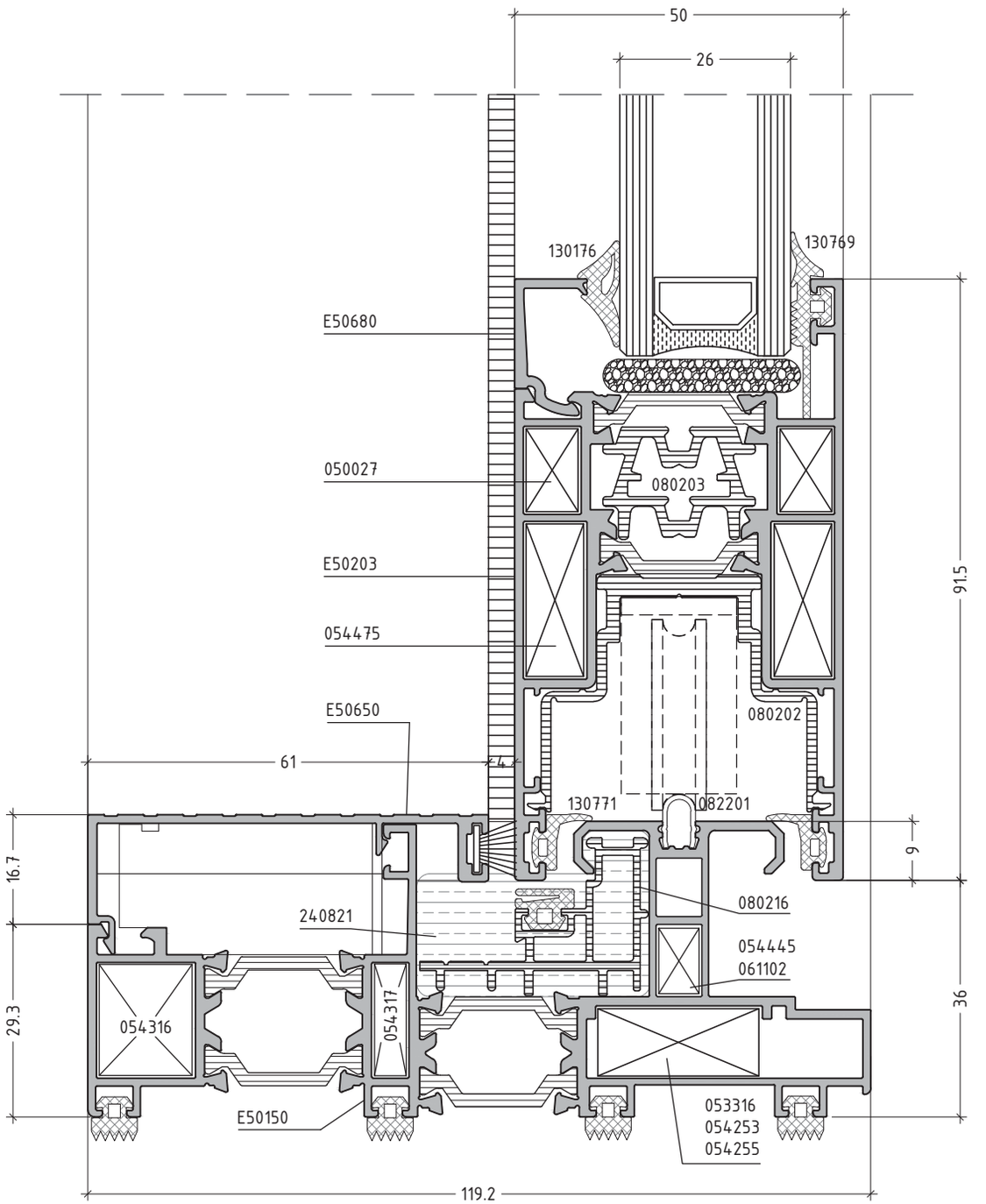




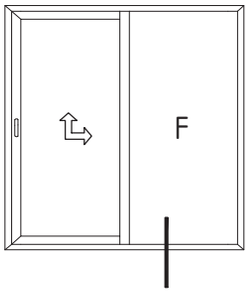
Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

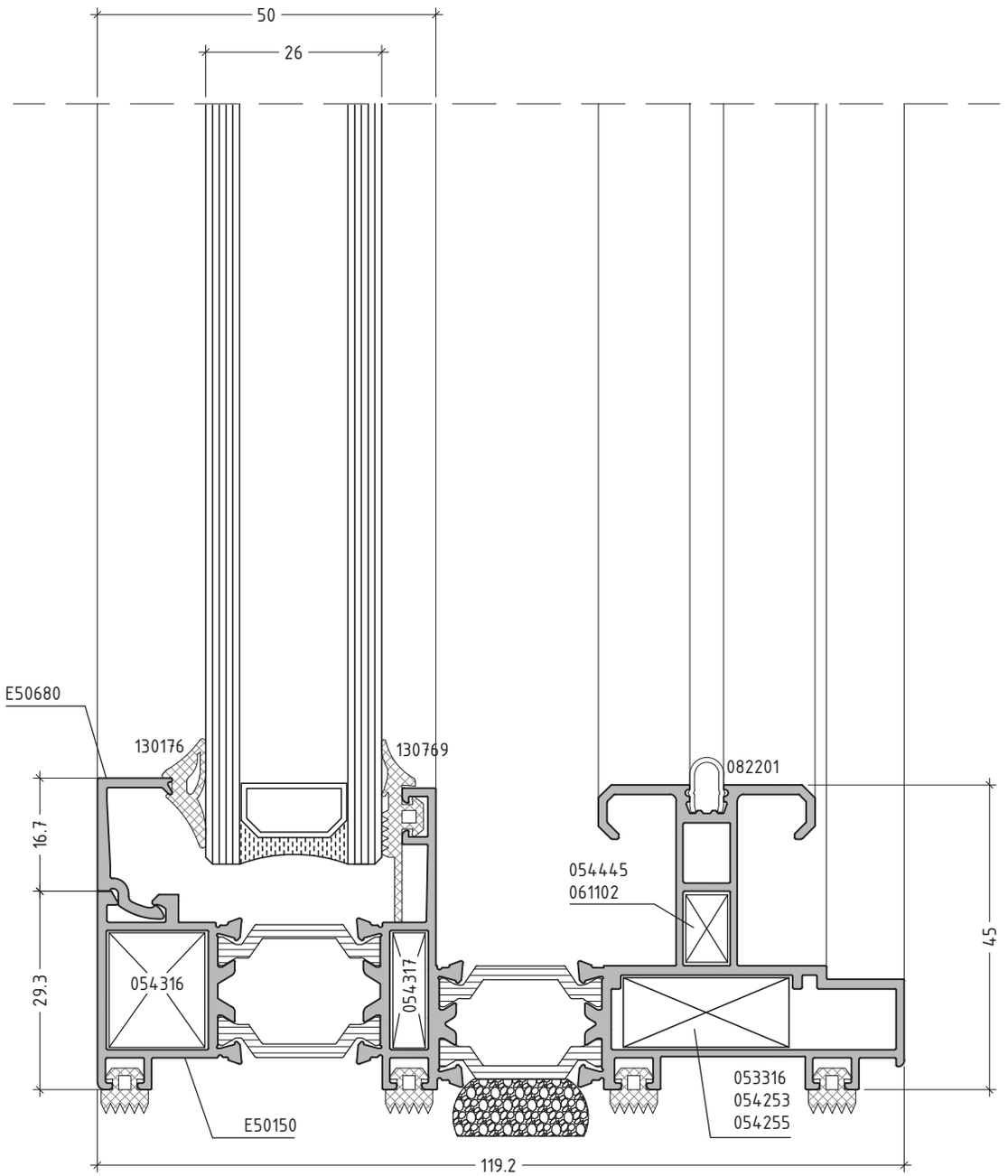
scale : 1:1



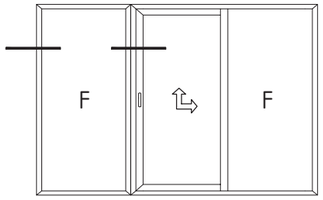


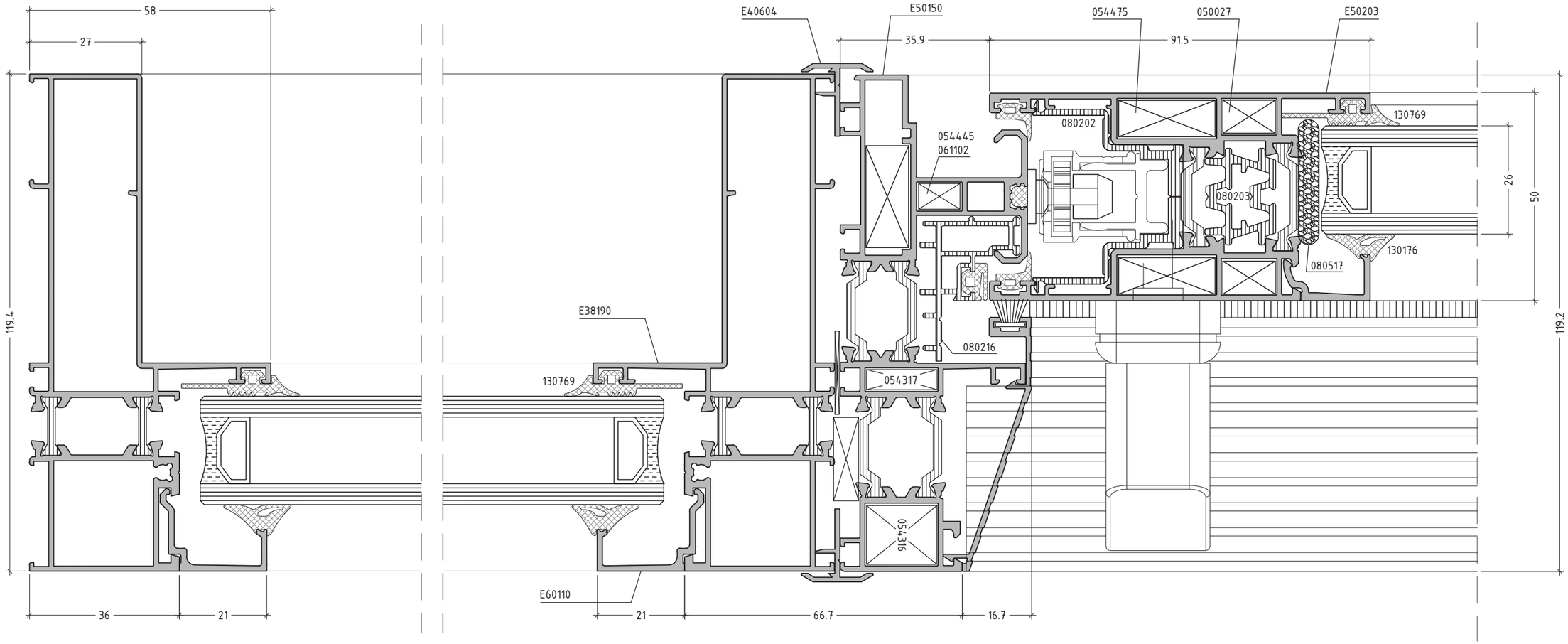
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.





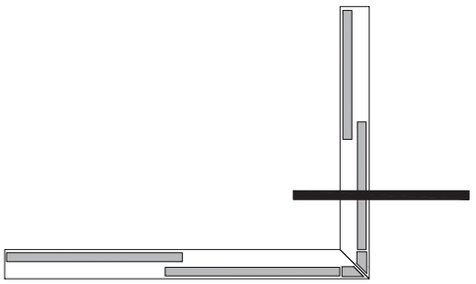
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

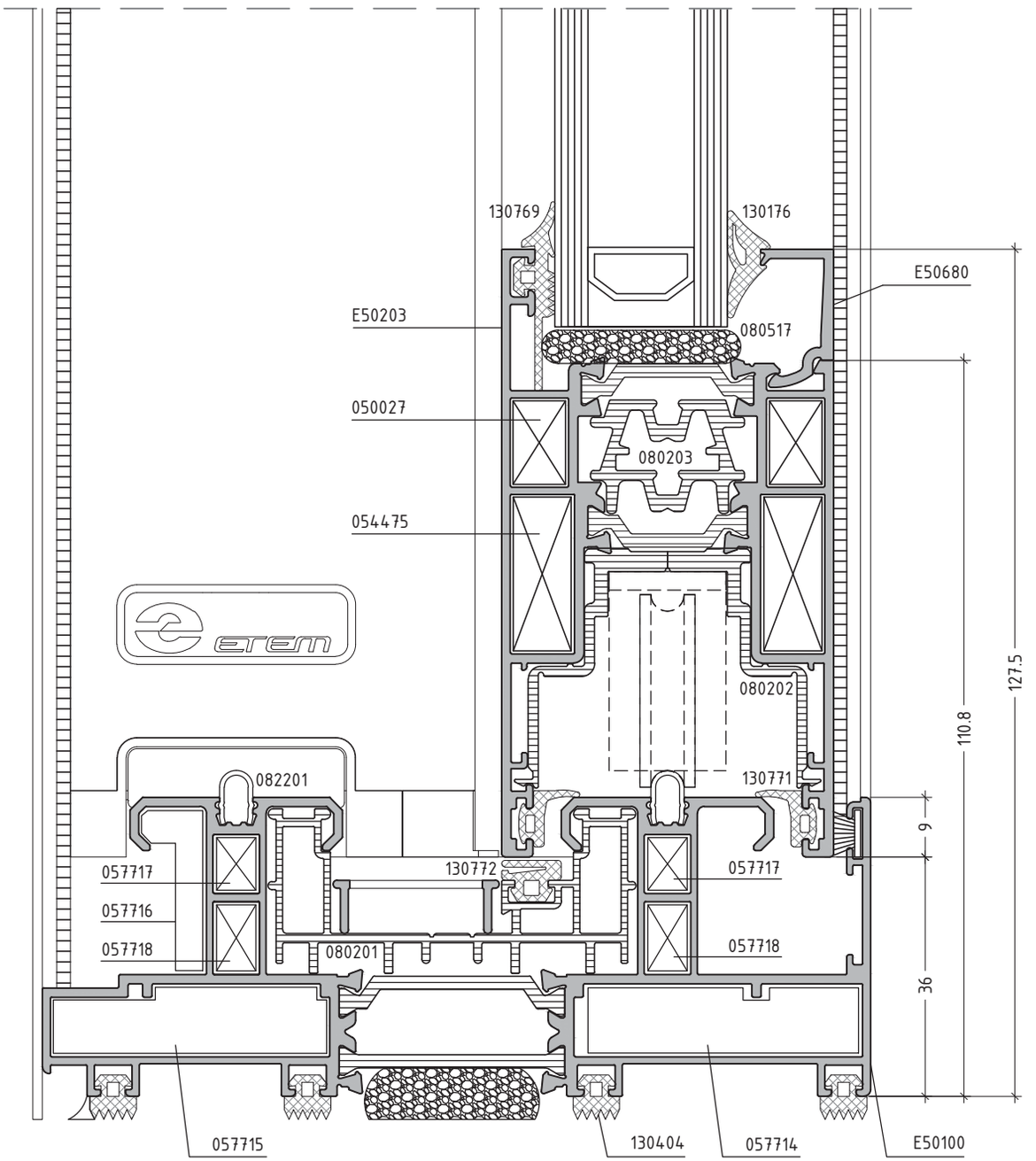




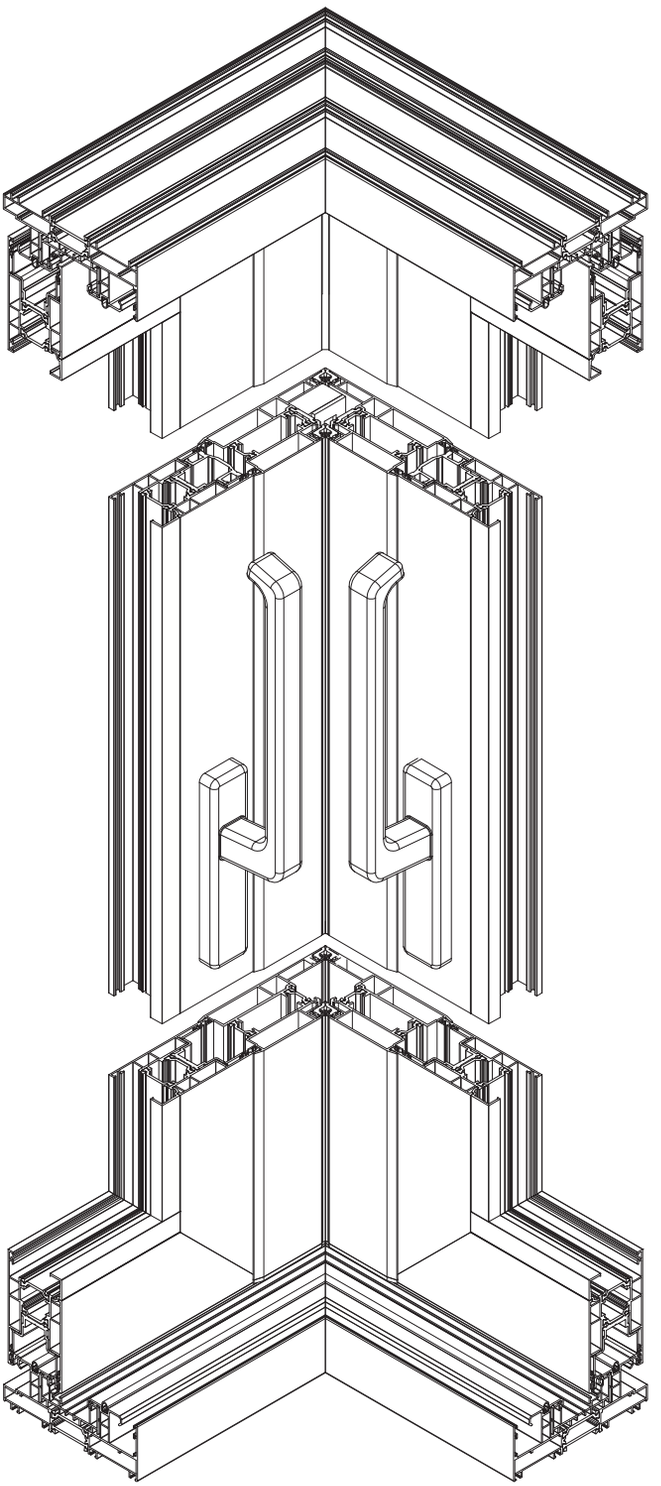
Note:
For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

scale : 1:1

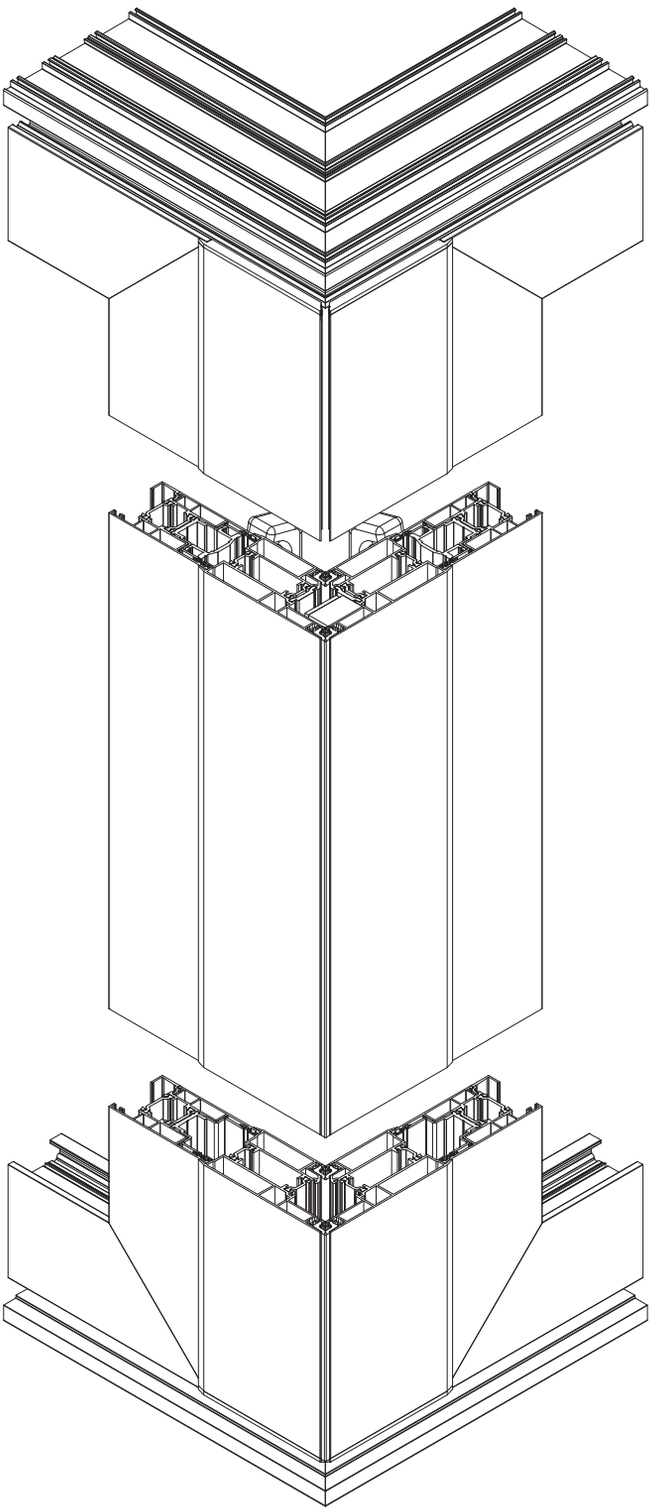




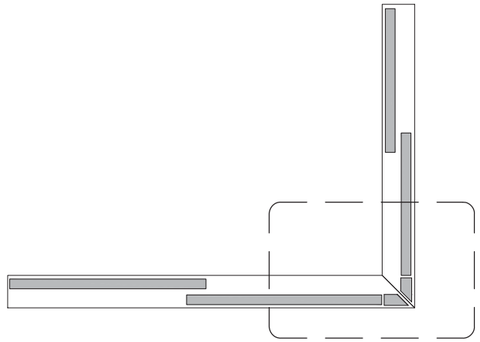
scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63, 64, 73, 74.

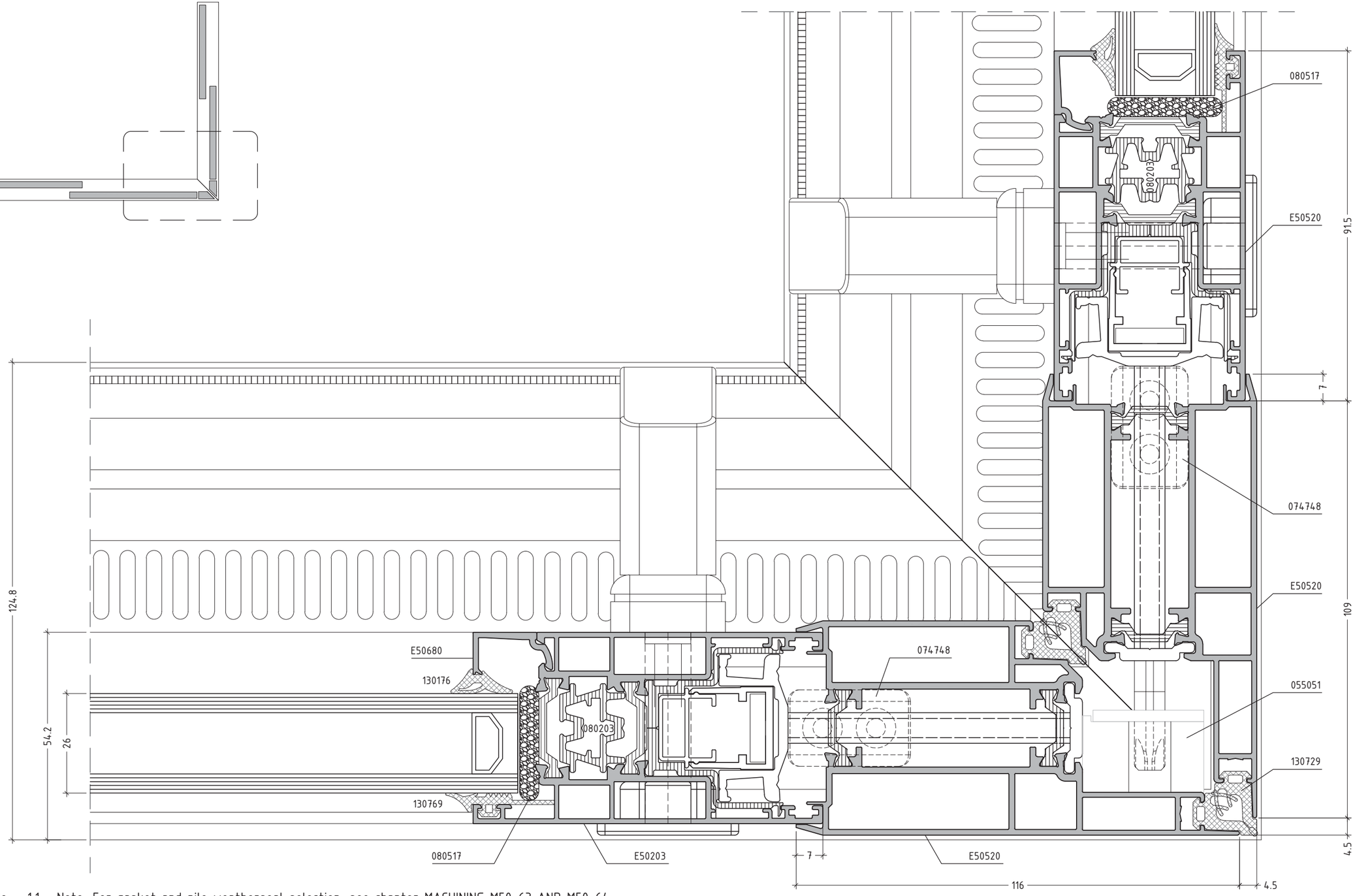


Corner internal view



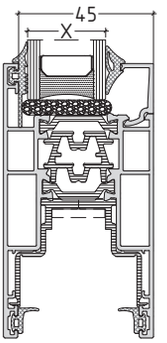
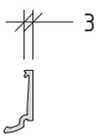
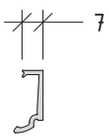
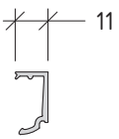
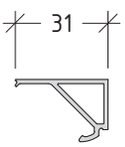
Corner external view





scale : 1:1 Note: For gasket and pile weatherseal selection, see chapter MACHINING M50-63 AND M50-64.

GLAZING OPTIONS

GLAZING OPTIONS					
external gaskets	INTERNAL GASKETS				GLAZING BEADS
3 mm 130411	5 - 6 mm 130176		7 - 8 mm 130177		
3 mm 130759	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	
	X mm				
130411 130759	34	33	32	31	 E50683
130411 130759	30	29	28	27	 E50687
130411 130759	26	25	24	23	 E50680 (E50682 anod.)
130411 130759	6	-	-	-	 E50681

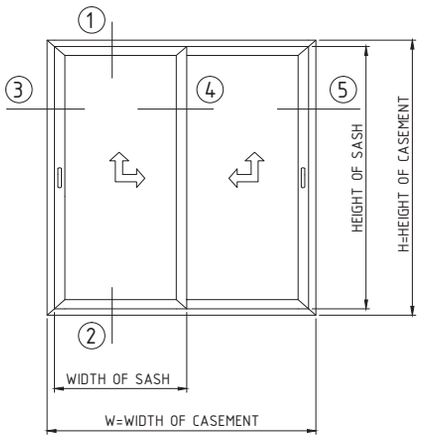
Note:
Tolerance in dimension chain ±0.5 mm

T19-01

CUTTING LISTS

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM WITH CLASSIC INTERLOCK

T50-1



CUTTING LENGTHS FOR CLASSIC INTERLOCK

WIDTH OF RAIL E 50100	= W
HEIGHT OF RAIL E 50100	= H
WIDTH OF SASH	$= \frac{W - 2}{2}$
HEIGHT OF SASH	= H - 72
HEIGHT OF SUPL. E 50501	= H - 92

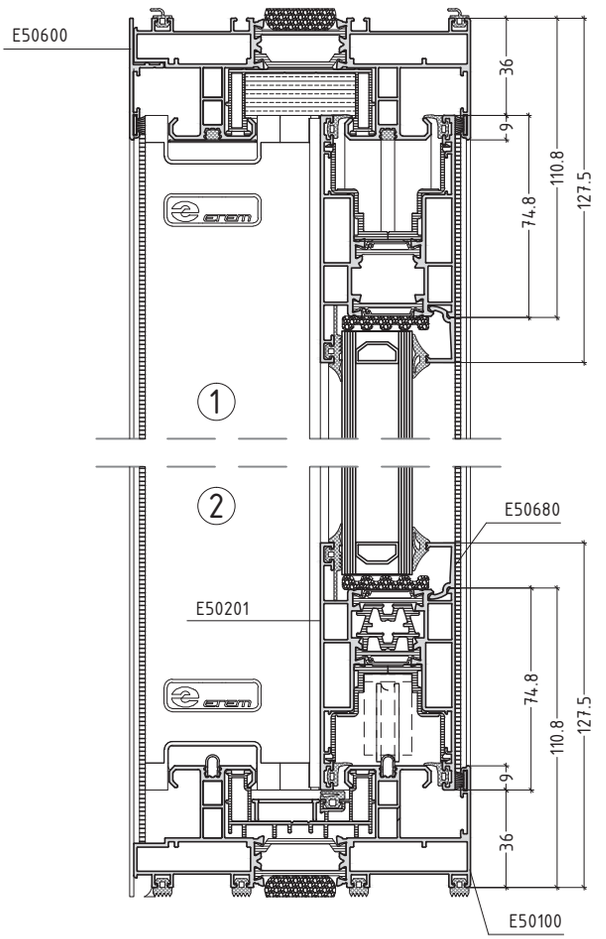
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT CLASSIC INTERLOCK

width glass sash = WIDTH OF SASH - 160

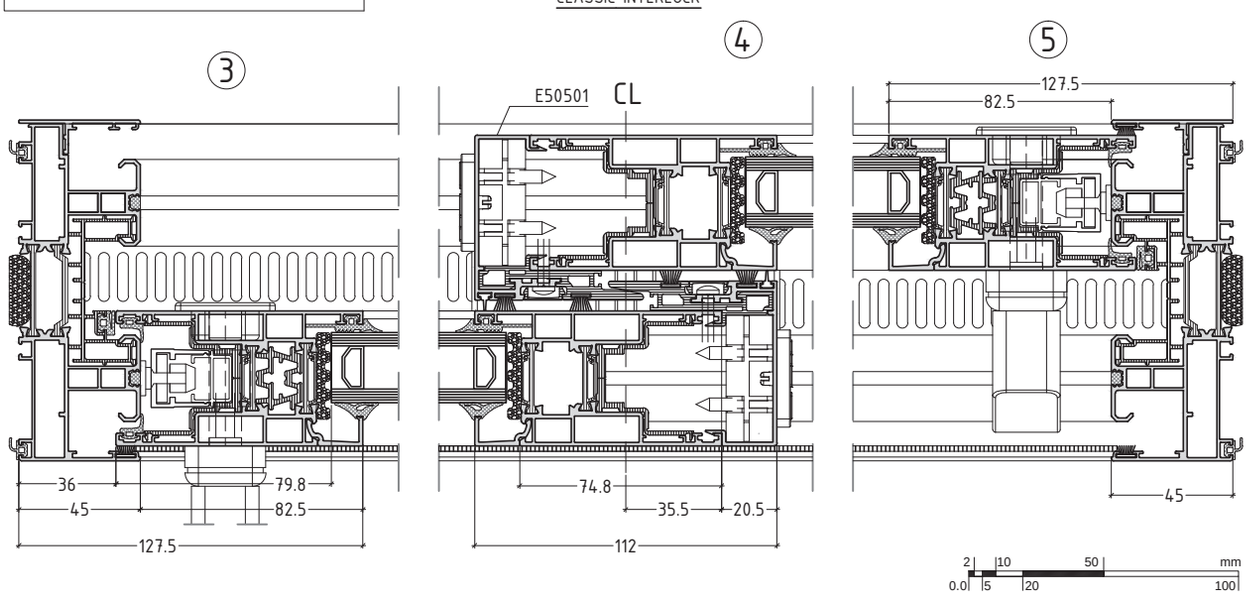
height glass sash = HEIGHT OF SASH - 160

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



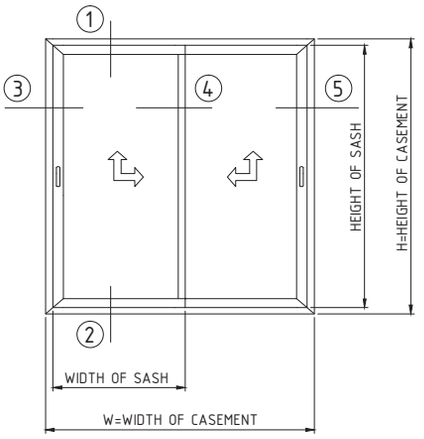
CLASSIC INTERLOCK



No scale

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM WITH ALTERNATIVE NARROW INTERLOCK

T50-1_1



CUTTING LENGTHS FOR
ALTERNATIVE NARROW INTERLOCK

WIDTH OF RAIL E 50100	= W
HEIGHT OF RAIL E 50100	= H
WIDTH OF SASH	= $\frac{W-48}{2}$
HEIGHT OF SASH	= H – 72
HEIGHT OF E 50250	= H – 222
HEIGHT OF SUPL. E 50502	= H – 92
HEIGHT OF E 50602	= H – 103

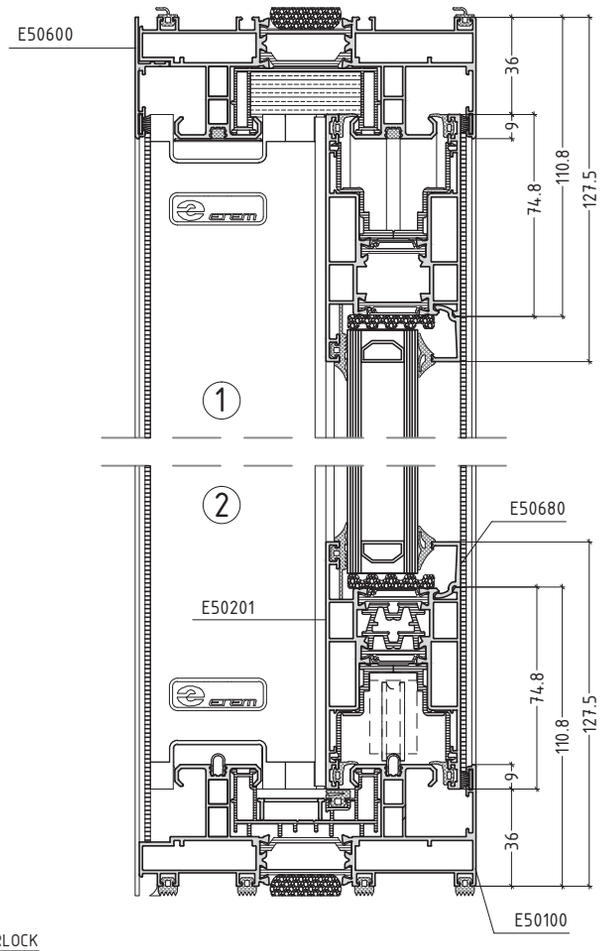
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT
ALTERNATIVE NARROW INTERLOCK

width glass sash = $\frac{W}{2}$ – 136.5

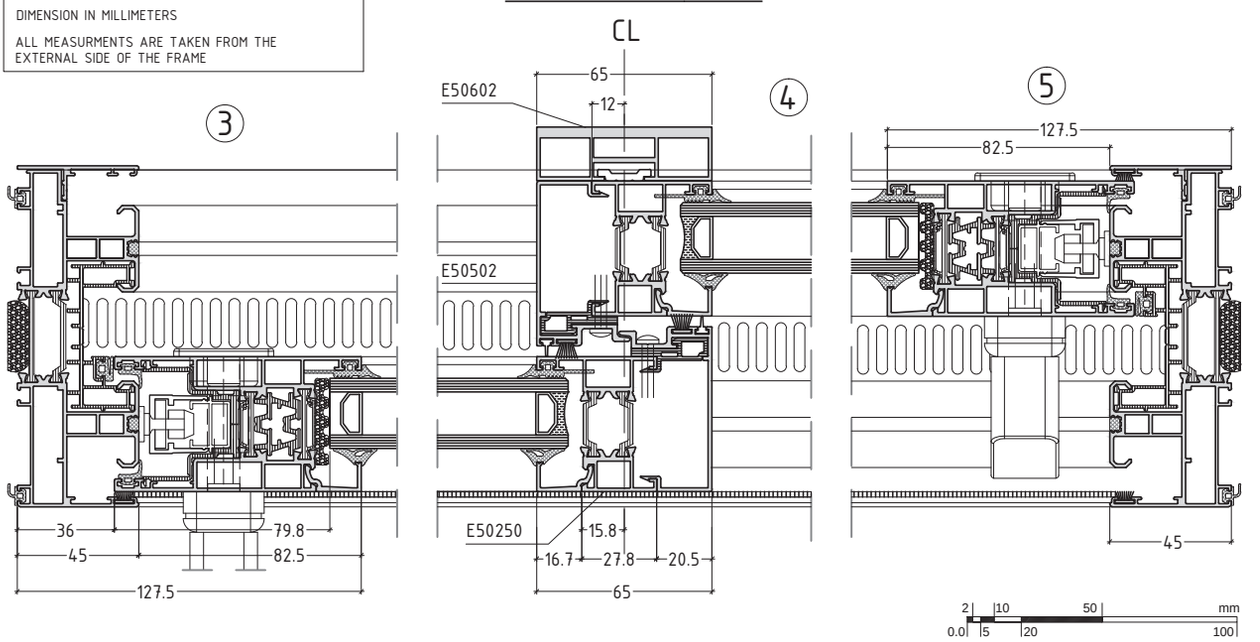
height glass sash = HEIGHT OF SASH – 160

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE
EXTERNAL SIDE OF THE FRAME



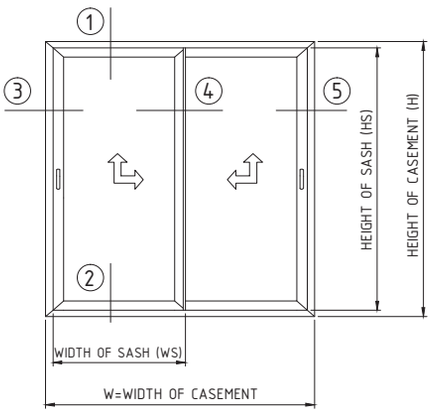
ALTERNATIVE NARROW INTERLOCK



no scale

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM WITH NARROW SASH E50251

T50-1_2



CUTTING LENGTHS

WIDTH OF RAIL E-50100	= W
HEIGHT OF FRAME E-50100	= H
WIDTH OF SASH (WS)	= $\frac{W + 46}{2}$
FINAL WIDTH OF SASH	= WS - 47
HEIGHT OF SASH	= H - 72
HEIGHT OF E50251	= H - 166
HEIGHT OF SUPL. E50502	= H - 92
HEIGHT OF E50602	= H - 103

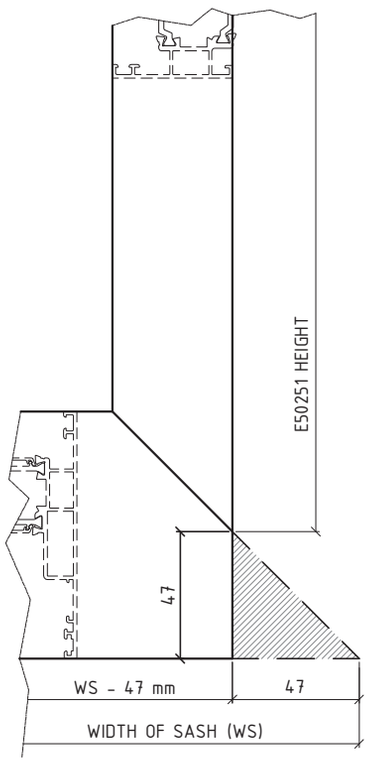
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT NARROW SASH

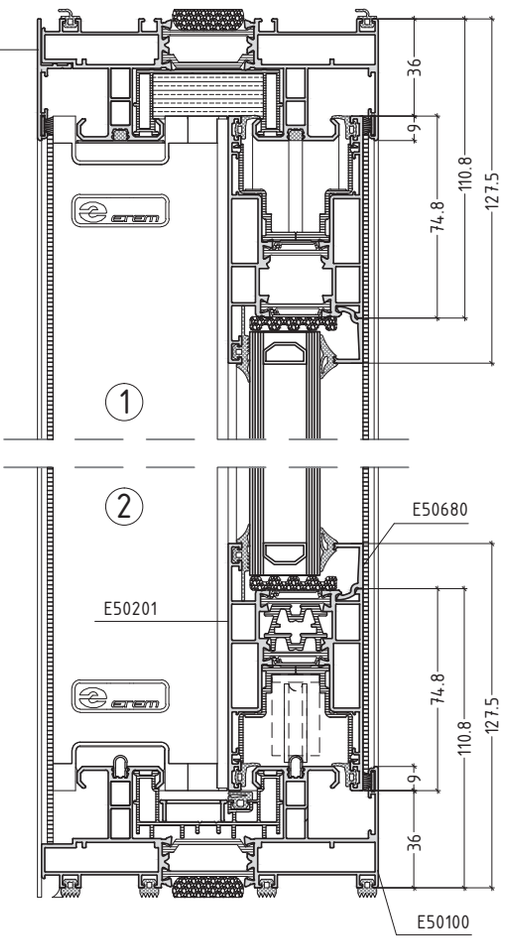
width glass sash = $\frac{W}{2}$ - 136.5

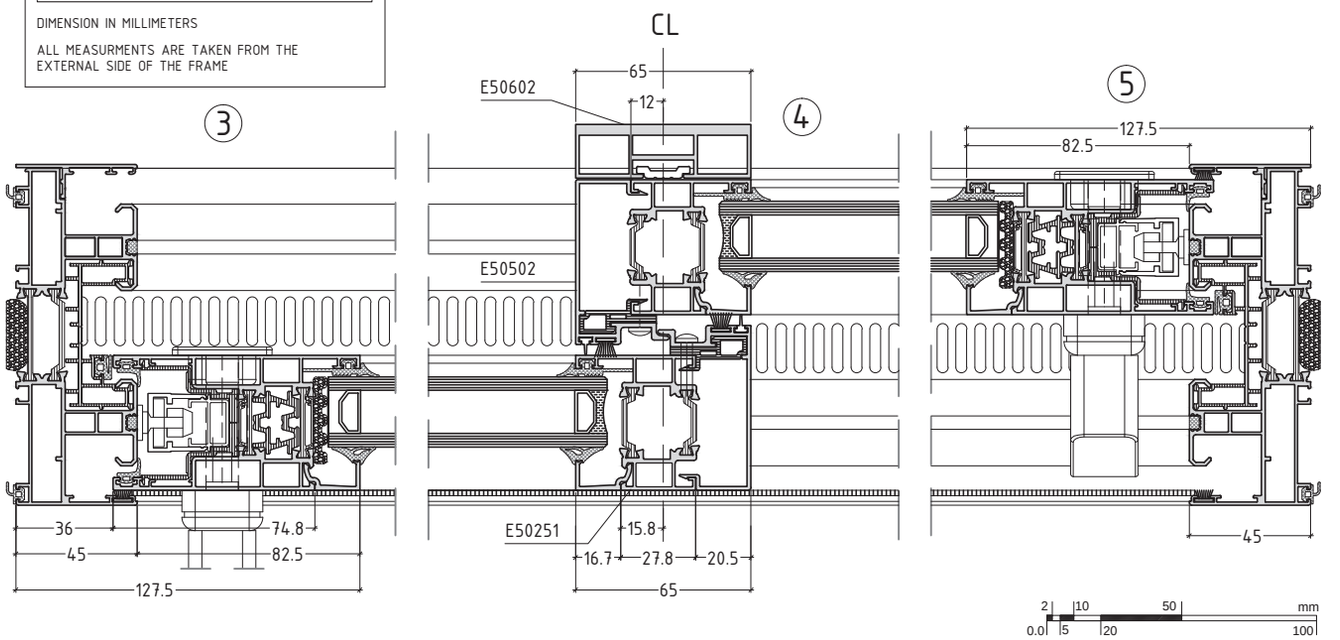
height glass sash = HEIGHT OF SASH - 160

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



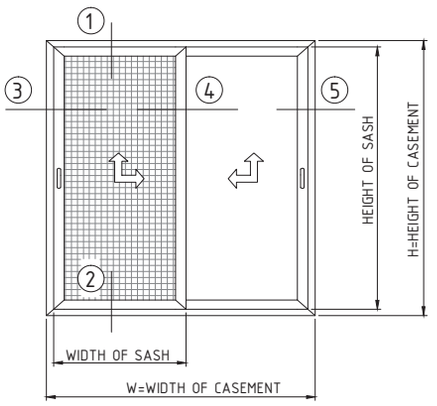




no scale

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM

T50-2

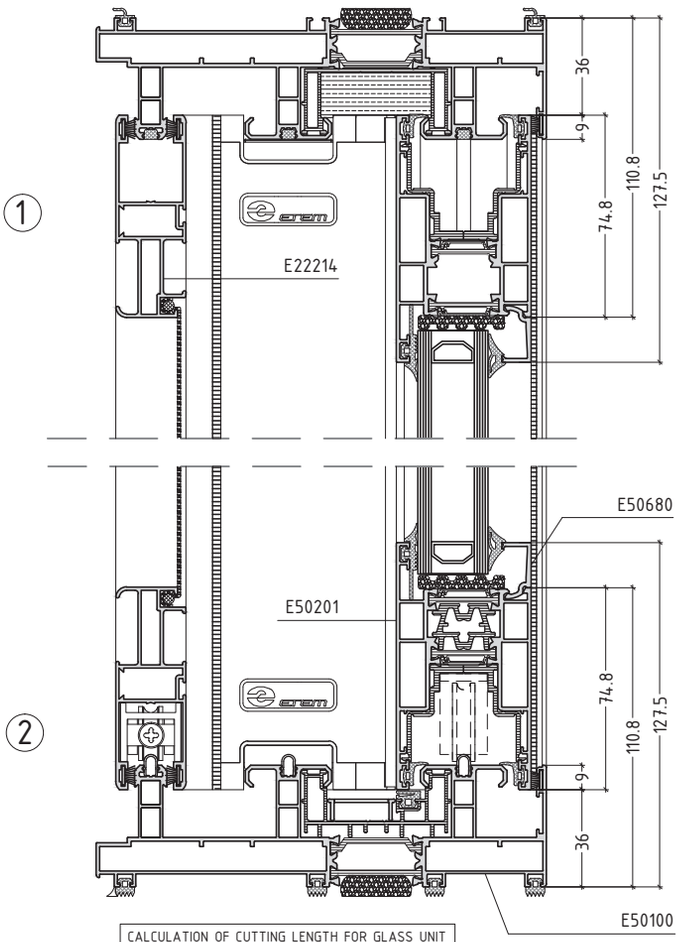


CUTTING LENGTHS

WIDTH OF RAIL E 50100	= W
HEIGHT OF FRAME E 50100	= H
WIDTH OF SASH	$= \frac{W - 2}{2}$
HEIGHT OF SASH	= H - 72
HEIGHT OF SUPL. E 50501	= H - 92
WIDTH OF INSECT SCREEN	$= \left(\frac{W}{2}\right) - 17$
HEIGHT OF INSECT SCREEN	= H - 72

DIMENSION IN MILLIMETERS

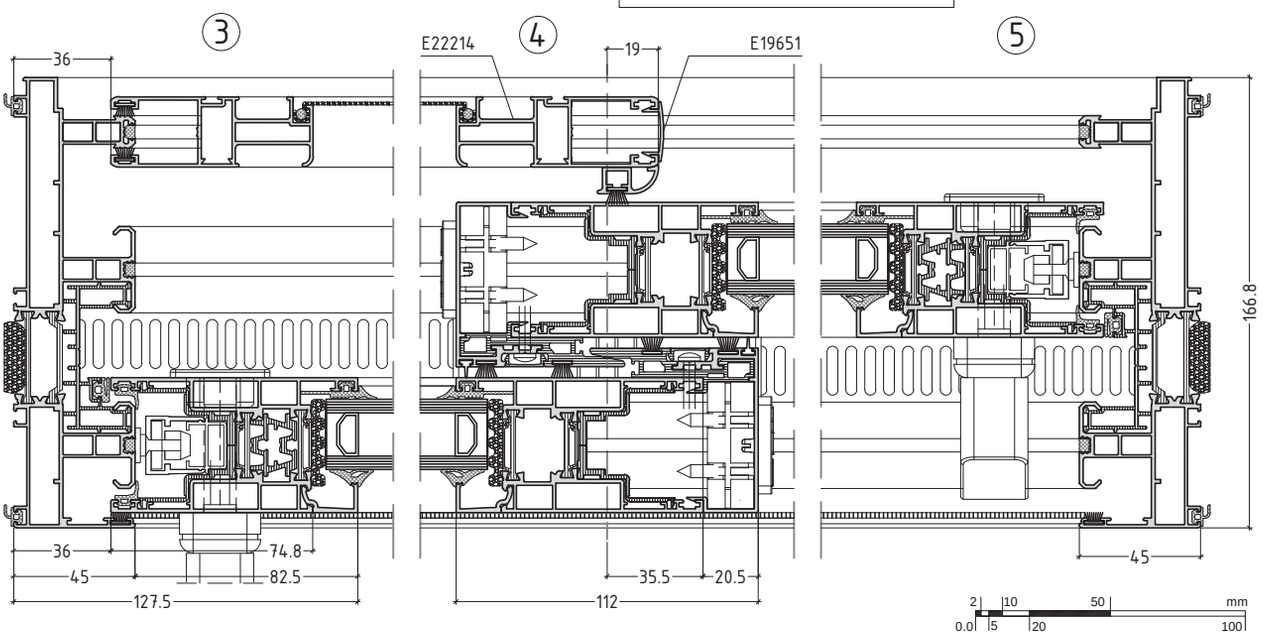
ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH - 160

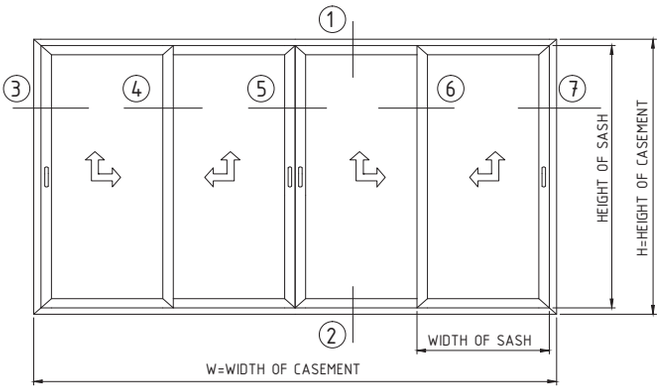
height glass sash = HEIGHT OF SASH - 160



no scale

FOUR LEAF WITH LIFT-SLIDE MECHANISM

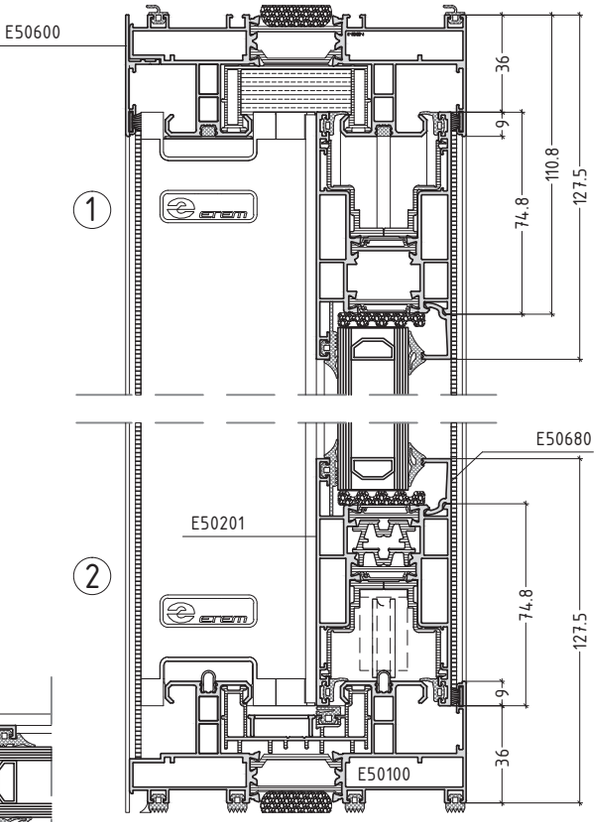
T50-3

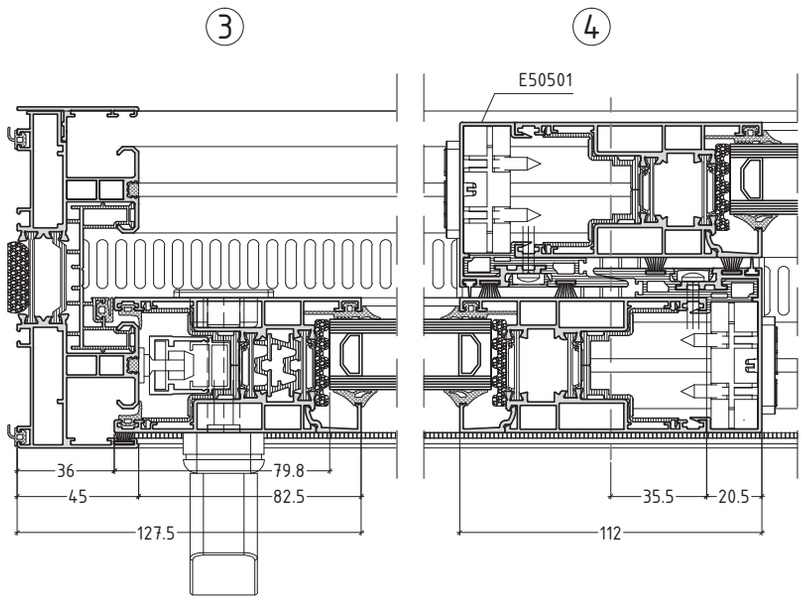


CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH - 160

height glass sash = HEIGHT OF SASH - 160



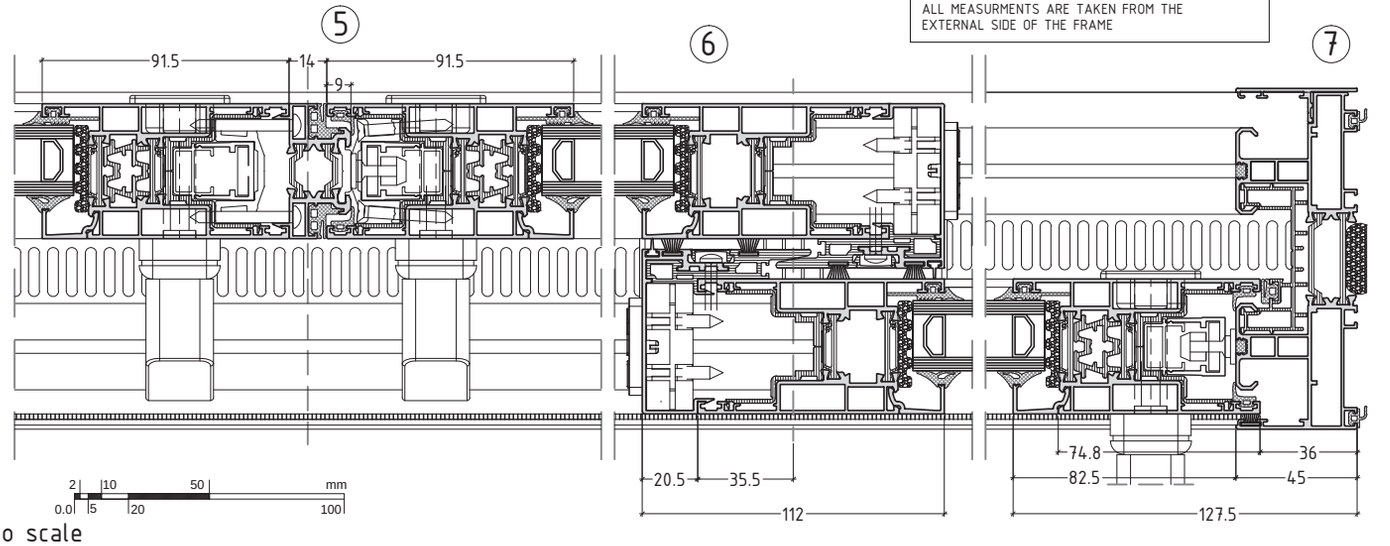


CUTTING LENGTHS

WIDTH OF RAIL E 50100	= W
HEIGHT OF FRAME E 50100	= H
WIDTH OF SASH	= $\frac{W + 56}{4}$
HEIGHT OF SASH	= H - 72
HEIGHT OF SUPL. E 50501	= H - 92
HEIGHT OF ADJOIN. E 50500	= H - 126

DIMENSION IN MILLIMETERS

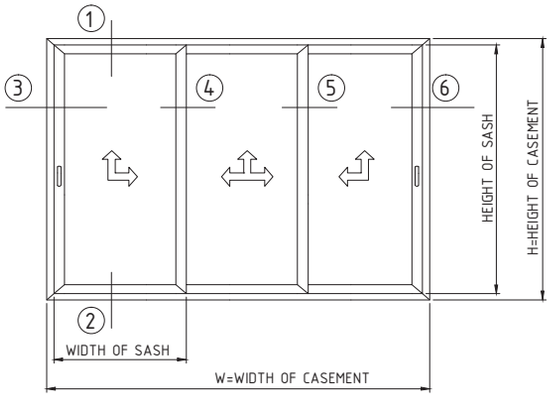
ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

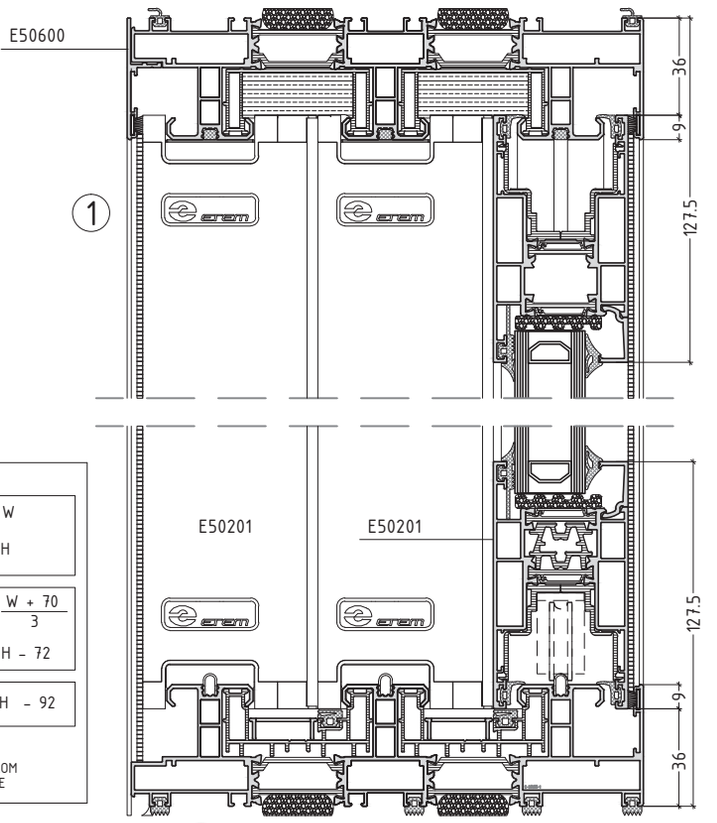


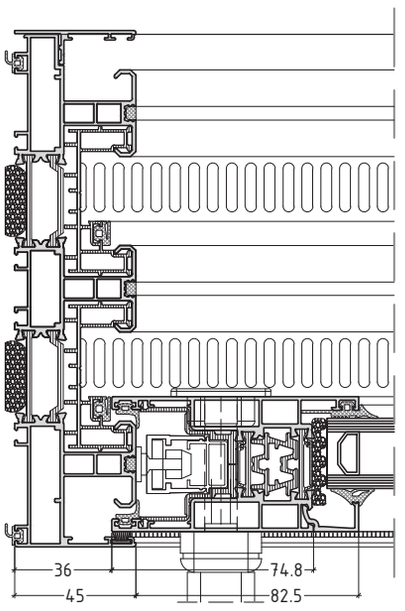
no scale

THREE LEAF WITH LIFT-SLIDE MECHANISM

T50-4







CUTTING LENGTHS	
WIDTH OF RAIL E 50100	= W
HEIGHT OF FRAME E 50100	= H
WIDTH OF SASH	= (W + 70) / 3
HEIGHT OF SASH	= H – 72
HEIGHT OF SUPL. E 50501	= H – 92

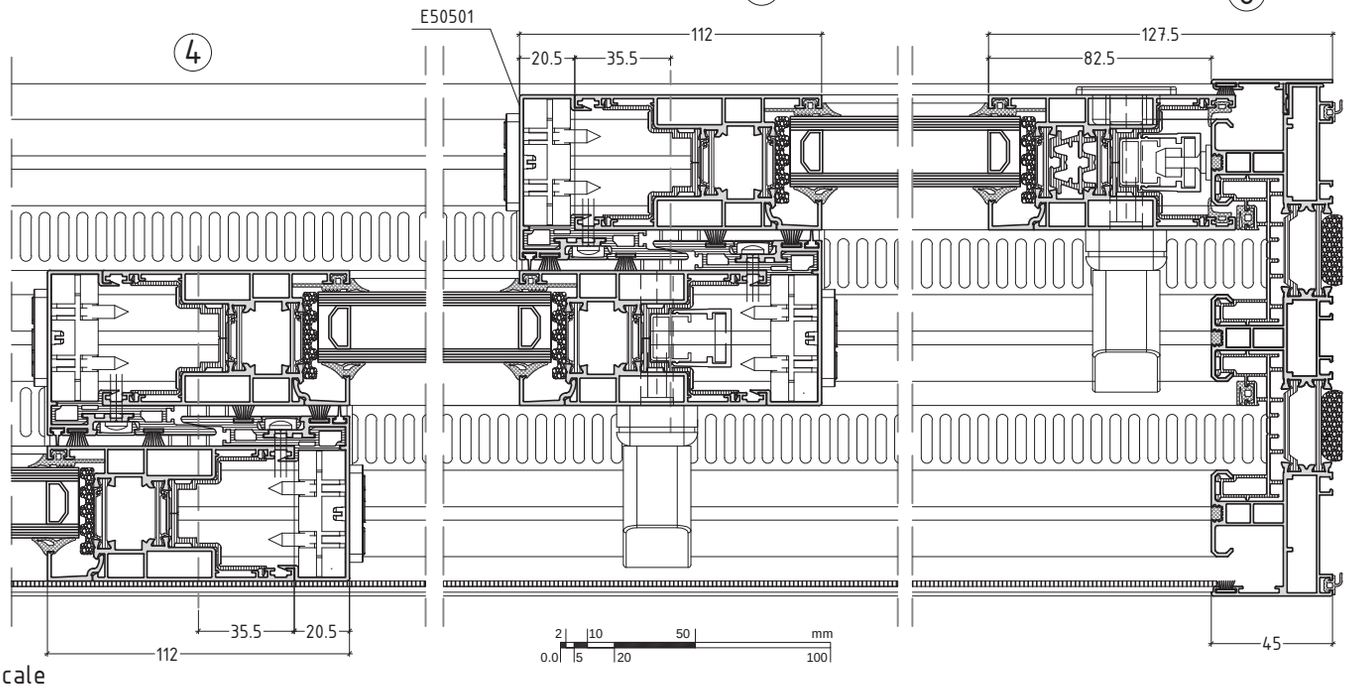
DIMENSION IN MM

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH – 160

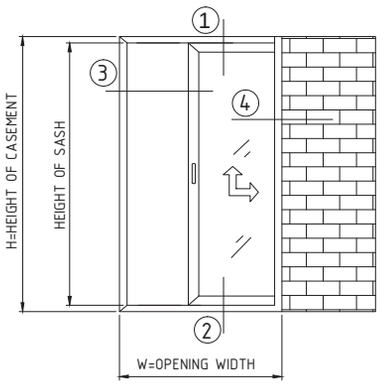
height glass sash = HEIGHT OF SASH – 160



no scale

SINGLE LEAF WITH LIFT-SLIDE MECHANISM

T50-5



CUTTING LENGTHS

WIDTH OF RAIL E 50110	= 2xW - 170
HEIGHT OF FRAME E 50110	= H
WIDTH OF SASH	= W - 60
HEIGHT OF SASH	= H - 72

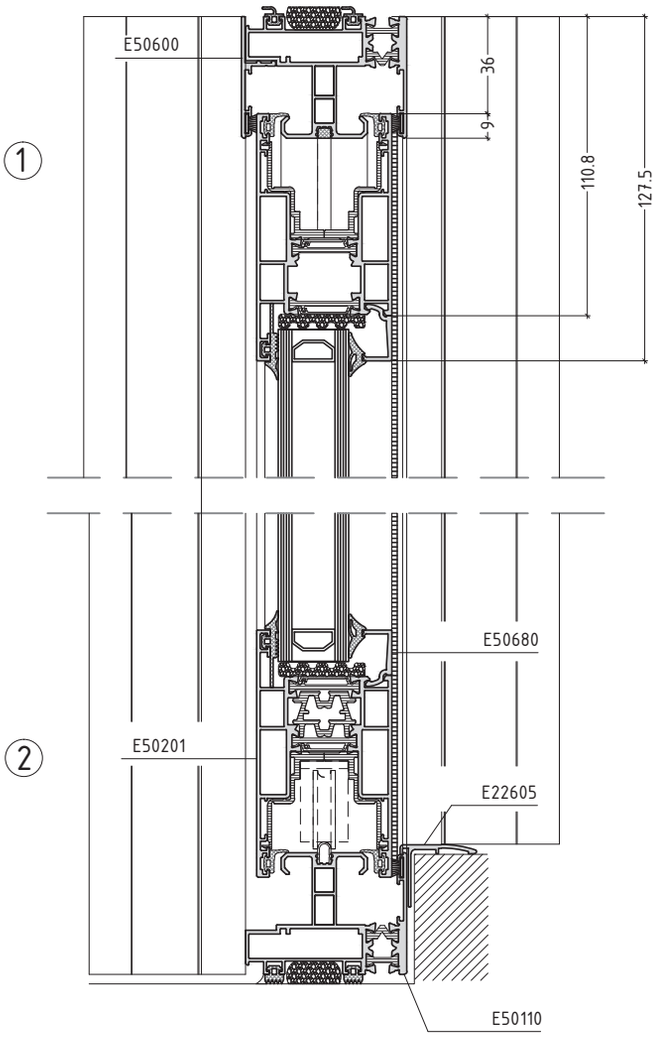
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

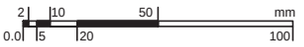
width glass sash = WIDTH OF SASH - 160

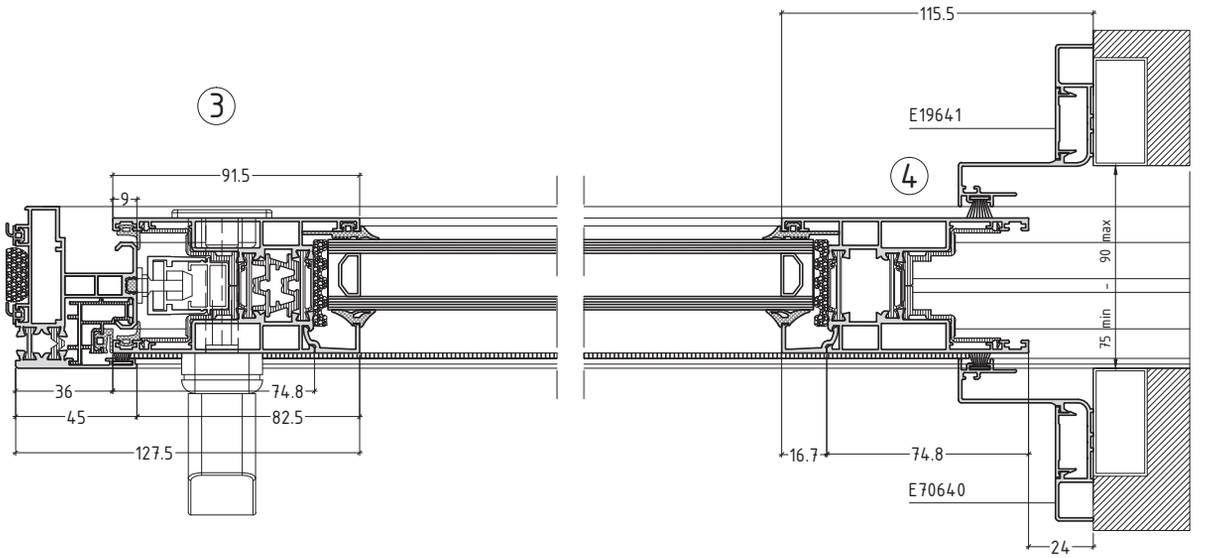
height glass sash = HEIGHT OF SASH - 160

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



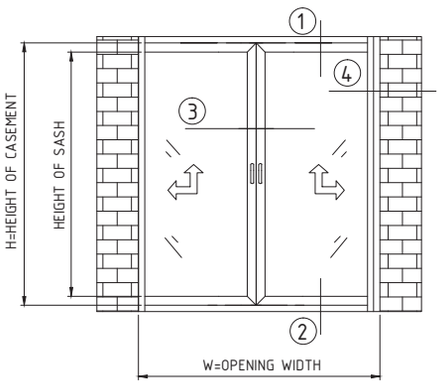


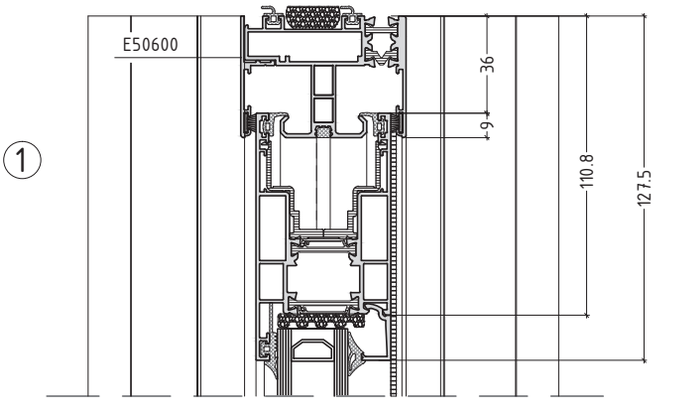


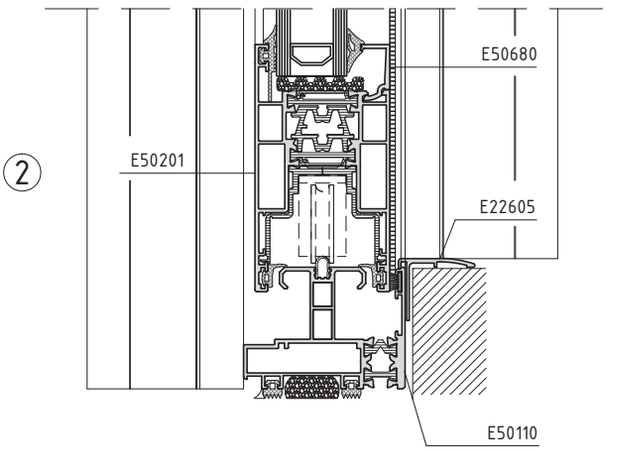
no scale

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM

T50-6







CUTTING LENGTHS

WIDTH OF RAIL E 50110	= 2xW – 280
HEIGHT OF FRAME E 50110	= H
WIDTH OF SASH	= (W – 62) / 2
HEIGHT OF SASH	= H – 72
HEIGHT OF ADJOIN. E 50500	= H – 126

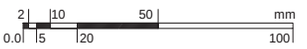
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

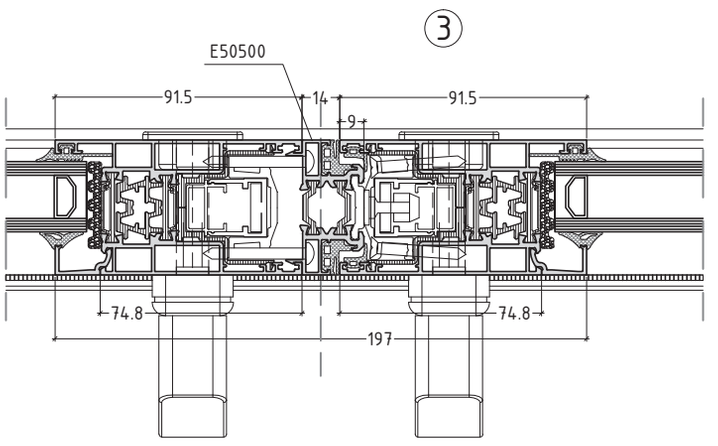
width glass sash = WIDTH OF SASH – 160

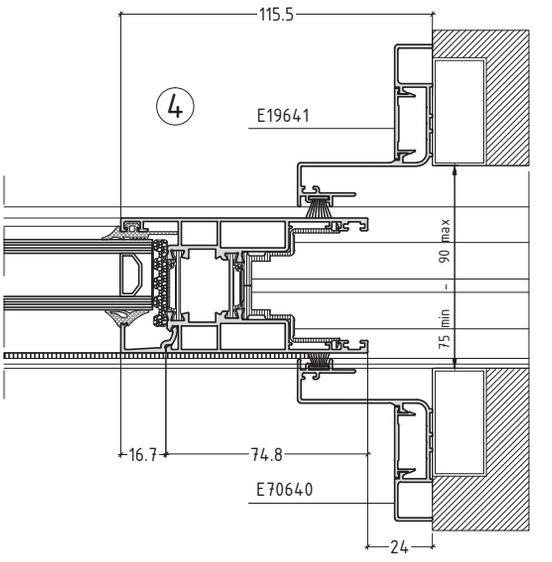
height glass sash = HEIGHT OF SASH – 160

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

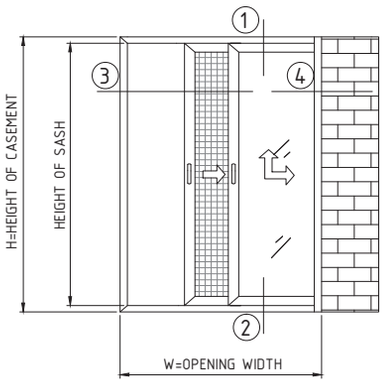


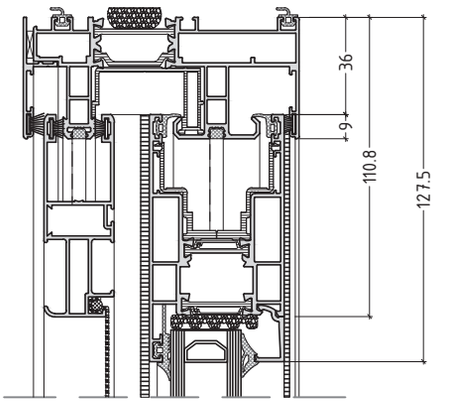


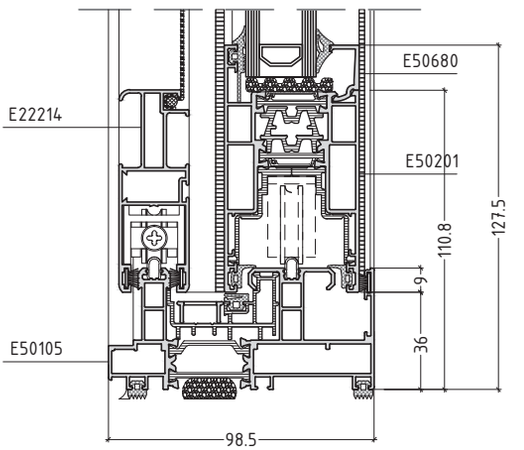


SINGLE LEAF WITH LIFT-SLIDE MECHANISM

T50-7







CUTTING LENGTHS

WIDTH OF RAIL E 50105	= 2xW – 170
HEIGHT OF FRAME E 50105	= H
WIDTH OF SASH	= W – 60
HEIGHT OF SASH	= H – 72

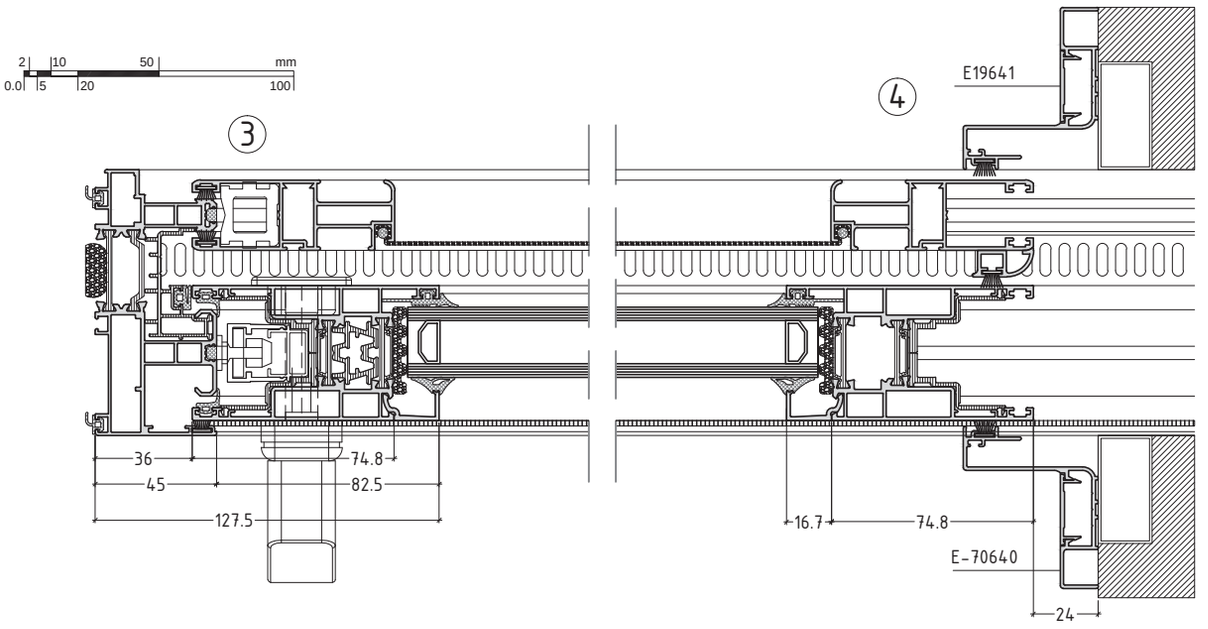
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH – 160

height glass sash = HEIGHT OF SASH – 160

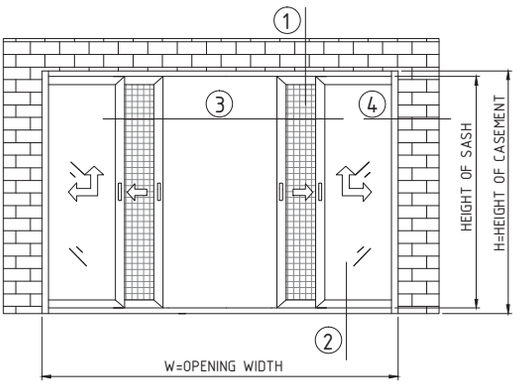
DIMENSION IN MILLIMETERS

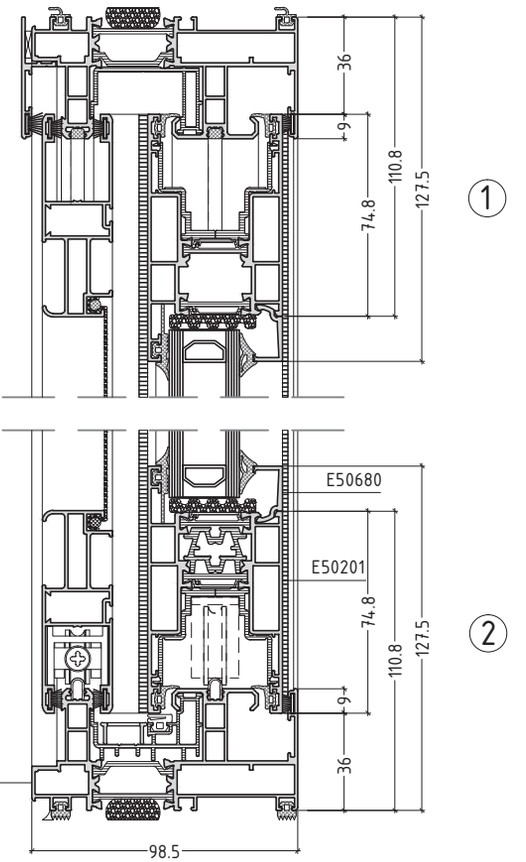
ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



DOUBLE LEAF WITH LIFT-SLIDE MECHANISM

T50-8





CUTTING LENGTHS	
WIDTH OF RAIL E 50105	= 2xW – 280
HEIGHT OF FRAME E 50105	= H
WIDTH OF SASH	= (W – 62) / 2
HEIGHT OF SASH	= H – 72
HEIGHT OF ADJOIN. E 50500 HEIGHT OF ADJOIN. E 19512	= H – 126

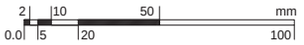
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

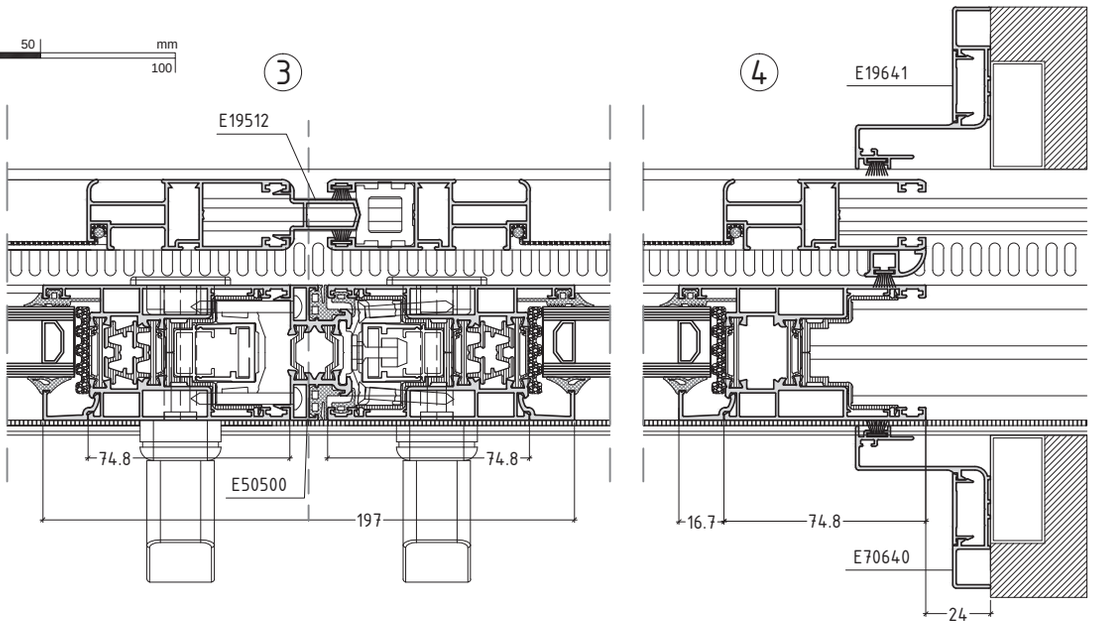
width glass sash = WIDTH OF SASH – 160

height glass sash = HEIGHT OF SASH – 160

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

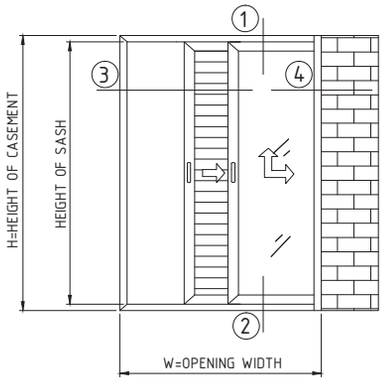


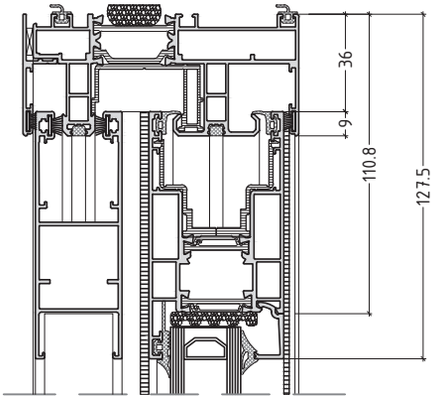


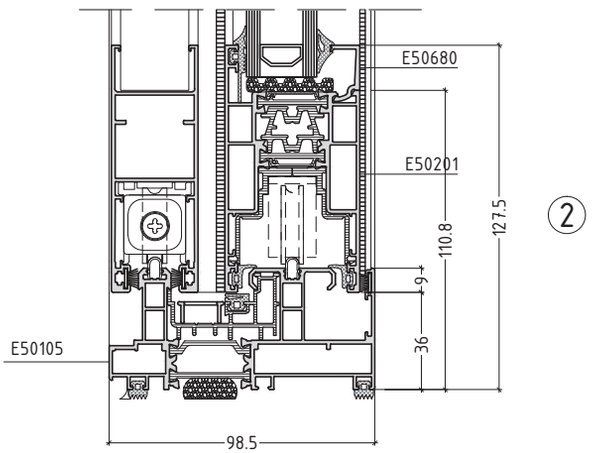
no scale

SINGLE LEAF WITH LIFT-SLIDE MECHANISM

T50-9







CUTTING LENGTHS

WIDTH OF RAIL E 50105	= 2xW -170
HEIGHT OF FRAME E 50105	= H
WIDTH OF SASH	= W - 60
HEIGHT OF SASH	= H - 72

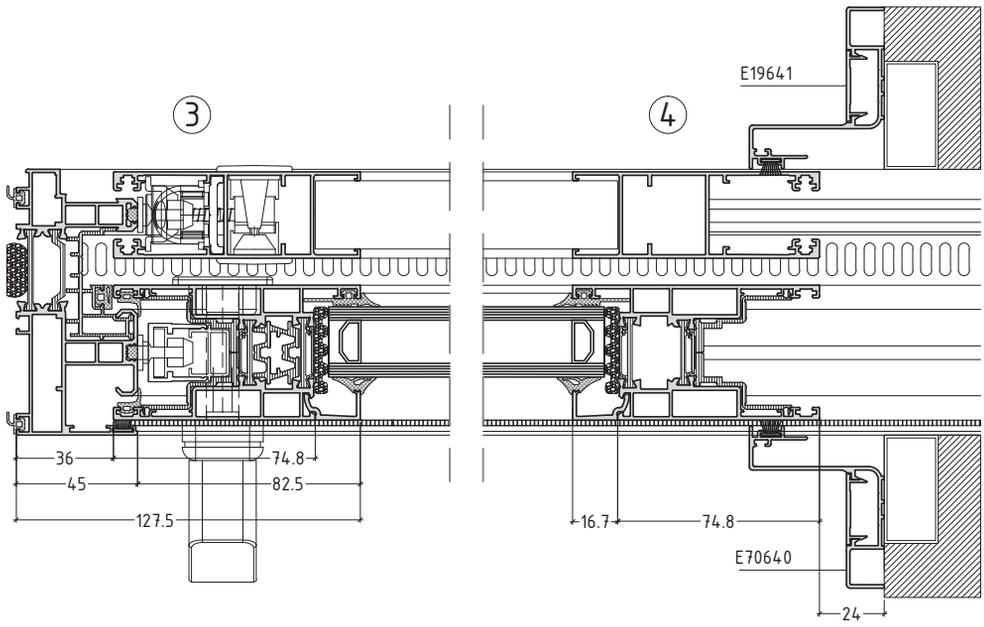
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

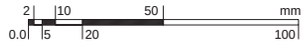
width glass sash = WIDTH OF SASH - 160

height glass sash = HEIGHT OF SASH - 160

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

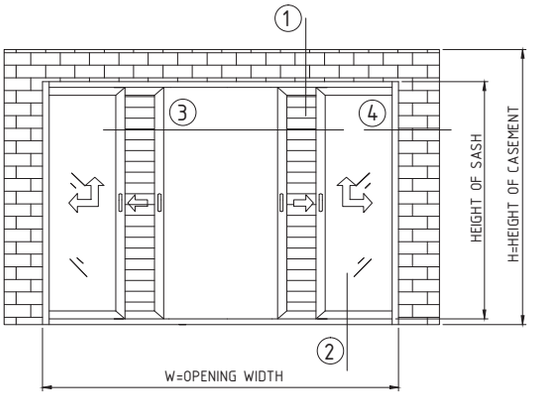


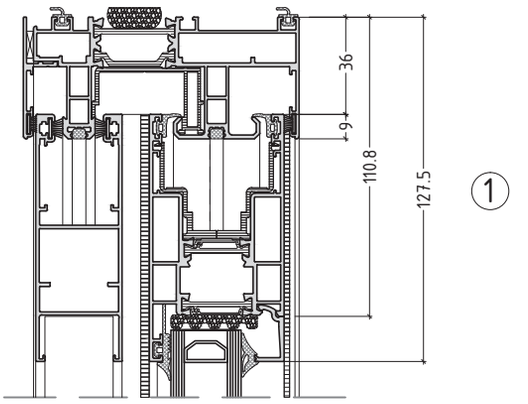


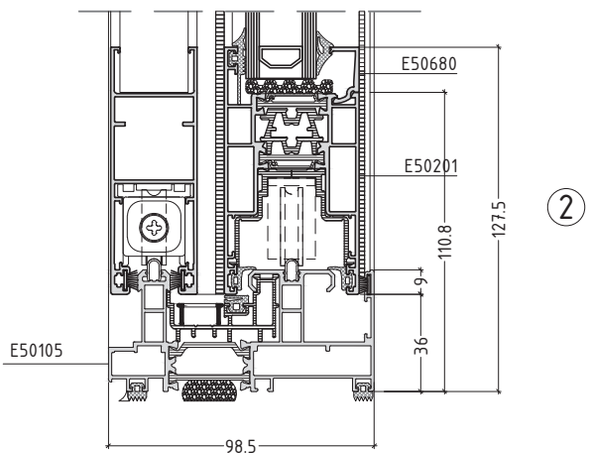
no scale

DOUBLE LEAF WITH LIFT-SLIDE MECHANISM

T50-10







CUTTING LENGTHS

WIDTH OF RAIL E 50105	= 2xW - 280
HEIGHT OF FRAME E 50105	= H
WIDTH OF SASH	= (W - 62) / 2
HEIGHT OF SASH	= H - 72
HEIGHT OF ADJOIN. E 50500 HEIGHT OF ADJOIN. E 50510	= H - 126

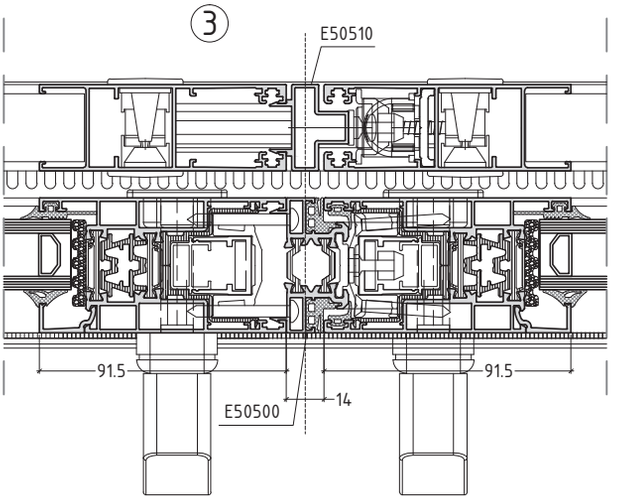
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

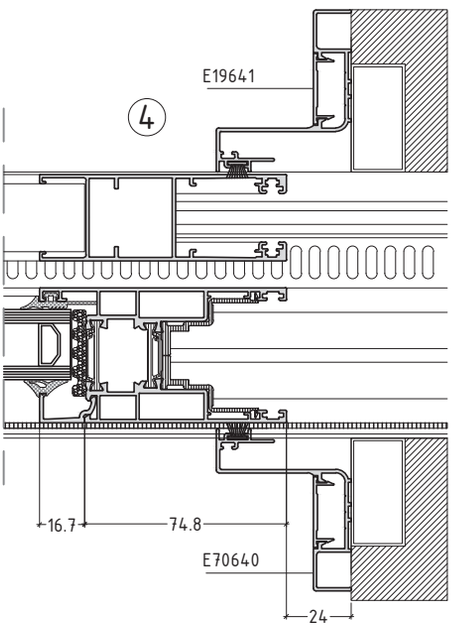
width glass sash = WIDTH OF SASH - 160

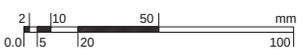
height glass sash = HEIGHT OF SASH - 160

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

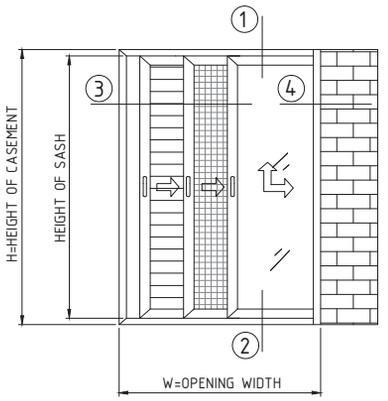


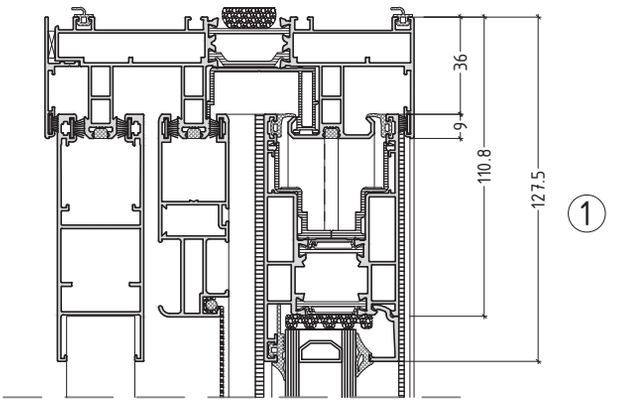


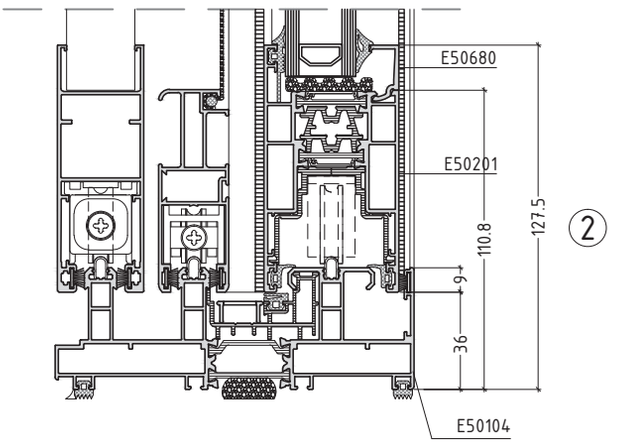


SINGLE LEAF WITH LIFT-SLIDE MECHANISM

T50-11







CUTTING LENGTHS

WIDTH OF RAIL E 50104	= 2xW – 170
HEIGHT OF FRAME E 50104	= H
WIDTH OF SASH	= W – 60
HEIGHT OF SASH	= H – 72

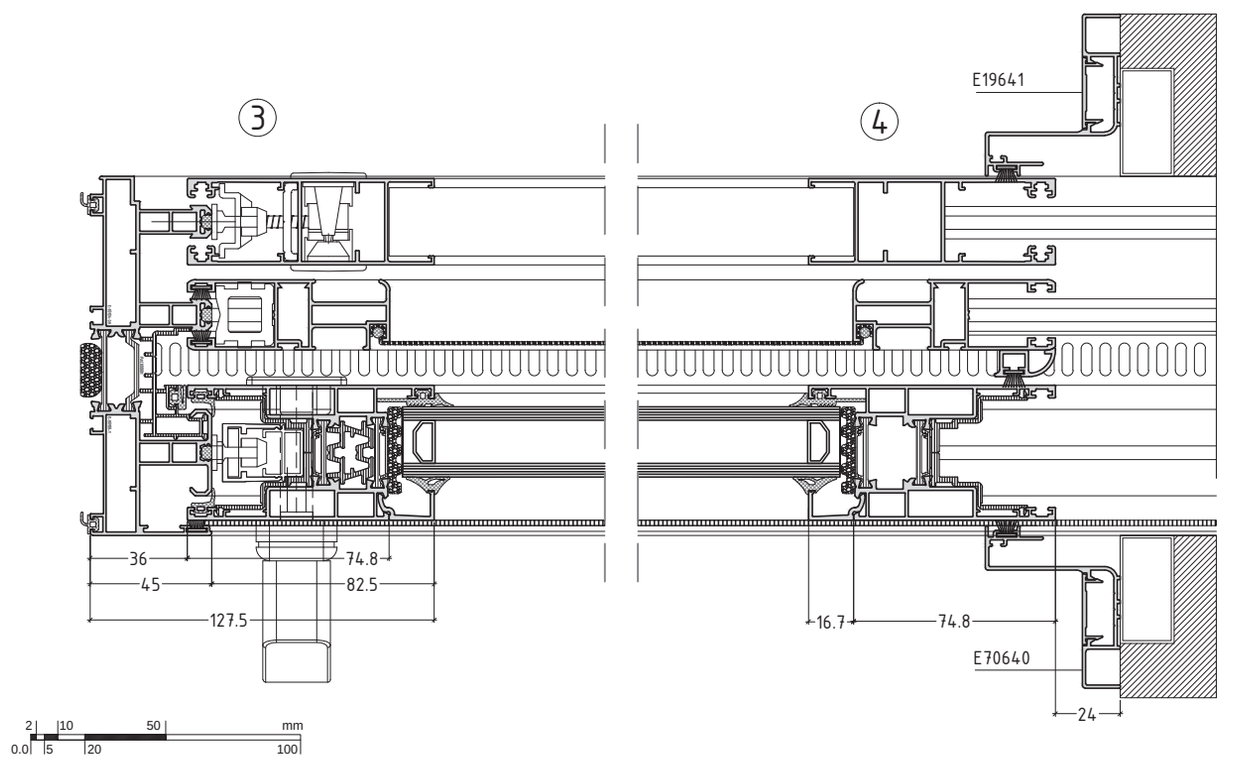
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH – 160

height glass sash = HEIGHT OF SASH – 160

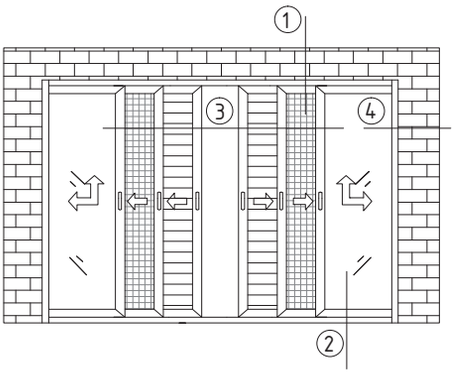
DIMENSION IN MILLIMETERS

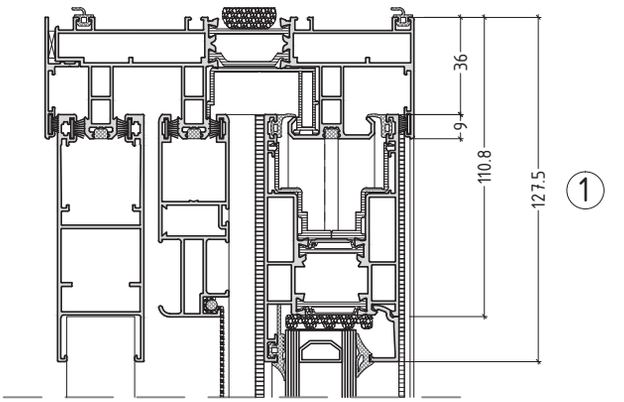
ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

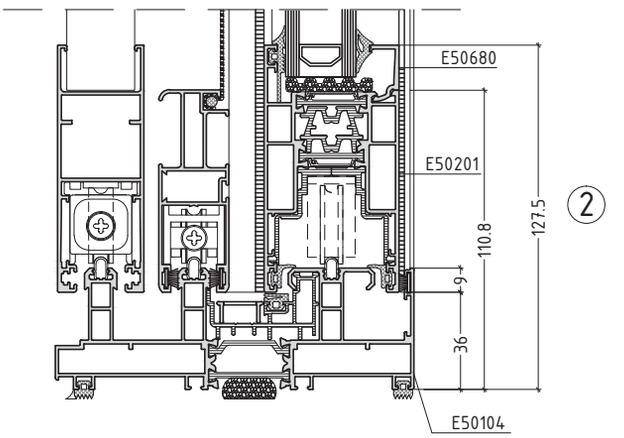


DOUBLE LEAF WITH LIFT-SLIDE MECHANISM

T50-12







CUTTING LENGTHS	
WIDTH OF RAIL E 50104	= 2xW – 280
HEIGHT OF FRAME E 50104	= H
WIDTH OF SASH	= (W – 62) / 2
HEIGHT OF SASH	= H – 72
HEIGHT OF ADJOIN. E 50500 HEIGHT OF ADJOIN. E 19512 HEIGHT OF ADJOIN. E 50510	= H – 126

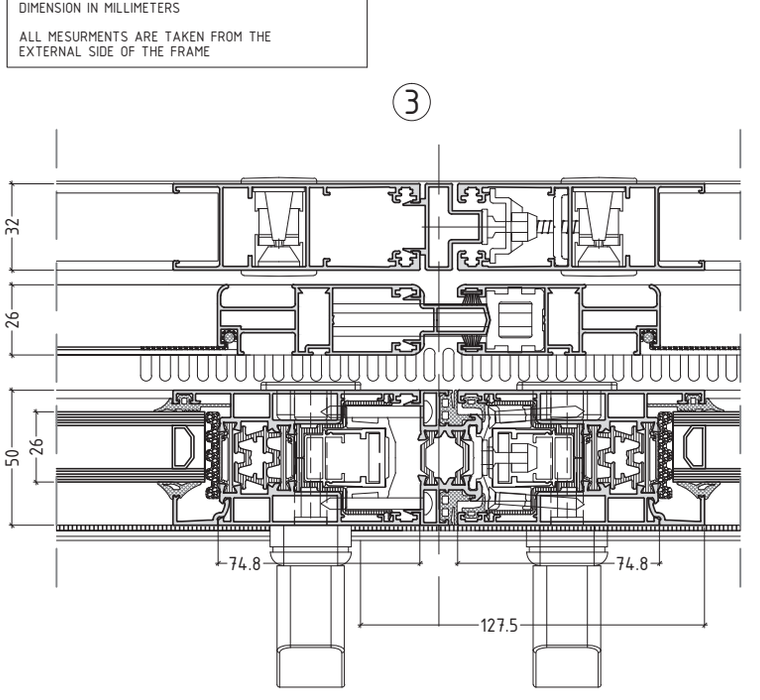
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

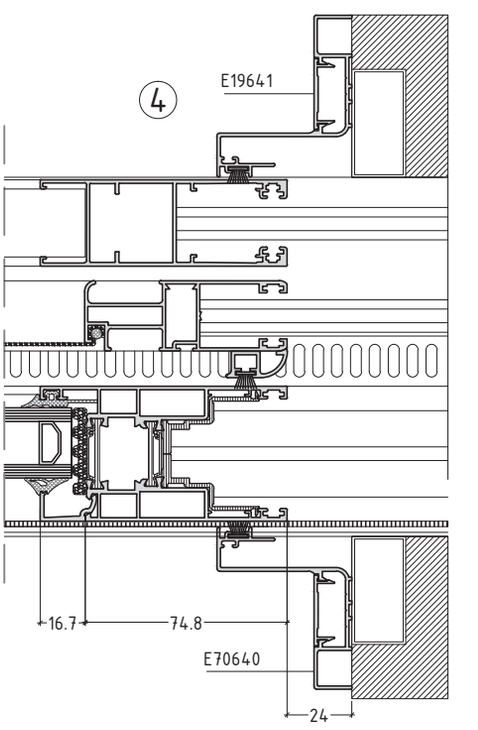
width glass sash = WIDTH OF SASH – 160

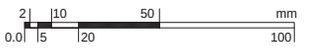
height glass sash = HEIGHT OF SASH – 160

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



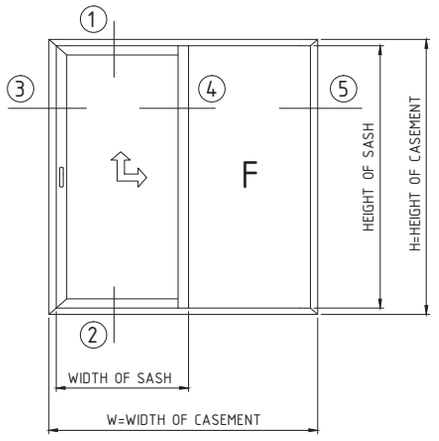


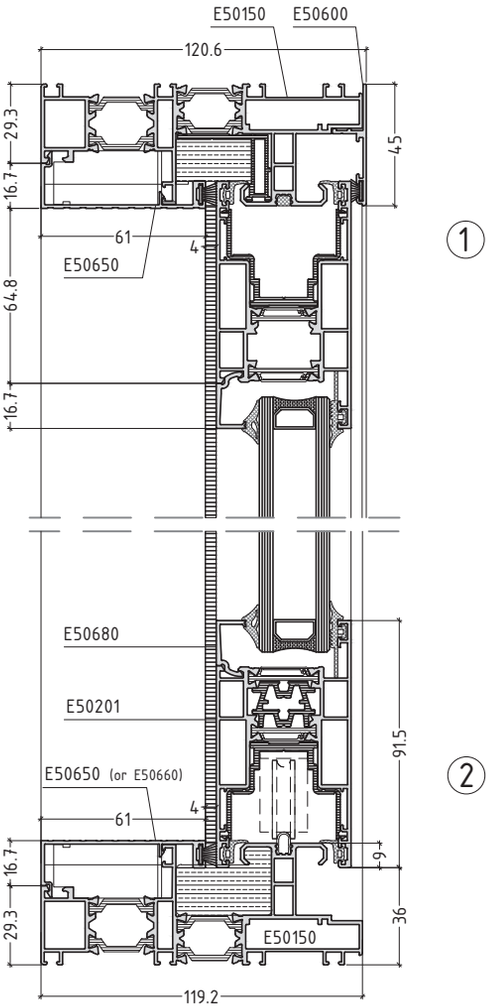


HOTEL TYPE

T50-13

LIFT & SLIDE MECHANISM - FIXED (CLASSIC INTERLOCK)





CUTTING LENGTHS	
WIDTH OF SASH E50201	$= \frac{W}{2} + 30$
HEIGHT OF SASH E50201	= H - 72
HEIGHT OF SASH E50201 (AS MULLION FOR FIXED)	= H - 92
HEIGHT OF SUPL. E50501 (FOR SLIDING & FIXED)	= H - 92

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

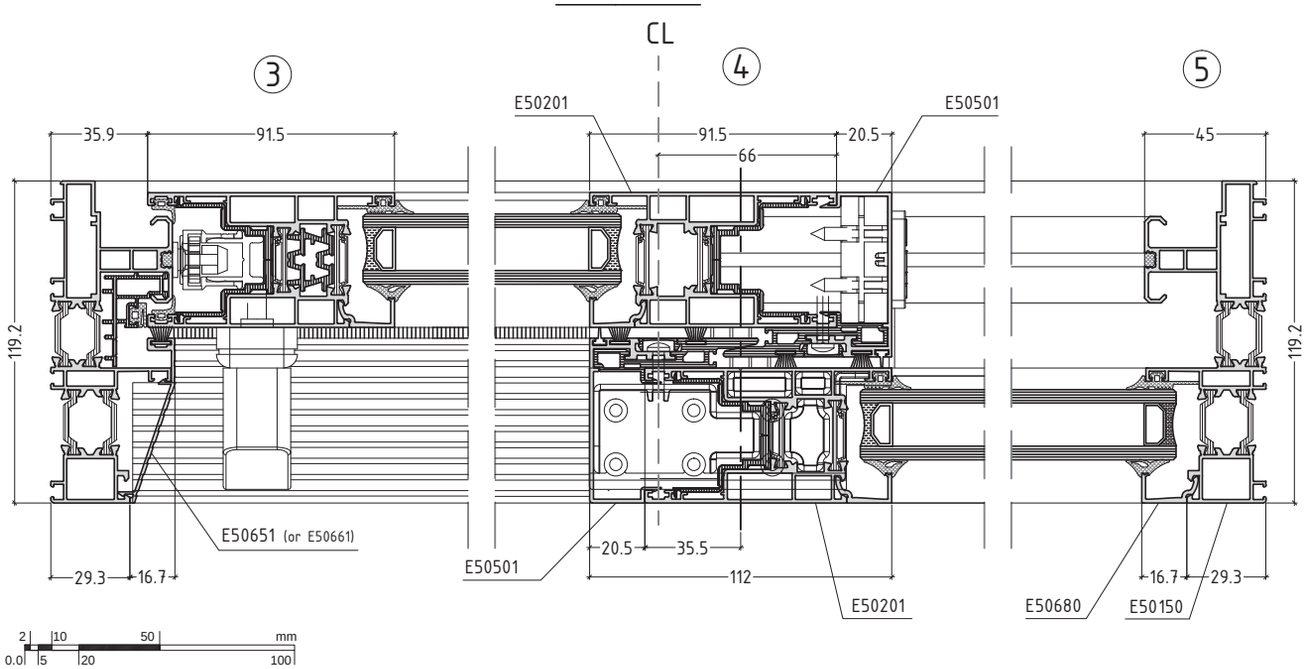
width glass sash = WIDTH OF SASH - 160

height glass sash = HEIGHT OF SASH - 160

width glass FIX = $\frac{W}{2}$ - 108

height glass FIX = H - 67

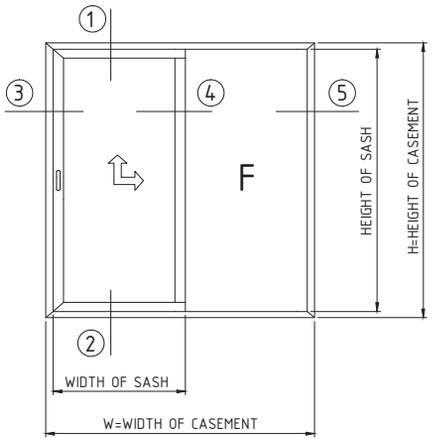
CLASSIC INTERLOCK

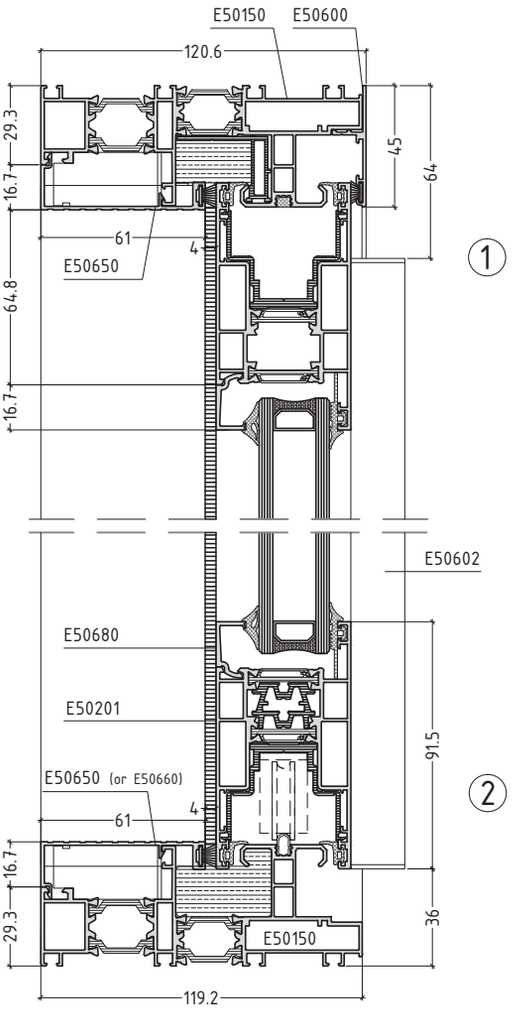


HOTEL TYPE

T50-14

LIFT & SLIDE MECHANISM - FIXED (ALTERNATIVE NARROW INTERLOCK)





CUTTING LENGTHS	
WIDTH OF SASH E 50201/2/3	= W/2 + 9
HEIGHT OF SASH E 50201/2/3	= H - 72
HEIGHT OF SASH E 50250 (FOR SASH PART)	= H - 222
HEIGHT OF SASH E 50250 (AS MULLION)	= H - 92
HEIGHT OF SUPL. E 50502 (FOR SLIDING & FIXED)	= H - 92
HEIGHT OF E 50602	= H - 103

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

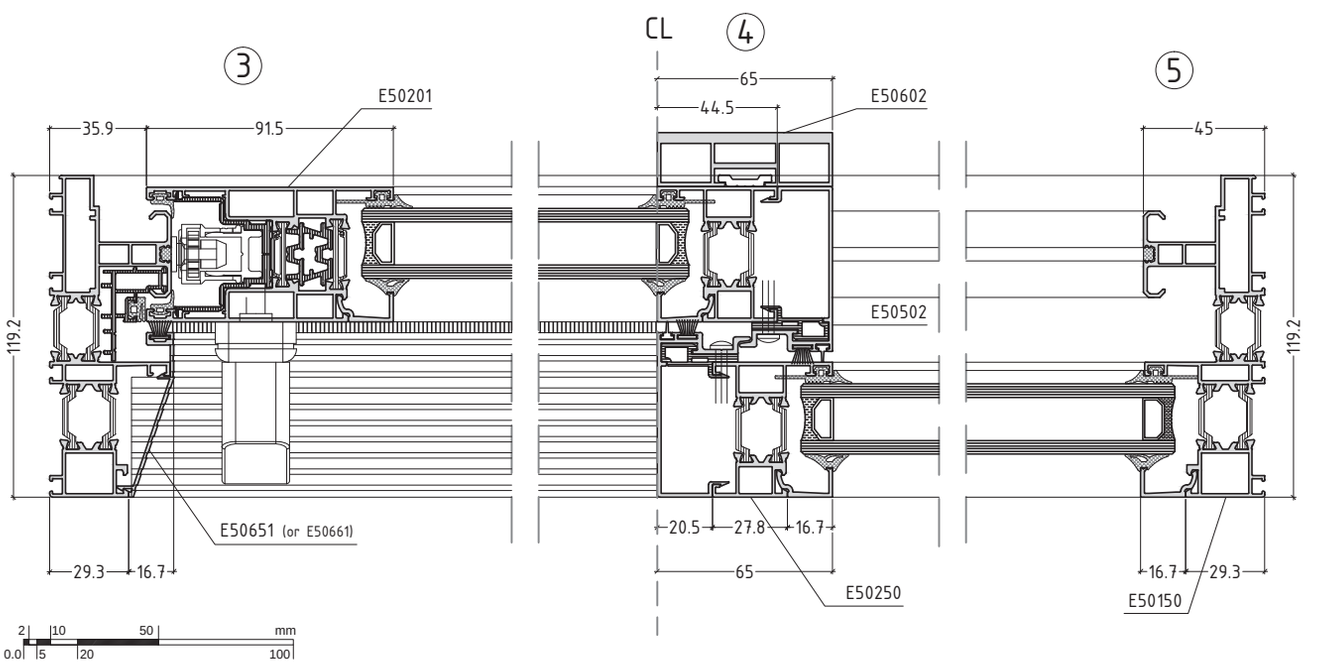
width glass sash = W/2 - 104

height glass sash = HEIGHT OF SASH - 160

width glass FIX = W/2 - 86.5

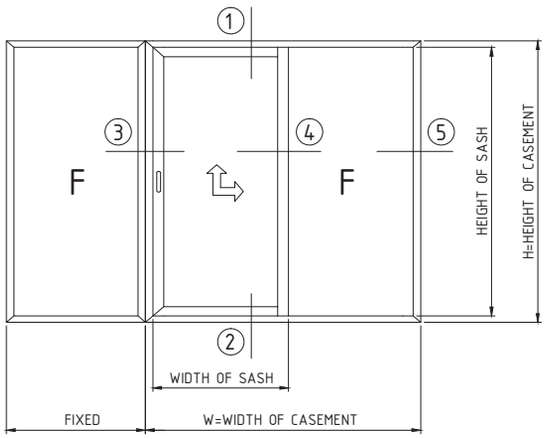
height glass FIX = H - 67

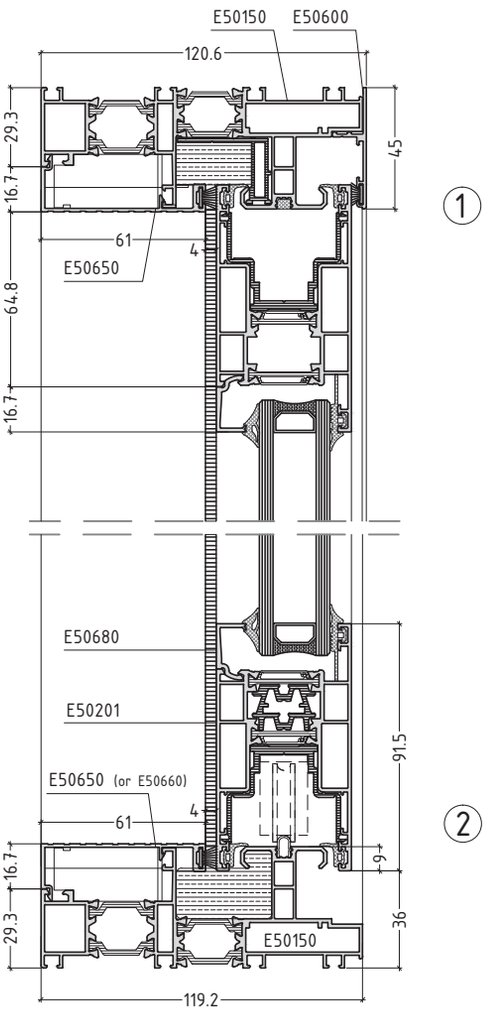
ALTERNATIVE NARROW INTERLOCK



HOTEL TYPE
FIXED - LIFT & SLIDE MECHANISM - FIXED

T50-15





CUTTING LENGTHS

WIDTH OF SASH E 50201	$= \frac{W}{2} + 30$
HEIGHT OF SASH E 50201	= H - 72
HEIGHT OF SASH E 50201 (AS MULLION)	= H - 92
HEIGHT OF SUPL. E 50501 (FOR SLIDING & FIXED)	= H - 92

DIMENSION IN MILLIMETERS

ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH - 160

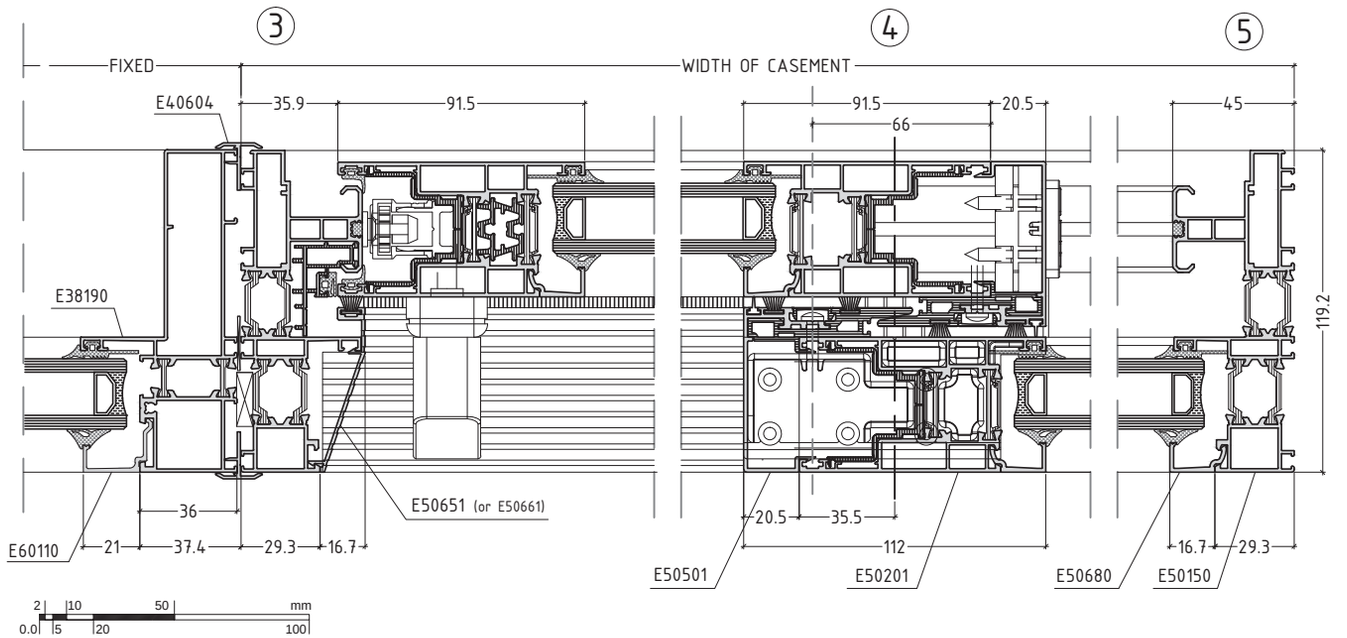
height glass sash = HEIGHT OF SASH - 160

width glass FIX = $\frac{W}{2}$ - 108

height glass FIX = H - 67

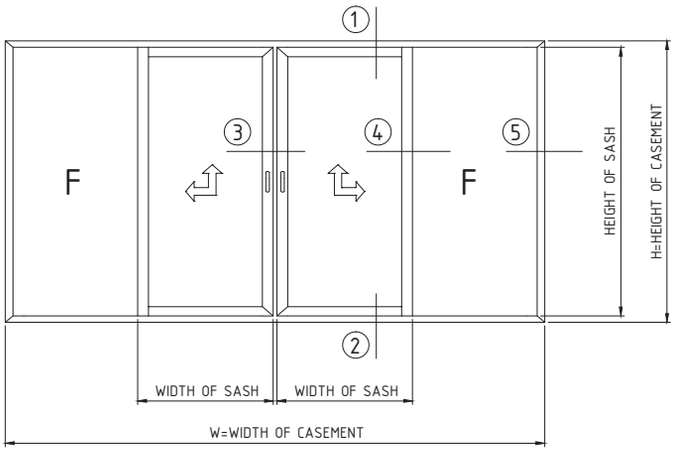
width glass FIXED = FIXED - 83

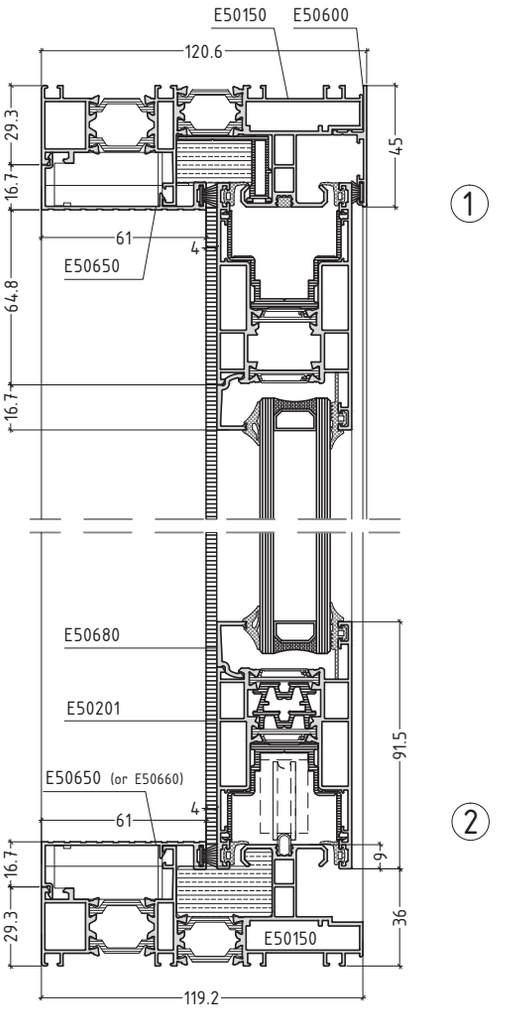
height glass FIXED = FIXED - 82



HOTEL TYPE
FIXED - FACING DOUBLE VENT LIFT & SLIDE - FIXED

T50-16





CUTTING LENGTHS	
WIDTH OF SASH E 50201	= $\frac{W}{4}$ + 44
HEIGHT OF SASH E 50201	= H - 72
HEIGHT OF SASH E 50201 (AS MULLION)	= H - 92
HEIGHT OF SUPL. E 50501 (FOR SLIDING & FIXED)	= H - 92
HEIGHT OF ADJOIN. E 50500	= H - 126

DIMENSION IN MILLIMETERS

ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

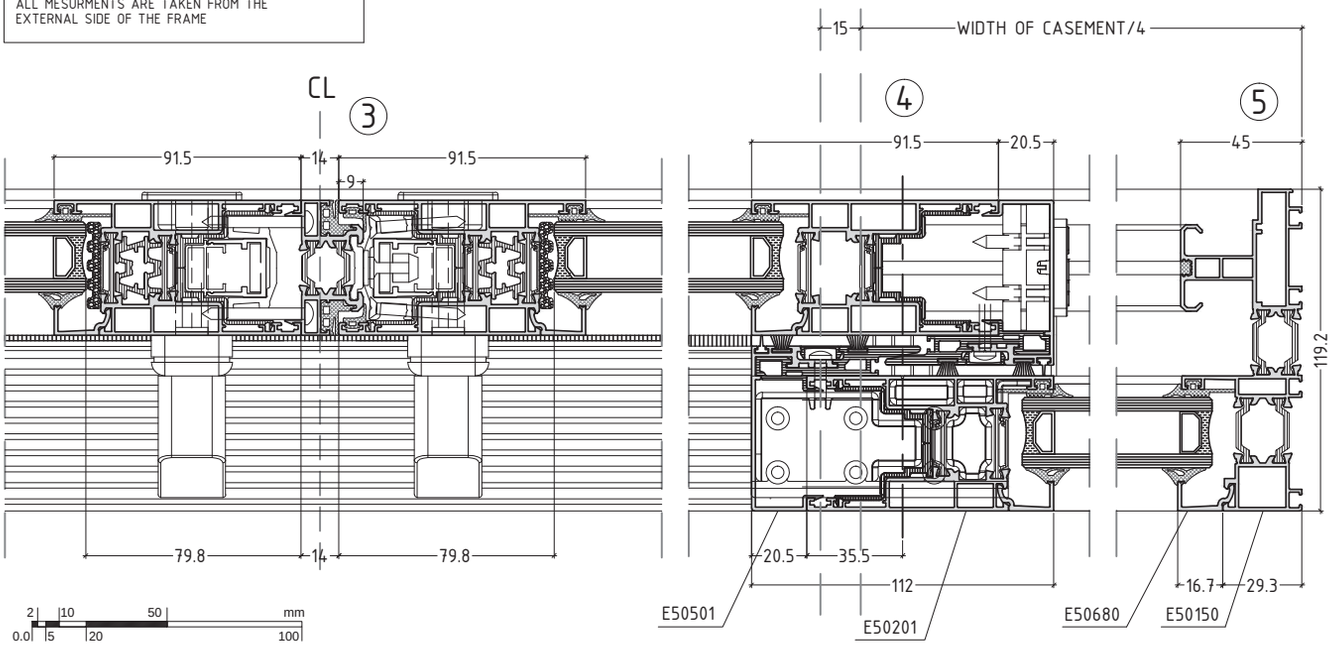
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH - 160

height glass sash = HEIGHT OF SASH - 160

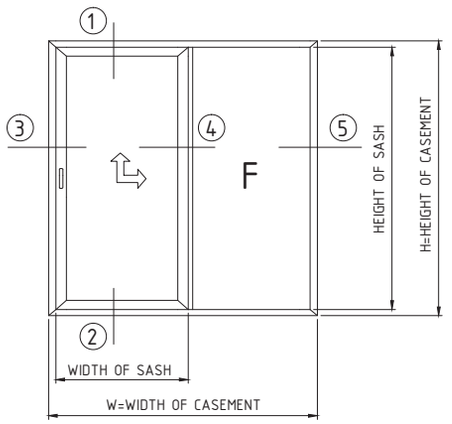
width glass FIX = $\frac{W}{4}$ - 93

height glass FIX = H - 67



HOTEL TYPE
LIFT & SLIDE MECHANISM – FIXED

T50-17



CUTTING LENGTHS

WIDTH OF SASH E50201	$= \frac{W}{2} - 10$
HEIGHT OF SASH E50201	= H – 72
HEIGHT OF SASH E50201 (AS MULLION FOR FIXED)	= H – 92
HEIGHT OF SUPL. E50501 (FOR SLIDING & FIXED)	= H – 92

CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH – 160

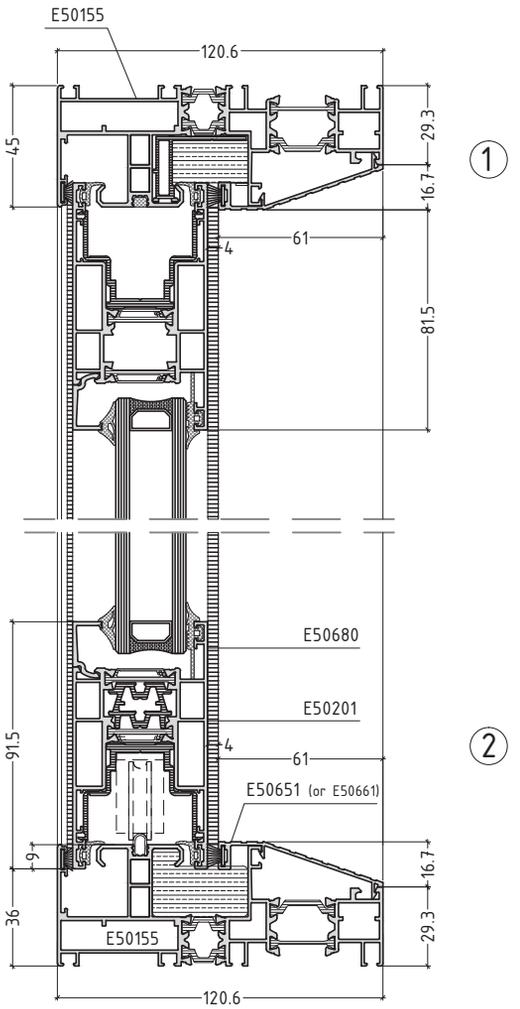
height glass sash = HEIGHT OF SASH – 160

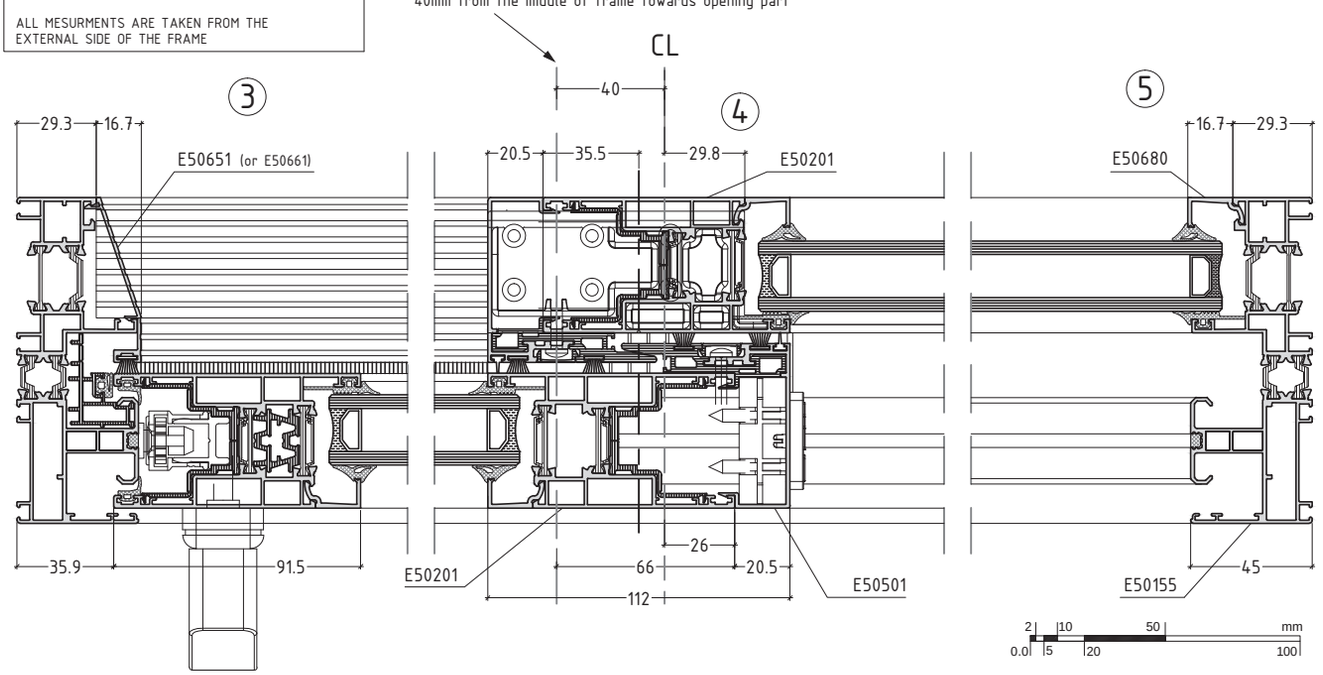
width glass FIX = $\frac{W}{2}$ – 68

height glass FIX = H – 67

DIMENSION IN MILLIMETERS

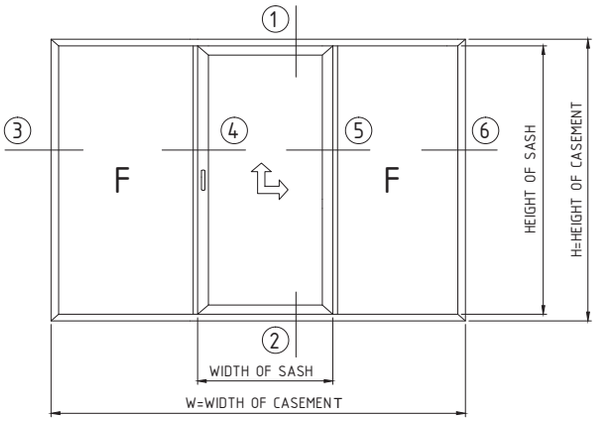
ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME





HOTEL TYPE
FIXED - LIFT & SLIDE MECHANISM - FIXED

T50-18



CUTTING LENGTHS

WIDTH OF SASH E50201	$= \frac{W}{3} + 12$
HEIGHT OF SASH E50201	= H - 72
HEIGHT OF SASH E50201 (AS MULLION FOR FIXED)	= H - 92
HEIGHT OF SUPL. E50501 (FOR SLIDING & FIXED)	= H - 92
HEIGHT OF 'T' E50350	= H - 92
HEIGHT OF INV. E50503	= H - 72

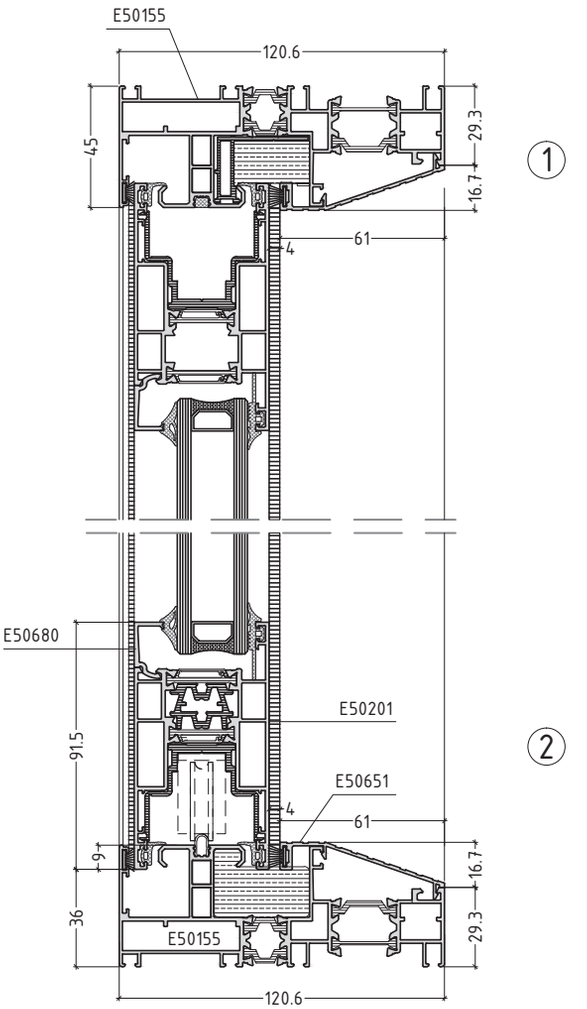
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH - 160

height glass sash = HEIGHT OF SASH - 160

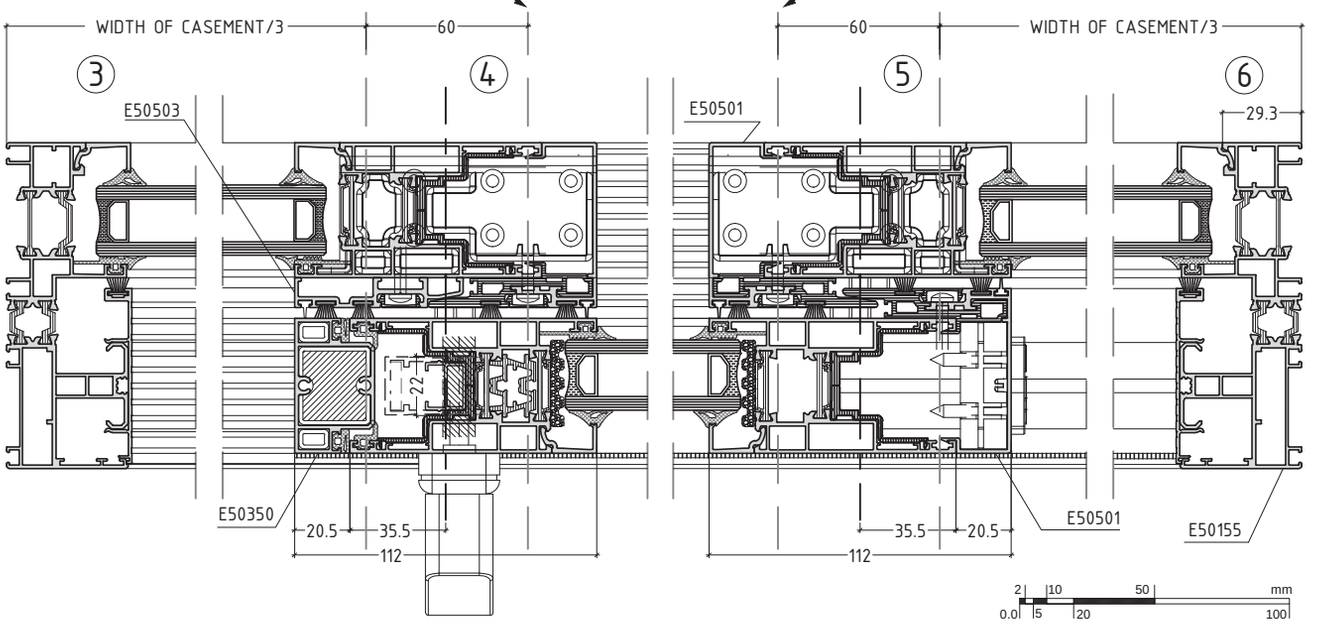
width glass FIX = $\frac{W}{3}$ - 48

height glass FIX = H - 67



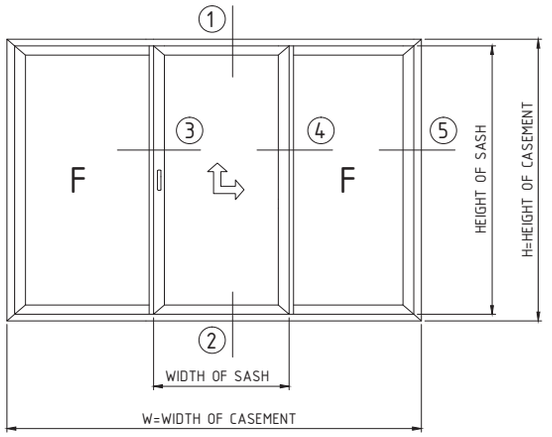
IMPORTANT:
the notch of the PVC connector (074815), 60mm from W/3 (towards frame center)

IMPORTANT:
the notch of the PVC connector (074815), 60mm from W/3 (towards frame center)



HOTEL TYPE
FIXED – LIFT & SLIDE MECHANISM – FIXED

T50-19



CUTTING LENGTHS	
WIDTH OF SASH E50201	= (W + 70) / 3
HEIGHT OF SASH E50201	= H – 72
HEIGHT OF SUPL. E50501 (FOR SLIDING & FIXED)	= H – 92
HEIGHT OF 'T' E50350	= H – 92
HEIGHT OF INV. E50503	= H – 72

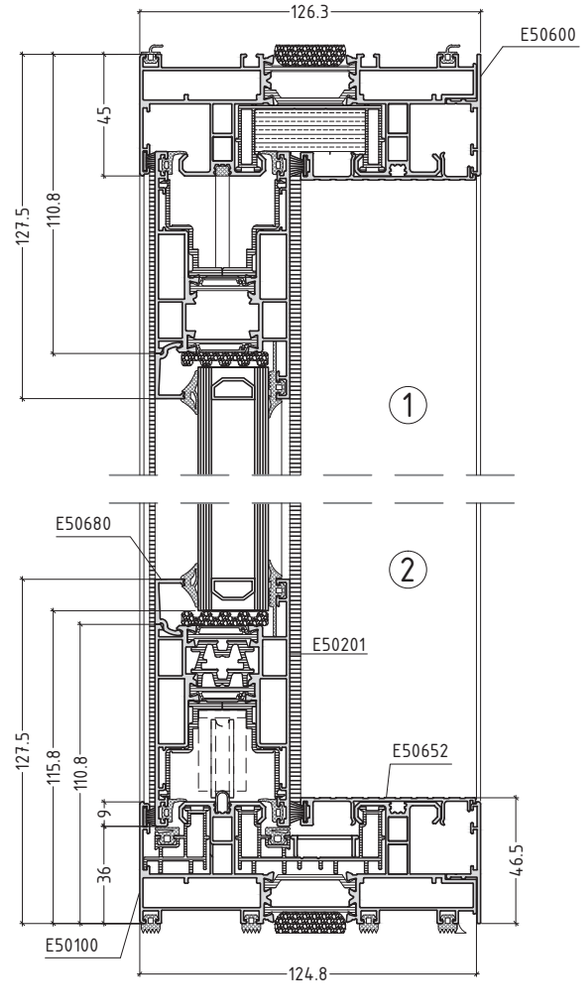
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

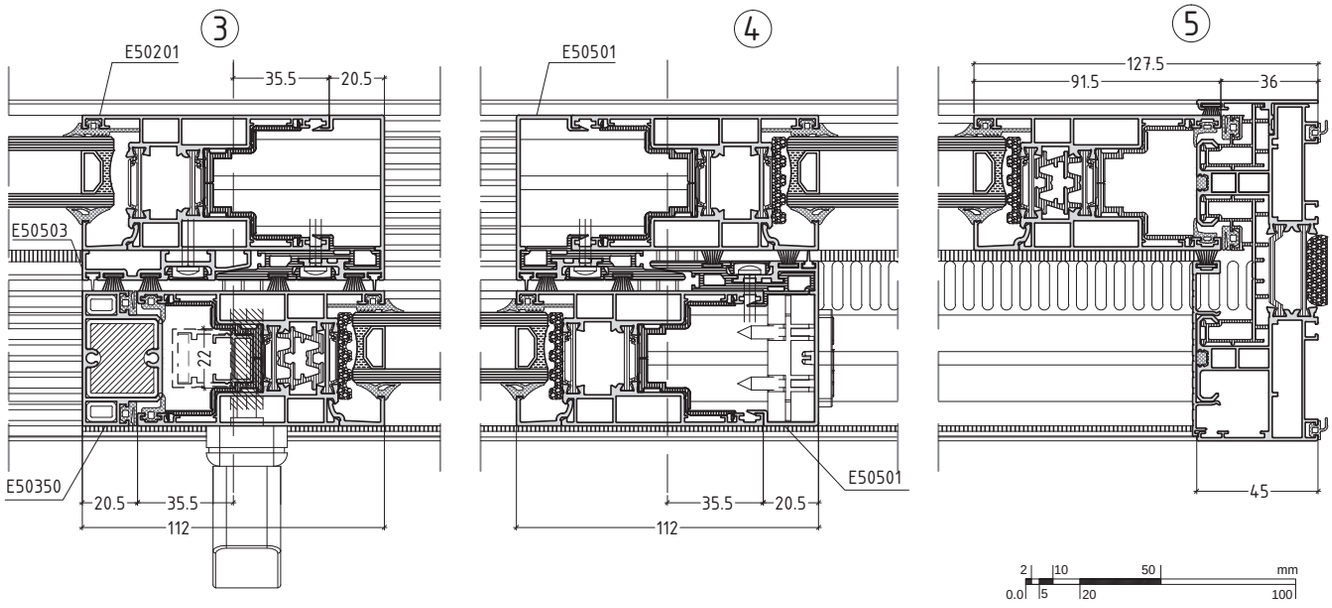
width glass sash = WIDTH OF SASH – 160

height glass sash = HEIGHT OF SASH – 160

DIMENSION IN MILLIMETERS

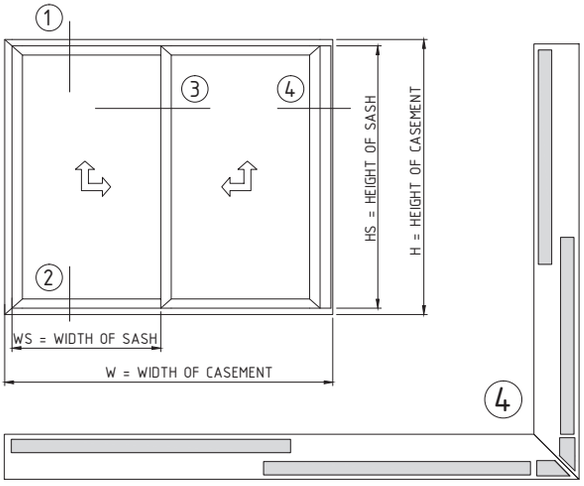
ALL MESURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME

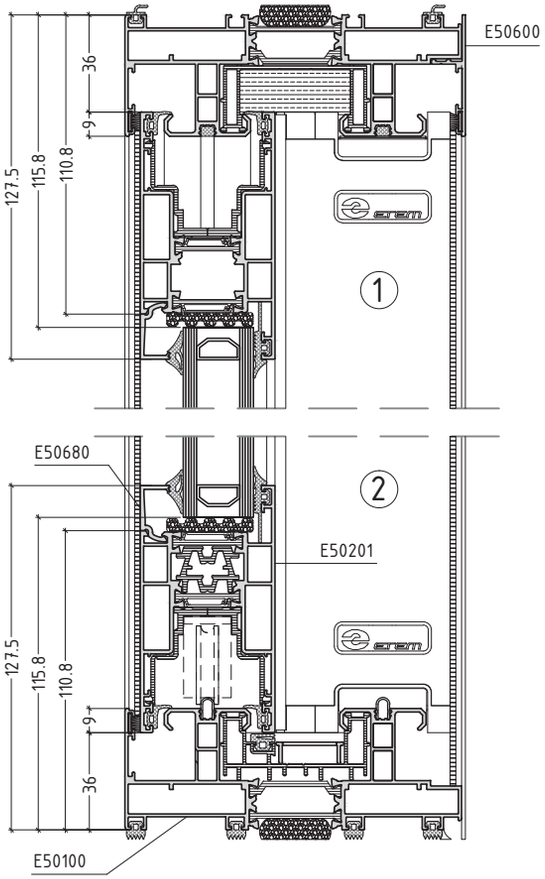




DOUBLE VENT LIFT & SLIDE WITH 90° CORNER PROFILE

T50-20





CUTTING LENGTHS	
WIDTH OF RAIL E 50100 HEIGHT OF FRAME E 50100	= W = H
WS (WIDTH OF SASH) HS (HEIGHT OF SASH)	= $\frac{W - 80}{2}$ = H – 72
HEIGHT OF SUPL. E 50501 HEIGHT OF E 50520	= H – 92 = H – 78

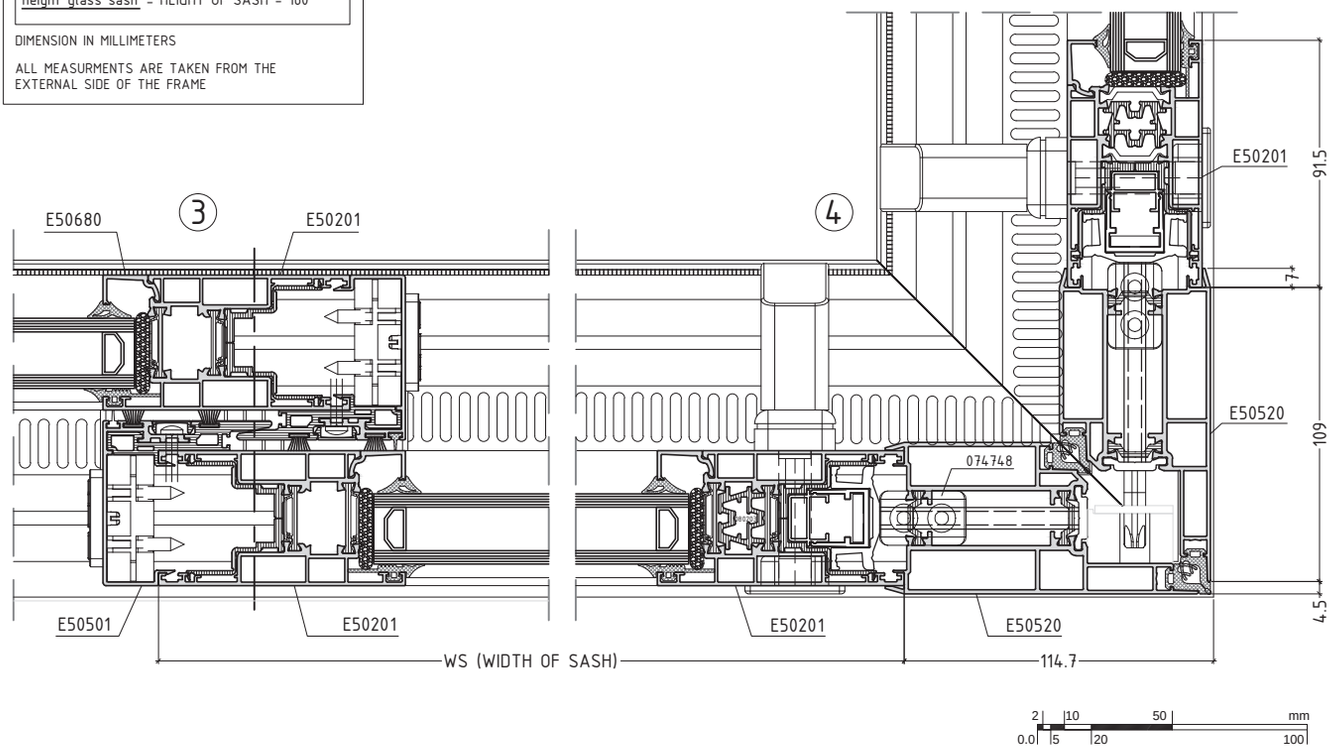
CALCULATION OF CUTTING LENGTH FOR GLASS UNIT

width glass sash = WIDTH OF SASH – 160

height glass sash = HEIGHT OF SASH – 160

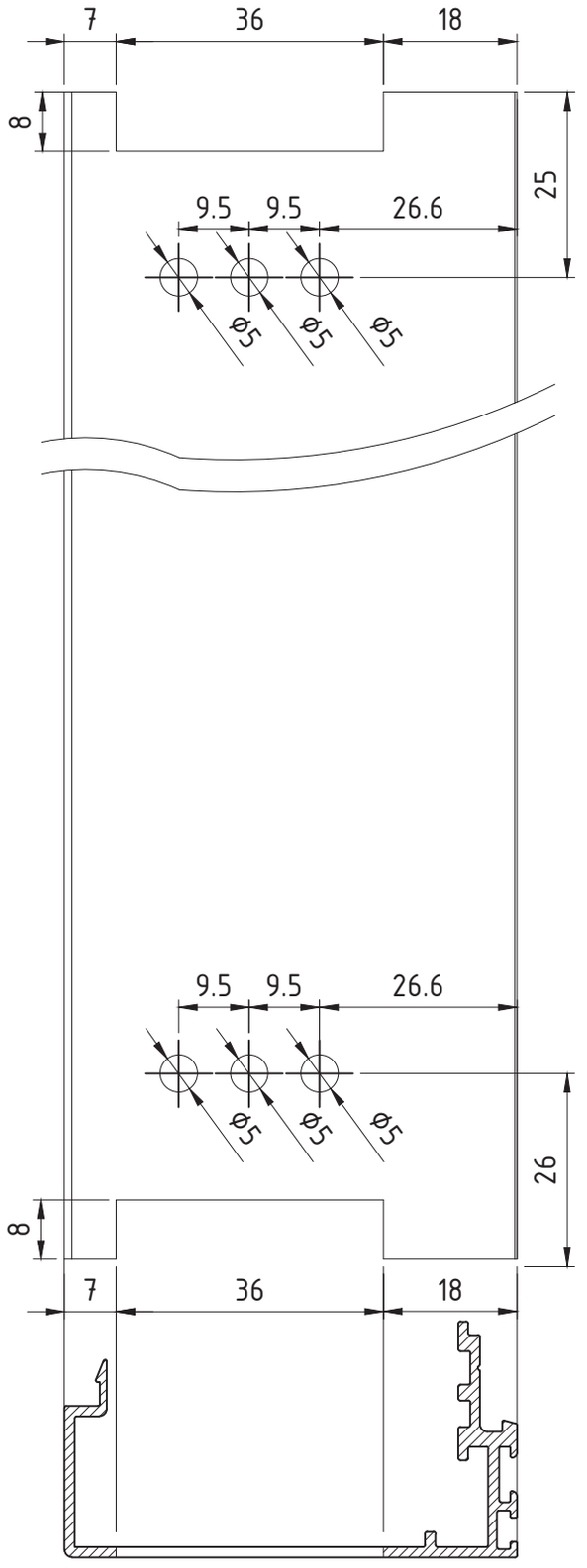
DIMENSION IN MILLIMETERS

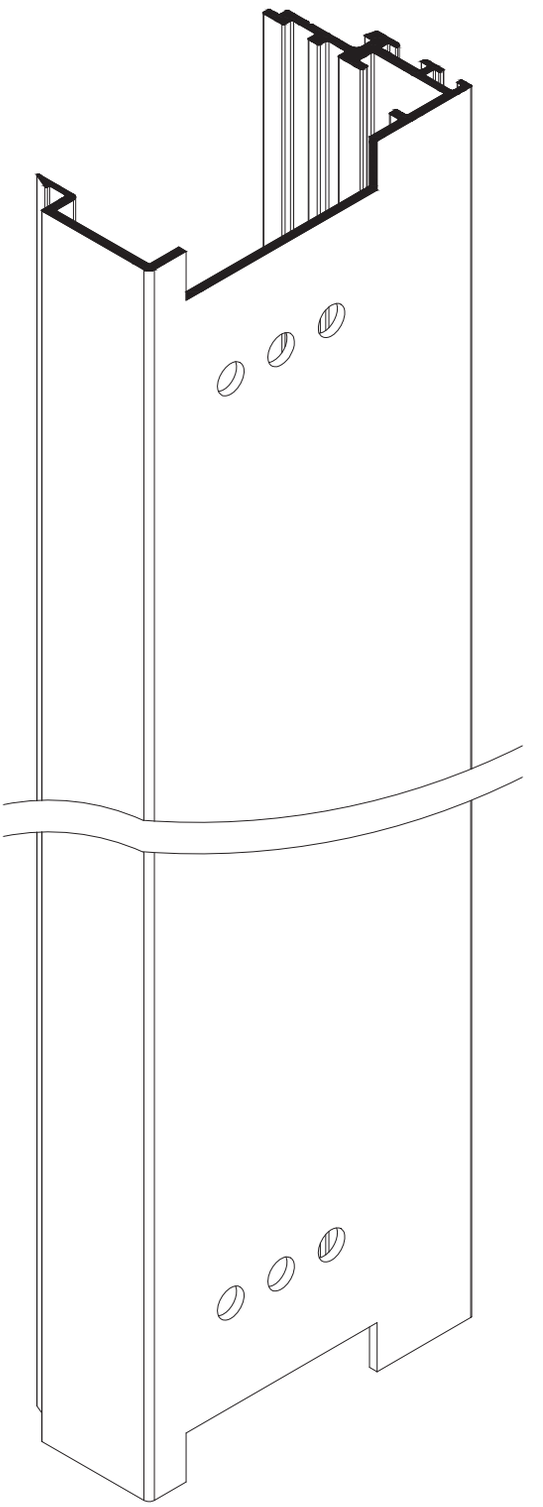
ALL MEASURMENTS ARE TAKEN FROM THE EXTERNAL SIDE OF THE FRAME



MACHINING

MACHINING ON INTERLOCK PROFILES E50501 M50-01



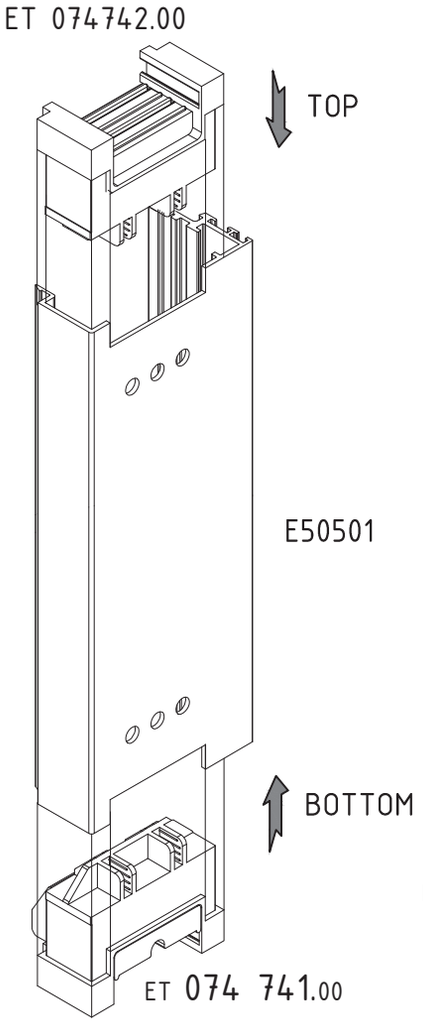


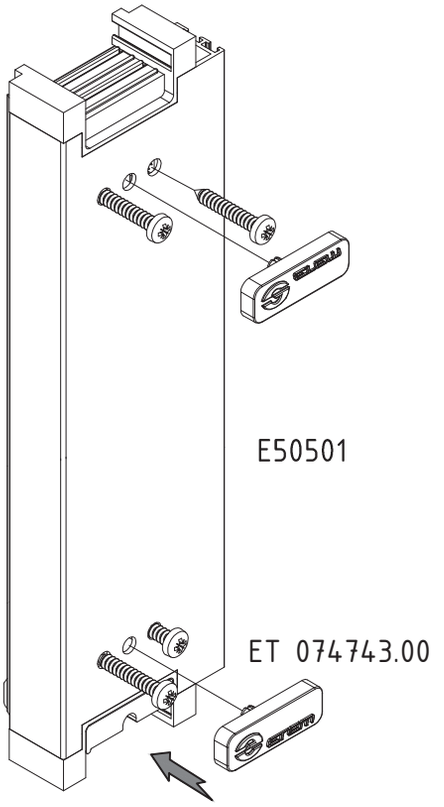
E50501

Note:
The machining is done on E50 punching machine

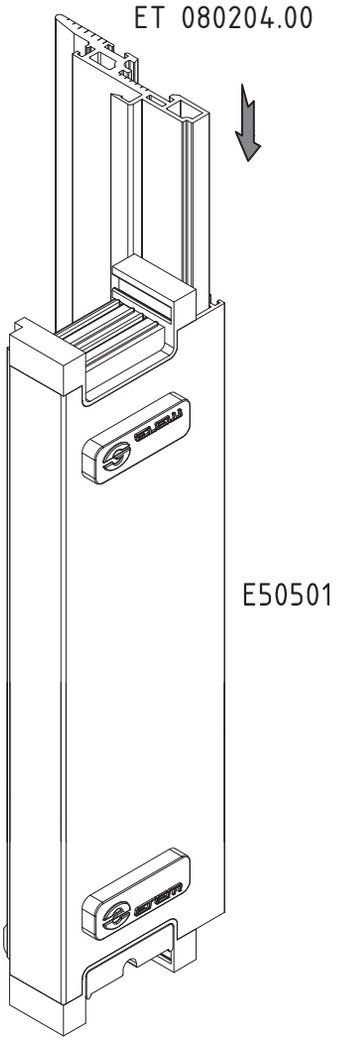
FIXING ACCESSORIES ON INTERLOCK PROFILE E50501

M50-02



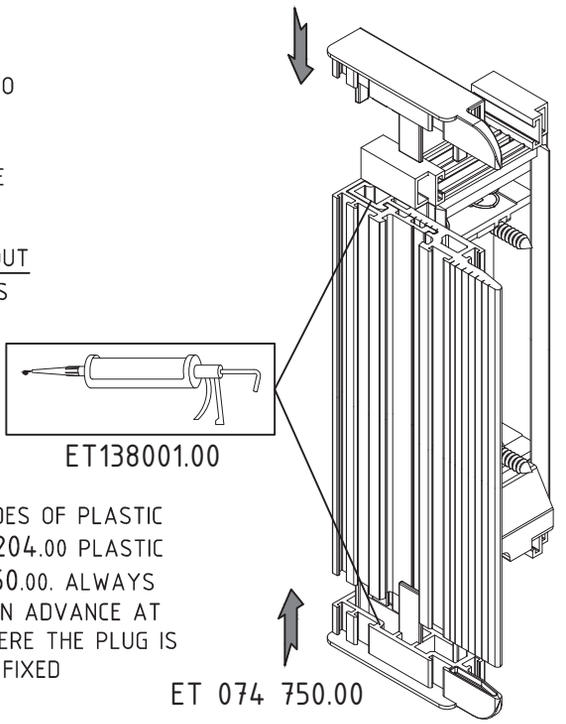


BOTH PLUGS ARE FIXED ONTO THE INTERLOCK PROFILE USING SHEET METAL SCREWS 4.2x25mm DIN 7981. COVER THE HEADS OF THE SCREWS BY FIXING PLUG ET.074742.00



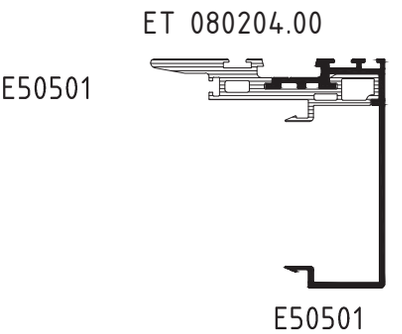
PLUG ET.074741.00 IS FIXED ONTO THE BOTTOM SIDE OF INTERLOCK PROFILE E-50501, WHILST PLUG ET.074742.00 IS FIXED ONTO THE TOP SIDE

ATTENTION: FOR SLIDING, WITHOUT LIFT, ONLY PLUG ET.074742.00 IS USED (TOP & BOTTOM SIDE).

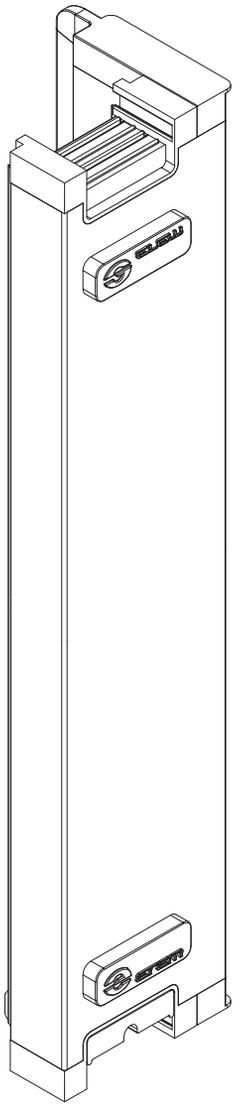


FIX ON BOTH SIDES OF PLASTIC SPACER ET.080204.00 PLASTIC PLUG ET.074750.00. ALWAYS APPLY SILICON IN ADVANCE AT THE SURFACE WHERE THE PLUG IS TO BE FIXED

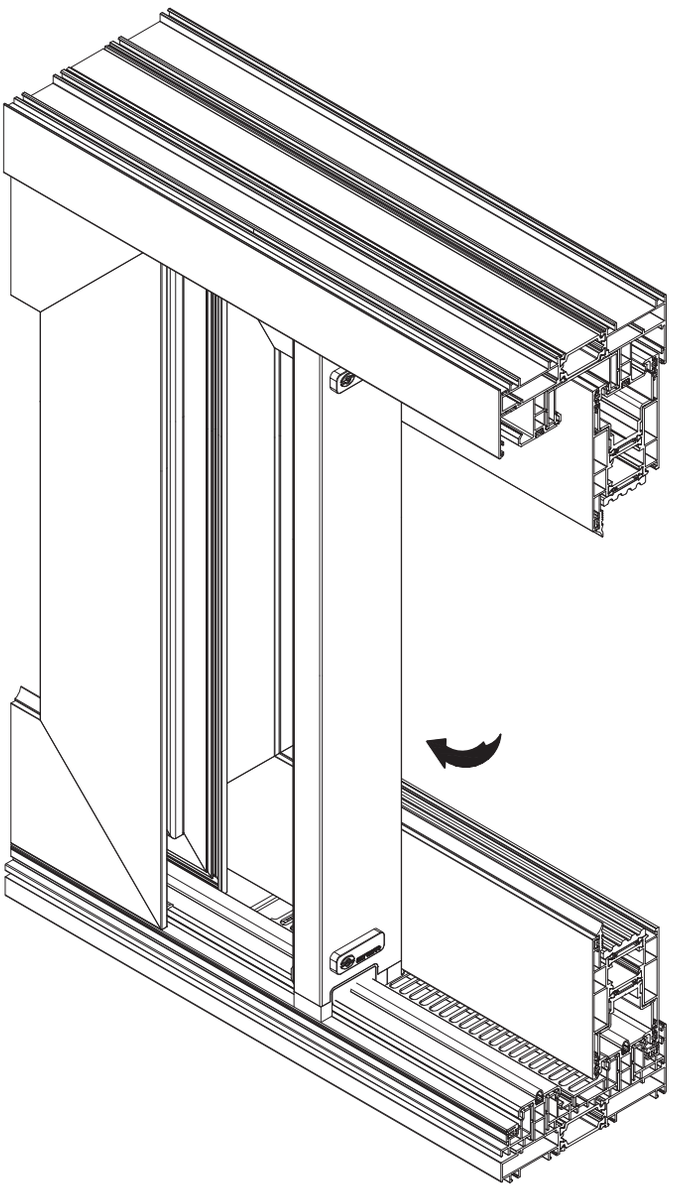
INSERT PLASTIC SPACER ET.080204.00 INTO THE INTERLOCK PROFILE E-50501, AS PRESENTED IN THE DRAWING



FIXING INTERLOCK PROFILE E50501 ONTO THE SASH FRAME M50-03

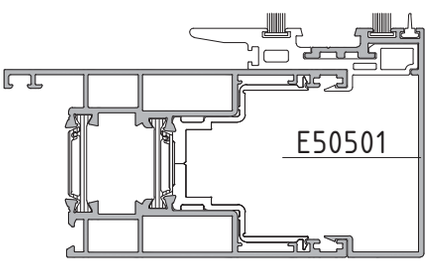


E50501



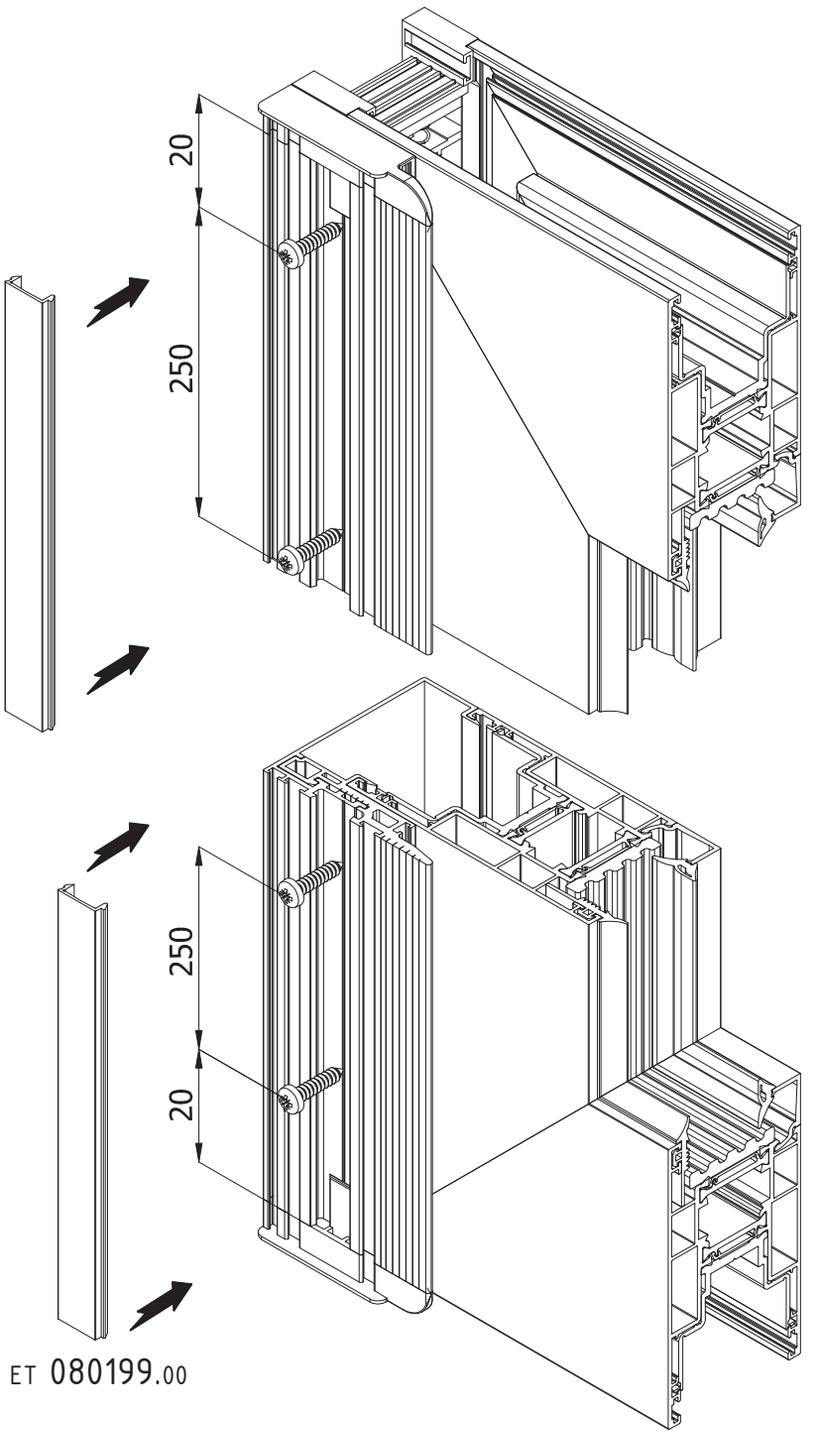
FIRST PLACE THE SASH FRAME ONTO THE RAIL AND THEN FIX THE INTERLOCK, AS PRESENTED IN THE DRAWINGS. ALWAYS CHECK THAT GASKET AND PILE WEATHERSEALS ARE FIXED AT THE INTERLOCK, PRIOR FIXING IT ONTO THE SASH FRAME

ATTENTION: THE INTERLOCK CAN BE FIXED ONTO THE SASH FRAME ONLY ONCE THE SASH FRAME IS PLACED ONTO THE RAIL PLASTIC SPACER

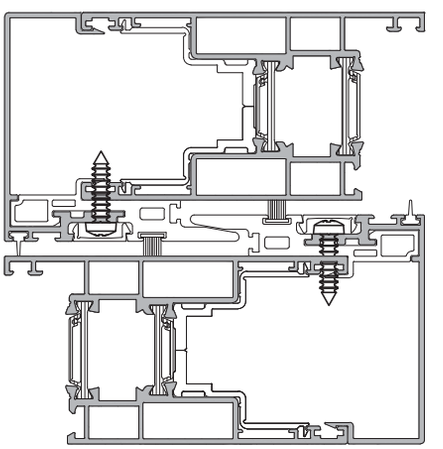


FASTENING INTERLOCK PROFILE E50501 ONTO THE SASH FRAME

M50-04




ET 080199.00

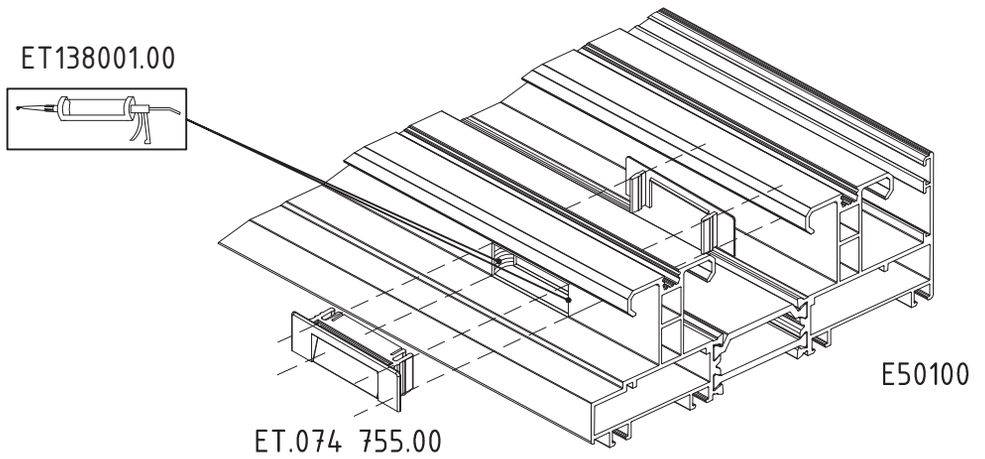


INTERLOCK IS FIXED ONTO THE SASH FRAME USING SHEET METAL SCREWS 4.2x19mm DIN 7981. THE FIRST SCREW IS FIXED AT A DISTANCE OF 20mm, MEASURED FOR THE ENDS OF PROFILE E50501, AND THE CENTER TO CENTER DISTANCE BETWEEN THE NEXT SCREWS MUST BE APPROXIMATELY 250mm. THE HEADS OF THE SCREWS ARE COVERED BY PLASTIC PROFILE ET.080199.00

ATTENTION: REMOVE THE HANDLES (IN CASE ARE FIXED ONTO THE SASH FRAME), SO THAT TO BE ABLE TO FIX THE INTERLOCK

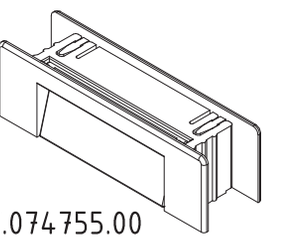
MACHINING ON RAIL FOR DRAIN HOLES

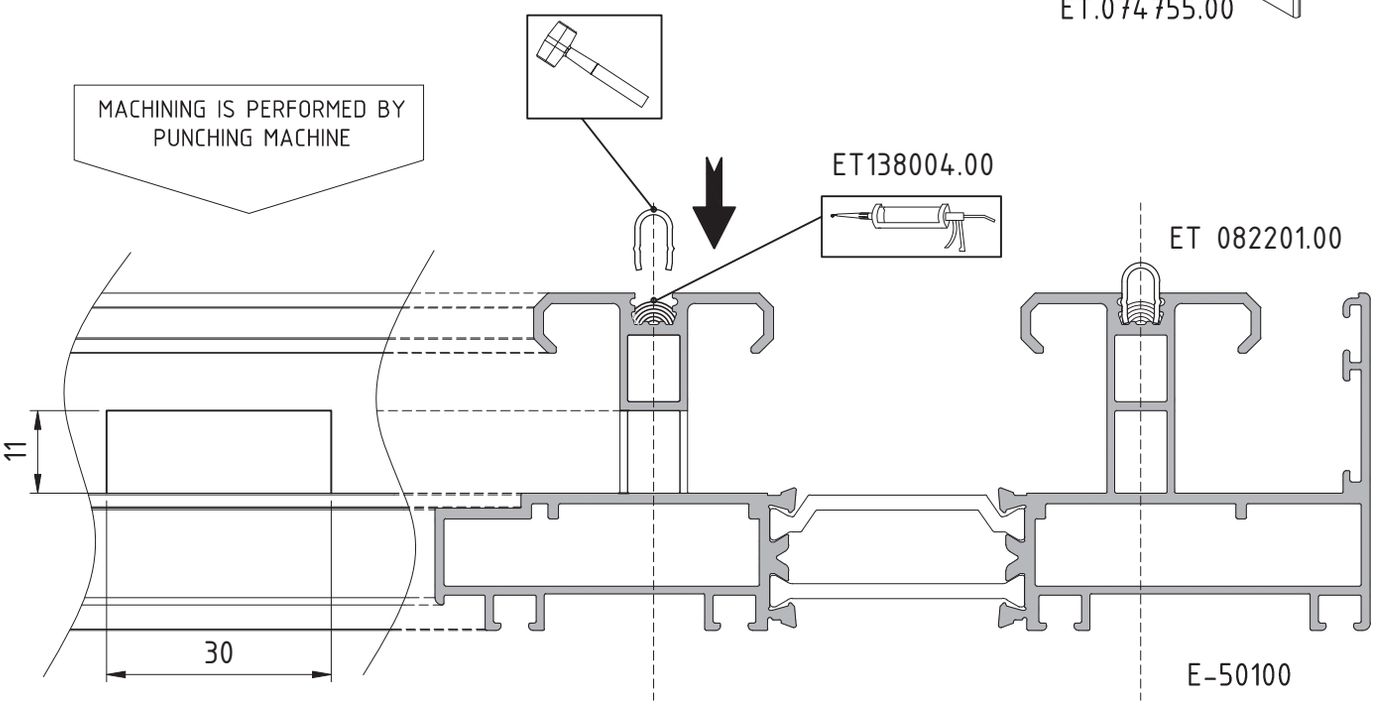
M50-05



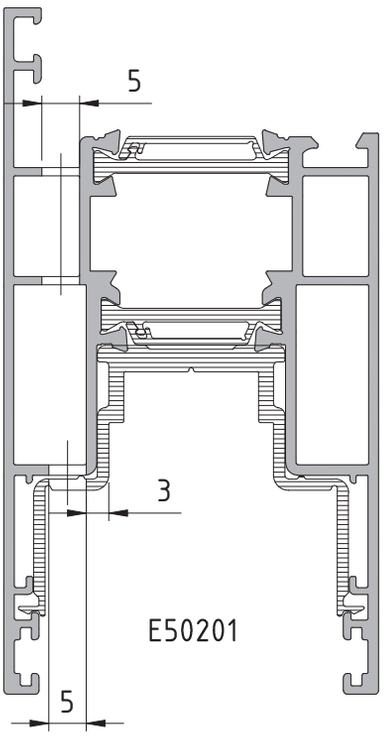
ALWAYS APPLY ADHESIVE ET.138004.00 INTO THE TRACK OF THE RAIL WHERE THE STAINLESS STEEL RAIL ET.082201.00 IS TO BE FIXED

THE DRAIN HOLE ON THE RAIL IS PUNCHED USING THE PUNCHING MACHINE OF THE SYSTEM. APPLY SILICONE ET.138001.00 AT BOTH SIDES OF THE DRAIN HOLE AND THEN FIX DRAIN CAP ET.074755.00 INTO THE DRAIN HOLE, AS PRESENTED IN THE DRAWING. FITTING INSTRUCTIONS OF PLASTIC PLUG ET.074755.00 ARE PRESENTED IN PAGE M50-31

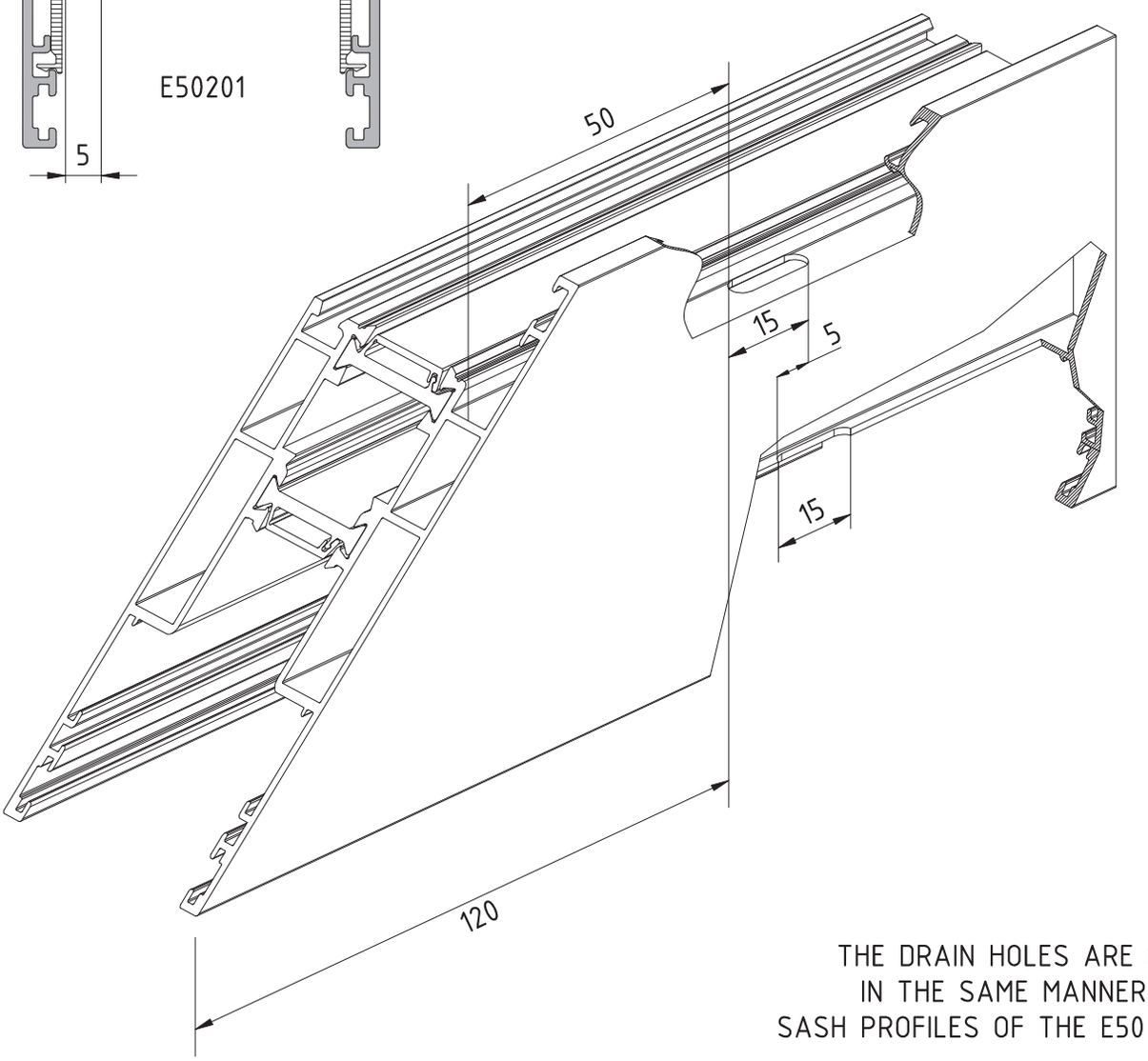




MACHINING ON SASH FOR DRAIN HOLES M50-06



THE DRAIN HOLES ARE OPENED AT THE PUNCHING MACHINE ET162263.00

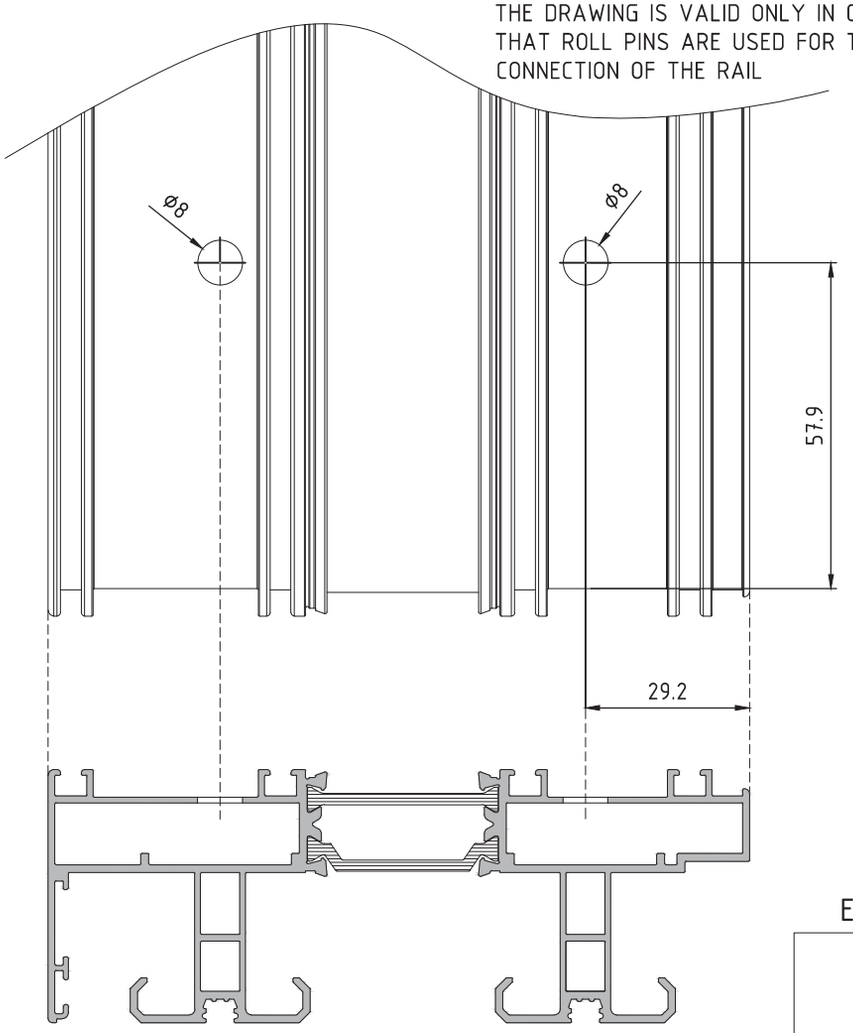


THE DRAIN HOLES ARE OPENED IN THE SAME MANNER IN ALL SASH PROFILES OF THE E50 SERIES

MACHINING ON RAIL FOR FIXING EXRTUDED AL. JOINT CORNER BRACKETS M50-07

THE DRAWING IS VALID ONLY IN CASE THAT ROLL PINS ARE USED FOR THE CONNECTION OF THE RAIL

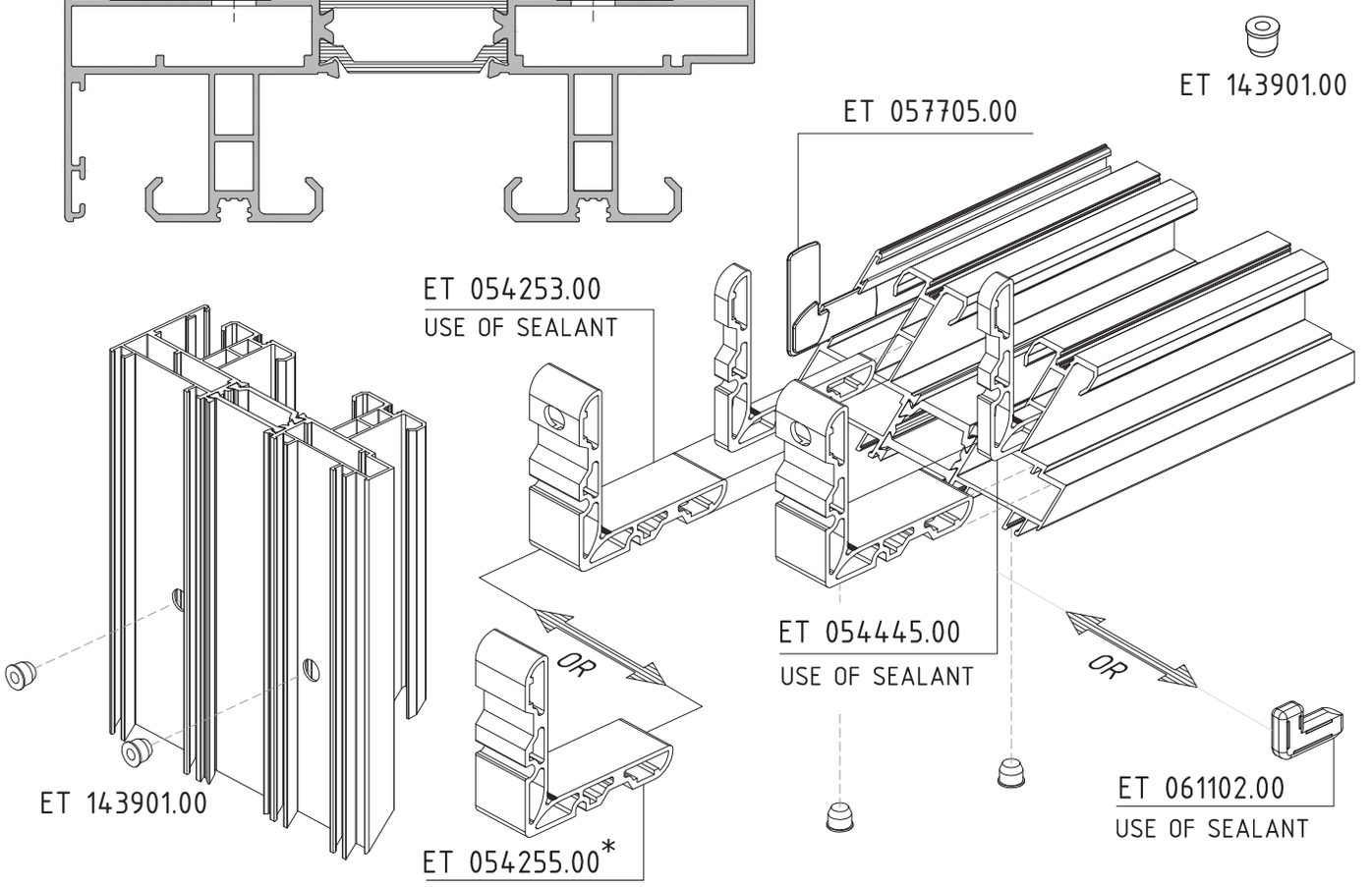
MACHINING IS PERFORMED BY PUNCHING MACHINE



ALWAYS APPLY ADHESIVE ET.138004.00 INTO THE POINTS OF RAIL, WHERE JOINT CORNER BRACKET ET.054253.00 IS TO BE FIXED

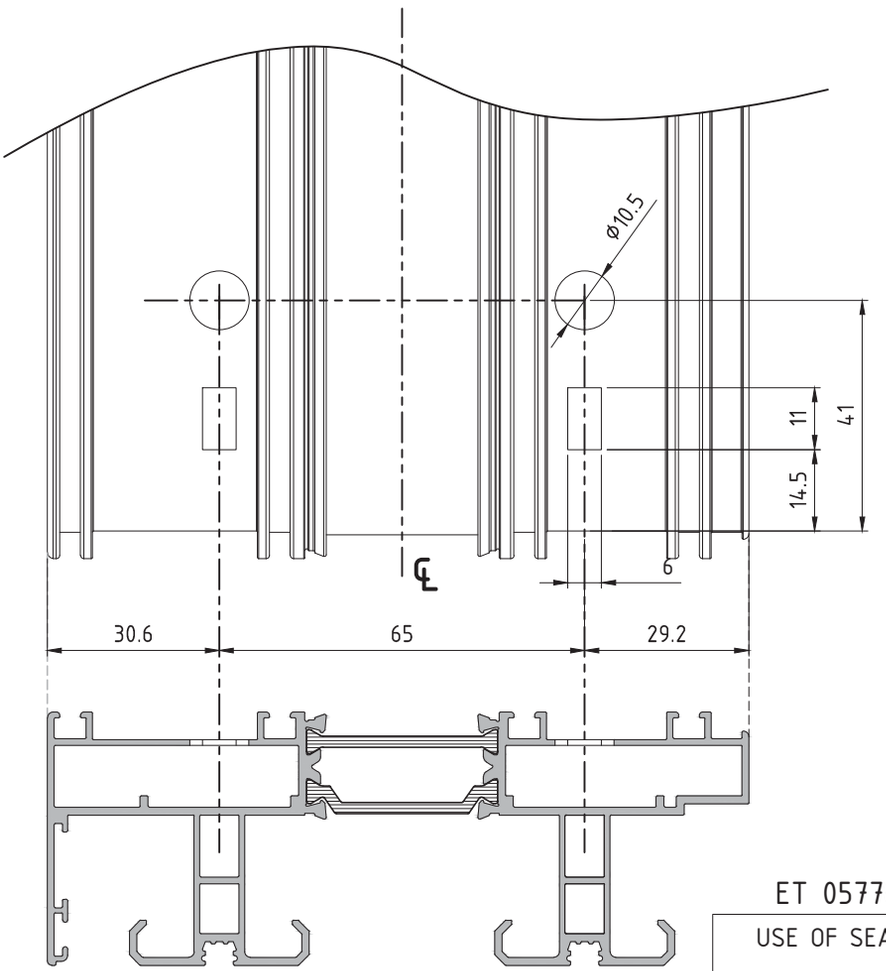
* ATTENTION: EXTRUDED AL. JOINT CORNER BRACKET ET.054255.00 IS USED ONLY FOR CRIMPING MACHINE

ALWAYS APPLY SEALANT AT THE JOINTS OF THE SASH FRAME



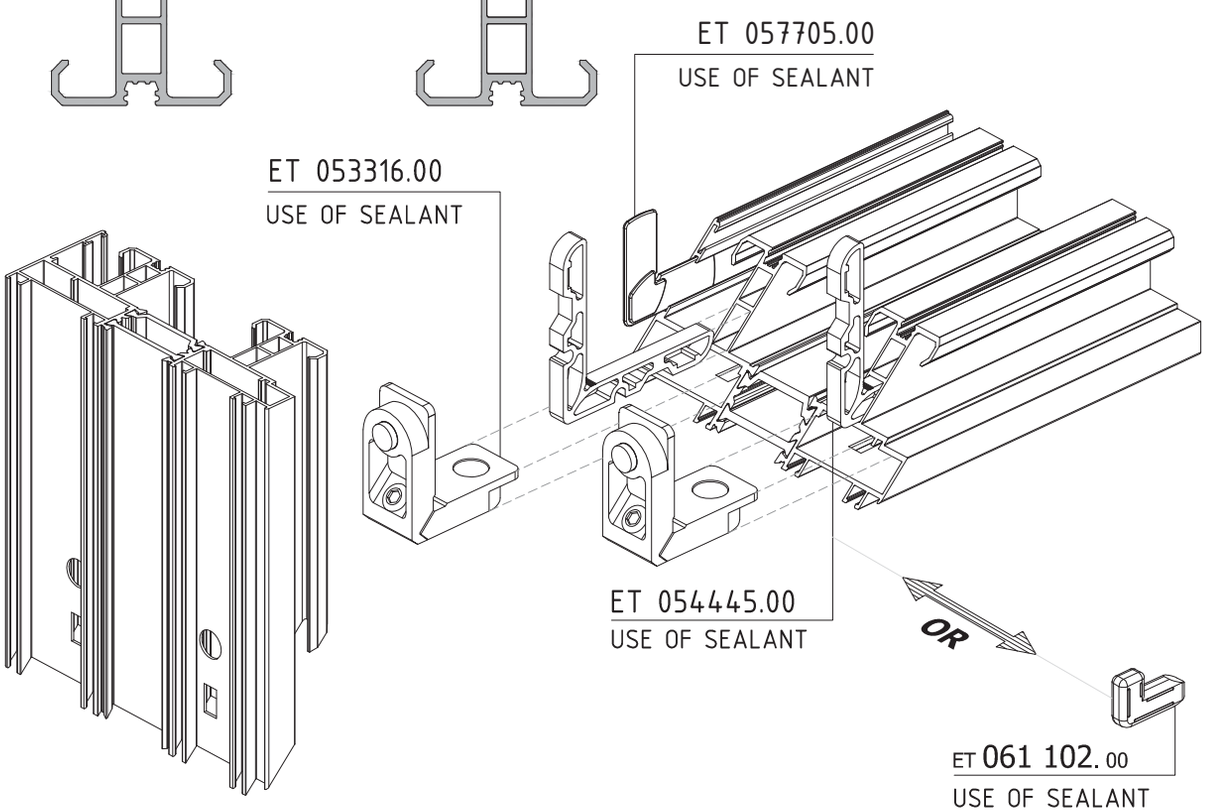
MACHINING ON RAIL FOR FIXING WITH DIE CAST JOINT CORNER BRACKETS

M50-08



MACHINING IS PERFORMED BY PUNCHING MACHINE

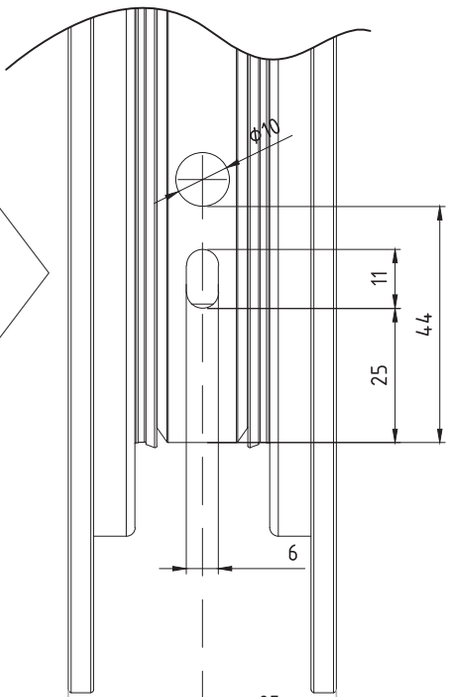
ALWAYS APPLY SEALANT AT THE JOINTS OF THE FRAME COMPONENTS



MACHINING ON E50202 FOR FIXING WITH DIE CAST JOINT CORNER BRACKET

M50-09

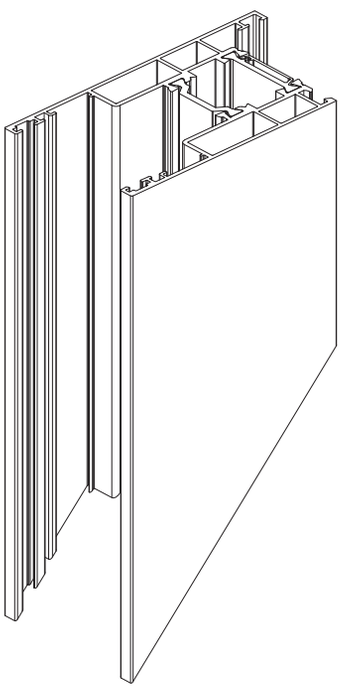
MACHINING IS PERFORMED BY THE PUNCHING MACHINE

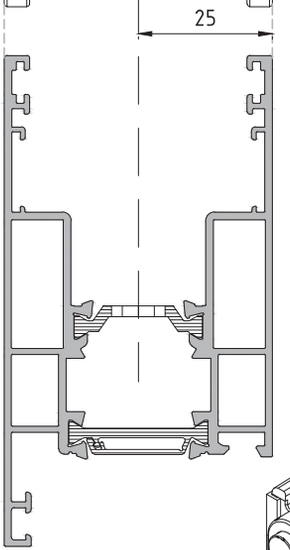


ATTENTION: JOINT CORNER BRACKET ET.053331.00 IS ALWAYS FIXED TO THE SASH ALONG WITH JOINT CORNER BRACKETS ET.054475.00 & ET.050027.00. ALWAYS APPLY ADHESIVE ET.138004.00

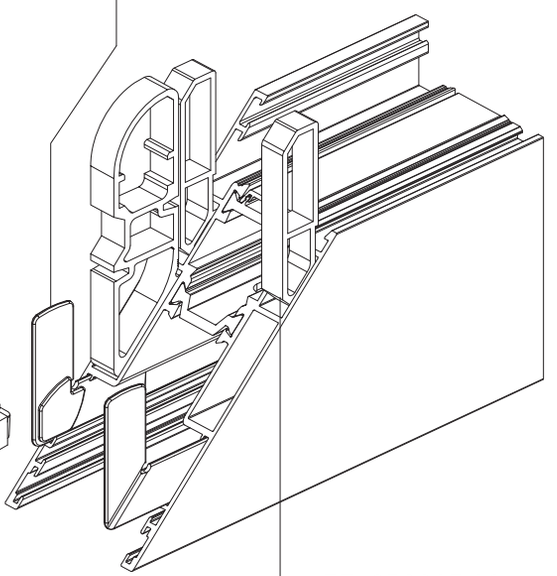
ATTENTION: PLASTIC DRAIN ET.080802.00 IS REMOVED, TEMPORARILY, FROM ALL PROFILES THAT FORM THE SASH FRAME, UNTIL ALL MACHINING IS PERFORMED ON ALL PARTS. THE PLASTIC DRAIN IS THEN PUT BACK IN PLACE

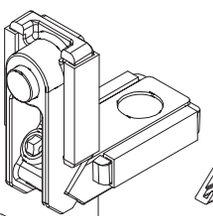
E50202



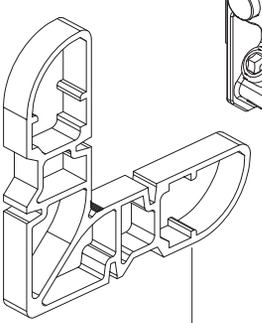


ET 057705.00
USE OF SEALANT

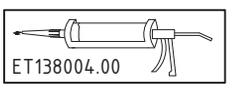




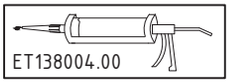
ET 053331.00



ET 054475.00

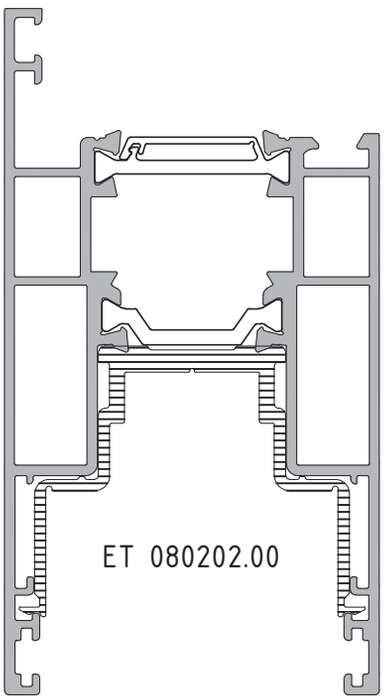


ET 050027.00

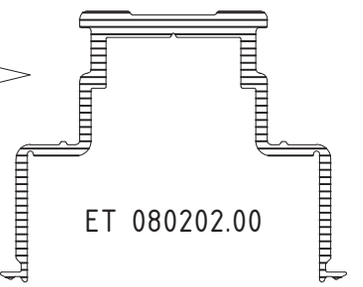


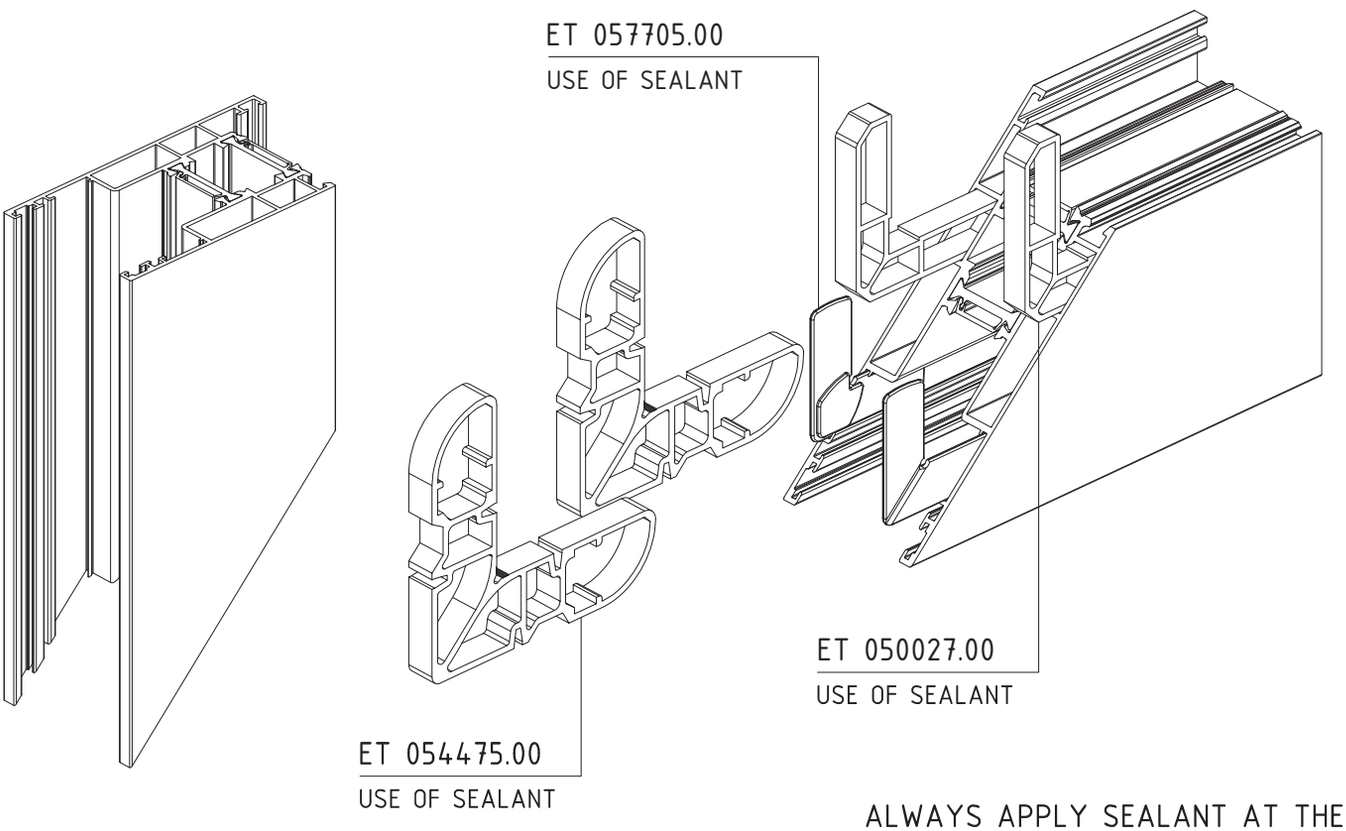
FIXING SASH FRAME E50202 WITH EXTRUDED AL. JOINT CORNER BRACKETS

M50-10



ATTENTION: PLASTIC DRAIN ET.080802.00 IS REMOVED, TEMPORARILY, FROM ALL PROFILES THAT FORM THE SASH FRAME, SO THAT ALL MEMBERS ARE JOINTED BY THE CRIMPING MACHINE. THE PLASTIC DRAIN IS THEN PUT BACK IN PLACE

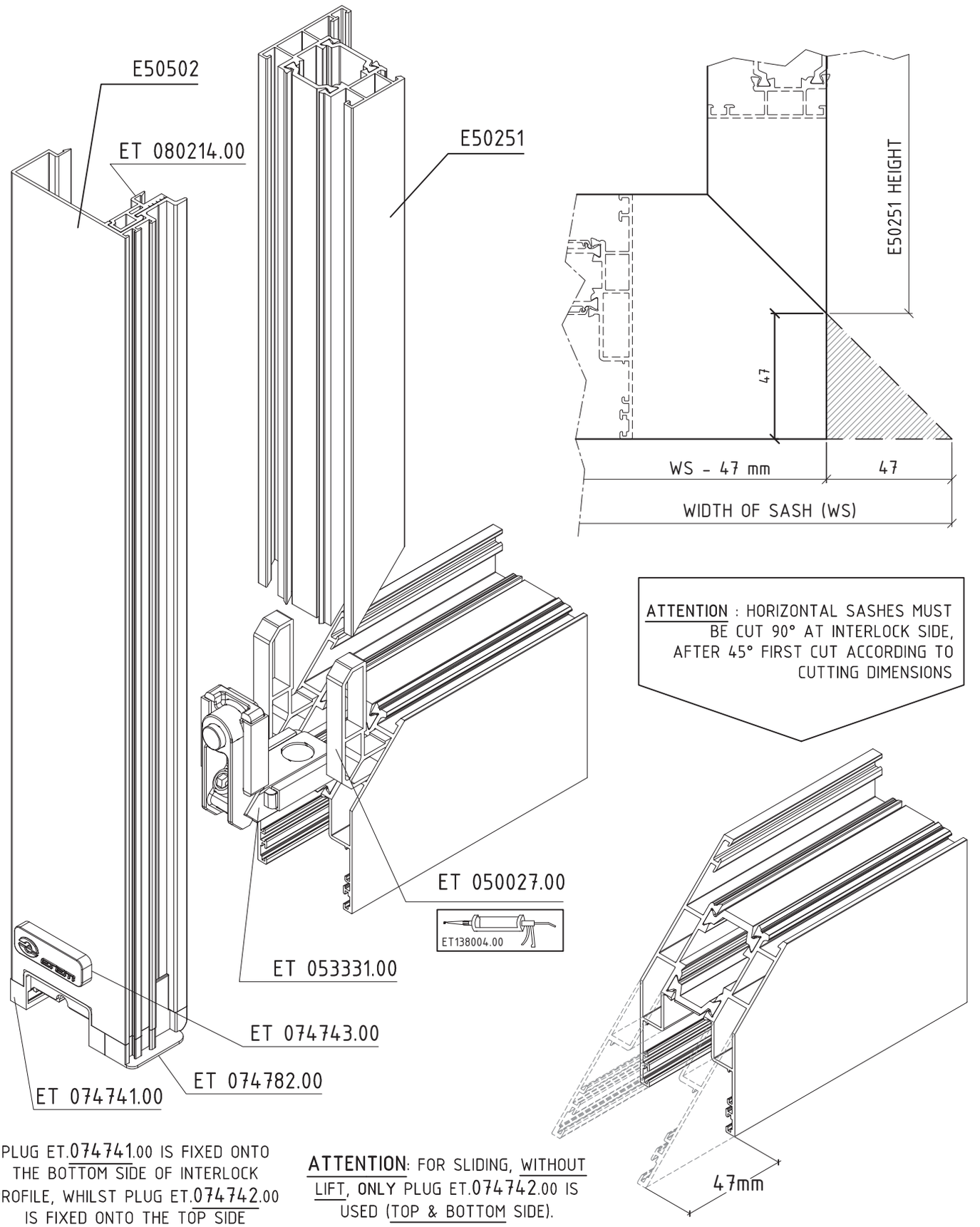




ALWAYS APPLY SEALANT AT THE JOINTS OF THE SASH FRAME

MACHINING ON HORIZONTAL SASHES TO CONNECT WITH E50251

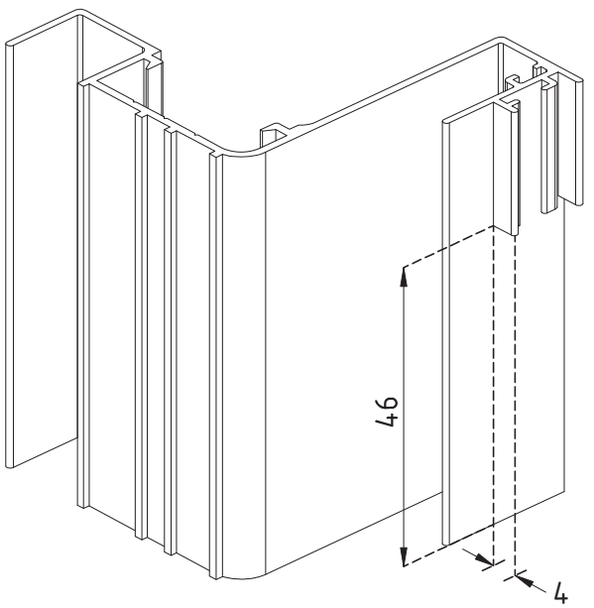
M50-10_1



PLUG ET.074741.00 IS FIXED ONTO THE BOTTOM SIDE OF INTERLOCK PROFILE, WHILST PLUG ET.074742.00 IS FIXED ONTO THE TOP SIDE

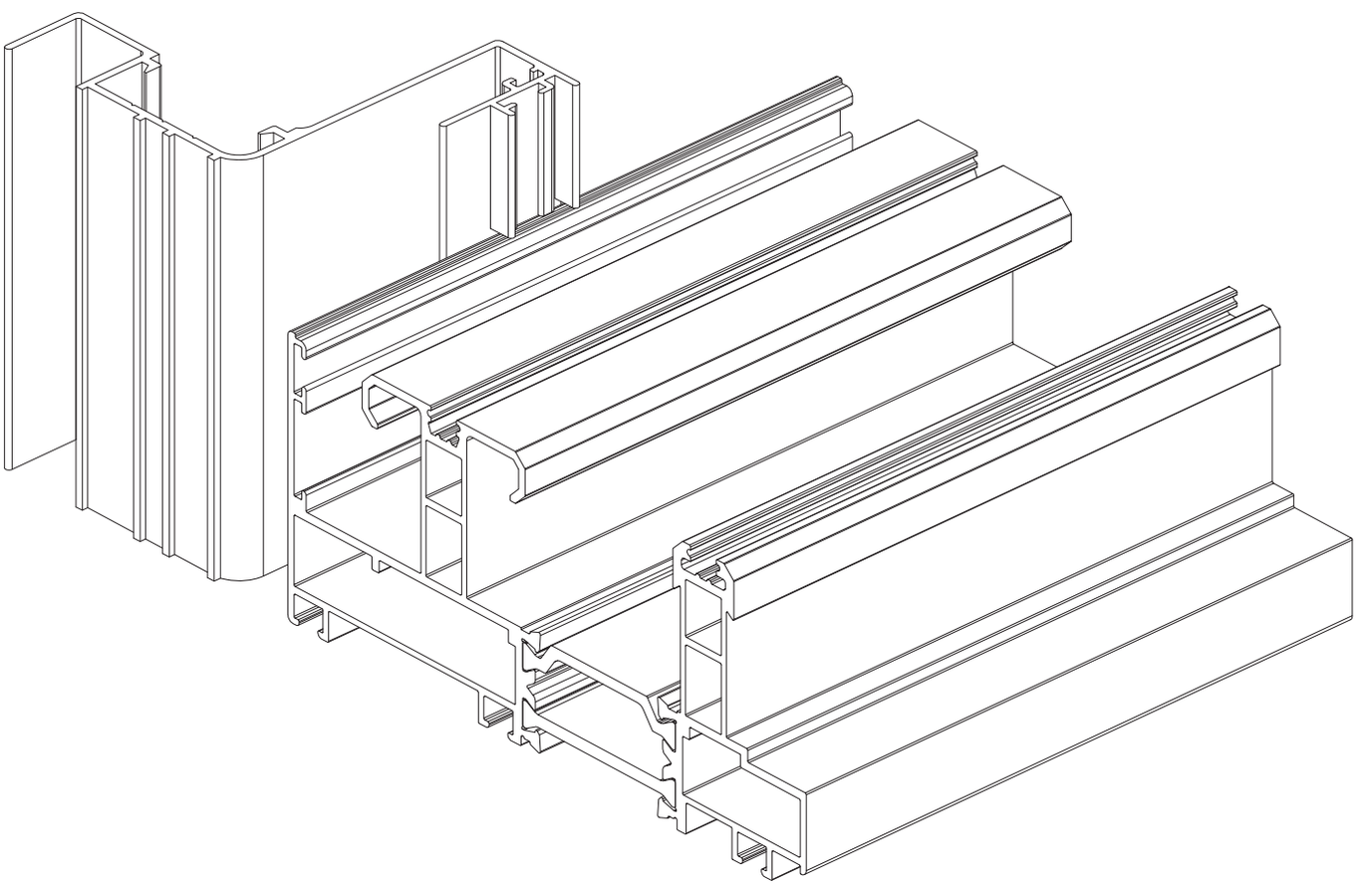
ATTENTION: FOR SLIDING, WITHOUT LIFT, ONLY PLUG ET.074742.00 IS USED (TOP & BOTTOM SIDE).

MACHINING ON SEALING PROFILES FOR POCKET SLIDING DOOR / WINDOW M50-11

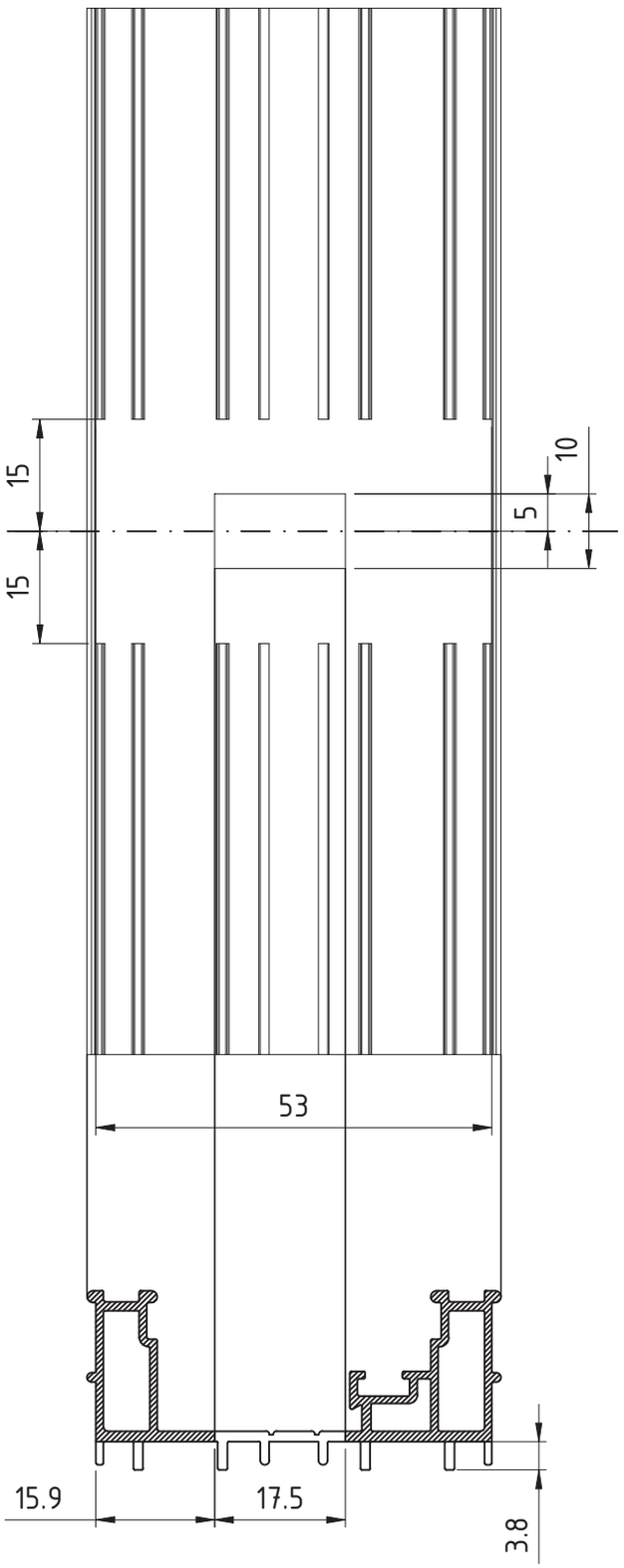


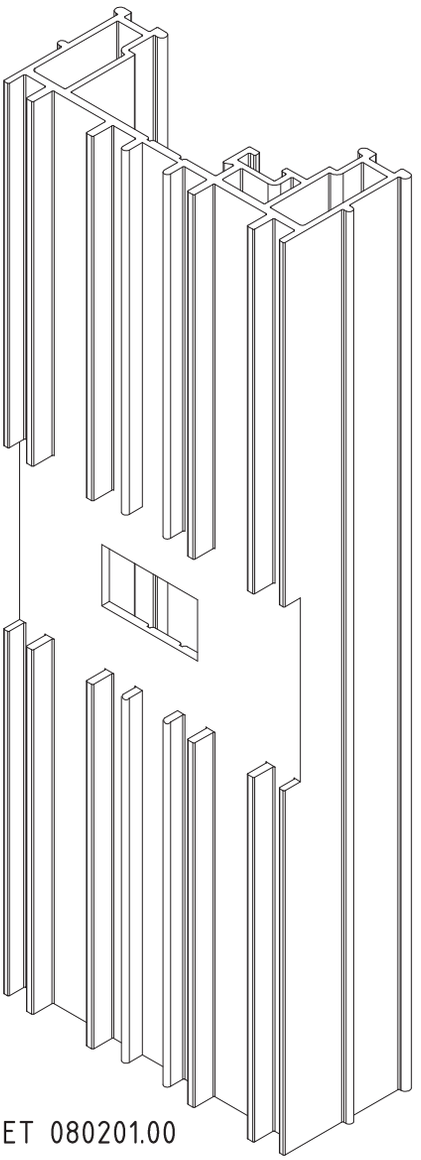
E70640

SEALING PROFILES E19640 & E70640
ARE MACHINED AS PRESENTED IN THE
DRAWING



MACHINING ON PLASTIC PROFILE ET-080201.00 M50-12

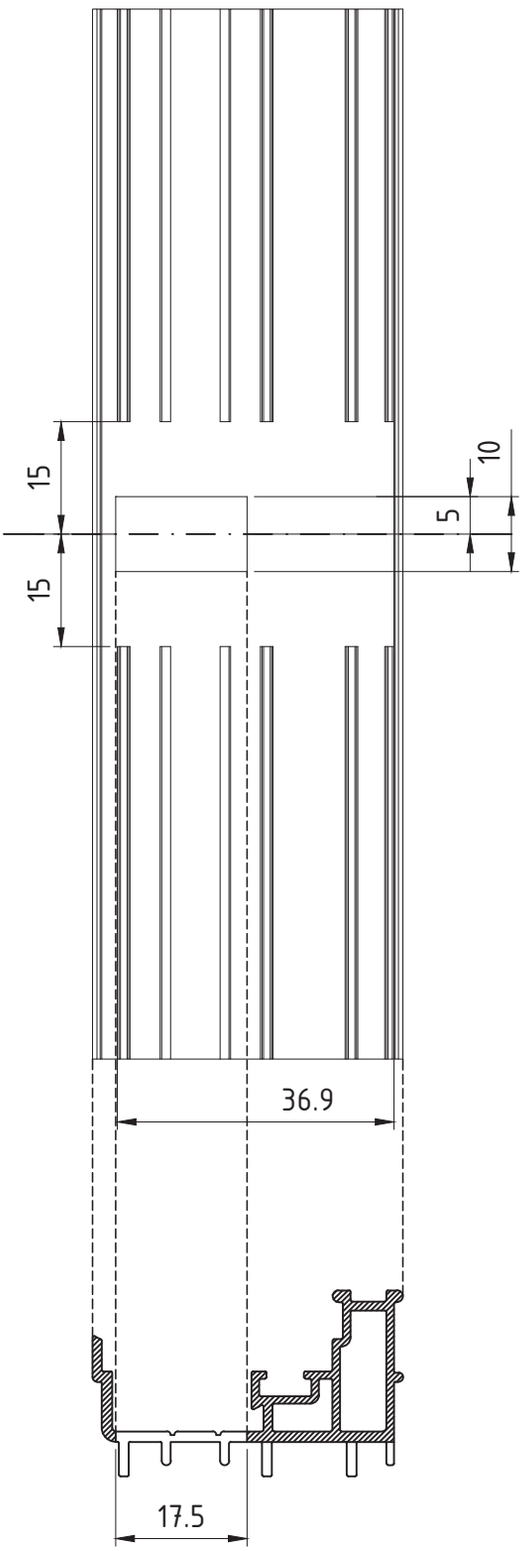


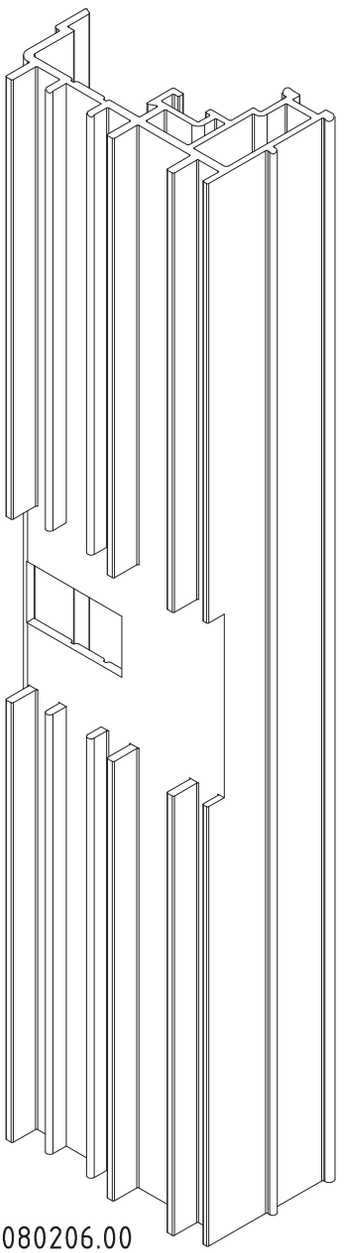


ET 080201.00

THE DRAIN HOLE MACHINING ON PLASTIC PROFILE ET.080201.00 MUST BE COAXIAL WITH THE RESPECTIVE OPENED ONTO THE RAIL

MACHINING ON PLASTIC PROFILE ET 080206.00 M50-13



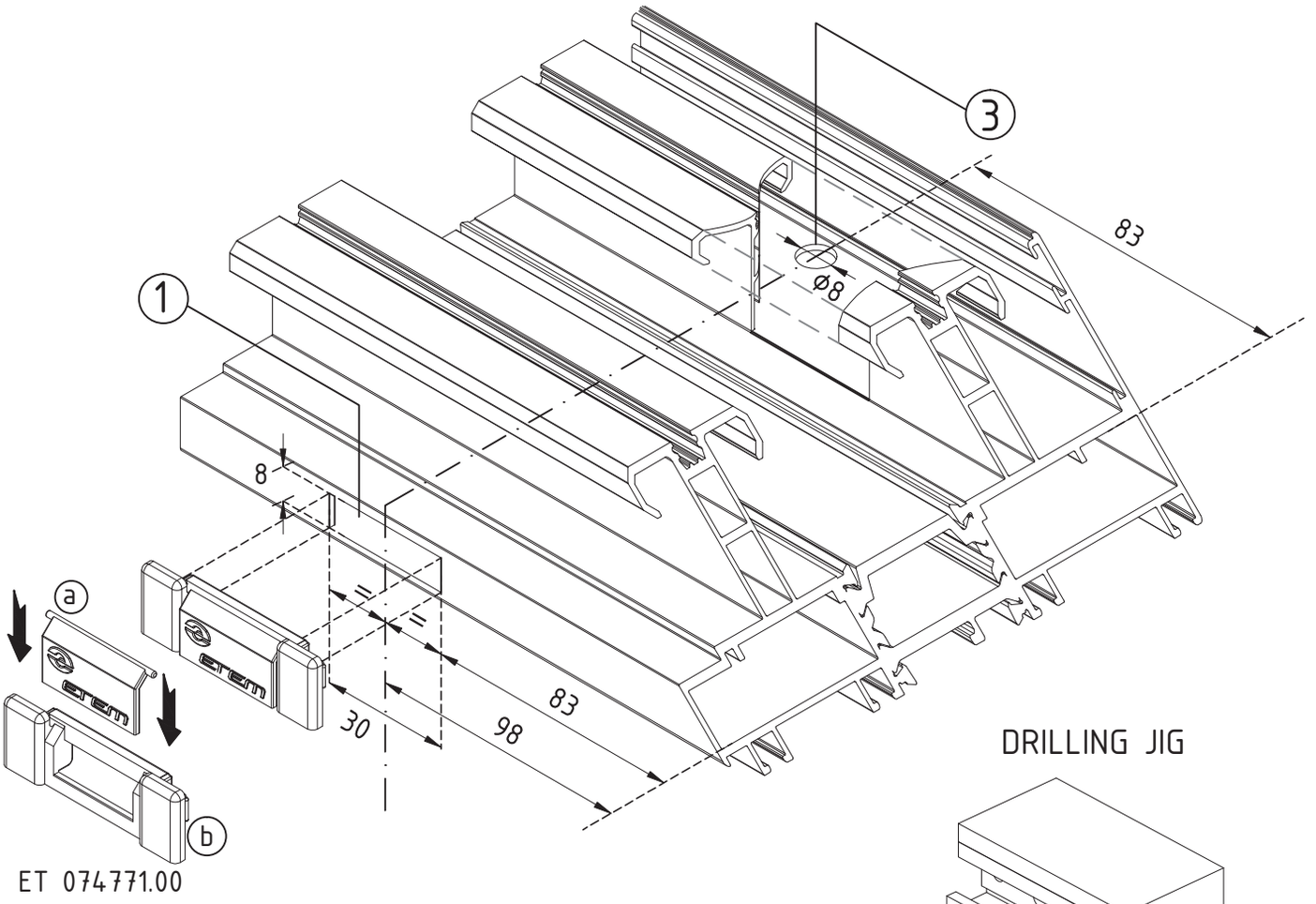


ET 080206.00

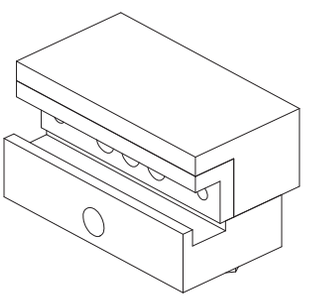
THE DRAIN HOLE MACHINING ON PLASTIC PROFILE ET.080206.00
MUST BE COAXIAL WITH THE RESPECTIVE OPENED ONTO THE RAIL

MACHINING ON RAIL DRAIN HOLE AT THE INNER SIDE

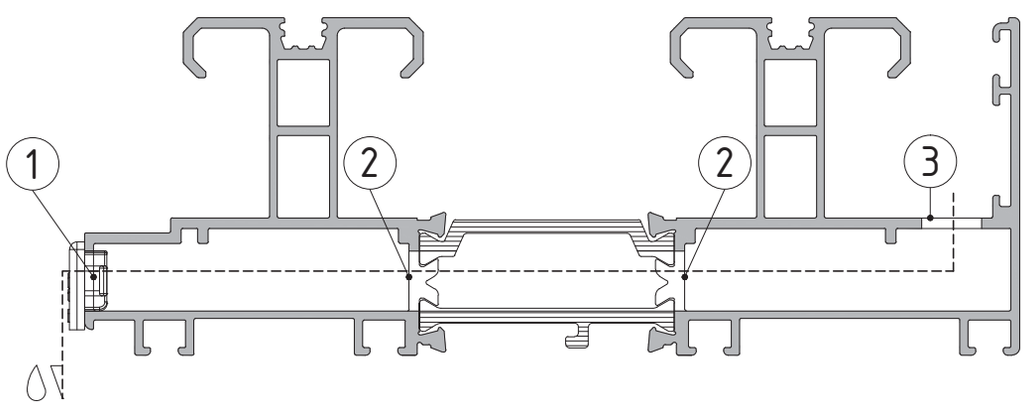
M50-14



DRILLING JIG

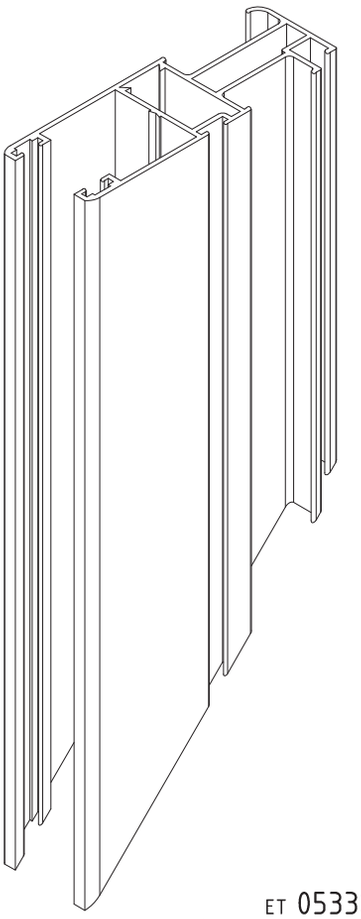


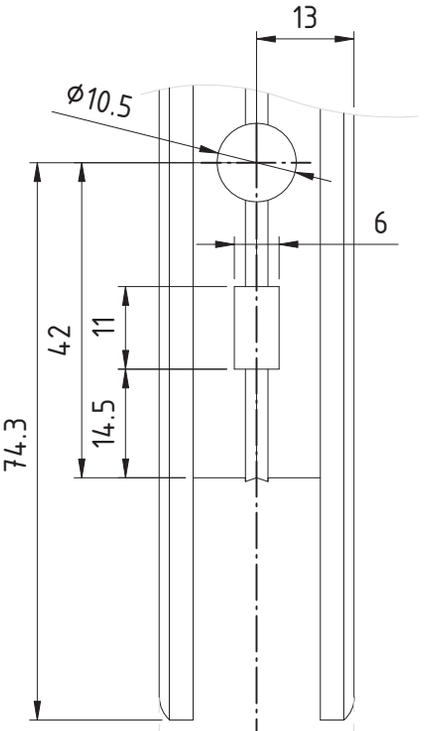
ATTENTION: THE MACHINING PRESENTED BELOW IS APPLIED TO THE RAIL ONLY IN REGIONS WHERE THE WIND SPEED IS EQUAL OR GREATER THAN 9 BEAUFORT

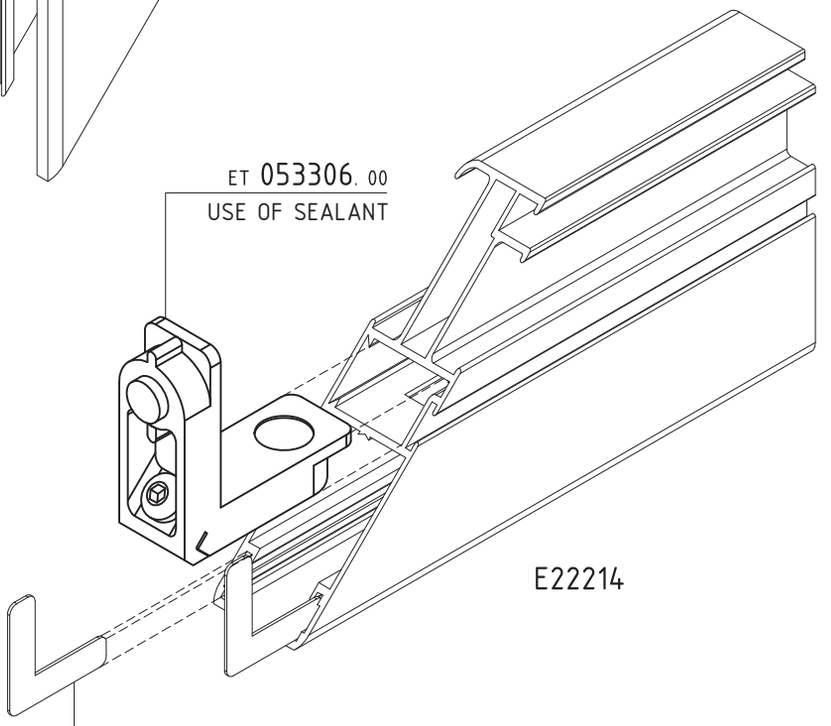


THE DRAIN HOLE IN THE RAIL AT THE SIDE OF THE INNER SASH IS DONE SO THAT TO DRAIN ANY DROPLETS IN CASE OF IN WATER INTRUSION. HOLE No 1 IS PUNCHED USING THE PRESS, WHILST HOLES No2 ARE DRILLED USING THE JIG (THAT COMES THE PUNCHING MACHINE). HOLE No3 IS DRILLED, USING A COLUMN DRILL. PLASTIC PLUG ET.074755.00 IS FIXED AT THE EXTERNAL SIDE OF HOLE No1. THE PLUG IS COMPOSED OF BASE a AND FIN b AND IS FIXED AS PRESENTED IN THE DRAWING

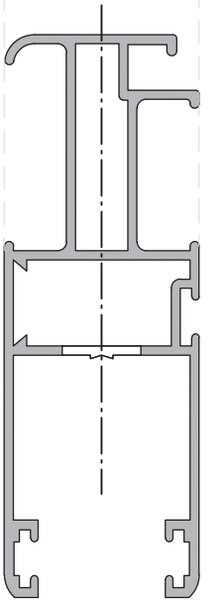
MACHINING ON E22214 FOR FIXING WITH DIE CAST JOINT CORNER BRACKET M50-15



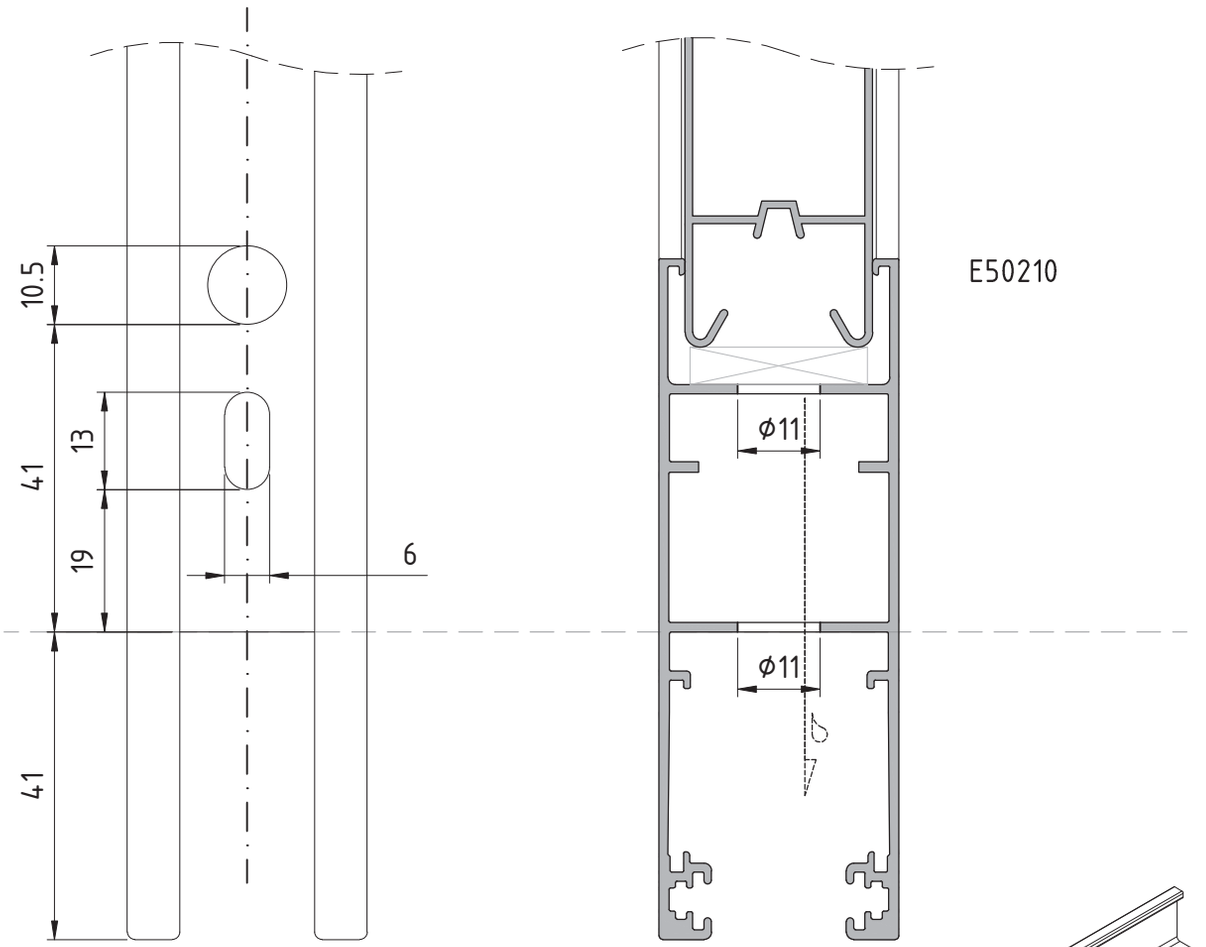




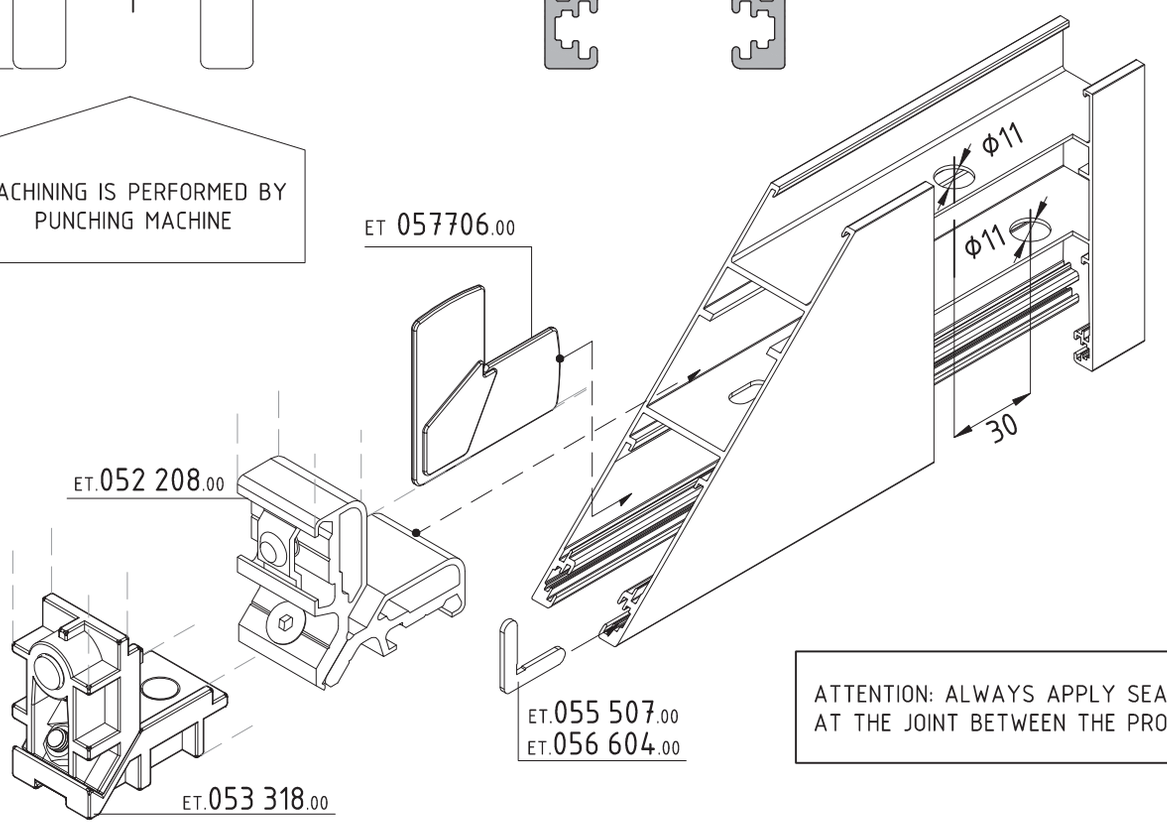
ALWAYS APPLY SEALANT AT THE JOINTS OF THE SASH FRAME



MACHINING REQUIRED ON SASH E50210 FOR JOINT CORNERS & DRAIN HOLES M50-16

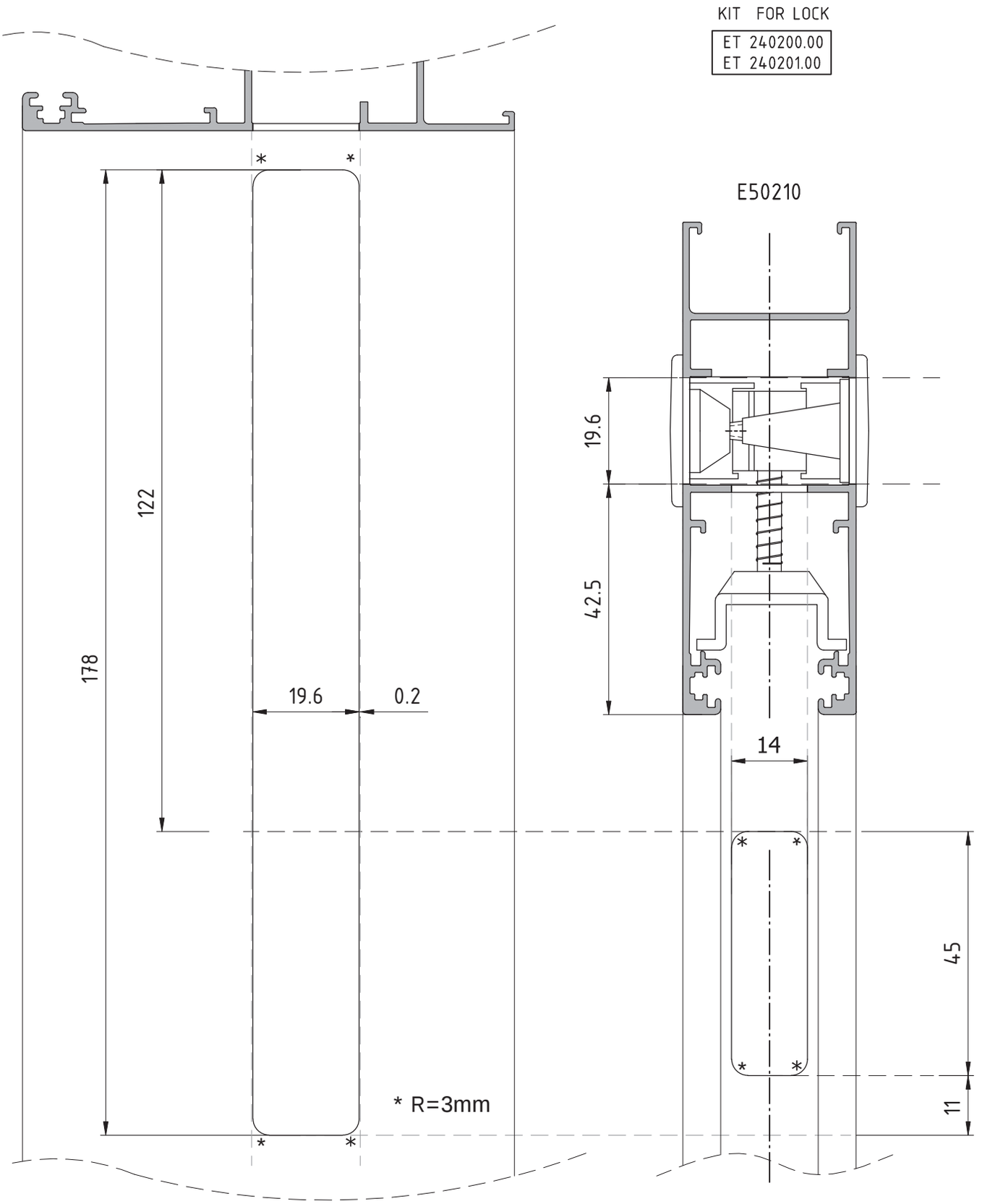


MACHINING IS PERFORMED BY PUNCHING MACHINE



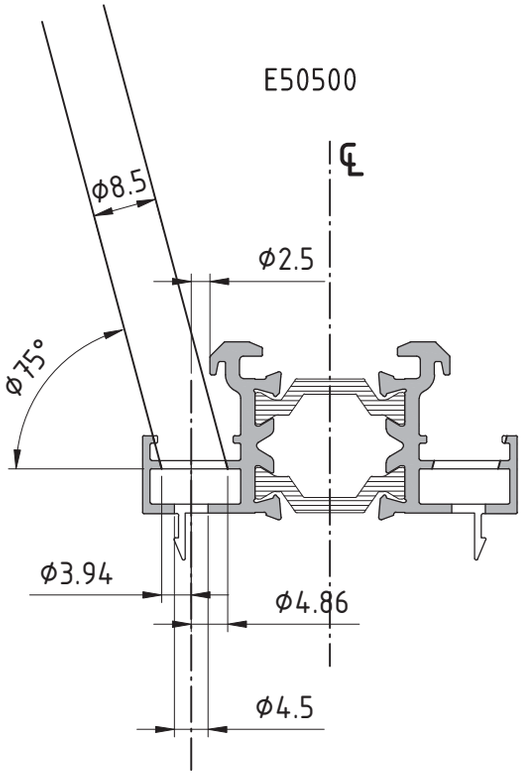
ATTENTION: ALWAYS APPLY SEALANT AT THE JOINT BETWEEN THE PROFILES

MACHINING REQUIRED ON E50210 FOR LOCK APPLICATION M50-17

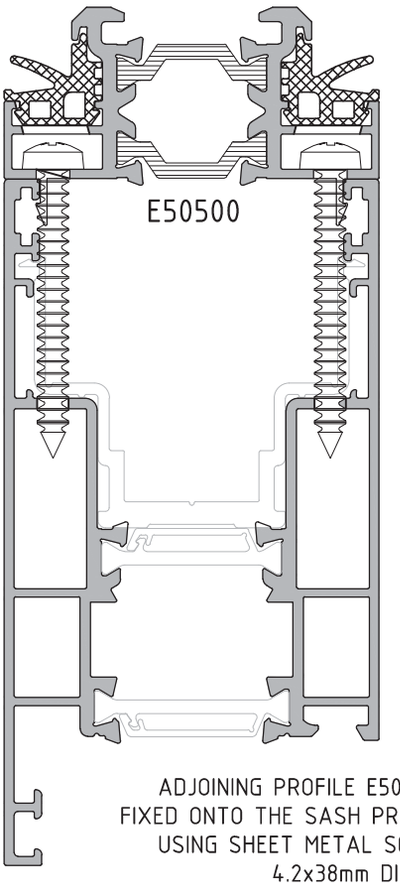


MACHINING FOR FIXING E50500

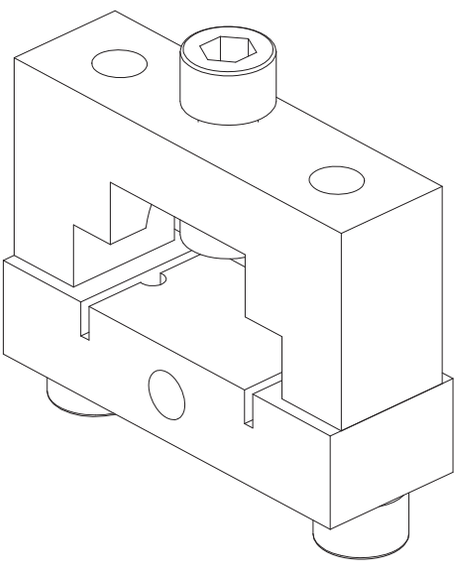
M50-18

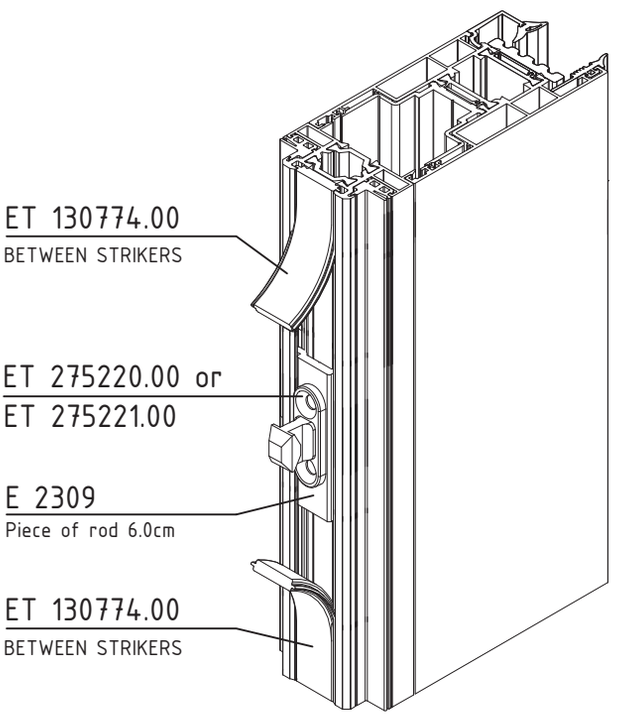


MACHINING ON PROFILE E50500 IS PERFORMED USING THE JIG (PLEASE SEE PAGE M50-30)



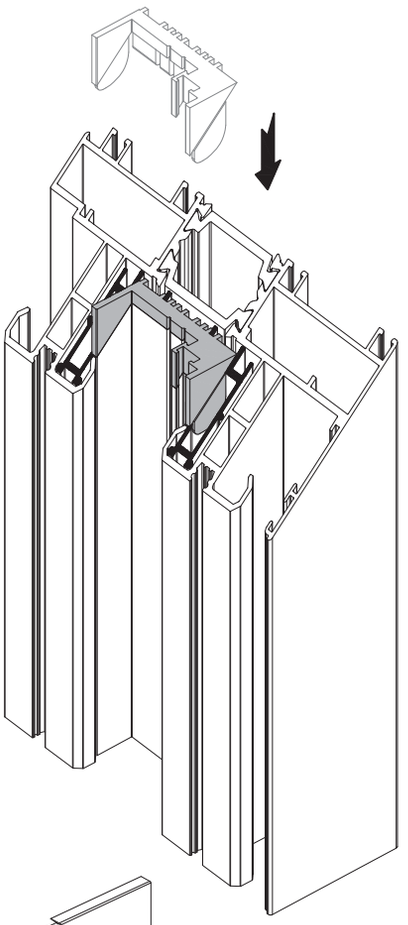
ADJOINING PROFILE E50500 IS FIXED ONTO THE SASH PROFILES USING SHEET METAL SCREWS 4.2x38mm DIN 7981





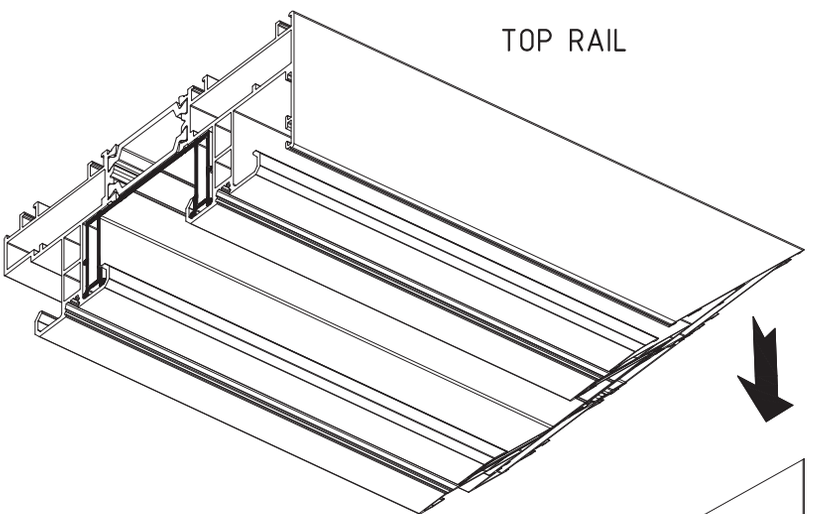
INSTRUCTIONS FOR FITTING ET 074744.00

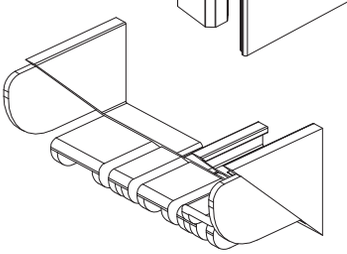
M50-19



PLASTIC PLUG ET.074744.00 IS FIXED ONTO THE TOP SIDE OF THE SIDE RAIL, AS PRESENTED IN THE DRAWINGS. THEN FIX THE THE TOP RAIL WITH THE SIDE RAIL.

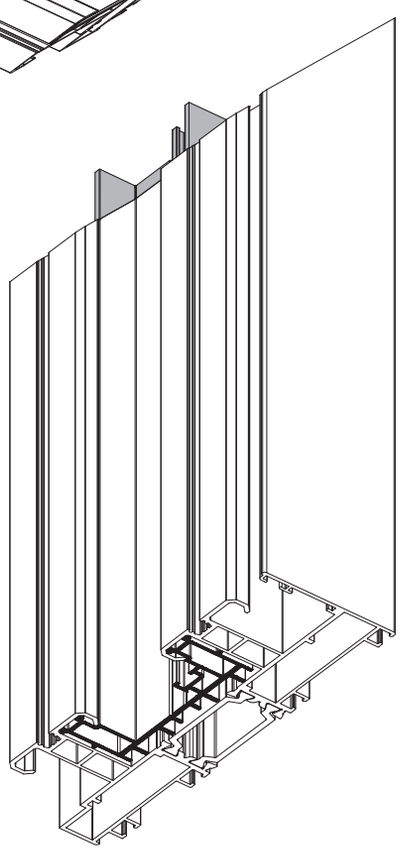
TOP RAIL





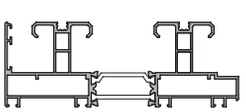
ET 074744.00

SIDE RAIL

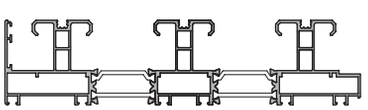


PLASTIC PLUG ET.074744.00 IS FIXED ONTO THE FOLLOWING RAILS:

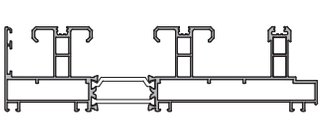
E50100



E50102

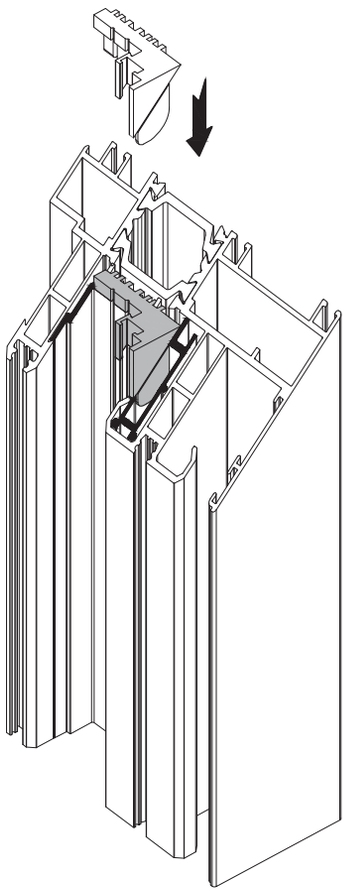


E50103



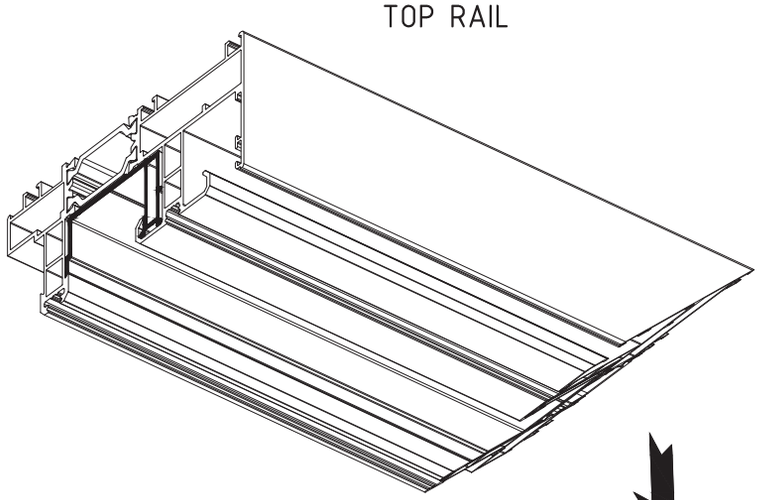
INSTRUCTIONS FOR FITTING ET 074745.00

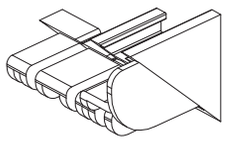
M50-20



PLASTIC PLUG ET.074745.00 IS FIXED ONTO THE TOP SIDE OF THE SIDE RAIL, AS PRESENTED IN THE DRAWINGS. THEN FIX THE THE TOP RAIL WITH THE SIDE RAIL.

TOP RAIL

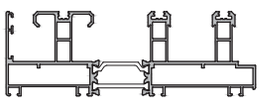




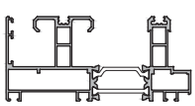
ET 074745.00

PLASTIC PLUG ET.074745.00 IS FIXED ONTO THE FOLLOWING RAILS:

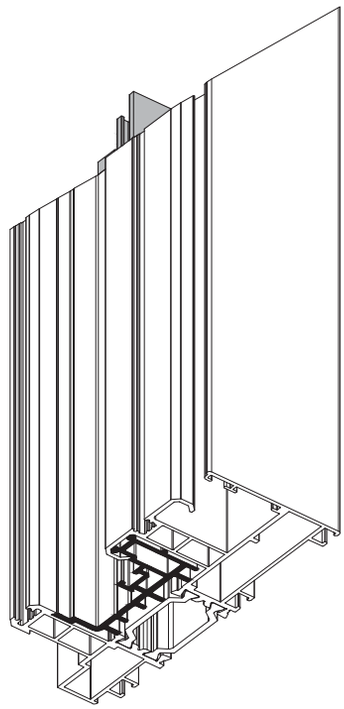
E50104



E50105

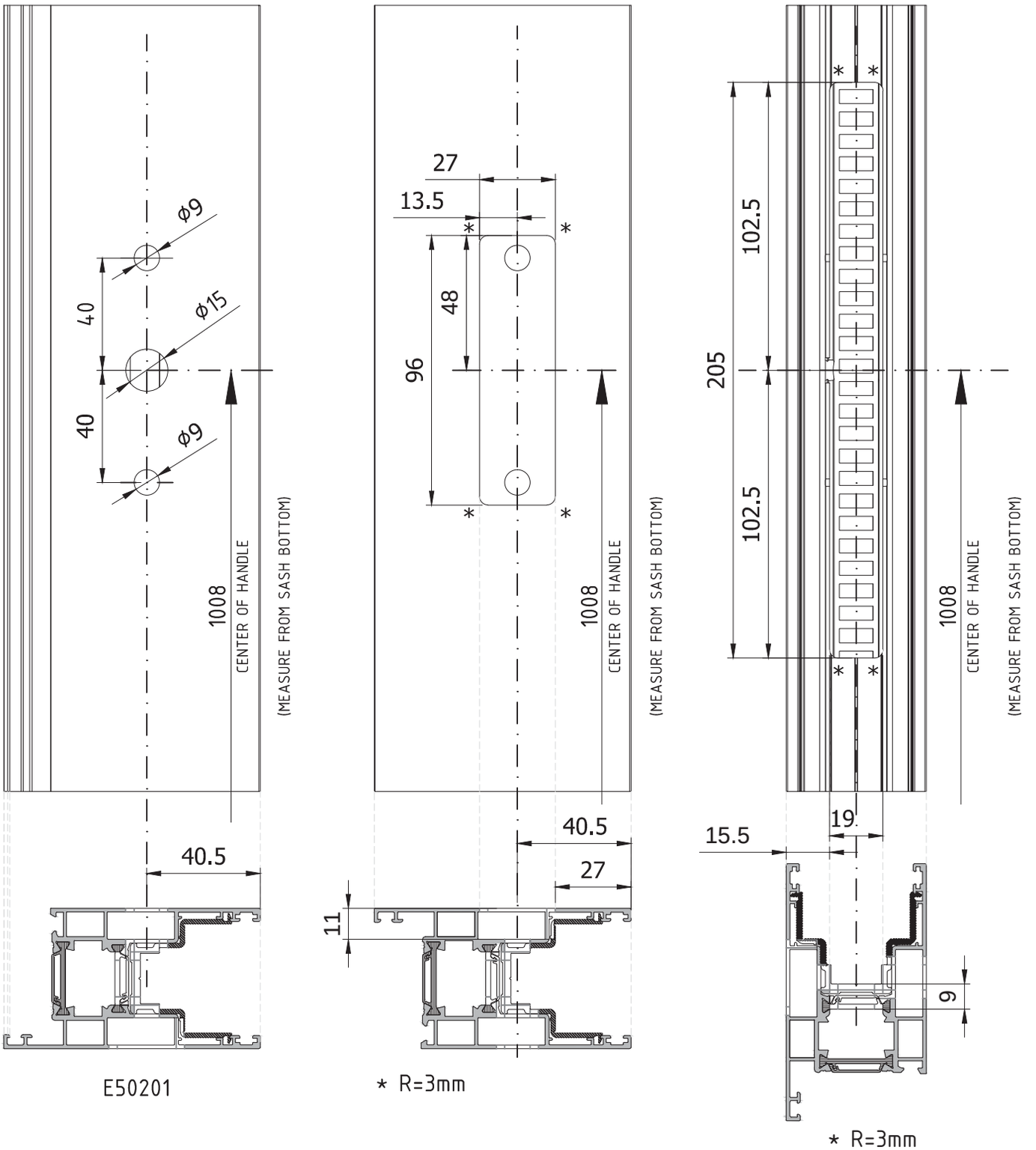


SIDE RAIL



MACHINING REQUIRED FIXING HANDLE & HARDWARE ON BALCONY DOOR SASH
FOR GU HARDWARE

M50-21



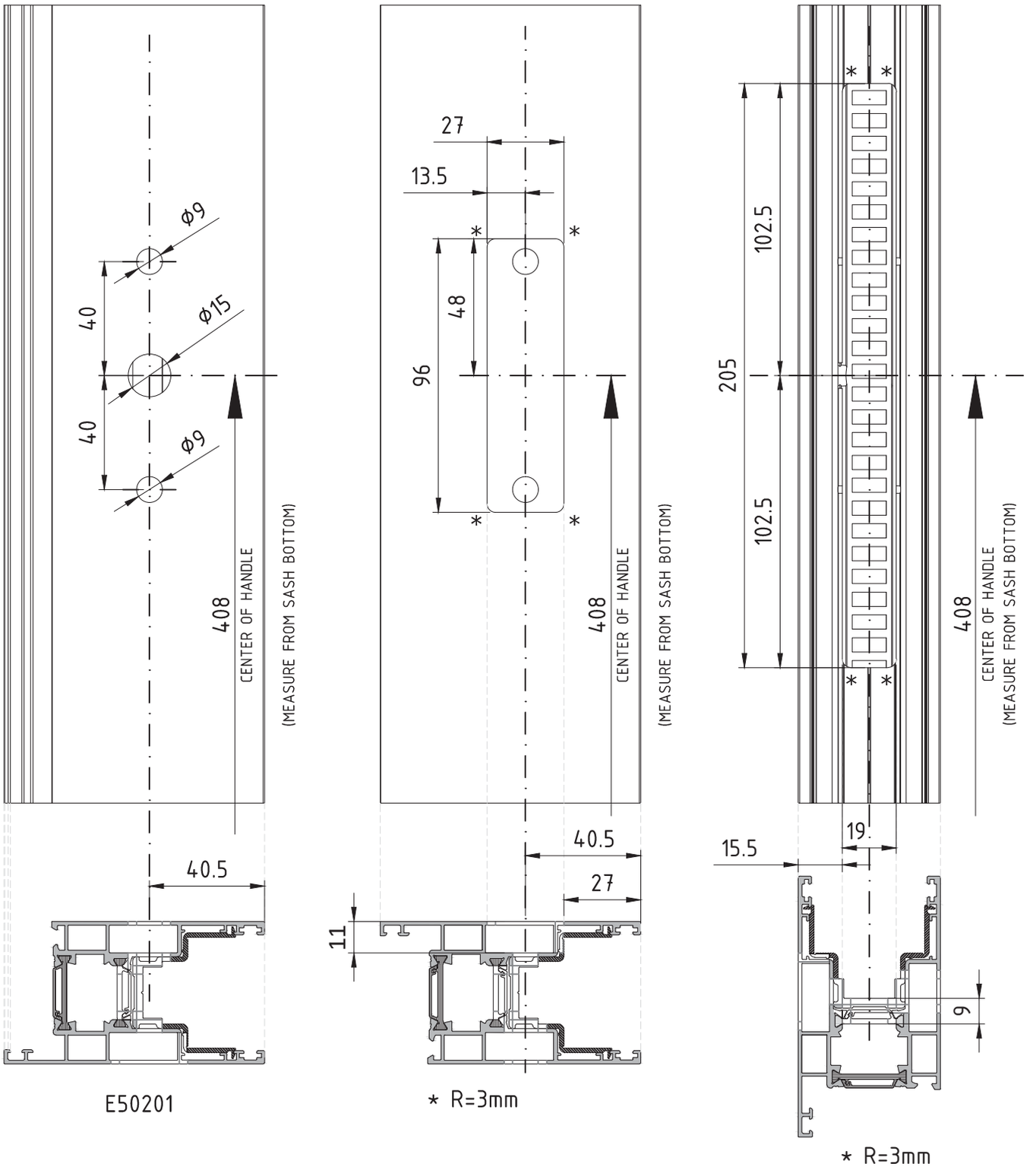
ATTENTION: ALL THE ABOVE ARE VALID FOR 150KG LIFT & SLIDE HARDWARE

ATTENTION: THE CENTRE OF THE HARDWARE IS VALID ONLY FOR DOORS

ATTENTION:
THESE INSTRUCTIONS ARE ALSO VALID FOR E50202 AND E50203

MACHINING REQUIRED FIXING HANDLE & HARDWARE ON WINDOW SASH
FOR GU HARDWARE

M50-22

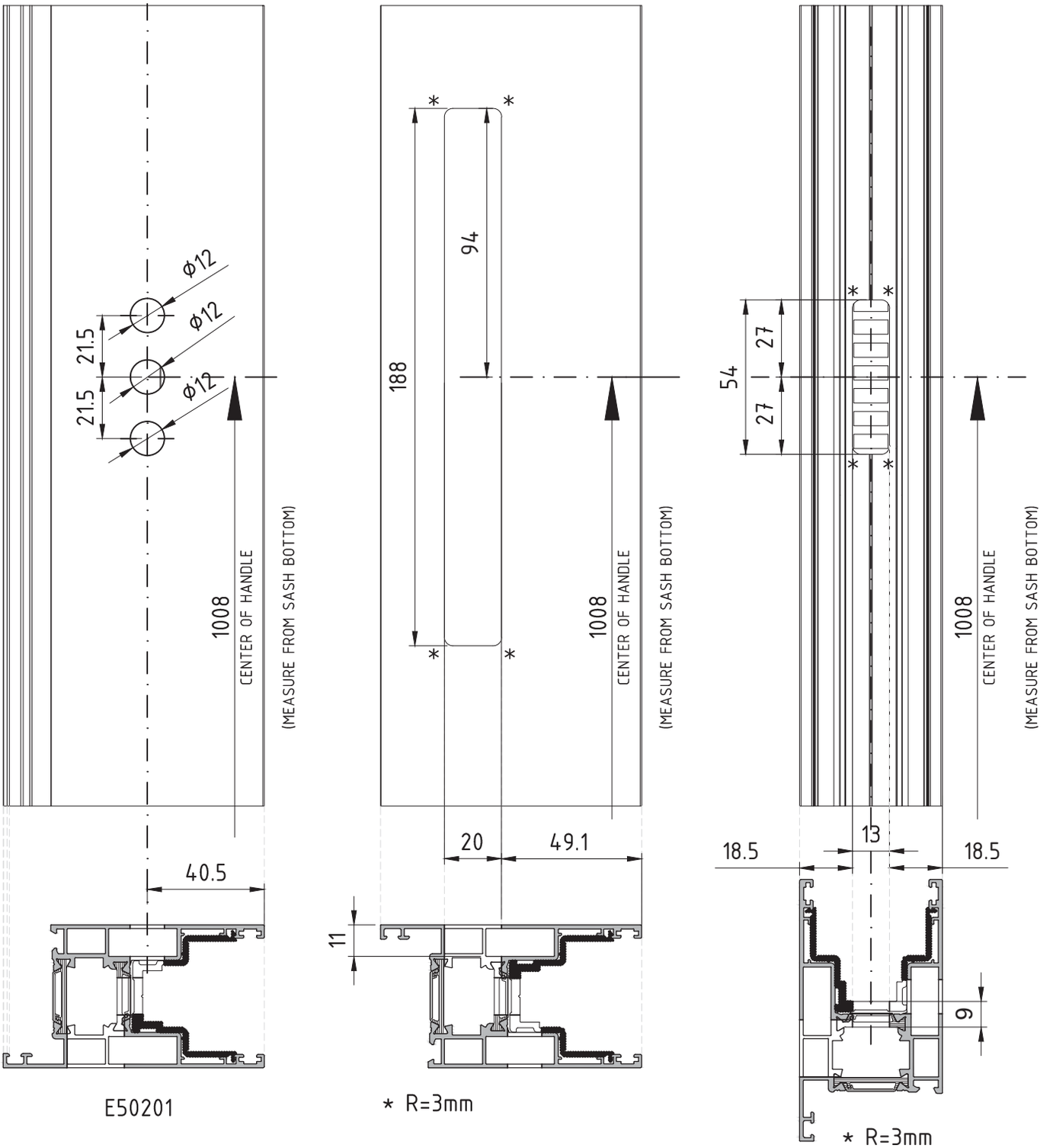


ATTENTION: ALL THE ABOVE ARE VALID FOR 150KG LIFT & SLIDE HARDWARE

ATTENTION: THE CENTRE OF THE HARDWARE IS VALID ONLY FOR WINDOWS

ATTENTION:
THESE INSTRUCTIONS ARE ALSO VALID FOR E50202 AND E50203

MACHINING REQUIRED FIXING HANDLE & HARDWARE ON BALCONY DOOR SASH (WITHOUT LIFT) M50-23

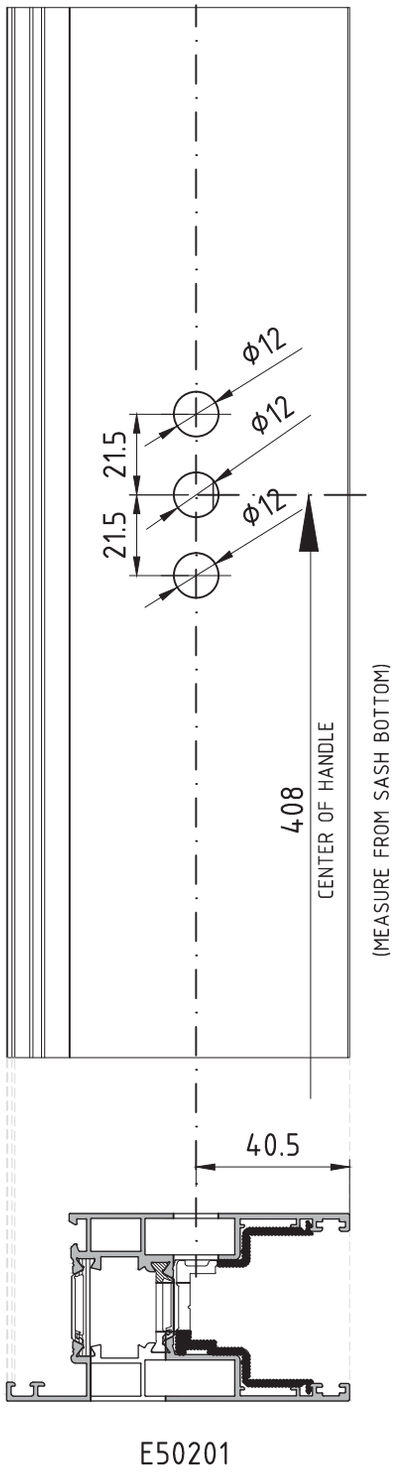


ATTENTION: ALL THE ABOVE ARE VALID FOR FRAMES WITHOUT LIFT & SLIDE HARDWARE

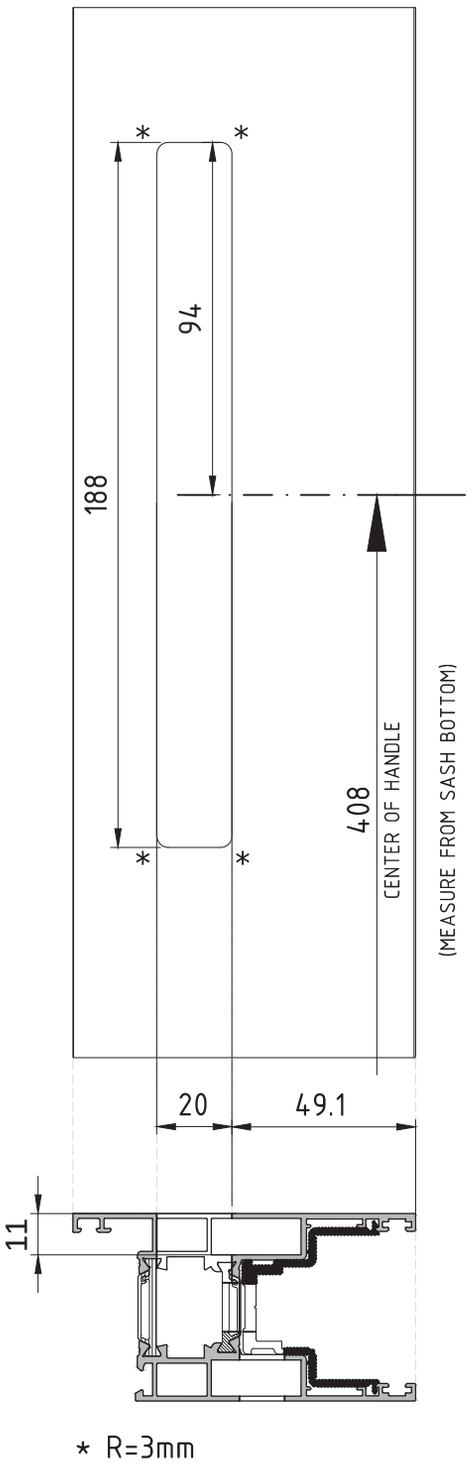
ATTENTION: THE CENTRE OF THE HARDWARE IS VALID ONLY FOR DOORS

ATTENTION:
THESE INSTRUCTIONS ARE ALSO VALID FOR E50202 AND E50203

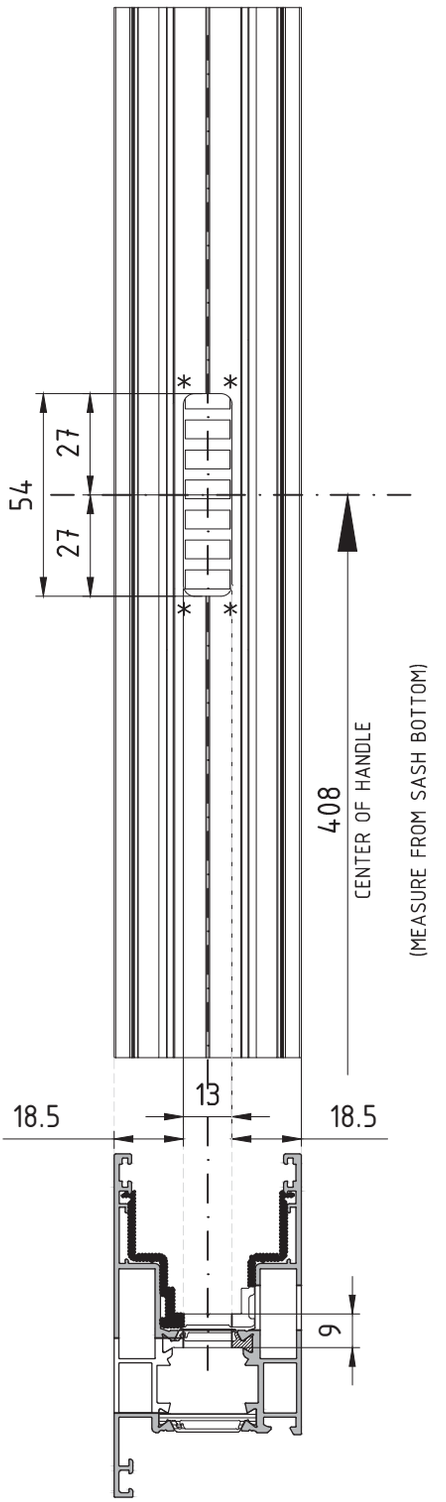
MACHINING REQUIRED FIXING HANDLE & HARDWARE ON WINDOW SASH (WITHOUT LIFT) M50-24



E50201



* R=3mm



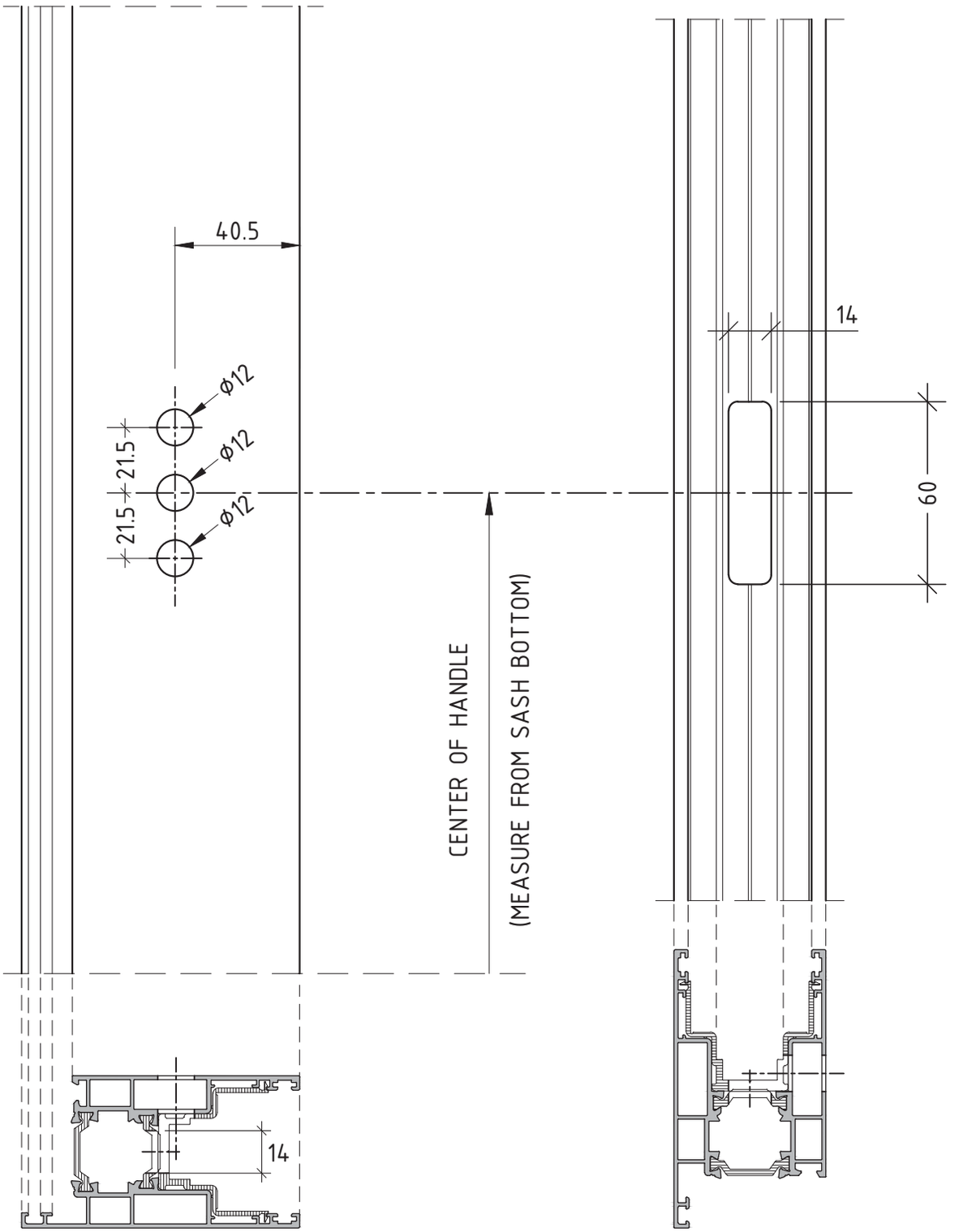
* R=3mm

ATTENTION: ALL THE ABOVE ARE VALID FOR FRAMES WITHOUT LIFT & SLIDE HARDWARE

ATTENTION: THE CENTRE OF THE HARDWARE IS VALID ONLY FOR WINDOWS

ATTENTION:
THESE INSTRUCTIONS ARE ALSO VALID FOR E50202

MACHINING ON SASHES FOR IN-LINE HANDLE APPLICATION M50-24_1

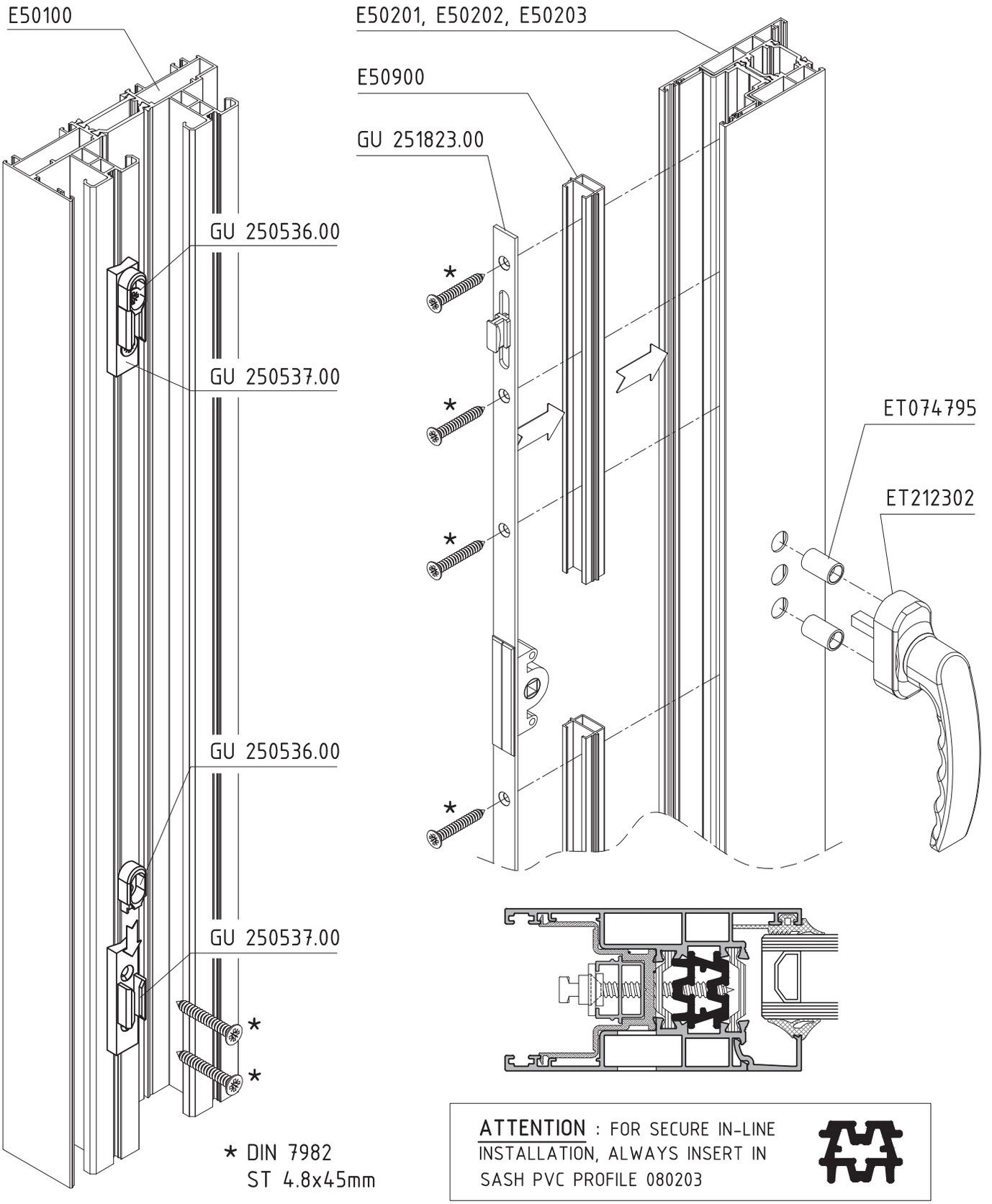


E50201, E50202, E50203

E50201, E50202, E50203

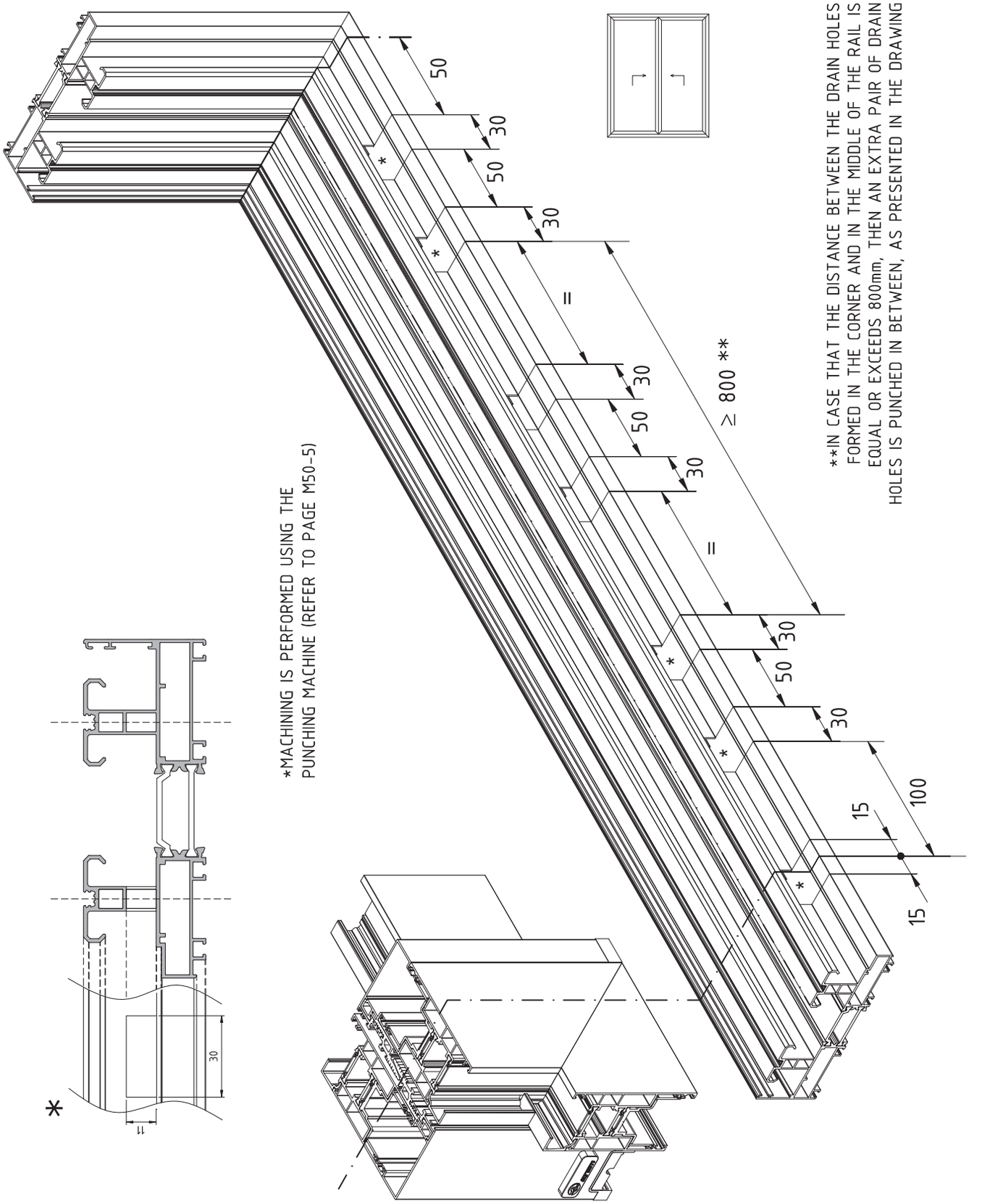
APPLICATION OF IN-LINE MECHANISM & STRIKERS ON E50 PROFILES

M50-24_2

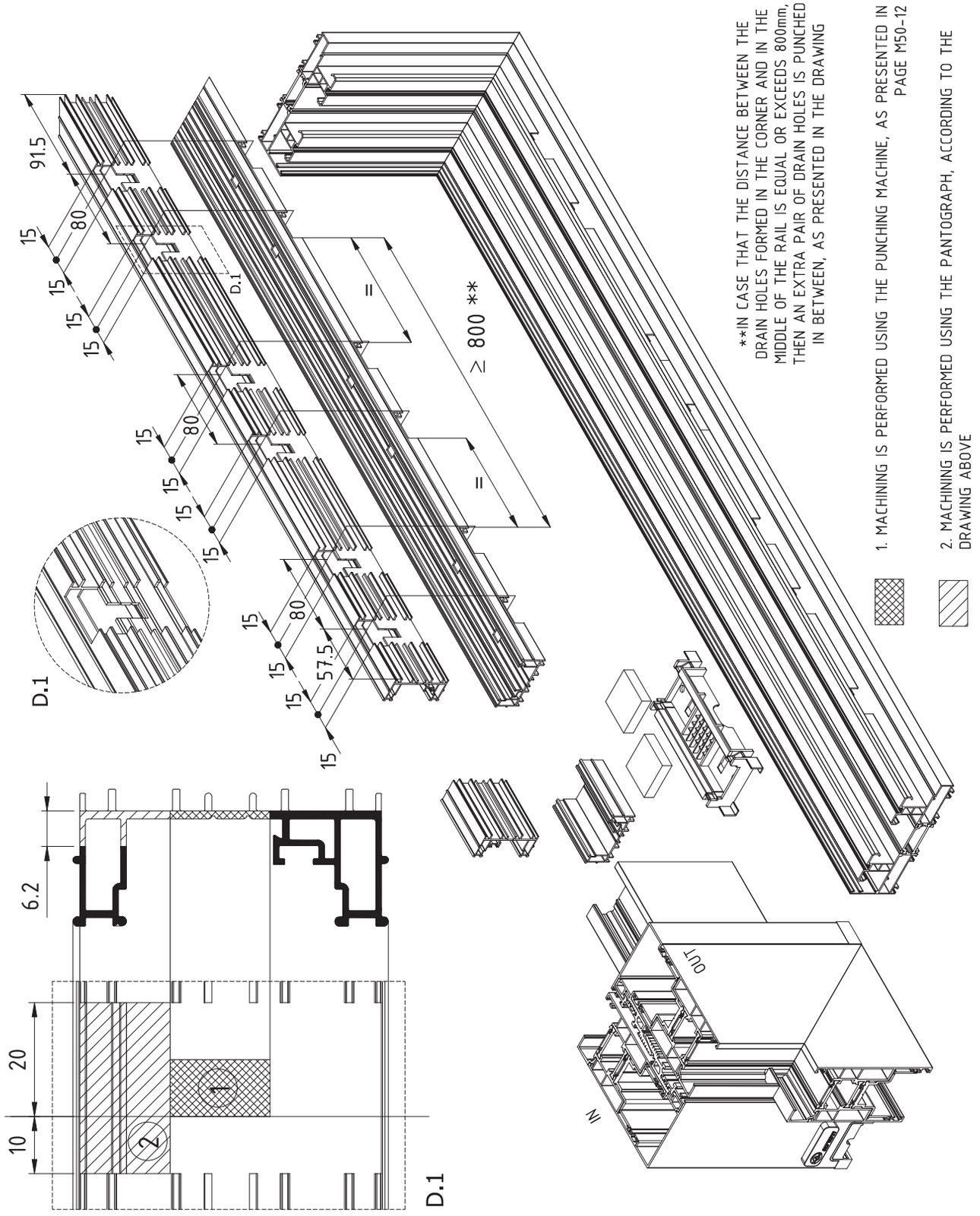


MACHINING ON E-50100 FOR DRAINAGE

M50-25

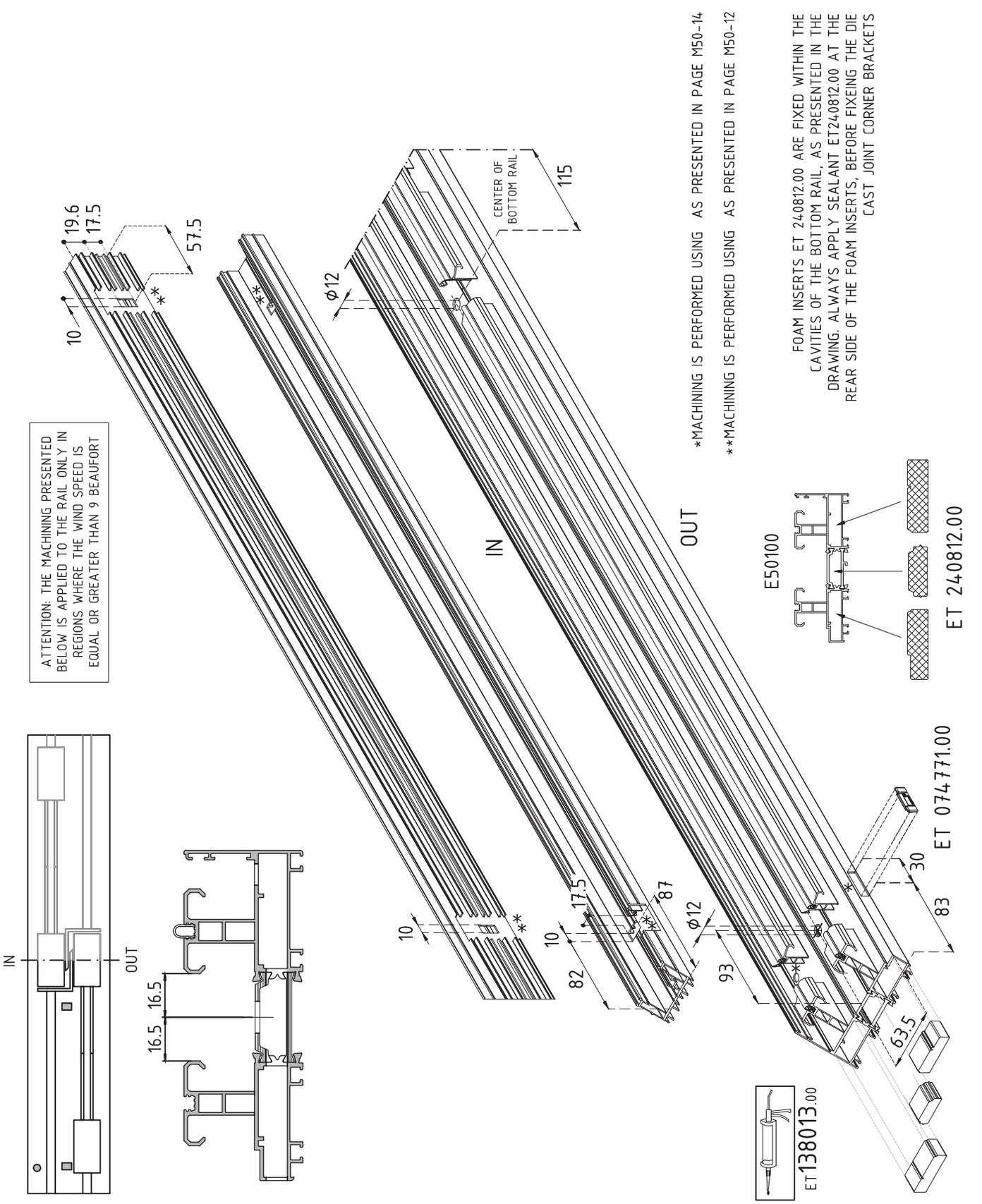


MACHINING ON PLASTIC PROFILE ET 080201 FOR DRAINAGE M50-26



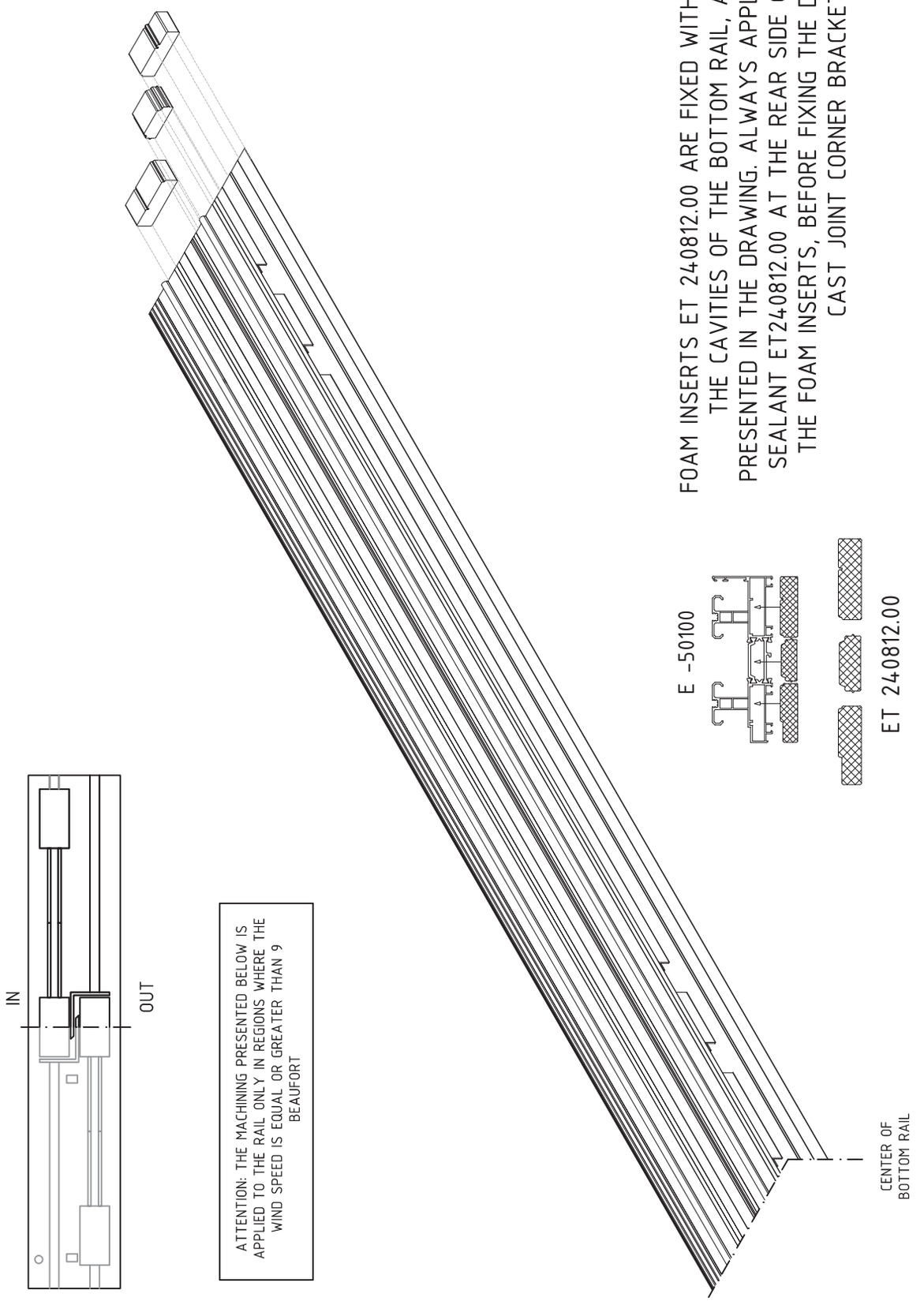
MACHINING ON E-50100 FOR DRAINAGE

M50-27

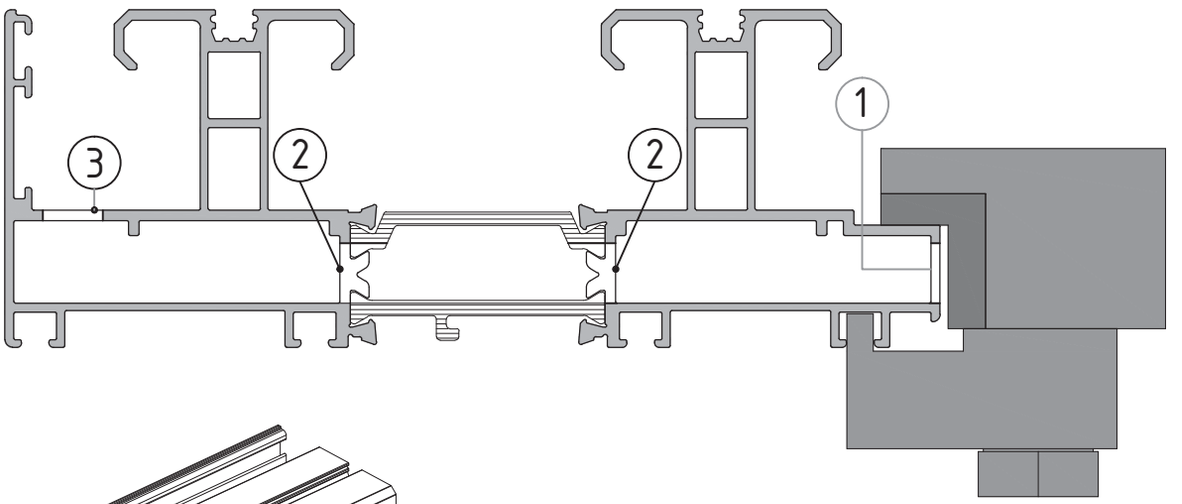


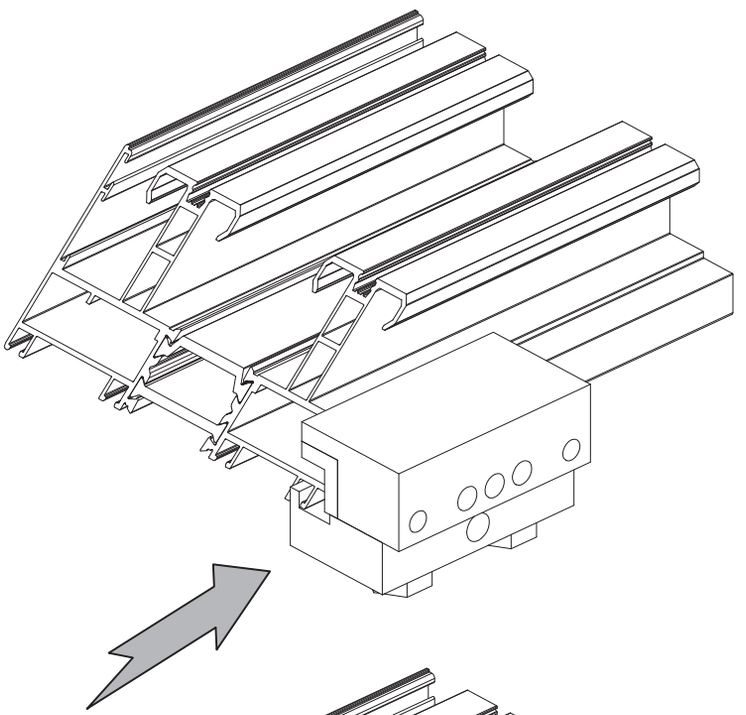
MACHINING ON E-50100 FOR DRAINAGE

M50-28

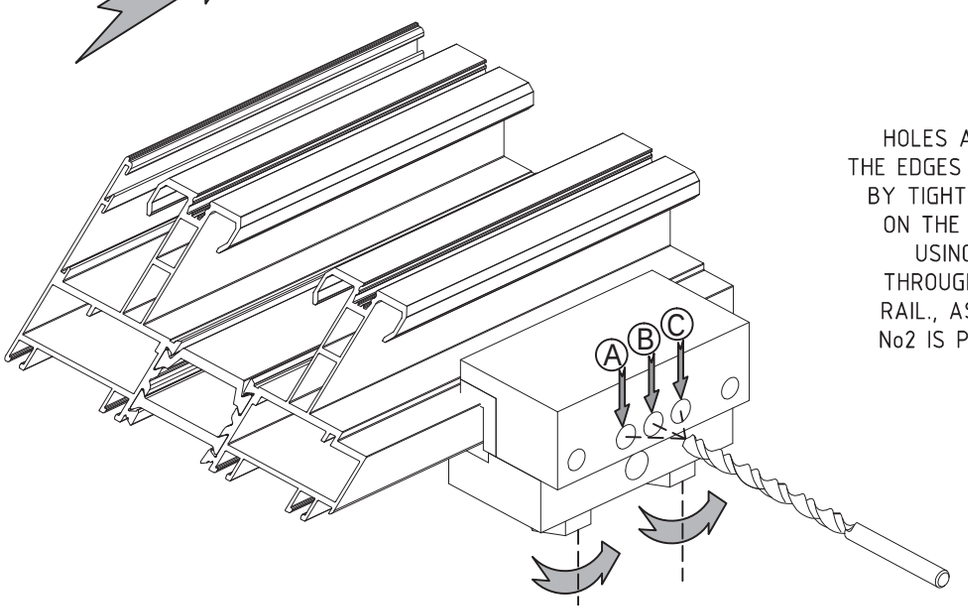


MACHINING BY JIG ON E-50100 FOR DRAINAGE M50-29





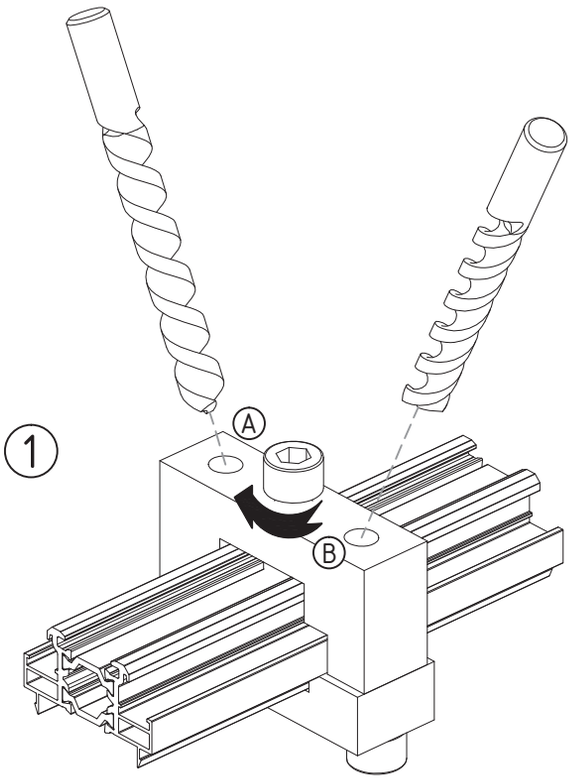
DRAIN HOLES No2, PRESENTED IN PAGE M50-14, ARE DRILLED USING THE JIG, THAT COMES WITH THE PUNCHING MACHINE. THE JIG IS ALIGNED WITH THE DRAIN HOLE No1, THAT HAS ALREADY BEEN PUNCHED USING THE PUNCHING MACHINE. JIG IS FIXED ONTO THE BOTTOM RAIL, AS PRESENTED IN THE DRAWINGS



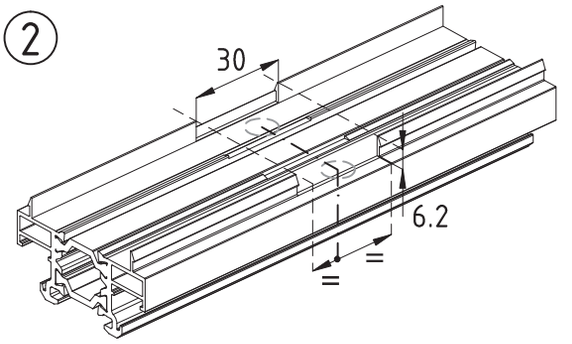
HOLES A & C OF THE JIG ARE ALIGNED WITH THE EDGES OF HOLE No1. THE JIG IS STABILIZED BY TIGHTENING THE SCREWS THAT ARE FIXED ON THE BOTTOM SIDE . HOLE No2 IS DRILLED USING A ø7mm DRILL BIT, THAT MUST GO THROUGH IN BOTH CAVITIES OF THE BOTTOM RAIL., AS PRESENTED IN THE DRAWING. HOLE No2 IS PERFORMED GRADUALLY, BY DRILLING THREE HOLES IN ROW (A, B &C)

MACHINIHG BY JIG ON E50500

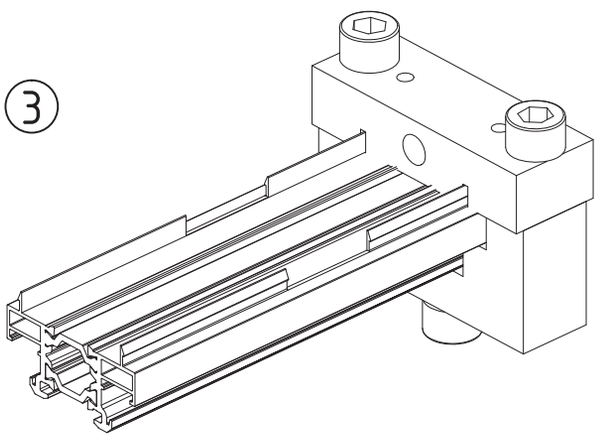
M50-30



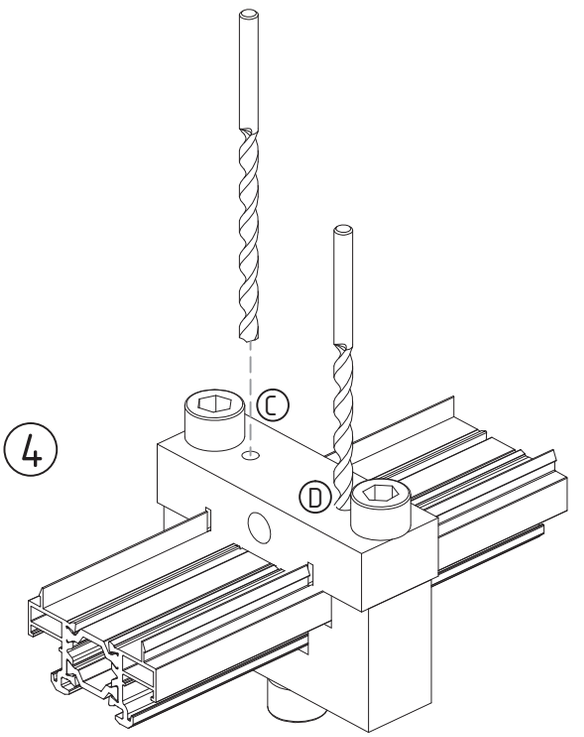
ADJOINING PROFILE IS INSERTED INTO THE JIG, AS PRESENTED IN THE DRAWING AND FIXED TO THE DESIRED POSITION, BY TIGHTENING THE SCREW. DRILL FIXING HOLES A & B, USING A ϕ8.5mm DRILL BIT. DRILL ONLY THE UPPER SIDE OF THE PROFILE



REMOVE THE JIG AND PERFORM THE MACHINING PRESENTED IN THE DRAWING, USING THE PUNCHING MACHINE (THE MACHINING IS PERFORMED WHERE THE DRAIN HOLES ON THE RAIL ARE PUNCHED). ATTENTION: THE CENTER OF PUNCHING MUST BE COAXIAL WITH THE CENTER OF THE HOLES DRILLED PREVIOUSLY

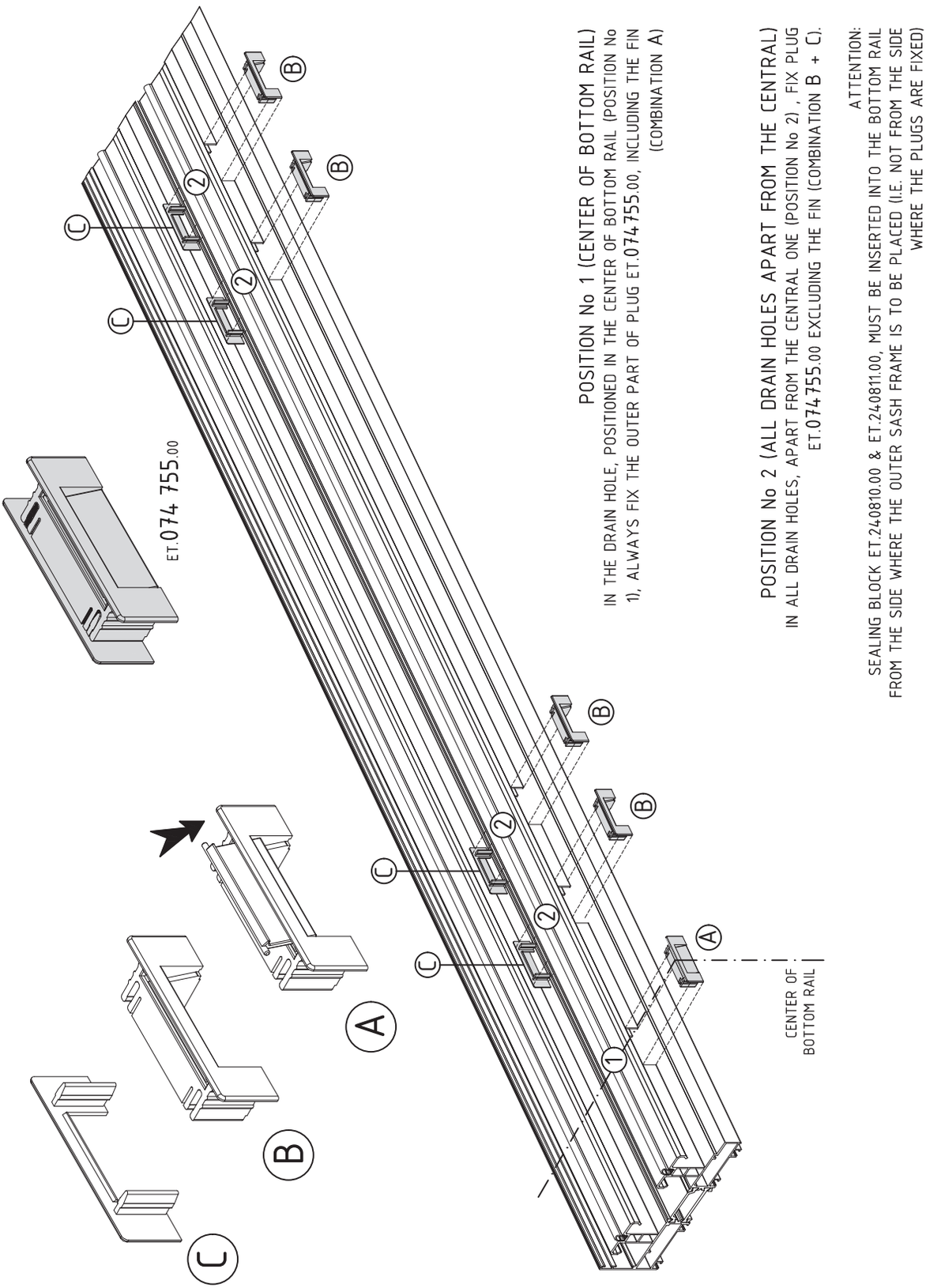


FIX JIG ONTO THE ADJOINING PROFILE, AS DESCRIBED IN STEP 1, TAKING CARE THAT THE CENTER OF THE JIG IS COAXIAL WITH THE CENTER OF THE PUNCHING, PERFORMED PREVIOUSLY



DRILL FIXING HOLES C & D, USING A ϕ4.5mm DRILL BIT

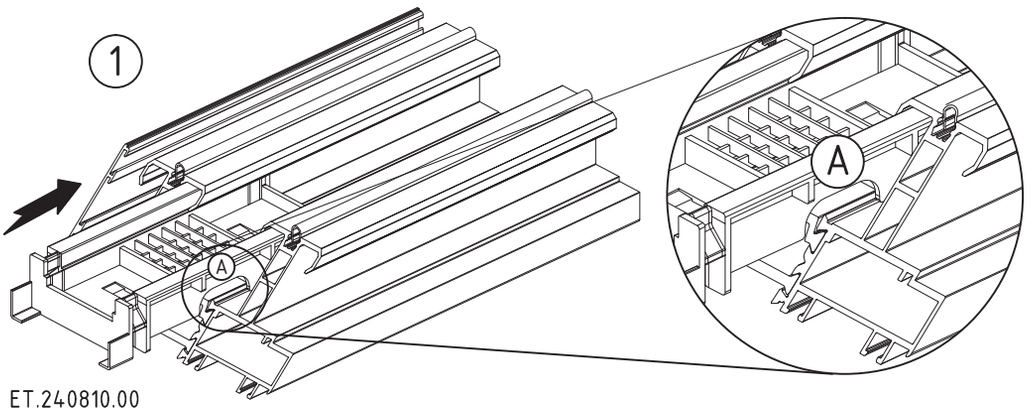
INSTRUCTIONS FOR FITTING PLUG ET.074755.00 M50-31



INSTRUCTIONS FOR FITTING SEALING BLOCK ET.240810.00 & ET.240811.00

M50-32

1

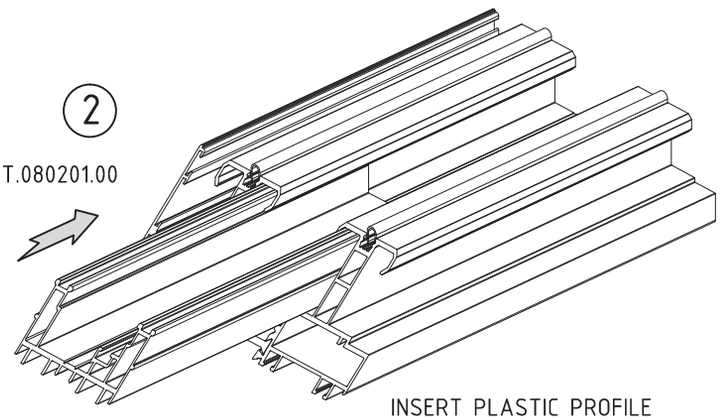


ET.240810.00
ET.240811.00

SEALING BLOCK ET.240810.00 & ET.240811.00 IS INSERTED INTO THE BOTTOM RAIL BEFORE ASSEMBLING ALL PARTS OF THE RAIL. ALWAYS ENSURE THAT THE OPENING FORMED ON THE SEALING BLOCK IS POSITIONED AT THE SIDE OF THE CENTRAL DRAIN HOLE FORMED ON THE RAIL

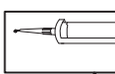
2

ET.080201.00

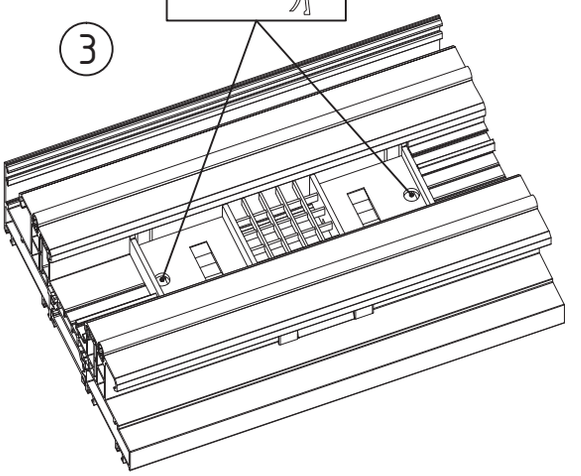


INSERT PLASTIC PROFILE ET.080201.00 INTO THE BOTTOM RAIL, AS PRESENTED IN PAGE M50-33, BEFORE ASSEMBLING ALL PARTS OF THE RAIL.

ET138013.00



3

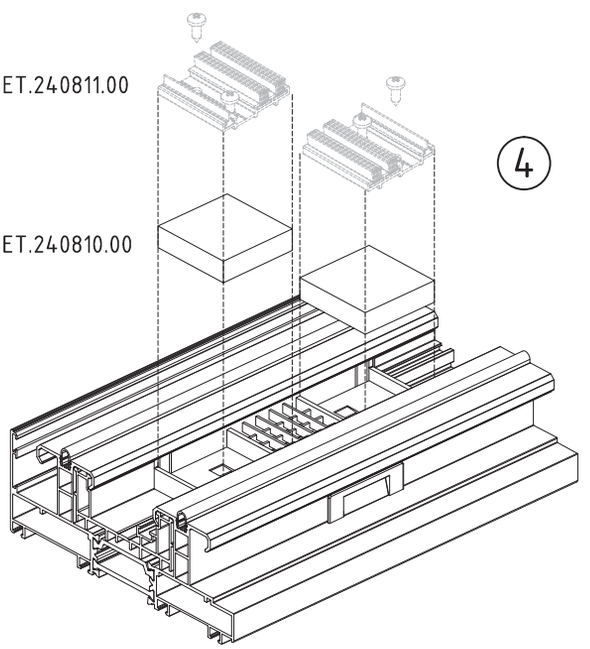


ALWAYS APPLY SEALANT ET.138013.00 INTO THE HOLES OF SEALING BLOCK ET.240810 & ET.240811.00, AS PRESENTED IN THE DRAWING

ET.240811.00

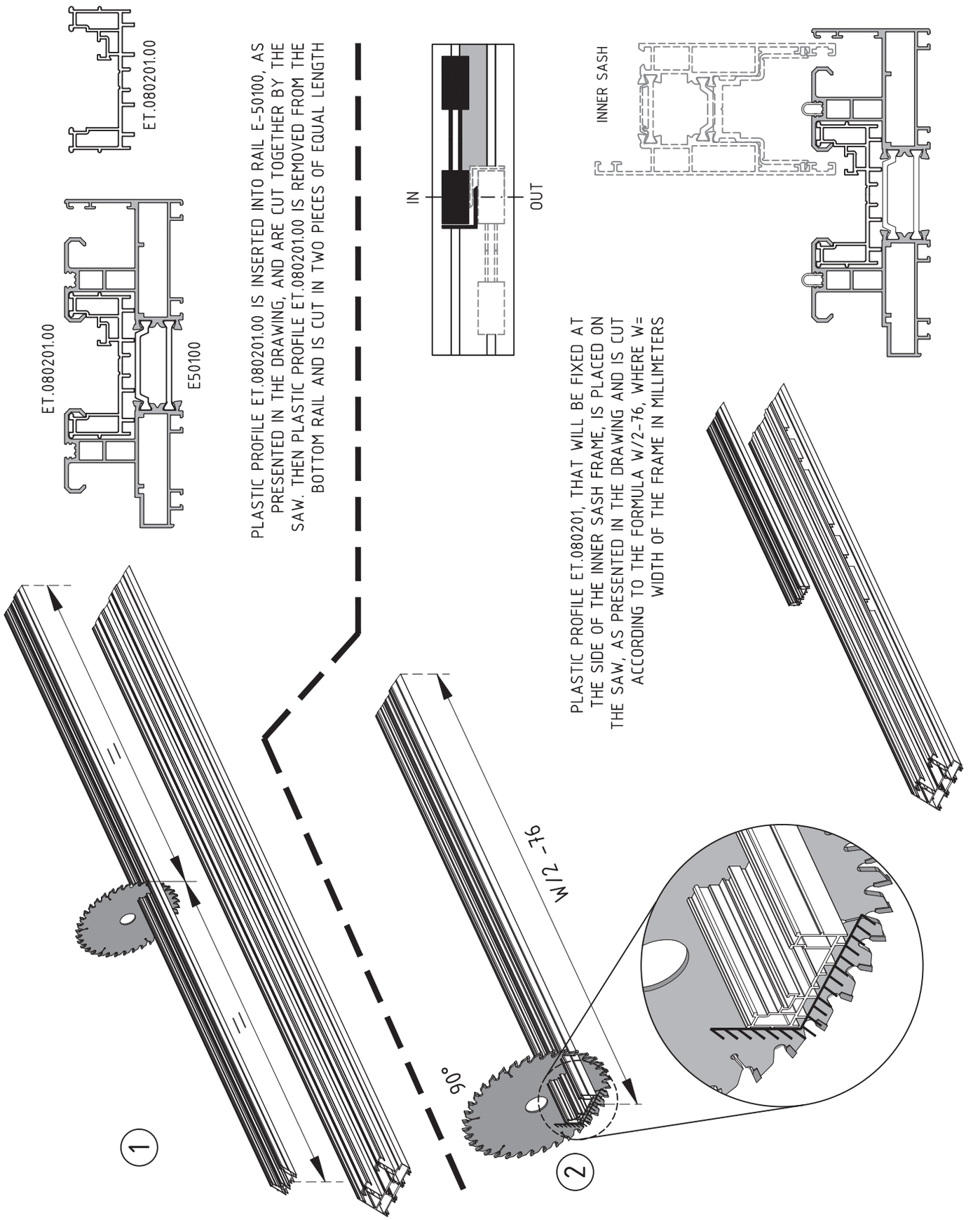
ET.240810.00

4



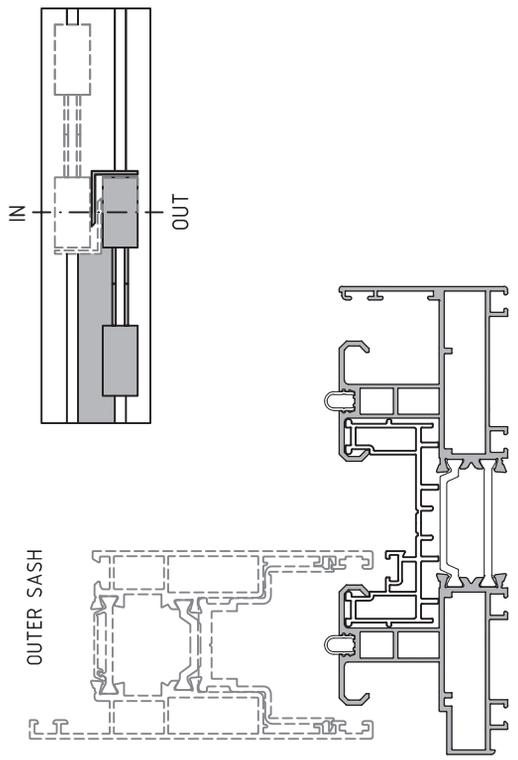
FIX INTO THE CAVITIES OF THE SEALING BLOCK THE FOAM ACCESSORIES (ET.240810.00 IN CASE OF USE OF LIFT & SLIDE HARDWARE) OR THE ALUMINUM PROFILE WITH THE PILE WEATHERSEAL AND GASKET (ET.240811.00 FOR SASH FRAMES WITH SIMPLE ROLLERS)

CUTTING ET.080201 FOR FIXING ON BOTTOM RAIL (1) M50-33

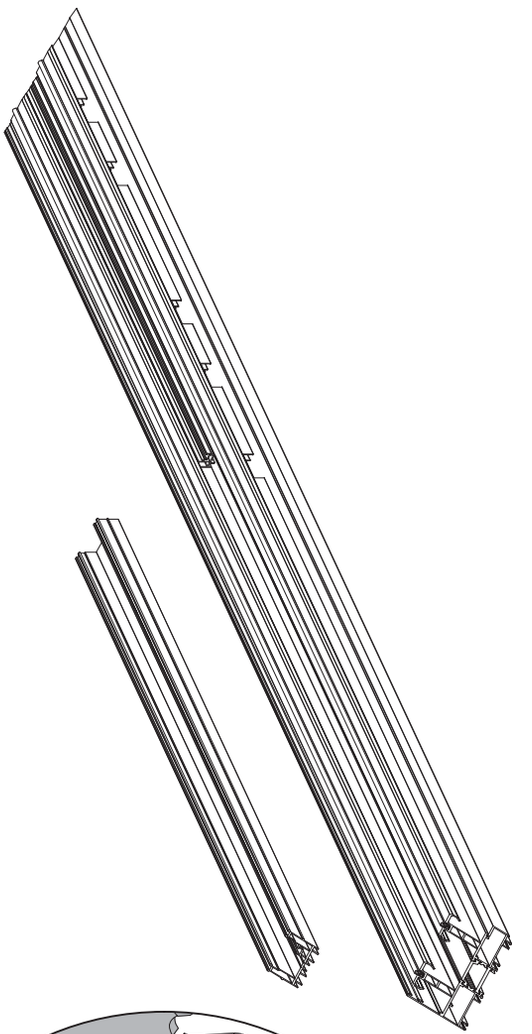


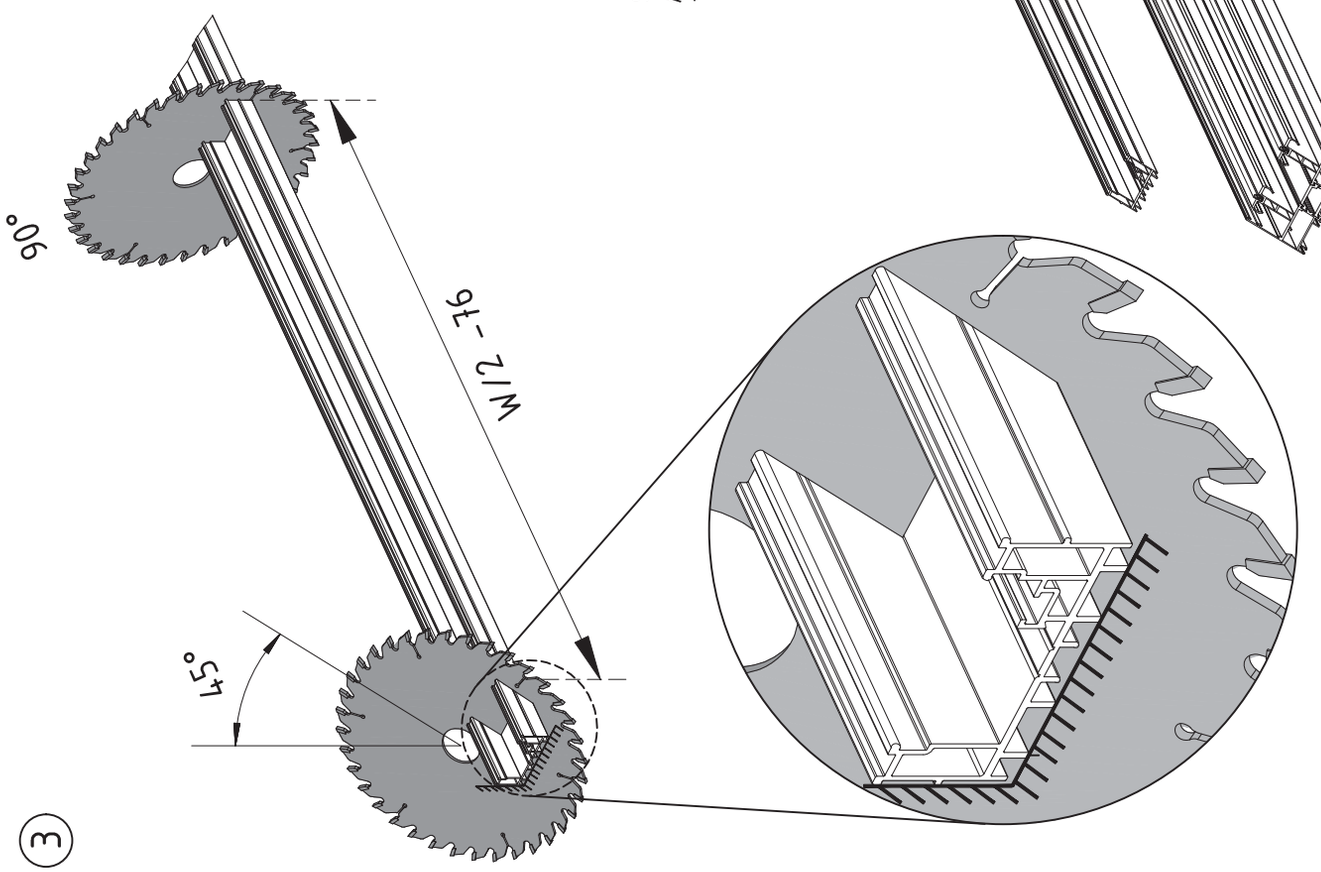
CUTTING ET.080201 FOR FIXING ON BOTTOM RAIL (2)

M50-34



PLASTIC PROFILE ET.080201, THAT WILL BE FIXED AT THE SIDE OF THE OUTER SASH FRAME, IS PLACED ON THE SAW, AS PRESENTED IN THE DRAWING AND IS CUT ACCORDING TO THE FORMULA W/2-76, WHERE W= WIDTH OF THE FRAME IN MILLIMETERS

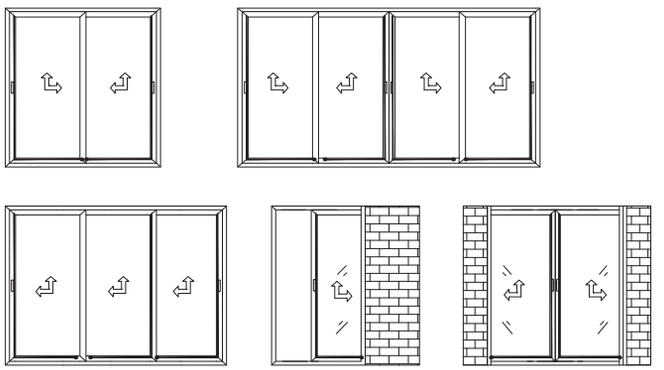


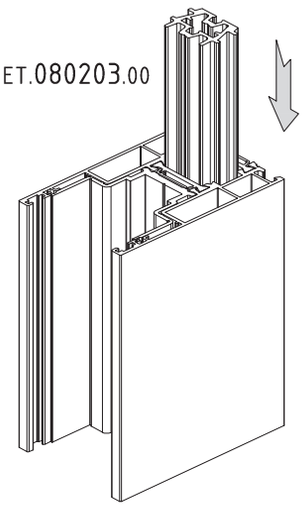


③

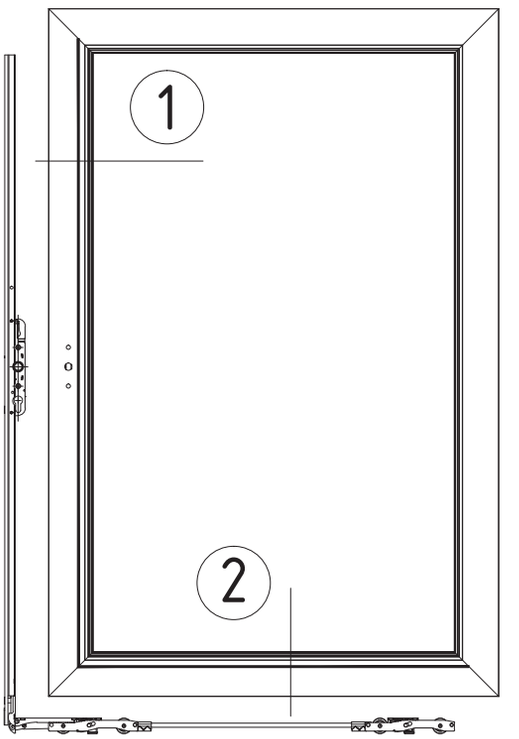
APPLICATION OF ET.080203 FOR FIXING L&S HARDWARE

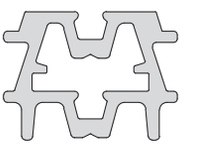
M50-35



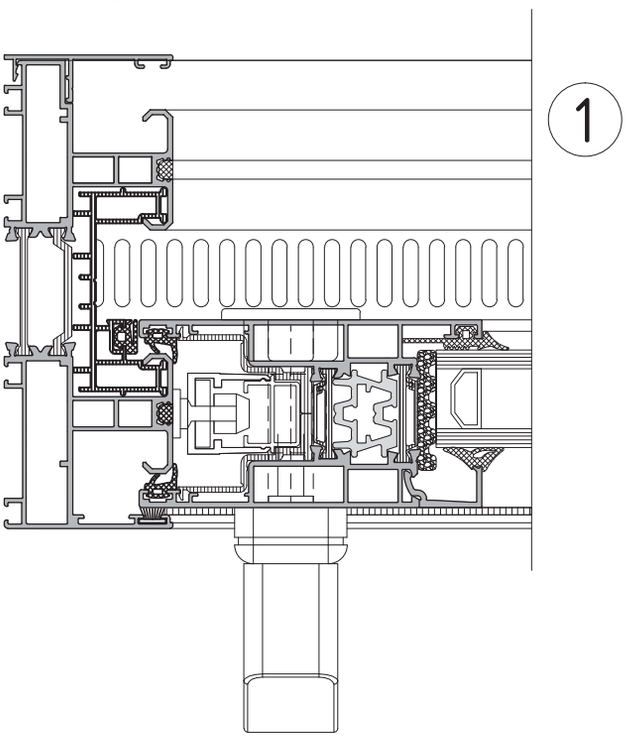


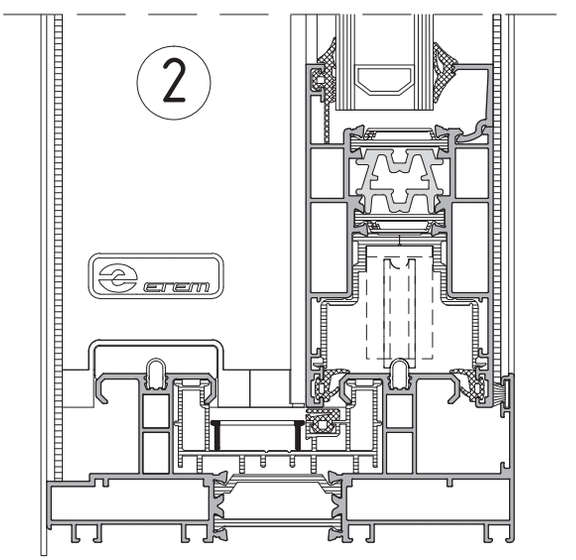
PLASTIC PROFILE ET.080203.00, IS PLACED ONLY ON THE SIDE OF THE SASH FRAME, WHERE THE GEAR OF THE L&S HARDWARE IS TO BE FIXED, AS WELL AS, ON THE BOTTOM SIDE OF THE SASH FRAME, WHERE THE ROLLERS ARE FIXED. THE PLASTIC PROFILE IS INSERTED IN THE SASH FRAME AND ARE CUT TOGETHER BY THE SAW



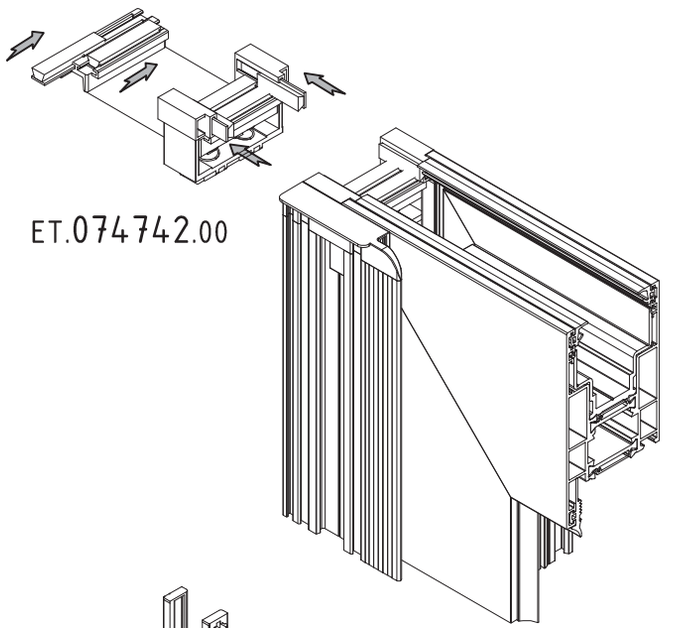


ET.080203.00

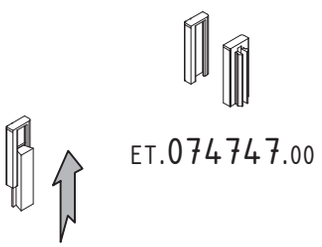


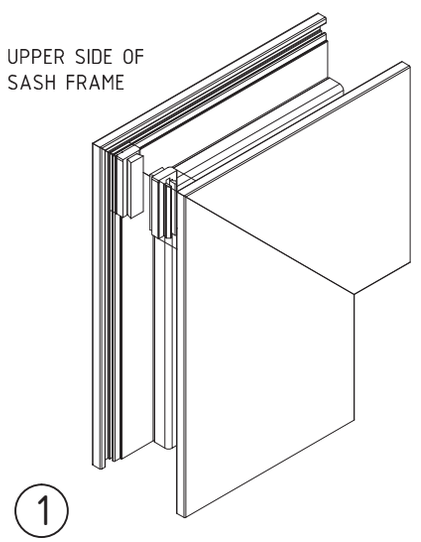


APPLICATION OF ET.080203 FOR FIXING L&S HARDWARE M50-36



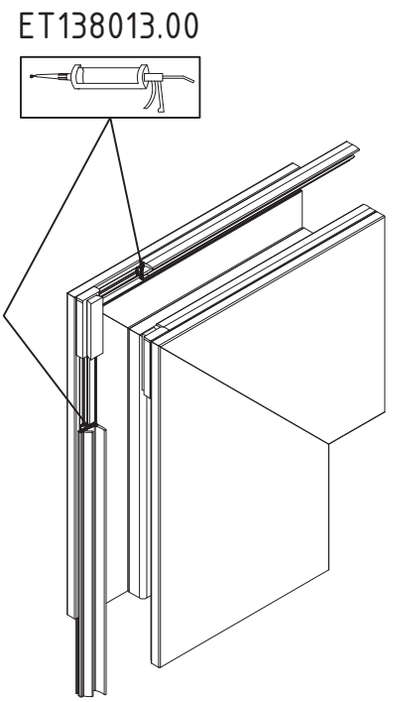
ALWAYS PLACE IN ADVANCE THE SEALING BRUSHES INTO THE GROOVES OF PLASTIC PLUG ET.080203.00, AS PRESENTED IN THE DRAWINGS, BEFORE FIXING IT ONTO THE INTERLOCK PROFILE





1

ARTICLES ET.074747.00, ARE FIXED AT THE UPPER INTERNAL AND EXTERNAL SIDE OF THE SASH FRAME. ALWAYS PLACE IN TO THE GROOVE THE PILE WEATHERSEAL, BEFORE FIXING IT ONTO THE SASH FRAME, AS PRESENTED IN THE DRAWINGS

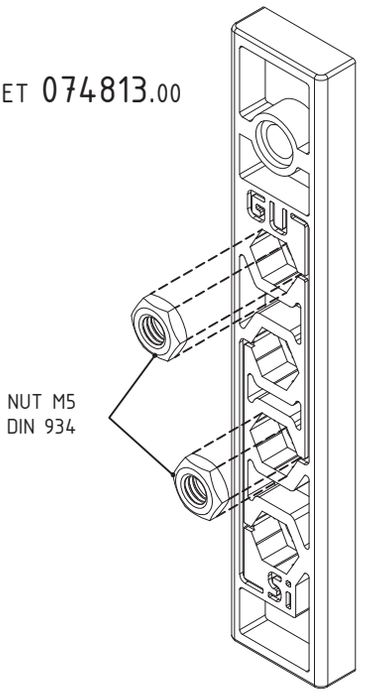


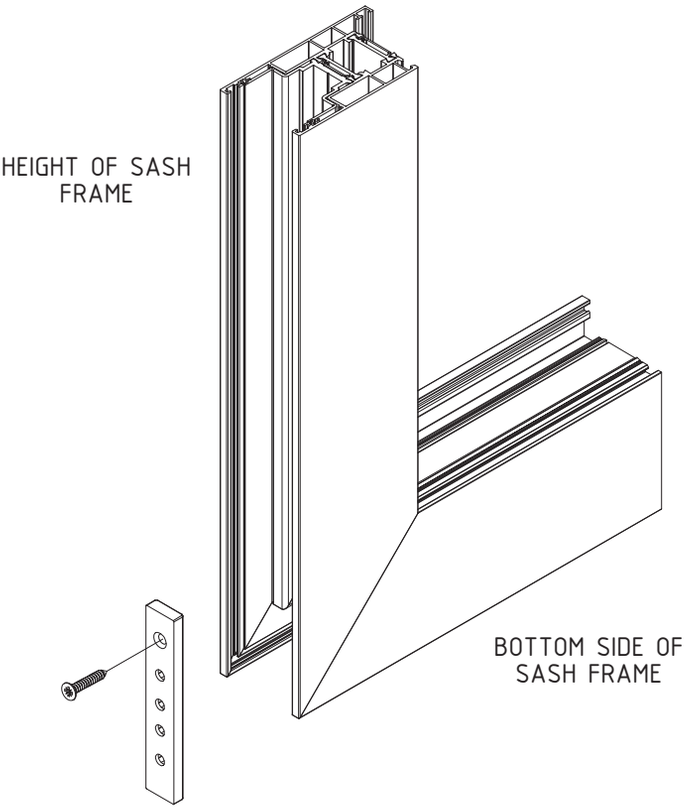
2

ALWAYS APPLY SEALANT ET.138013.00, AT THE SIDE OF GASKET ET.130771, THAT WILL COME INTO CONTACT WITH ET.130771.00, AS PRESENTED IN THE DRAWING

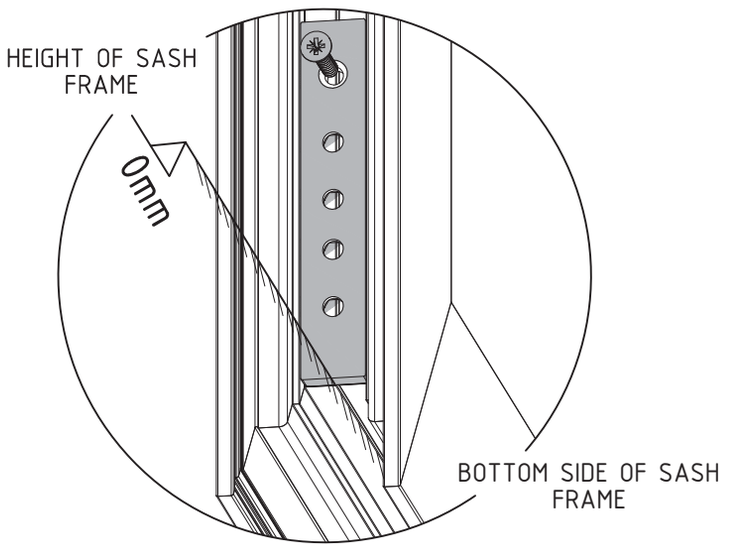
INSTRUCTIONS FOR FIXING ET.074813 ONTO THE SASH FRAME

M50-37





IN ORDER TO FIX THE GEAR OF G.U. L&S HARDWARE ONTO THE SASH FRAME, FIX 2 M5 NUTS (DIN 934) ONTO ARTICLE ET.074813.00, ACCORDING TO THE DRAWING



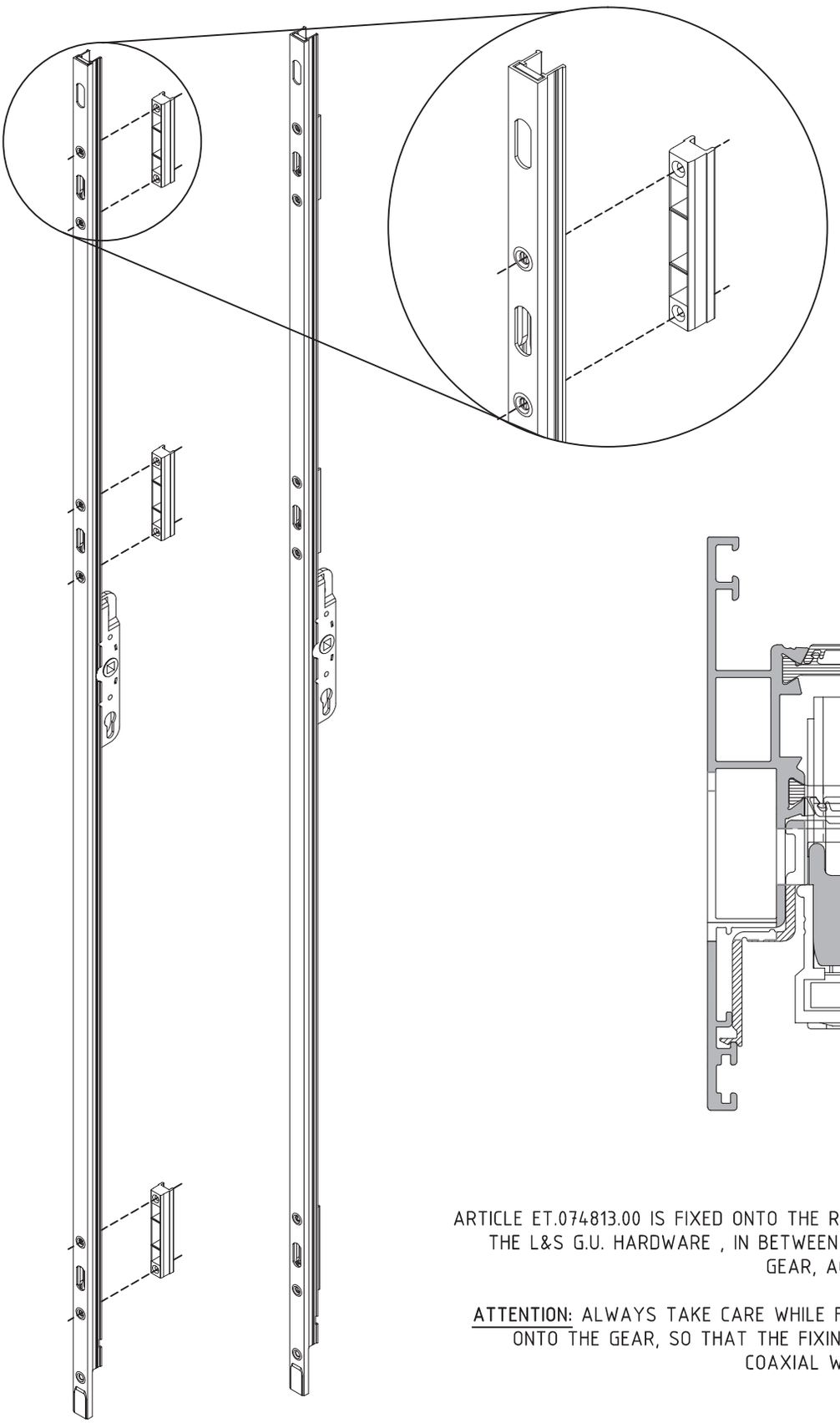
ARTICLE ET.074813.00 IS FIXED ON THE BOTTOM SIDE OF THE HEIGHT OF THE SASH FRAME, AT THE SIDE WHERE THE GEAR OF THE HARDWARE IS TO BE FIXED.

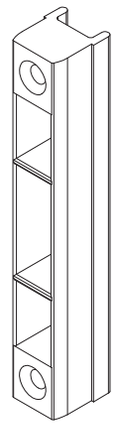
ATTENTION: THE FIXING HOLE OF ET.074813.00 MUST BE ORIENTED TO THE UPPER SIDE OF THE HEIGHT OF THE SASH FRAME. THE SIDE OF ET.074813.00, WHERE THE NUTS ARE ENCASED, WILL BE IN CONTACT WITH THE PLASTIC DRAIN PROFILE, FIXED ONTO THE SASH FRAME

THE BOTTOM SIDE OF ET.074813.00 MUST BE ALIGNED WITH THE BOTTOM SIDE OF THE PLASTIC PROFILE FIXED ONTO THE BOTTOM SIDE OF THE SASH FRAME, AS PRESENTED IN THE DRAWING.

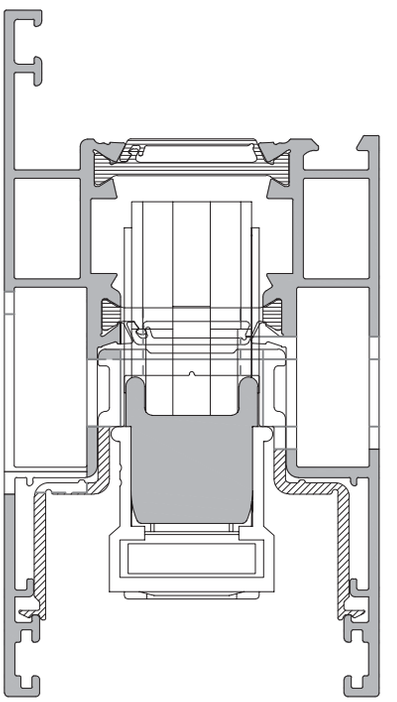
ET.074813.00 IS FIXED ONTO THE SASH FRAME USING ONE (1) SHEET METAL SCREW 4.8x30mm DIN 7982

INSTRUCTIONS FOR FIXING ET.074812 ONTO THE GEAR OF THE HARDWARE M50-38





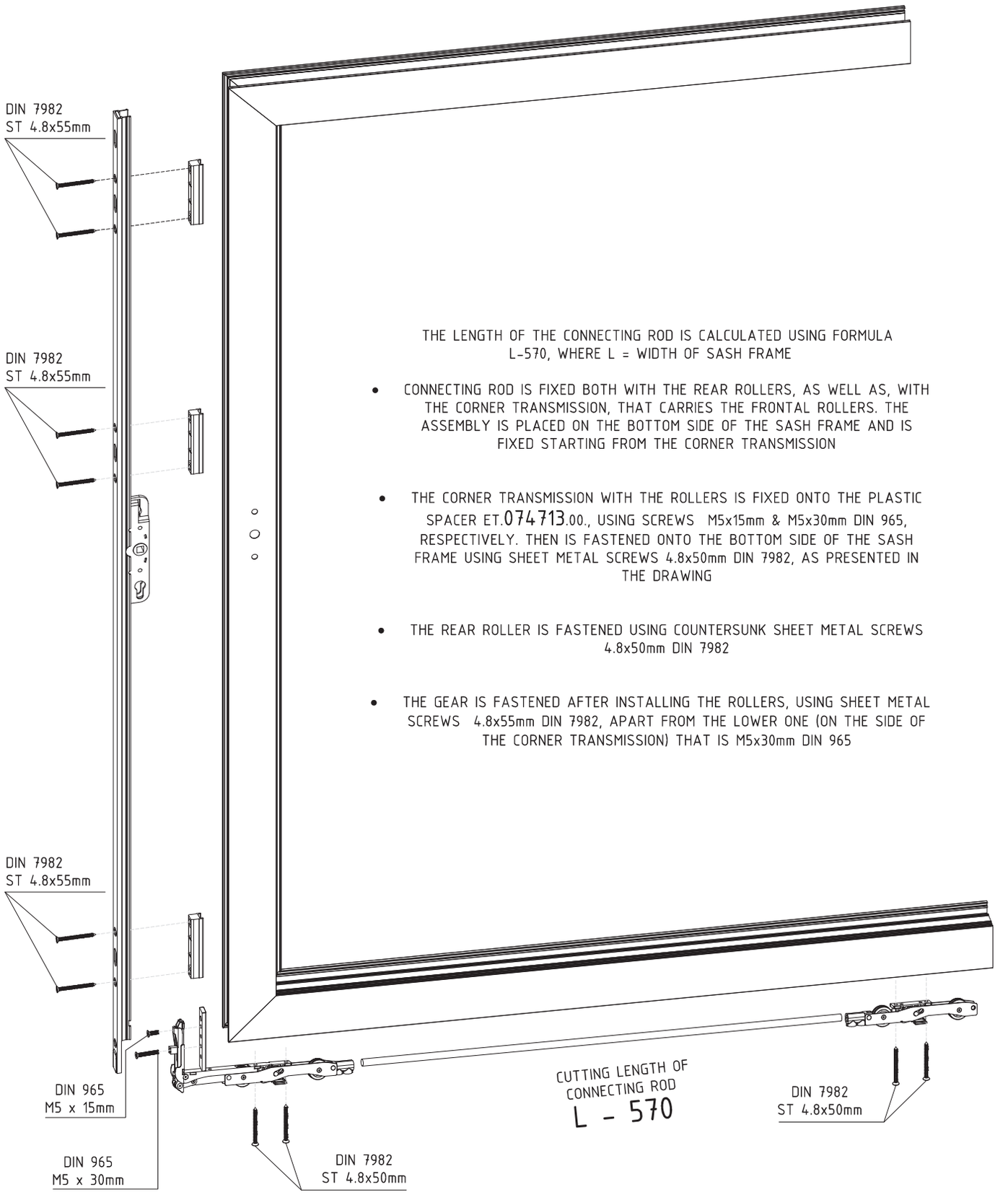
ET 074812.00



ARTICLE ET.074813.00 IS FIXED ONTO THE REAR SIDE OF THE GEAR OF THE L&S G.U. HARDWARE , IN BETWEEN THE FIXING POINTS OF THE GEAR, ACCORDING TO THE DRAWING.

ATTENTION: ALWAYS TAKE CARE WHILE FIXING ARTICLE ET.074813.00 ONTO THE GEAR, SO THAT THE FIXING HOLES OF THE GEAR ARE COAXIAL WITH THOSE ON ET.074813.00

INSTRUCTIONS FOR FIXING G.U. L&S HARDWARE ONTO THE SASH FRAME M50-39



THE LENGTH OF THE CONNECTING ROD IS CALCULATED USING FORMULA L-570, WHERE L = WIDTH OF SASH FRAME

- CONNECTING ROD IS FIXED BOTH WITH THE REAR ROLLERS, AS WELL AS, WITH THE CORNER TRANSMISSION, THAT CARRIES THE FRONTAL ROLLERS. THE ASSEMBLY IS PLACED ON THE BOTTOM SIDE OF THE SASH FRAME AND IS FIXED STARTING FROM THE CORNER TRANSMISSION

- THE CORNER TRANSMISSION WITH THE ROLLERS IS FIXED ONTO THE PLASTIC SPACER ET.074713.00., USING SCREWS M5x15mm & M5x30mm DIN 965, RESPECTIVELY. THEN IS FASTENED ONTO THE BOTTOM SIDE OF THE SASH FRAME USING SHEET METAL SCREWS 4.8x50mm DIN 7982, AS PRESENTED IN THE DRAWING

- THE REAR ROLLER IS FASTENED USING COUNTERSUNK SHEET METAL SCREWS 4.8x50mm DIN 7982

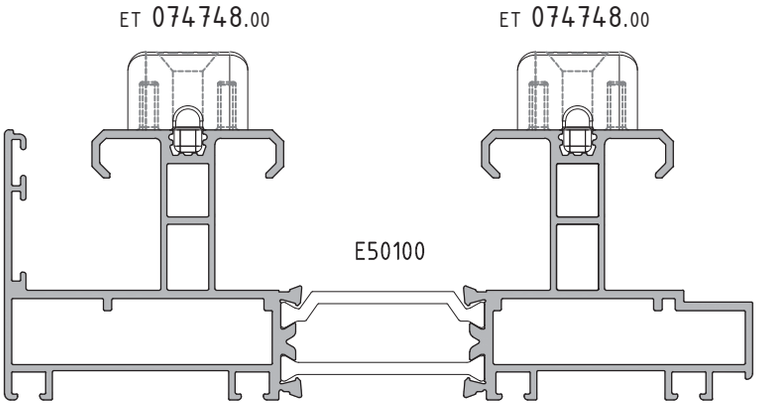
- THE GEAR IS FASTENED AFTER INSTALLING THE ROLLERS, USING SHEET METAL SCREWS 4.8x55mm DIN 7982, APART FROM THE LOWER ONE (ON THE SIDE OF THE CORNER TRANSMISSION) THAT IS M5x30mm DIN 965

FIXING VALVES ONTO THE BOTTOM RAIL E50100

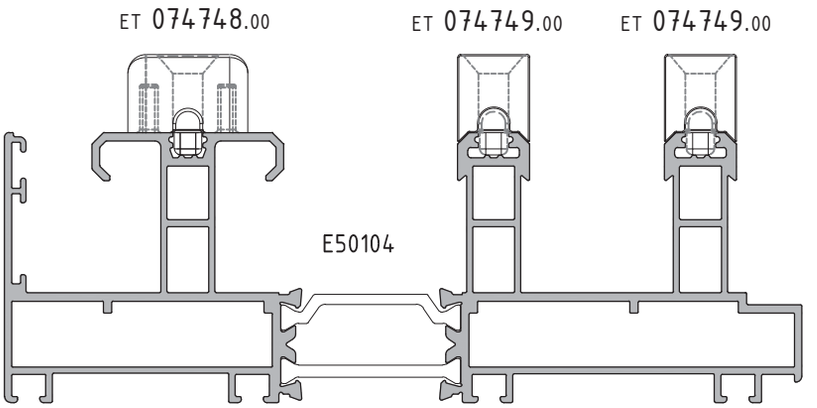
M50-40

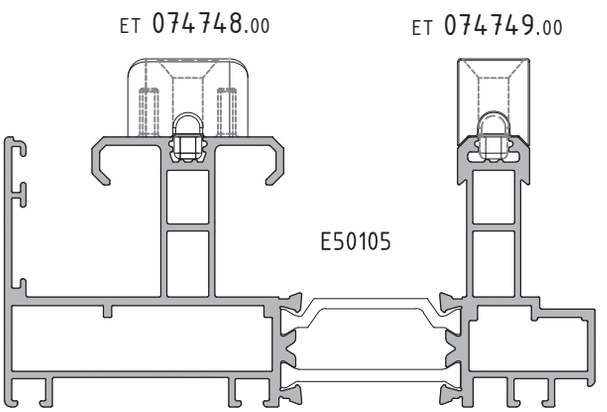
GUIDELINES FOR THE SELECTION OF STOP PER RAIL

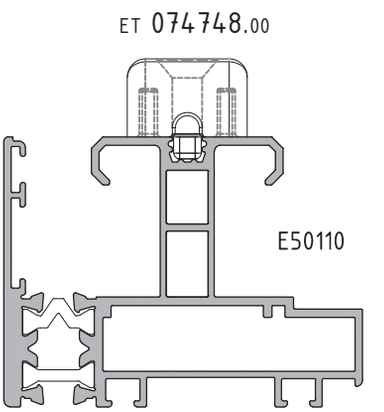
M50-41



STOP **ET**.074748.00, IS ALWAYS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE GLAZING IS TO PLACED, WHILST STOP **ET**.074749.00 IS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE INSECT SCREEN AND/OR THE SHUTTER IS TO BE PLACED. ET.074748.00 & ET.074749.00 ARE FIXED AT TOP AND BOTTOM RAIL.

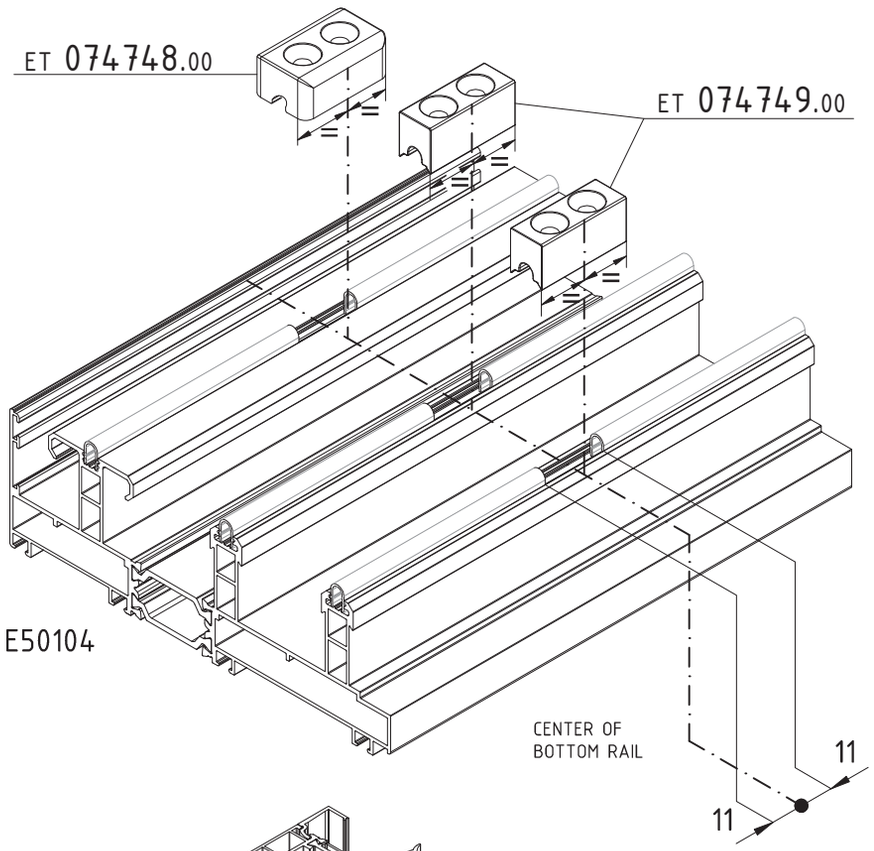






FIXING STOP ON RAIL (BOTTOM SIDE)

M50-42

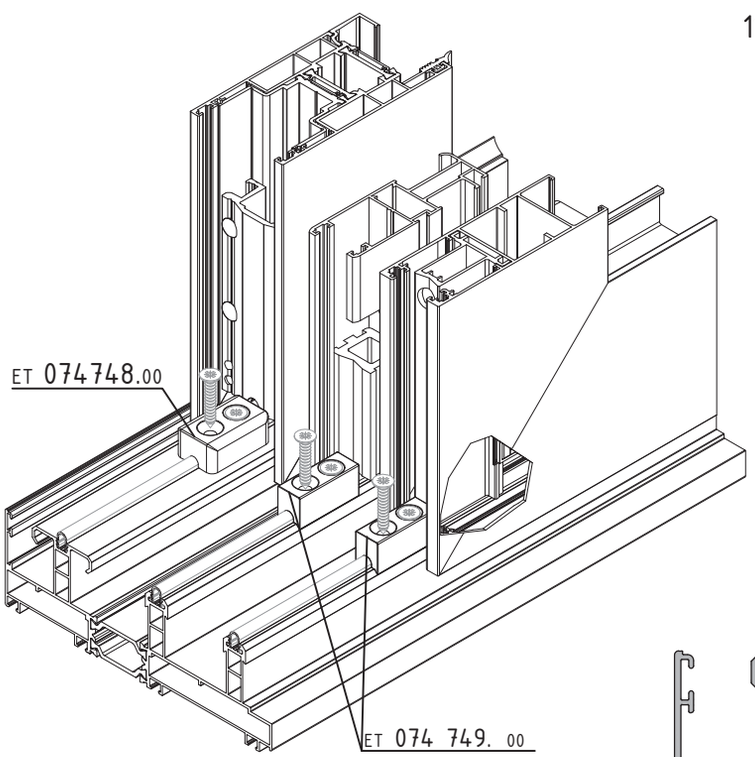


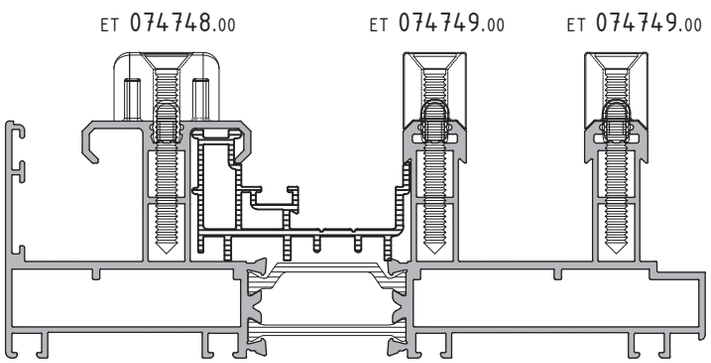
ET.082201.00

STOP ET.074748.00, IS ALWAYS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE GLAZING IS TO PLACED, WHILST STOP ET.074749.00 IS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE INSECT SCREEN AND/OR THE SHUTTER IS TO BE PLACED.

ET.074748.00 & ET.074749.00 ARE FIXED AT TOP AND BOTTOM RAIL. THE CUTTING LENGTH OF EACH INOX RAIL ET.082201.00, THAT IS TO BE FIXED ONTO THE BOTTOM RAIL (AT BOTTOM SIDES OF THE STOP) IS CALCULATED BY THE FOLLOWING FORMULA:

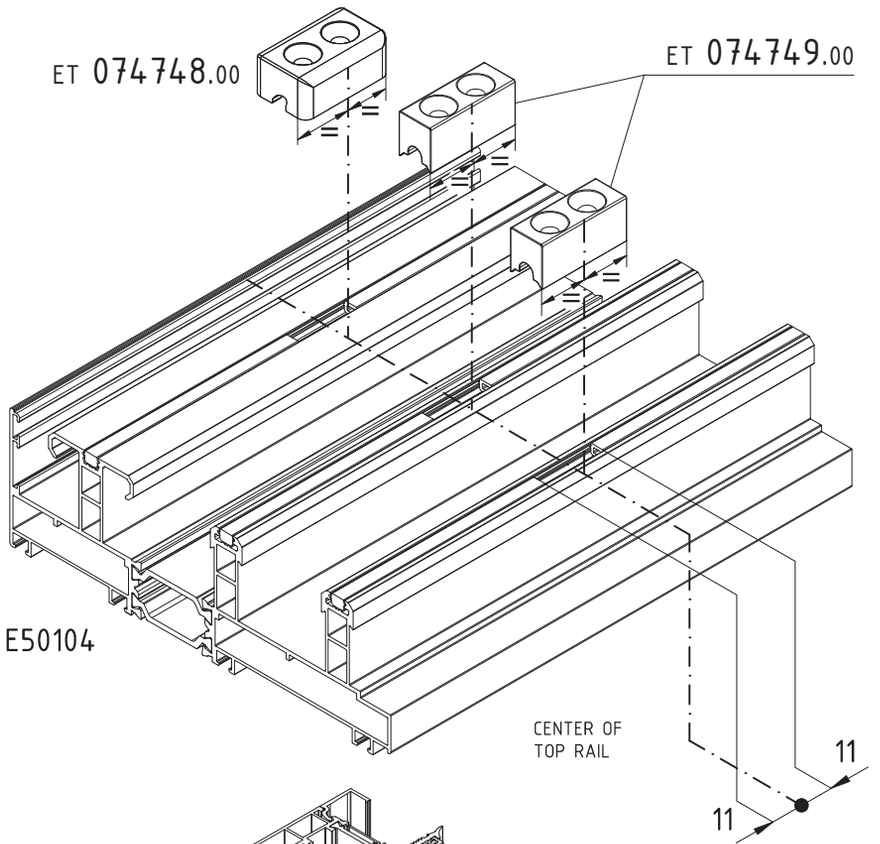
(L-22)/2, WHERE L=LENGTH OF THE RAIL ET.074748.00 & ET.074749.00 ARE FIXED ONTO THE RAIL USING COUNTERSUNK SHEET METAL SCREWS 4.2x38mm DIN 7982





FIXING STOP ON RAIL (TOP SIDE)

M50-43

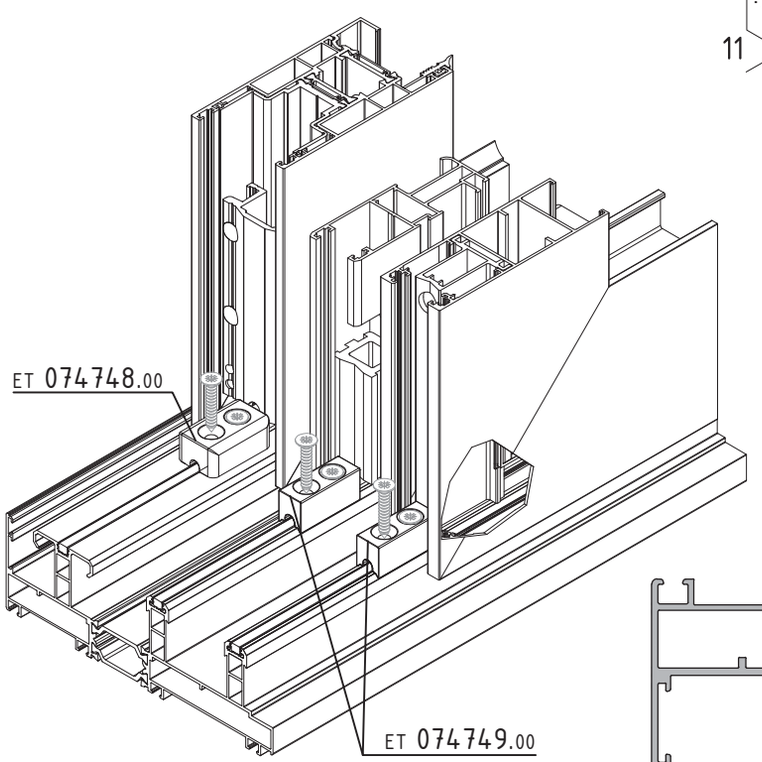


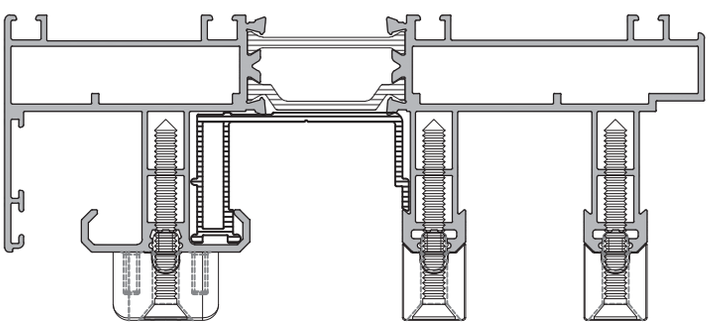
ET 130 770.00

STOP ET.074748.00, IS ALWAYS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE GLAZING IS TO PLACED, WHILST STOP ET.074749.00 IS FIXED AT THE TRACK OF THE RAIL, WHERE THE SASH WITH THE INSECT SCREEN AND/OR THE SHUTTER IS TO BE PLACED.

ET.074748.00 & ET.074749.00 ARE FIXED AT TOP AND BOTTOM RAIL.

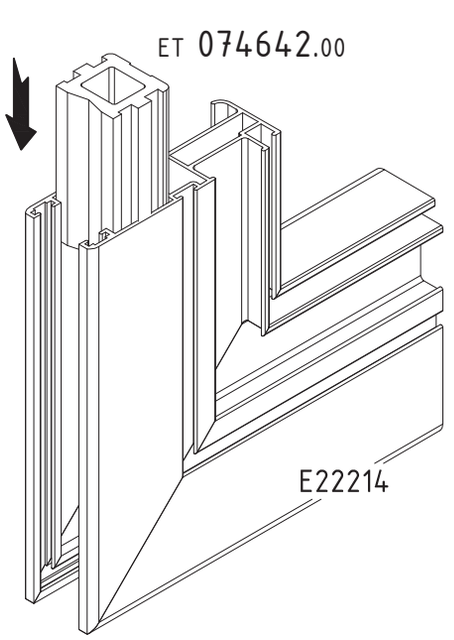
THE CUTTING LENGTH OF EACH GASKET ET.130770.00, THAT IS TO BE FIXED ONTO THE BOTTOM RAIL (AT BOTTOM SIDES OF THE STOP) IS CALCULATED BY THE FOLLOWING FORMULA: (L-22)/2, WHERE L=LENGTH OF THE RAIL ET.074748.00 & ET.074749.00 ARE FIXED ONTO THE RAIL USING COUNTERSUNK SHEET METAL SCREWS 4.2x38mm DIN 7982

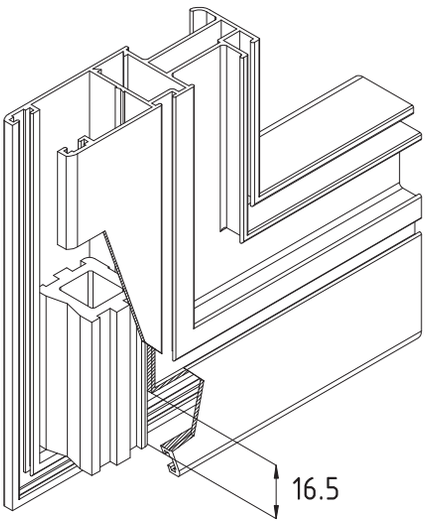




ET 074748.00 ET 074749.00 ET 074749.00

FIXING EPDM STOP ON INSECT SCREEN E22214 M50-44

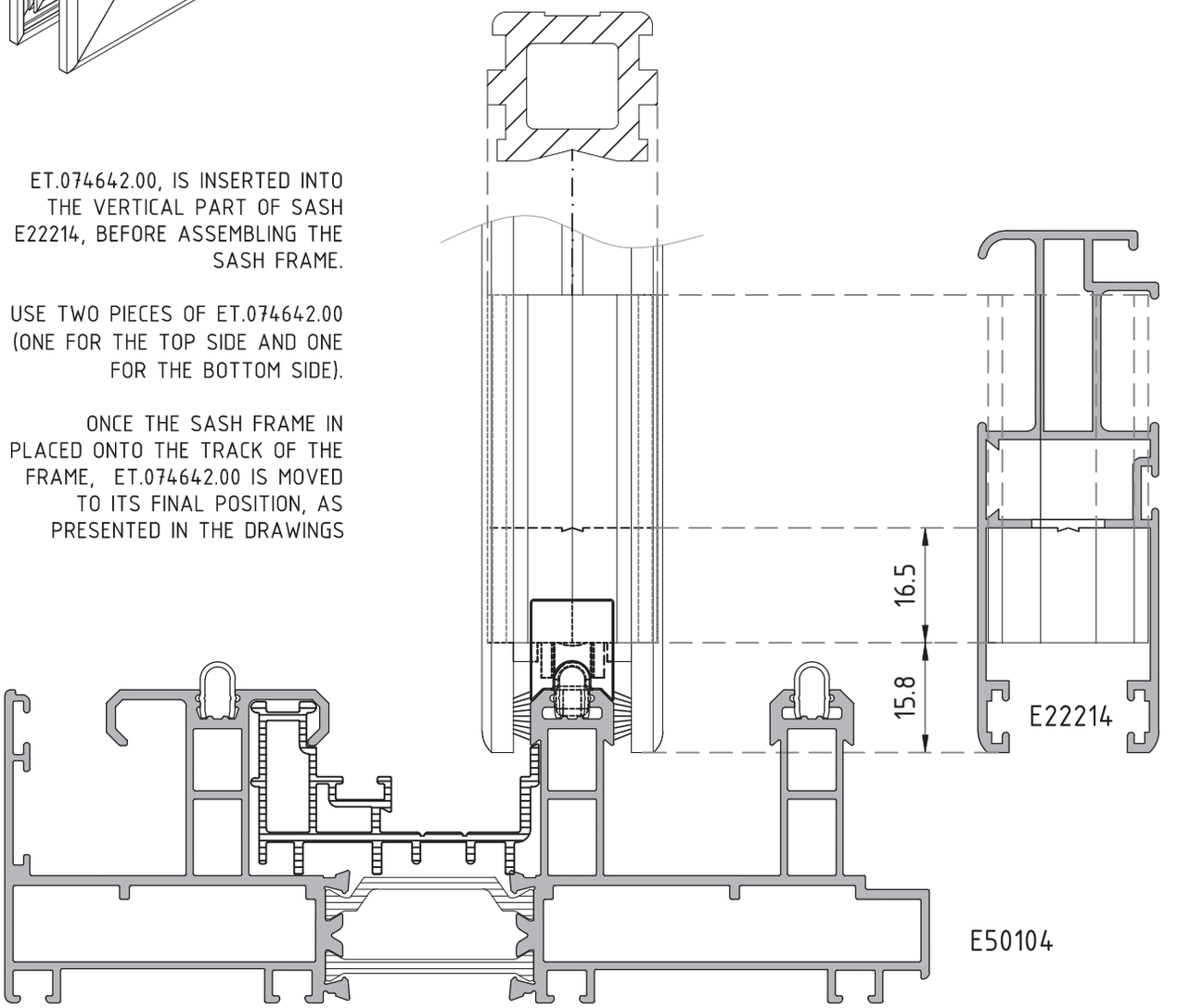




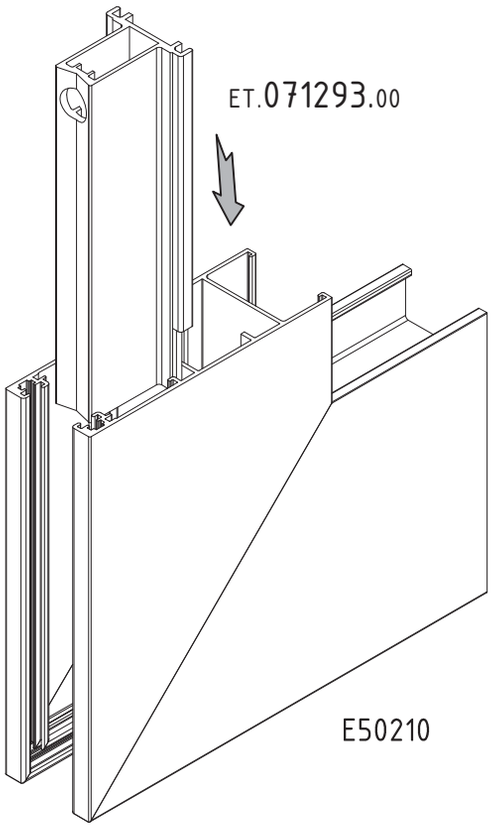
ET.074642.00, IS INSERTED INTO THE VERTICAL PART OF SASH E22214, BEFORE ASSEMBLING THE SASH FRAME.

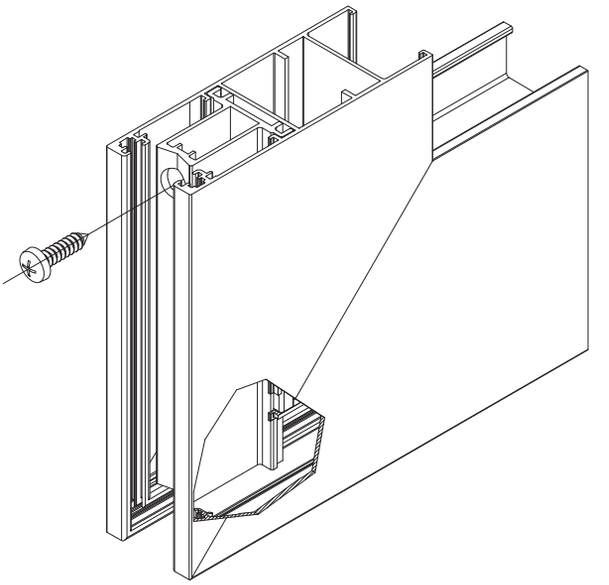
USE TWO PIECES OF ET.074642.00 (ONE FOR THE TOP SIDE AND ONE FOR THE BOTTOM SIDE).

ONCE THE SASH FRAME IN PLACED ONTO THE TRACK OF THE FRAME, ET.074642.00 IS MOVED TO ITS FINAL POSITION, AS PRESENTED IN THE DRAWINGS



FIXING STOP ON E50210 M50-45

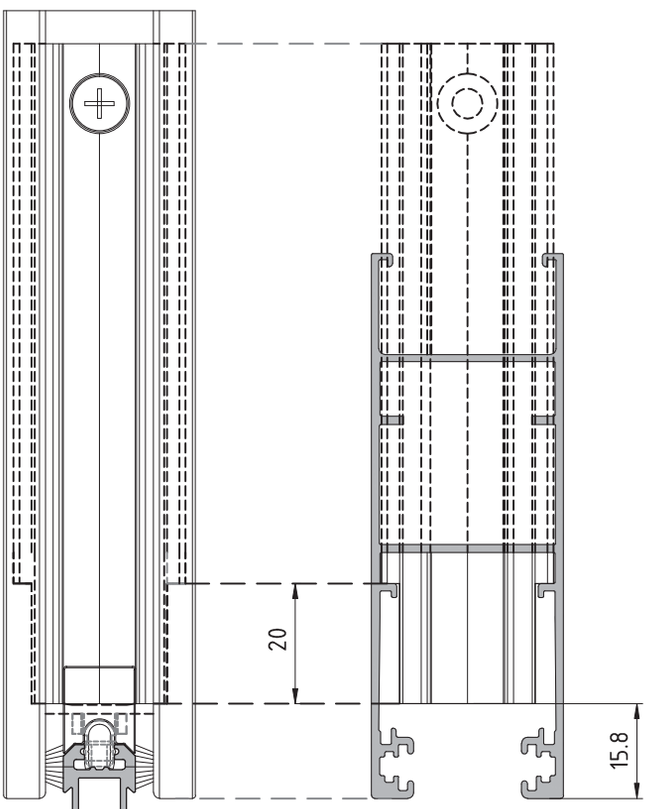


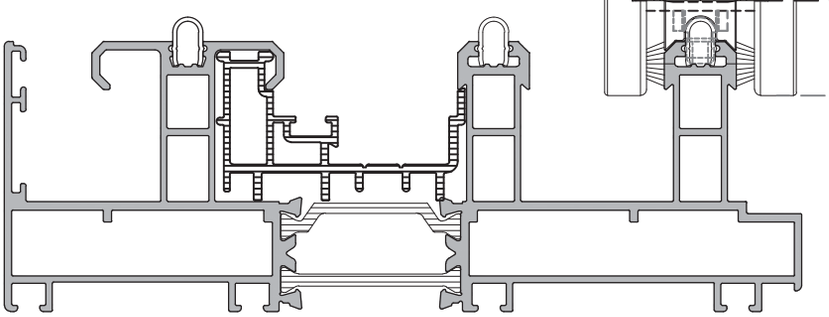


ET.071293.00, IS INSERTED INTO THE VERTICAL PART OF SASH E-50210, BEFORE ASSEMBLING THE SASH FRAME.

USE TWO PIECES OF ET.071293.00 (ONE FOR THE TOP SIDE AND ONE FOR THE BOTTOM SIDE).

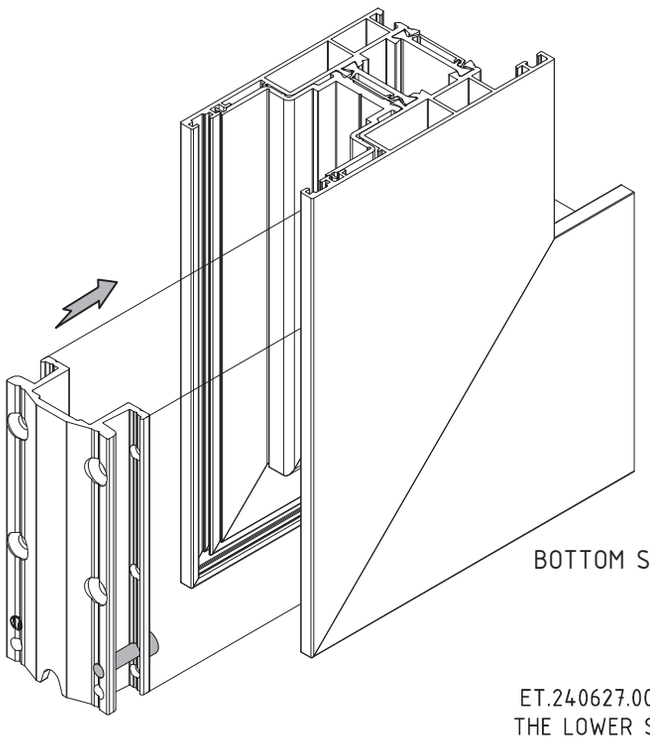
ONCE THE SASH FRAME IN PLACED ONTO THE TRACK OF THE FRAME, ET.074642.00 IS MOVED TO ITS FINAL POSITION, AS PRESENTED IN THE DRAWINGS, AND IS FIXED BY ONE (1) PAN HEAD SHEET METAL SCREW 4.2x20mm DIN 7981



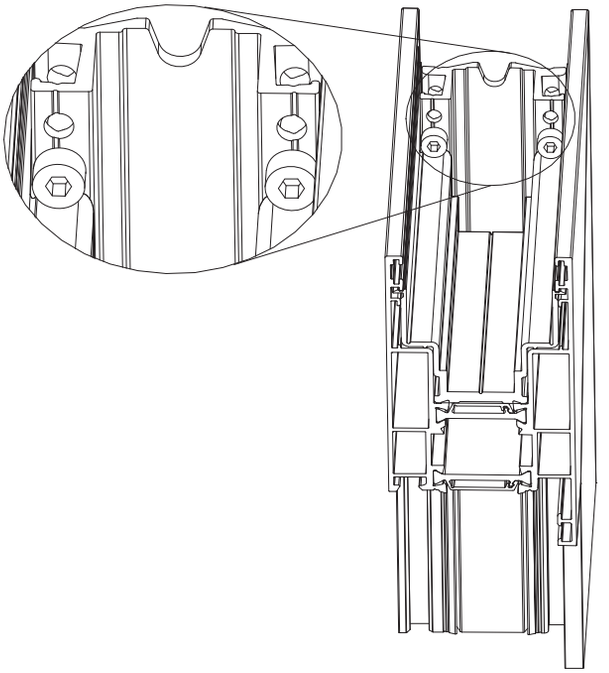


FIXING STOP ON E50201 & E50202 (BOTTOM SIDE)

M50-46



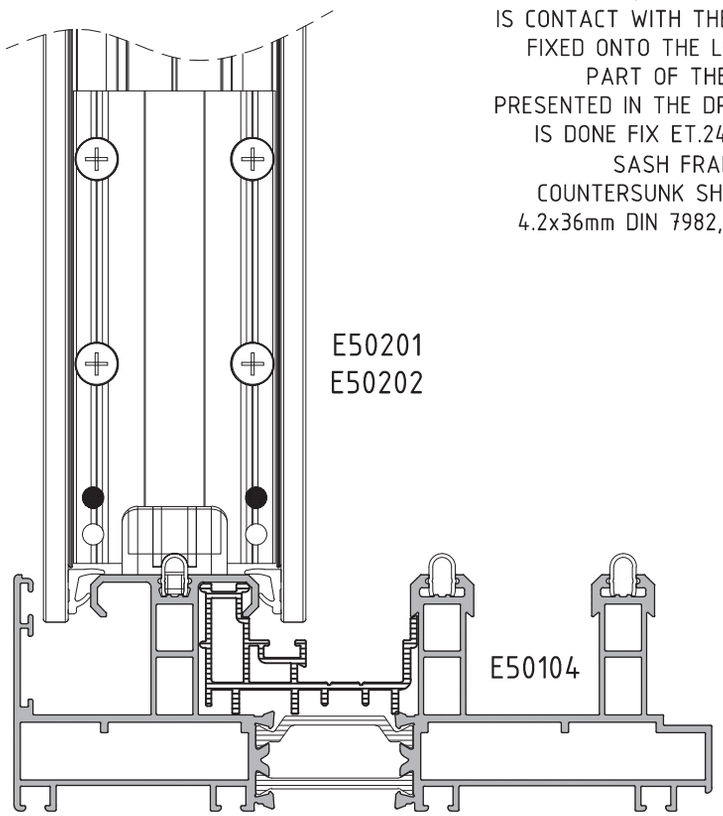
BOTTOM SIDE

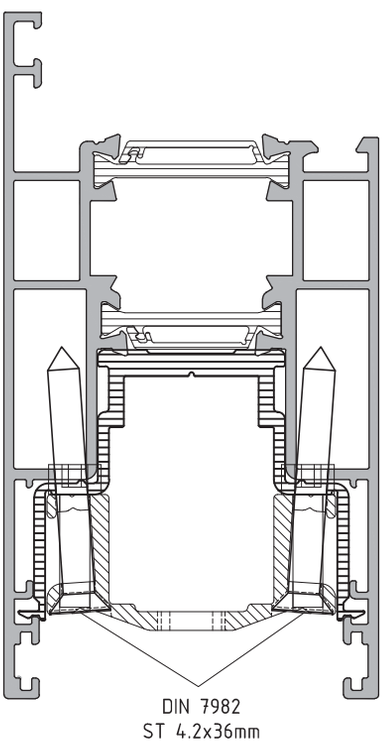


ET 240 627.00

ET.240627.00, IS ALWAYS PLACED AT THE LOWER SIDE OF THE SASH FRAME E-50201 & E-50202, AFTER PLACING THE SASH FRAME ONTO THE RAIL.

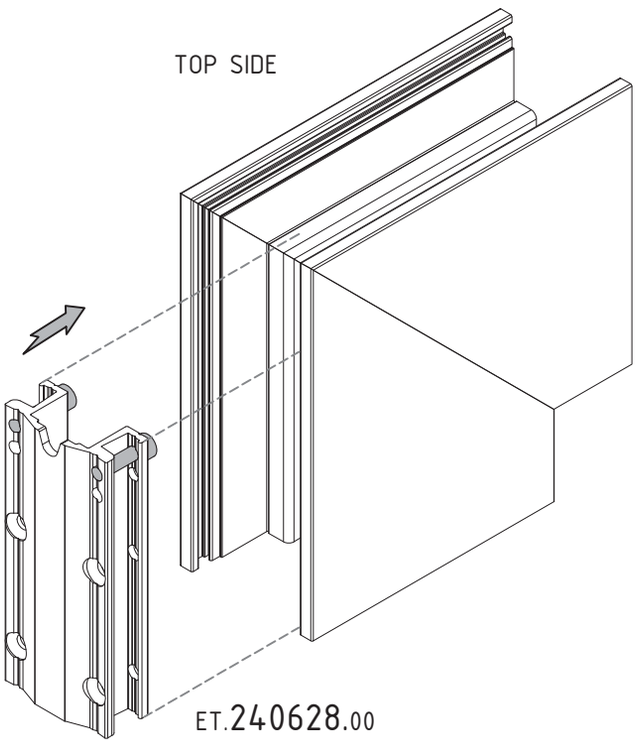
ALWAYS TAKE CARE THAT THE HEAD OF THE SCREW (FIXED ONTO ET.240627.00), IS CONTACT WITH THE PLASTIC PROFILE FIXED ONTO THE LOWER HORIZONTAL PART OF THE SASH FRAME, AS PRESENTED IN THE DRAWING. ONCE THIS IS DONE FIX ET.240627.00 ONTO THE SASH FRAME USING FOUR (4) COUNTERSUNK SHEET METAL SCREW 4.2x36mm DIN 7982, AS PRESENTED IN THE DRAWING

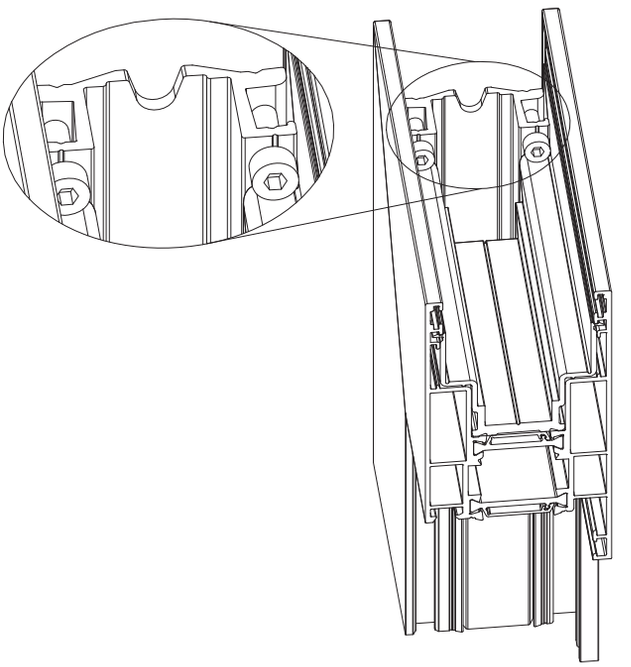


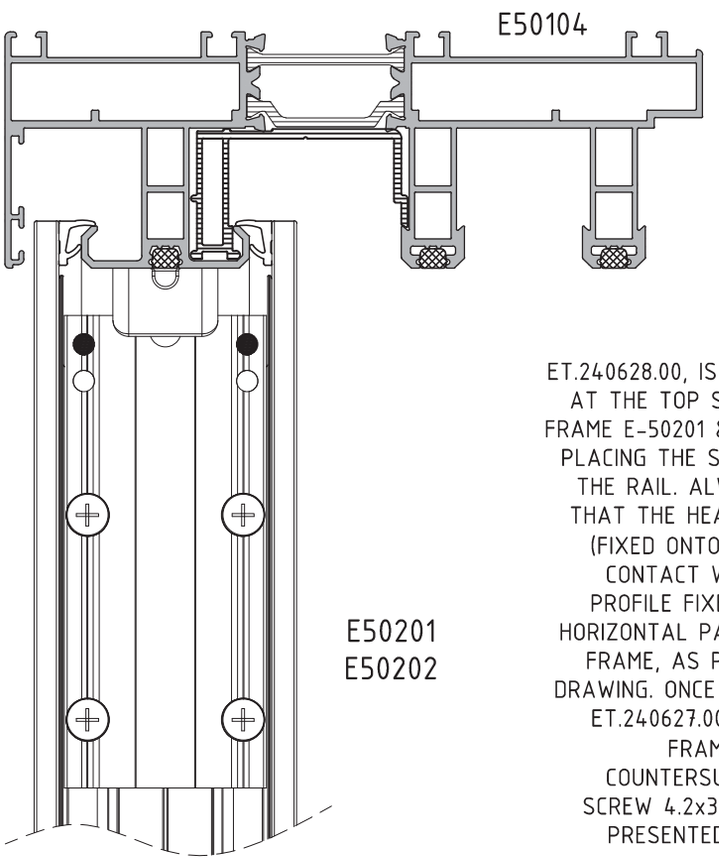


FIXING STOP ON E50201 & E50202 (TOP SIDE)

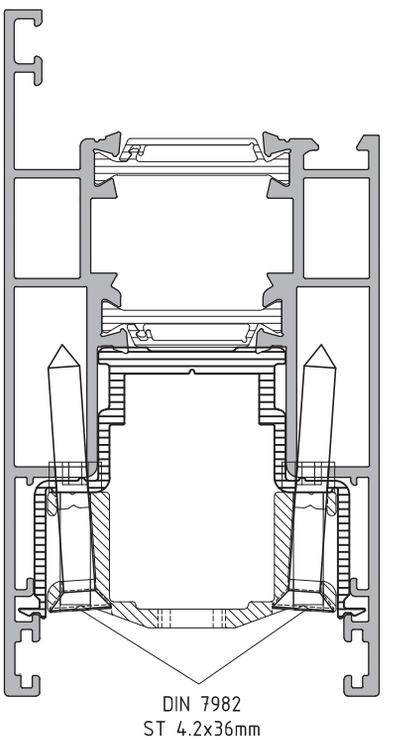
M50-47



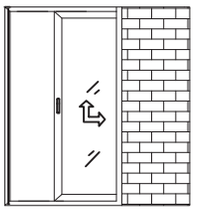


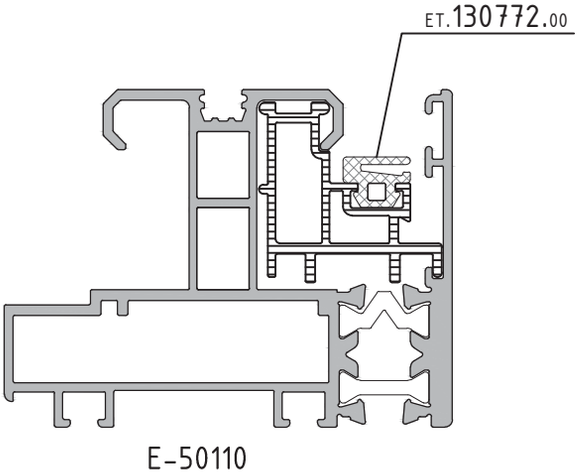


ET.240628.00, IS ALWAYS PLACED AT THE TOP SIDE OF THE SASH FRAME E-50201 & E-50202, AFTER PLACING THE SASH FRAME ONTO THE RAIL. ALWAYS TAKE CARE THAT THE HEAD OF THE SCREW (FIXED ONTO ET.240627.00), IS CONTACT WITH THE PLASTIC PROFILE FIXED ONTO THE TOP HORIZONTAL PART OF THE SASH FRAME, AS PRESENTED IN THE DRAWING. ONCE THIS IS DONE FIX ET.240627.00 ONTO THE SASH FRAME USING FOUR (4) COUNTERSUNK SHEET METAL SCREW 4.2x36mm DIN 7982, AS PRESENTED IN THE DRAWING

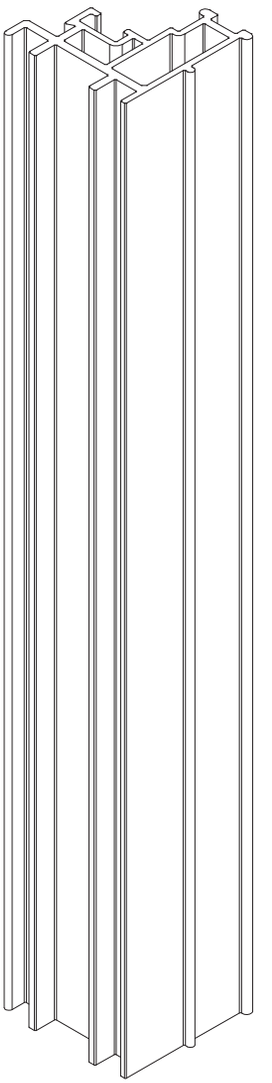


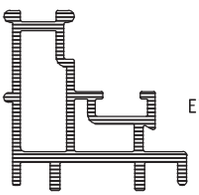
USE OF PVC PROFILE ET.080218.00 & GASKET ET.130772.00 FOR RAIL E50110 M50-48



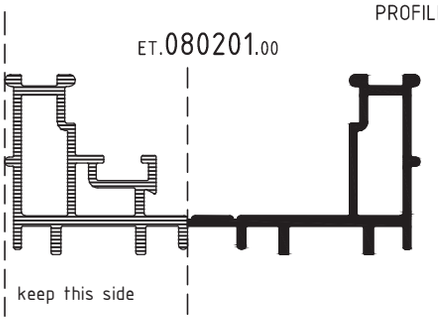


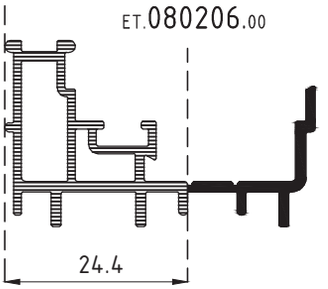
E-50110





ALTERNATIVELY CUT PLASTIC PROFILE ET.080201.00 or ET.080206.00

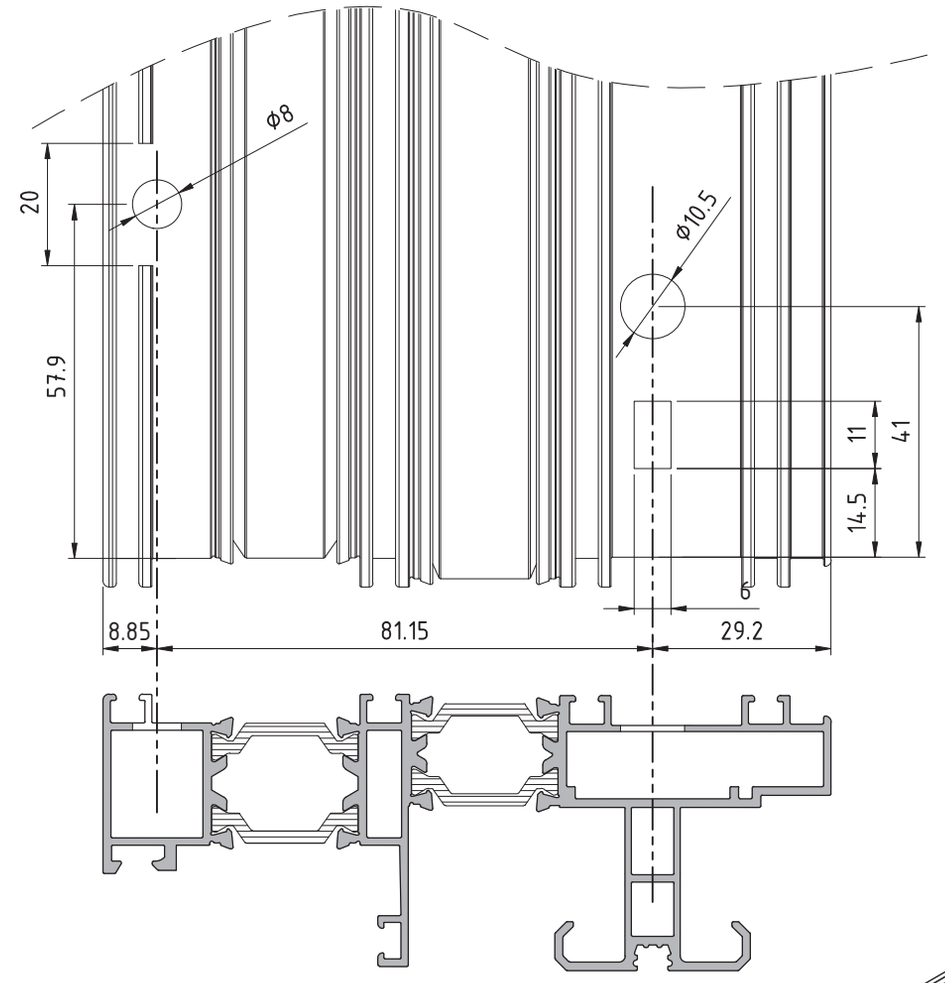




THE PVC PROFILE IS FIXED ONLY AT THE VERTICAL MEMBER OF THE FRAME MADE OF E-50110.

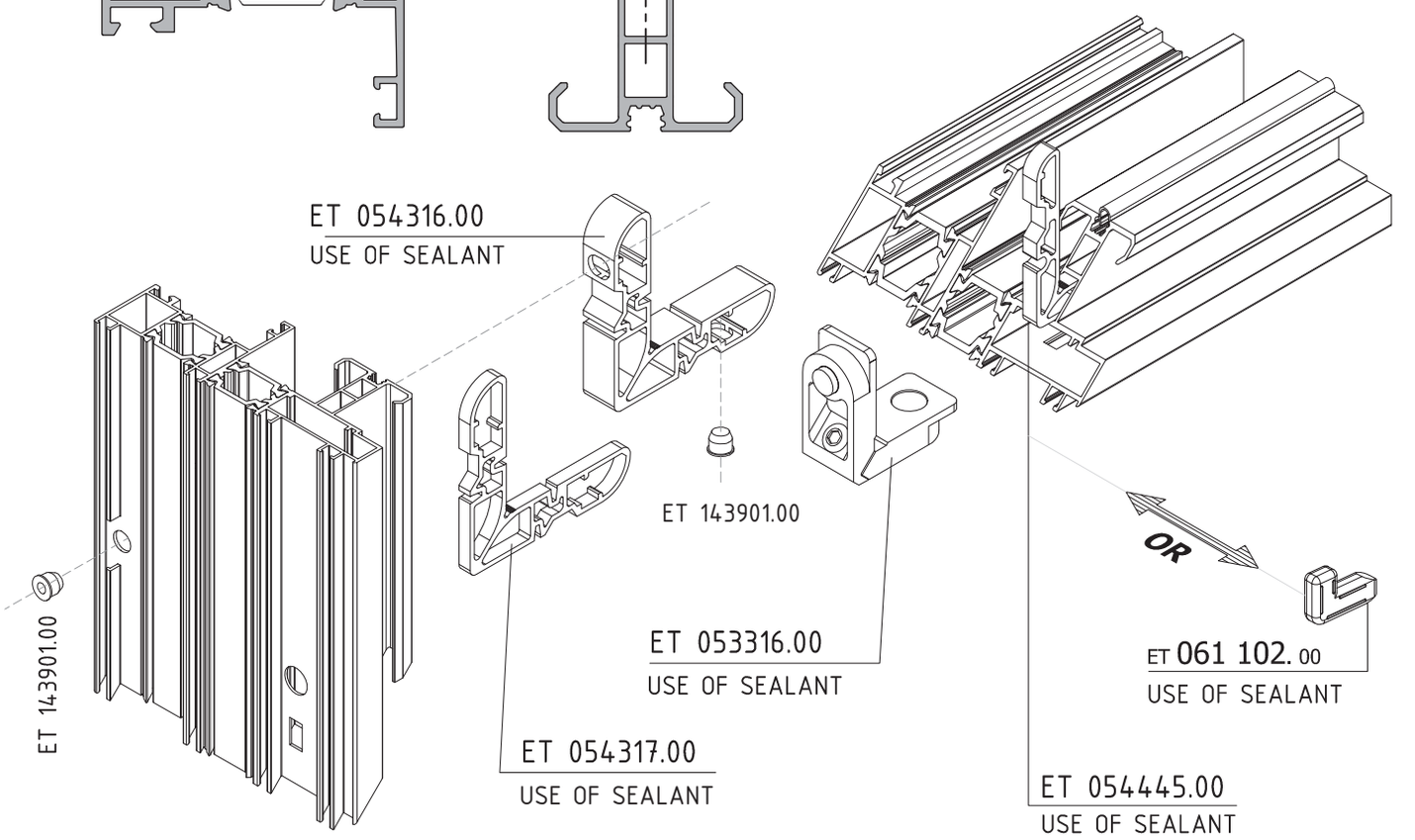
ALWAYS FIX AT THE TRACK OF THE PLASTIC PROFILE, GASKET ET.130772.00

MACHINING ON RAIL E-50150 FOR FIXING WITH DIE CAST JOINT CORNER BRACKETS M50-49

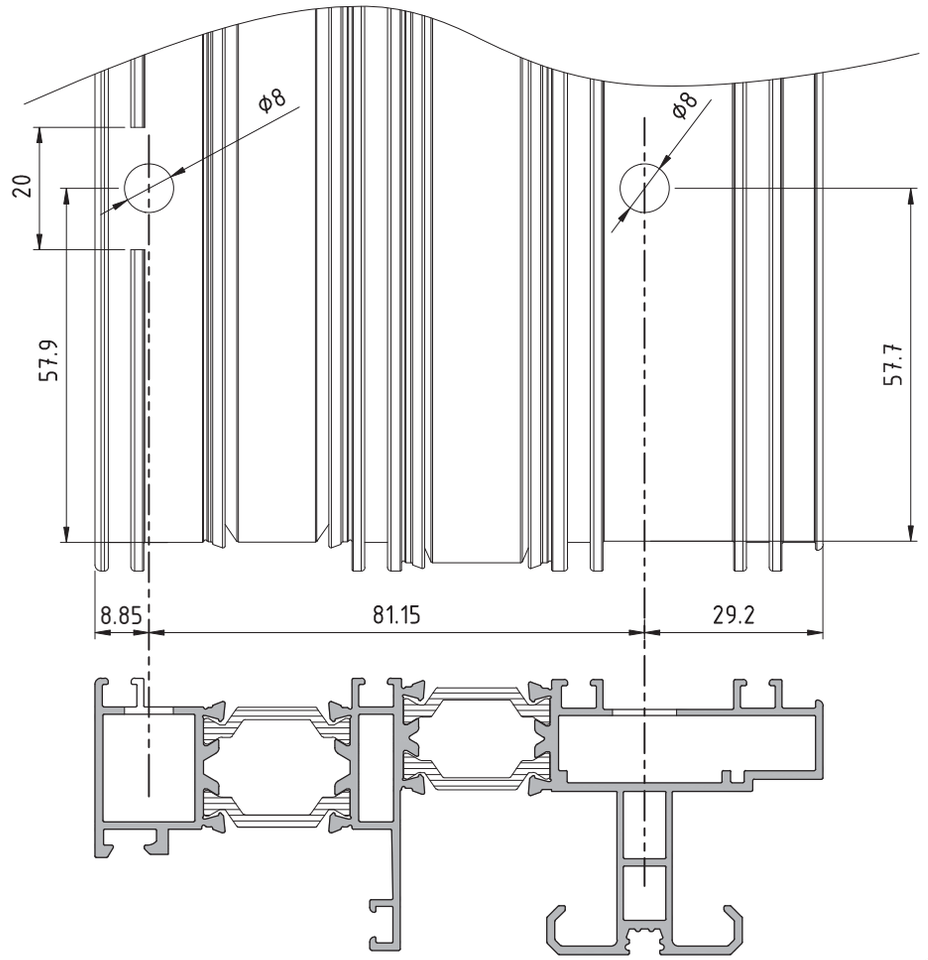


MACHINING IS PERFORMED BY PUNCHING MACHINE

ALWAYS APPLY SEALANT AT THE JOINTS OF THE FRAME COMPONENTS



MACHINING ON RAIL E-50150 FOR FIXING WITH EXTRUDED ALUMINUM JOINT CORNER BRACKETS M50-50

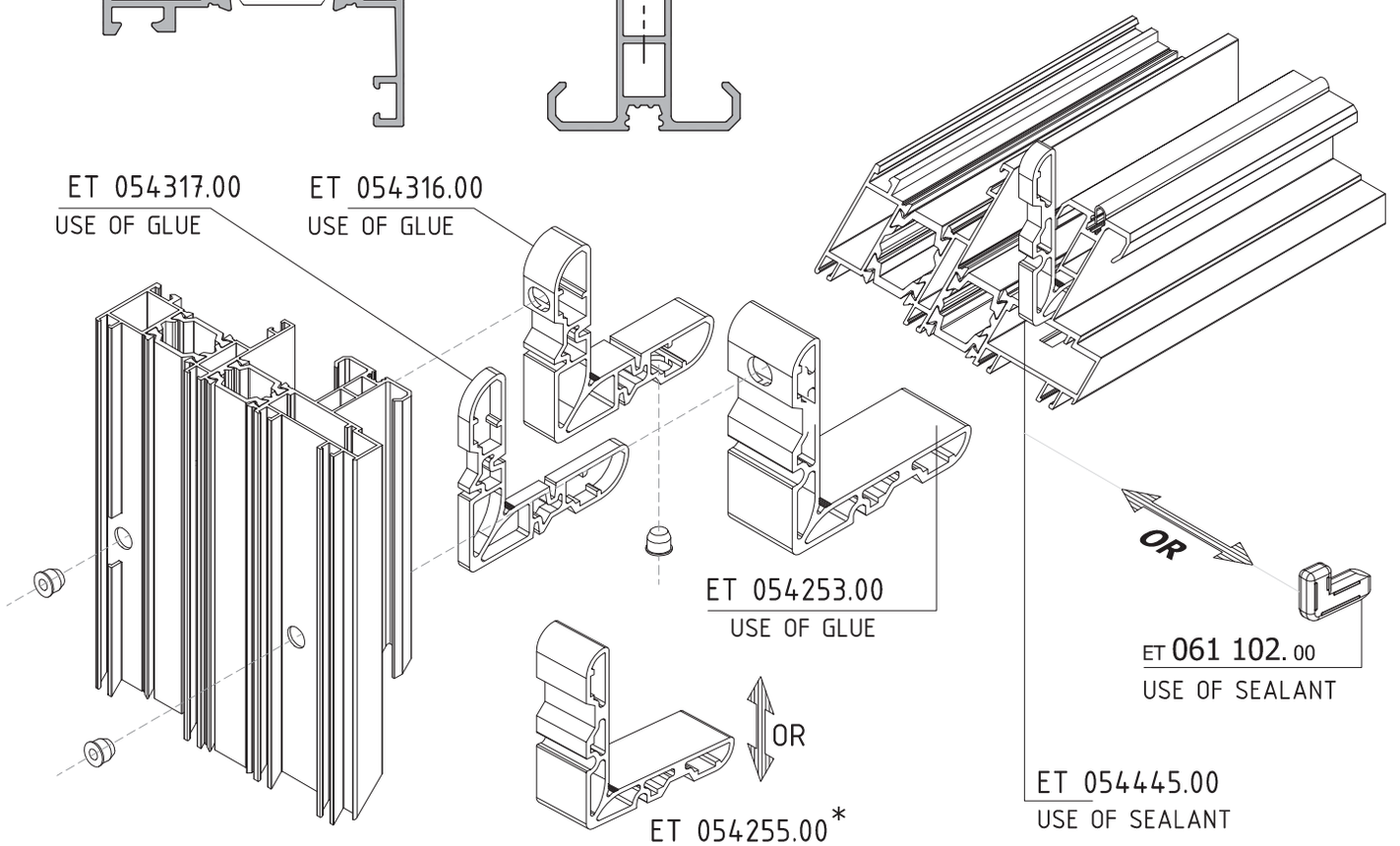


MACHINING IS PERFORMED BY PUNCHING MACHINE

ALWAYS APPLY SEALANT AT THE JOINTS OF THE FRAME COMPONENTS

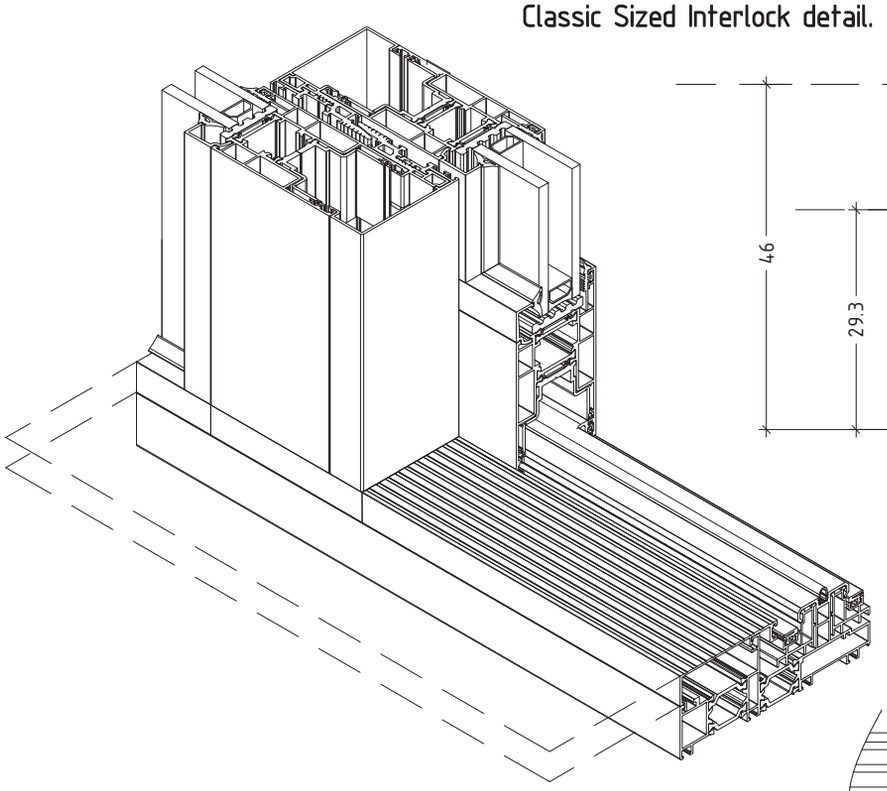
* ATTENTION: EXTRUDED AL. JOINT CORNER BRACKET ET.054255.00 IS USED ONLY FOR CRIMPING MACHINE

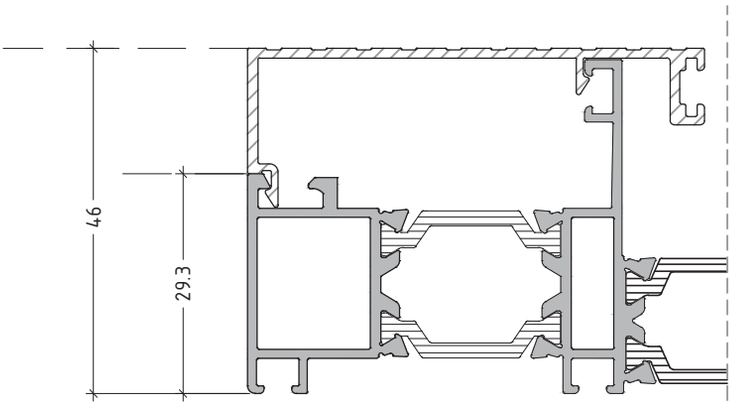
IF CRIMPING MACHINE IS USED THEN NO MACHINING NEEDED AT THE FRAME PROFILES



Two Possible floor approaches for the Monorail position for Balcony Door.
Classic Sized Interlock detail.

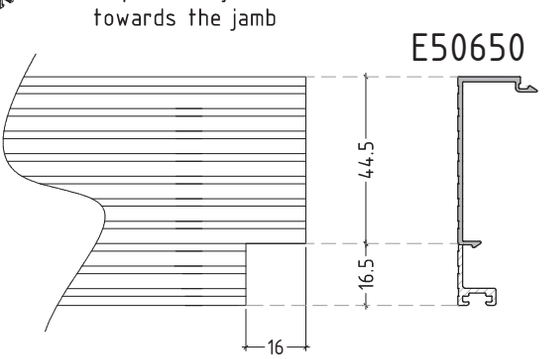
M50-51

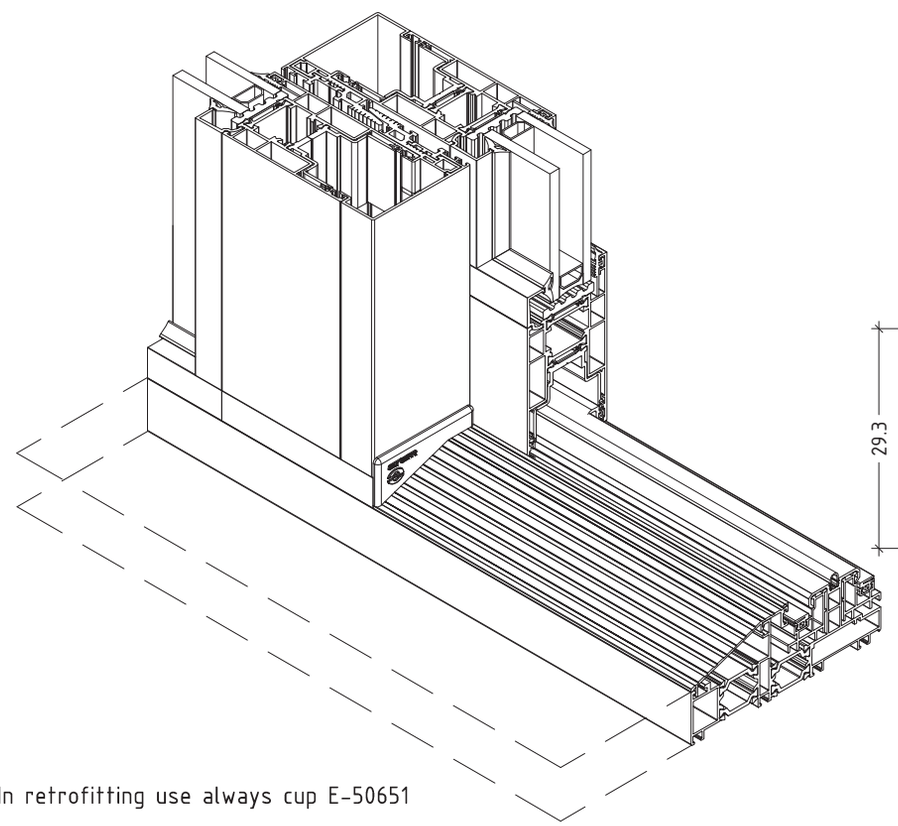


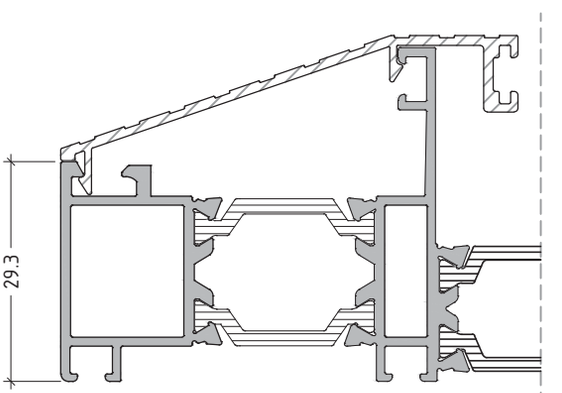


Two possible internal floor levels using cup E50650

Machining on E50650. Machining is required only at the side that is towards the jamb



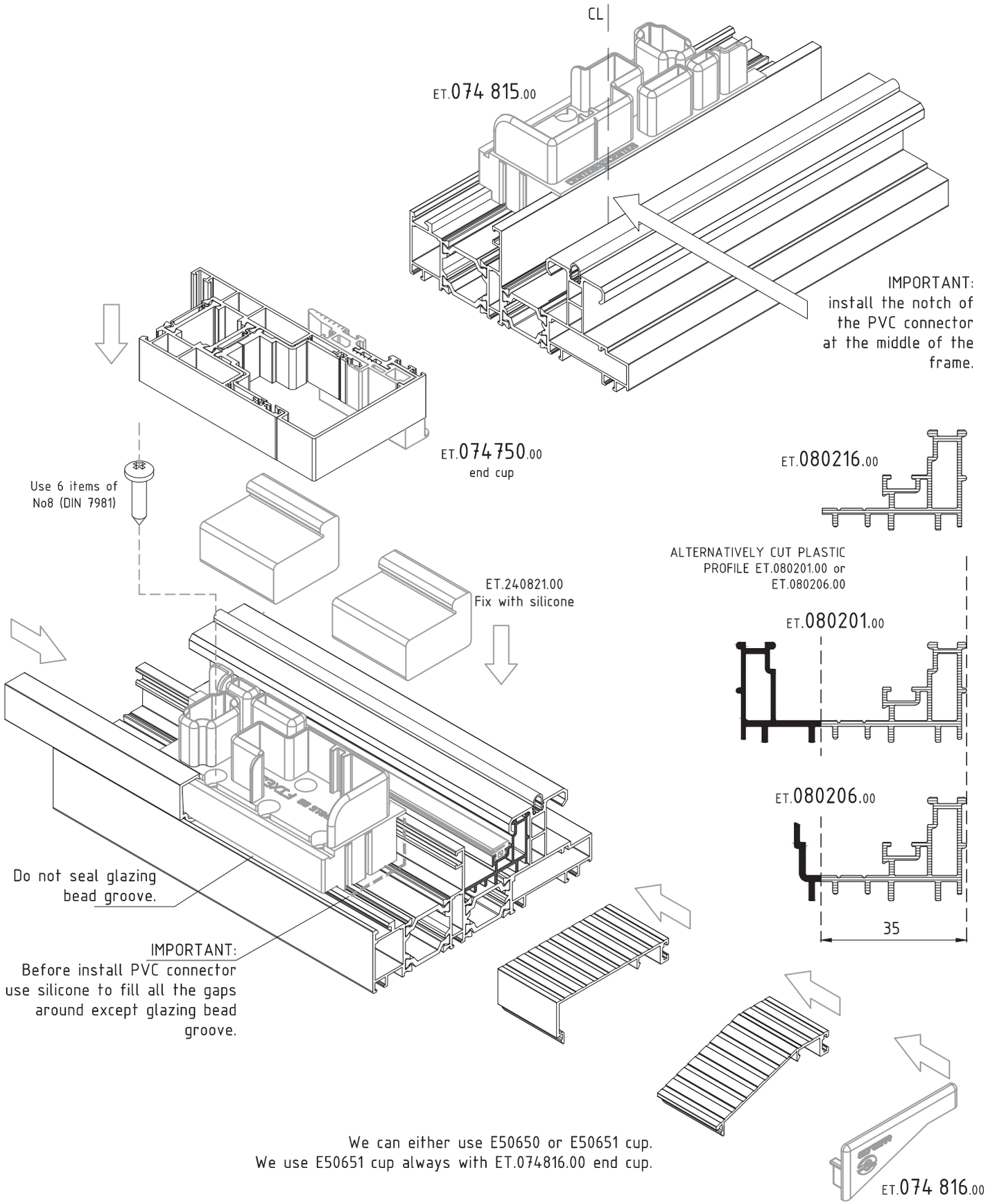




Two possible internal floor levels using cup E50651

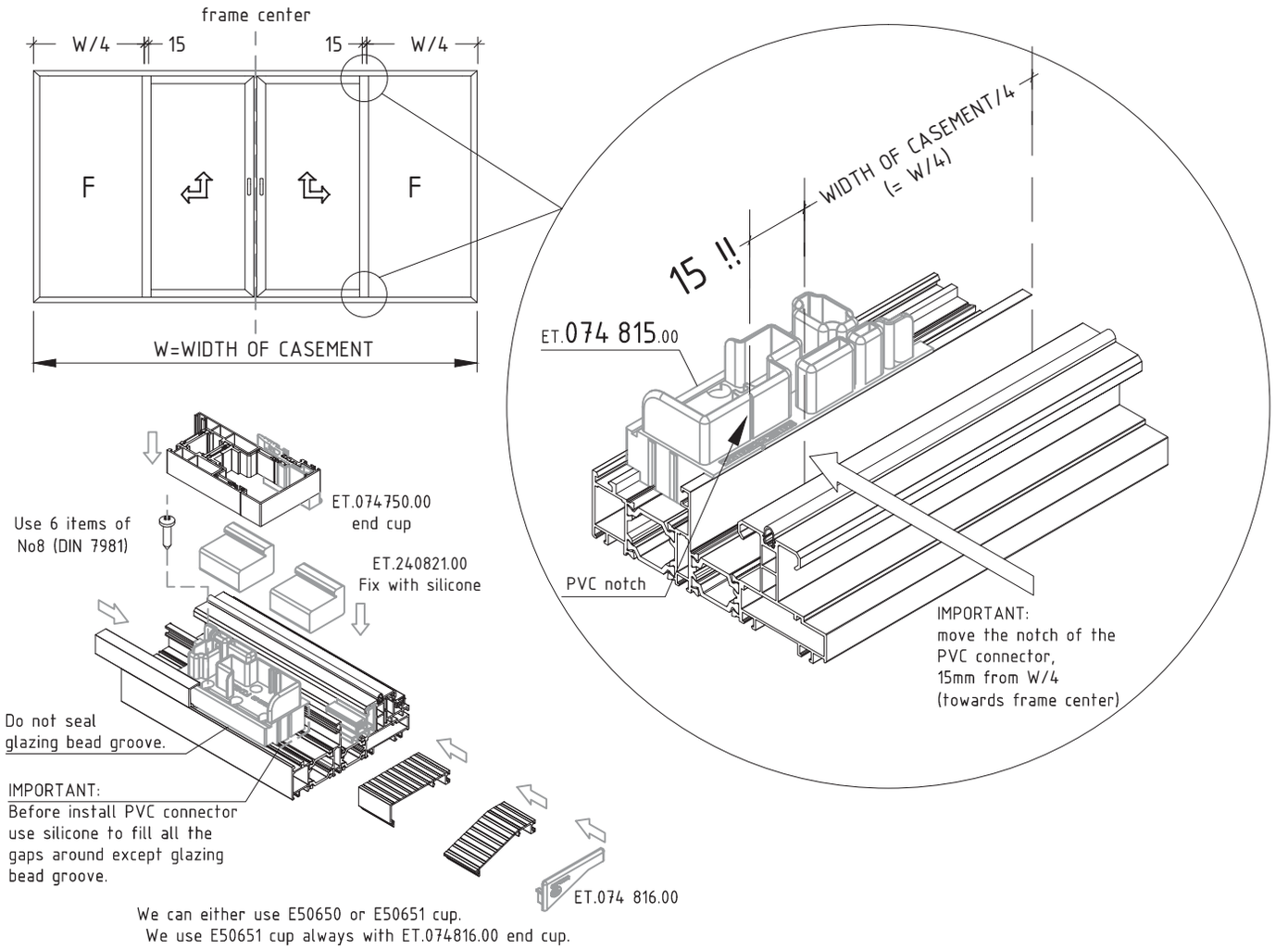
In retrofitting use always cup E-50651

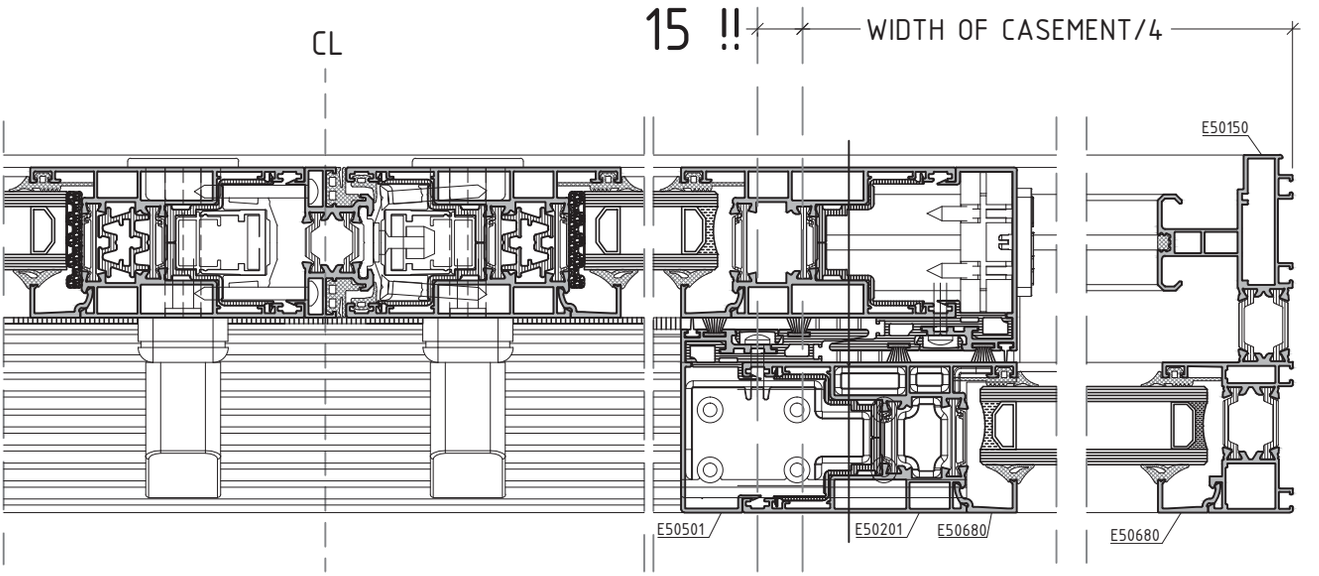
INSTRUCTIONS FOR FITTING ET 074815.00 Classic Sized Interlock detail. M50-52



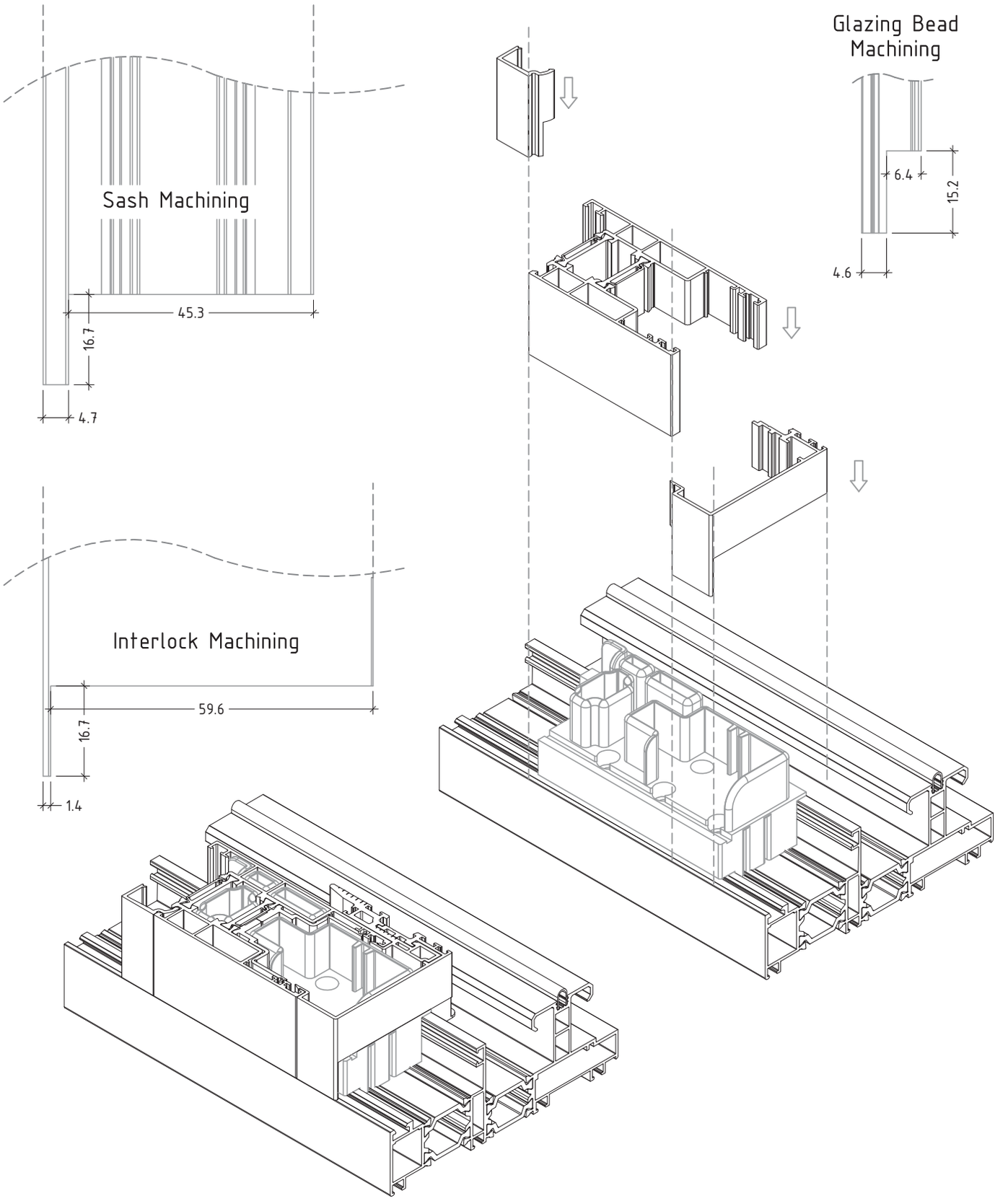
M50-52_1

INSTRUCTIONS FOR FITTING ET 074815.00 HOTEL TYPE
FIXED - FACING DOUBLE VENT LIFT & SLIDE - FIXED

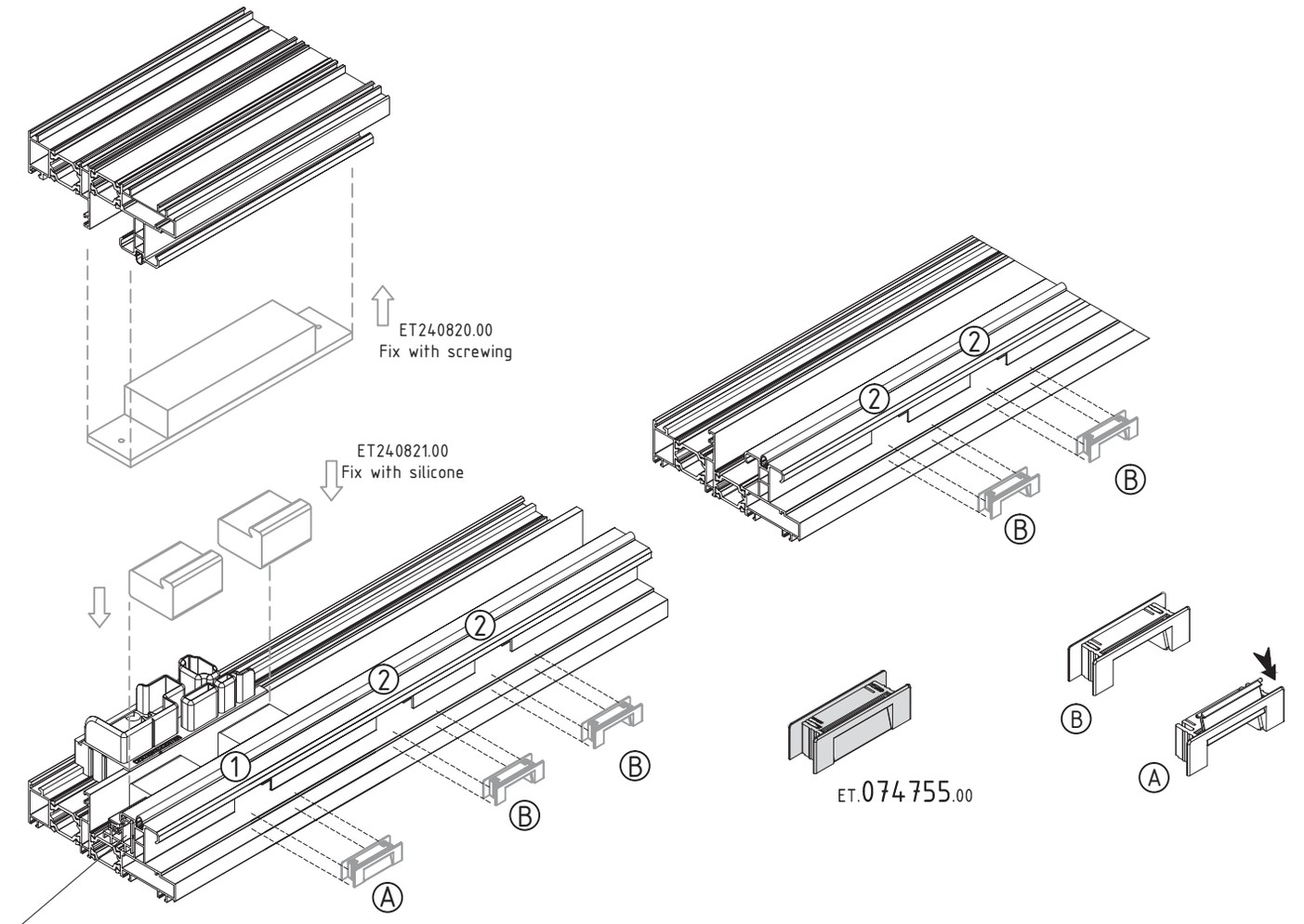




INSTRUCTIONS Monorail – Alternative View Machinings M50-52_2



INSTRUCTIONS FOR WATER DRAINAGE. Classic Sized Interlock detail. M50-53

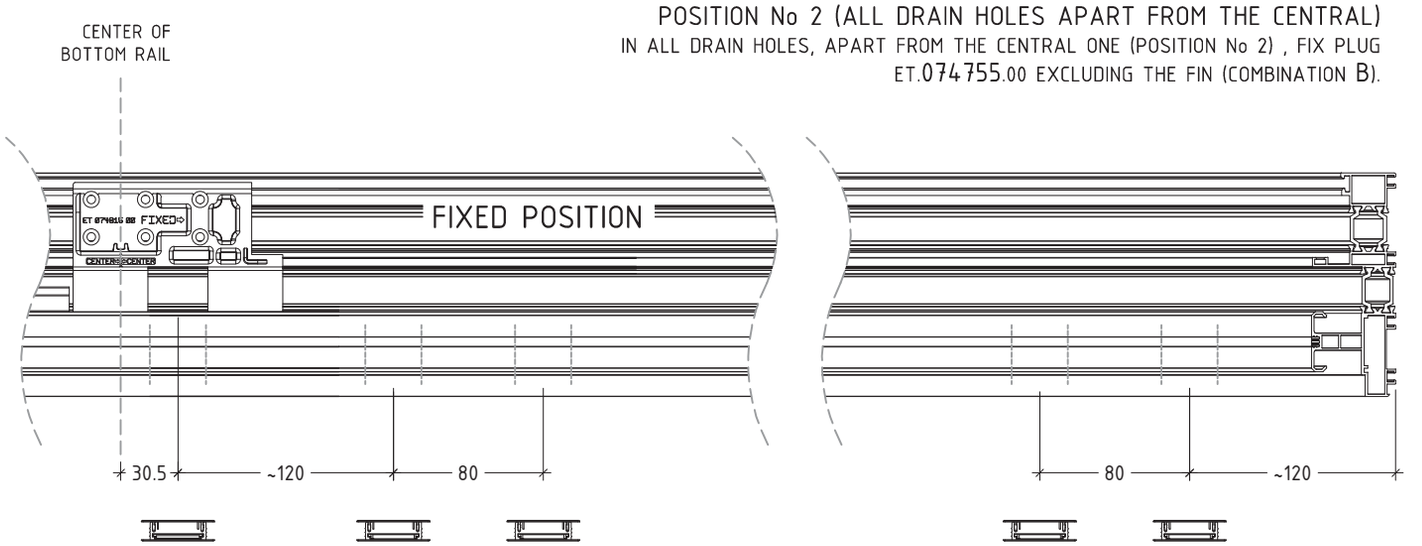


POSITION No 1 (CENTER OF BOTTOM RAIL)

IN THE DRAIN HOLE, POSITIONED IN THE CENTER OF BOTTOM RAIL (POSITION No 1), ALWAYS FIX THE OUTER PART OF PLUG ET.074755.00, INCLUDING THE FIN (COMBINATION A)

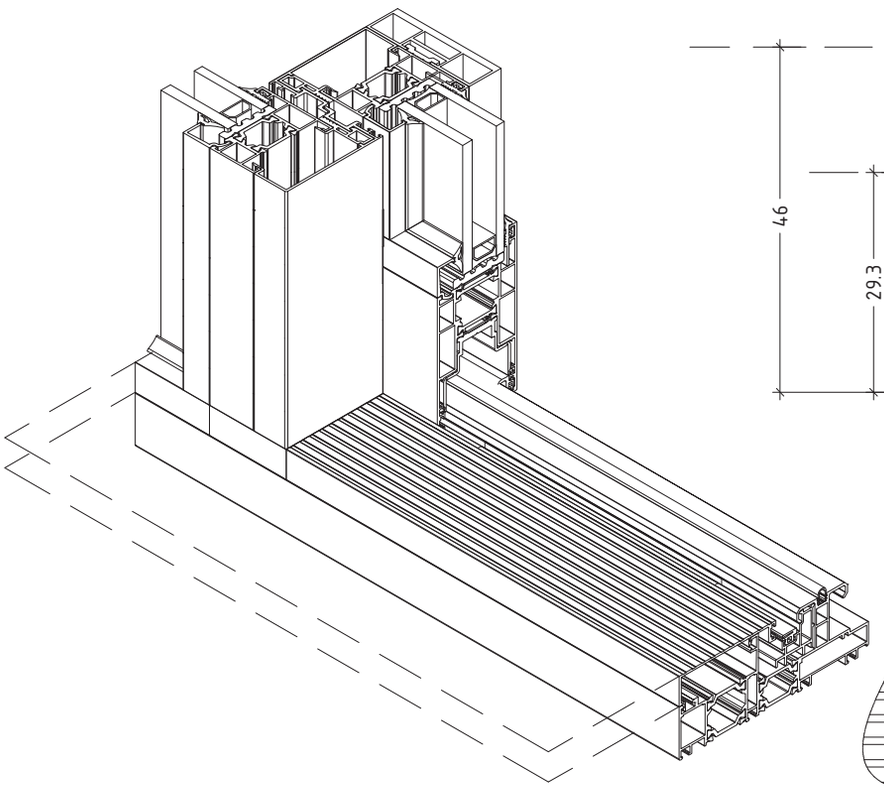
POSITION No 2 (ALL DRAIN HOLES APART FROM THE CENTRAL)

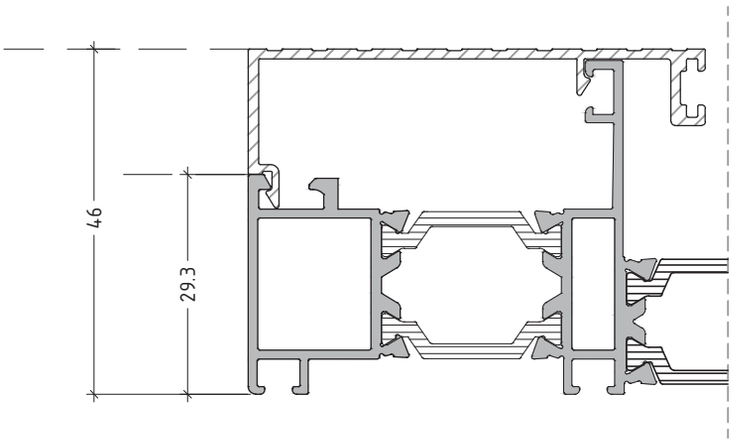
IN ALL DRAIN HOLES, APART FROM THE CENTRAL ONE (POSITION No 2) , FIX PLUG ET.074755.00 EXCLUDING THE FIN (COMBINATION B).



Two Possible floor approaches for the Monorail position for Balcony Door.
Narrow Sized Interlock detail.

M50-54

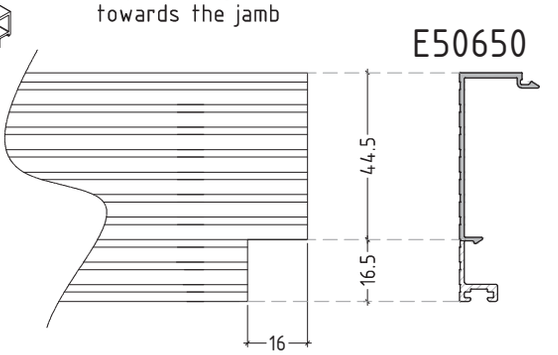


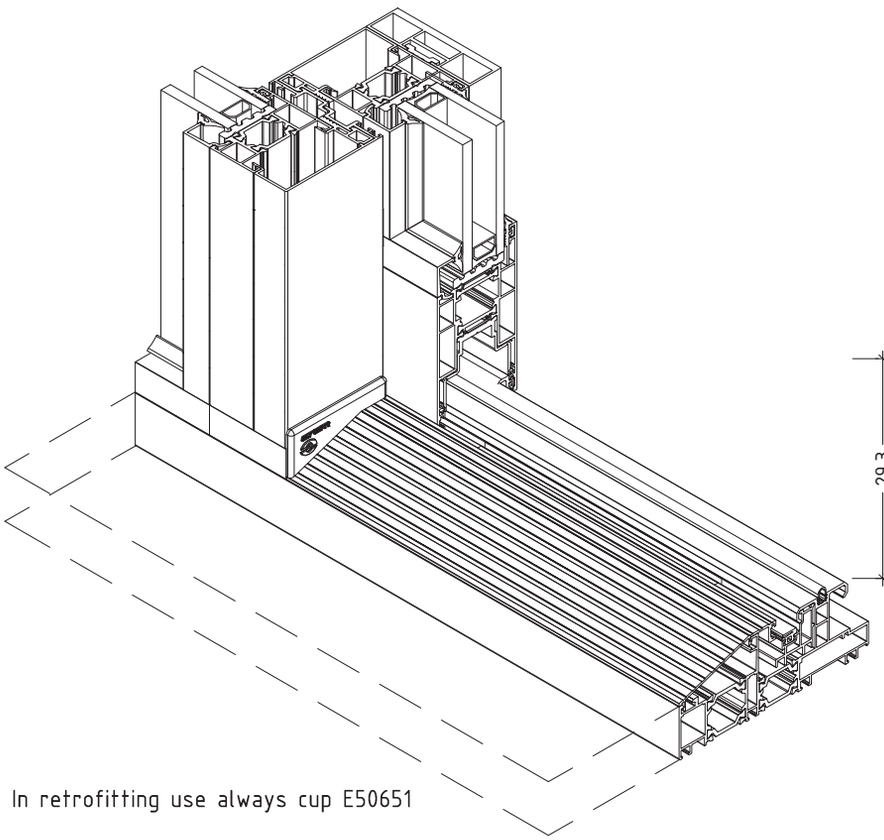


Two possible internal floor levels using cup E50650

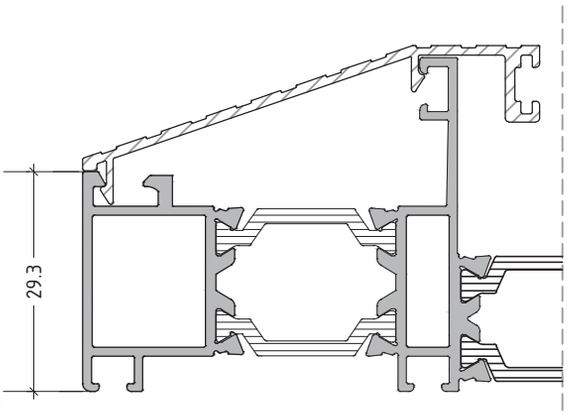
Machining on E50650. Machining is required only at the side that is towards the jamb

E50650



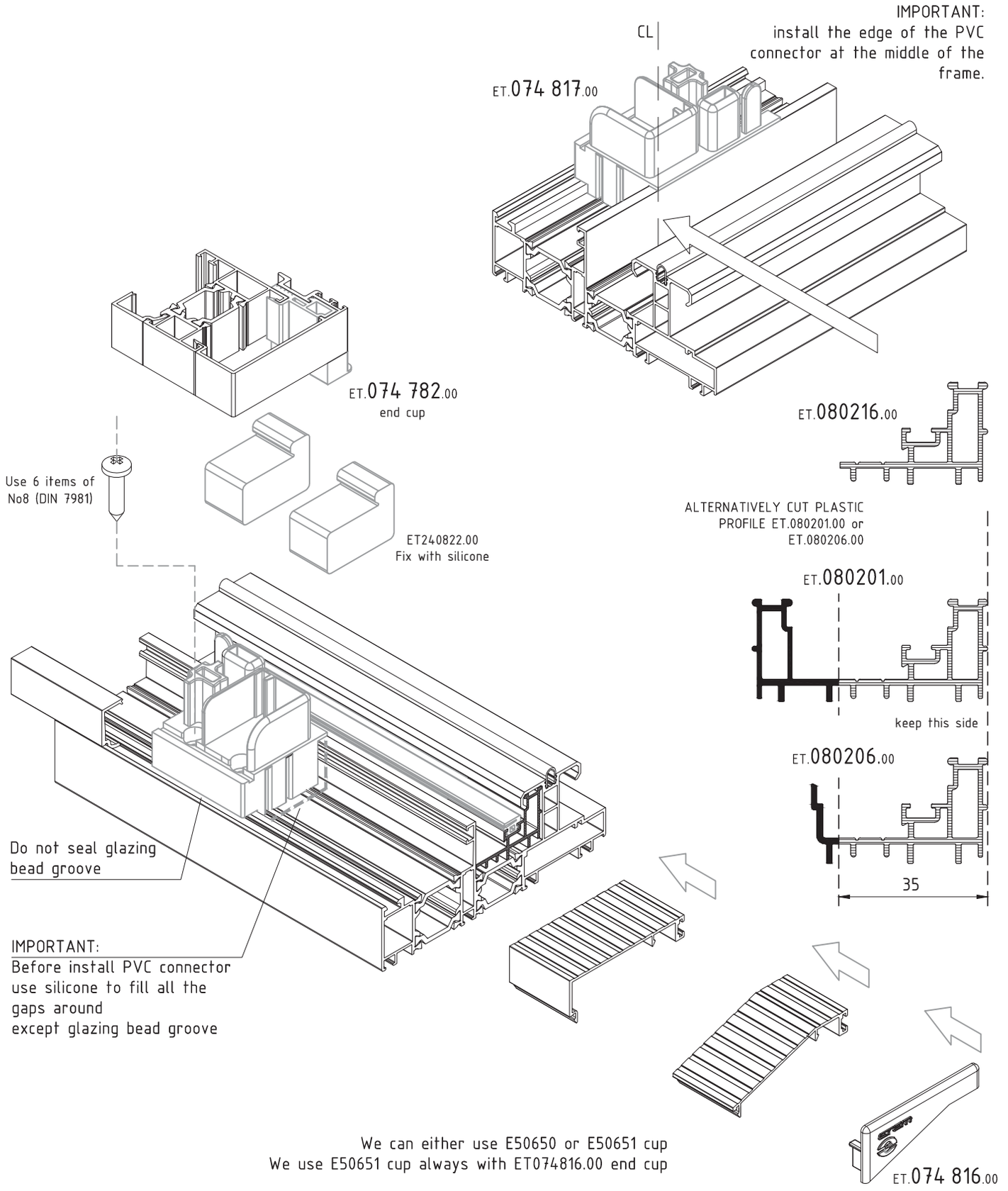


In retrofitting use always cup E50651

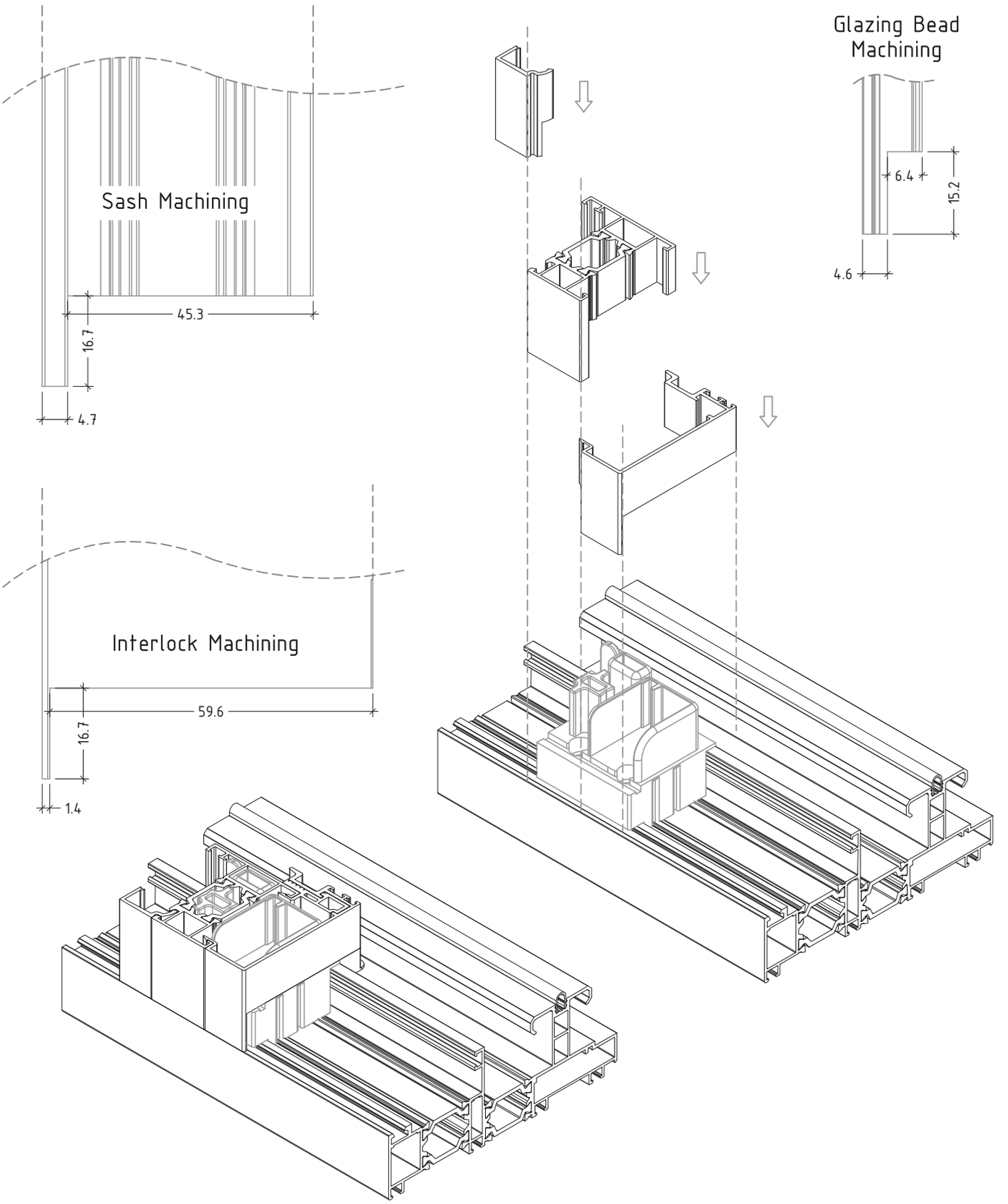


Two possible internal floor levels using cup E50651

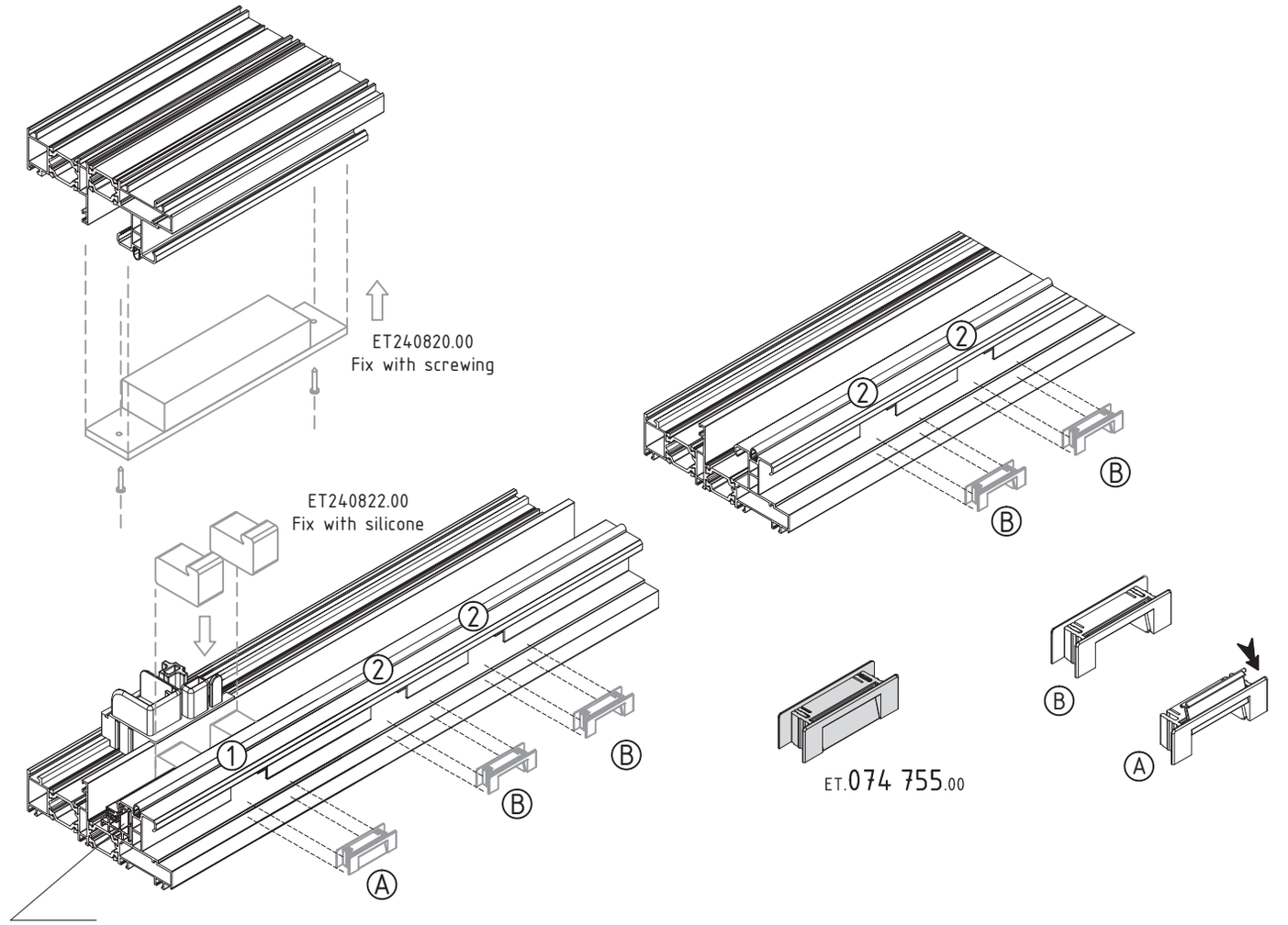
INSTRUCTIONS FOR FITTING ET 074817.00 Narrow Sized Interlock detail. M50-55



INSTRUCTIONS Monorail - Alternative View Machinings M50-55_1



INSTRUCTIONS FOR WATER DRAINAGE. Narrow Sized Interlock detail. M50-56

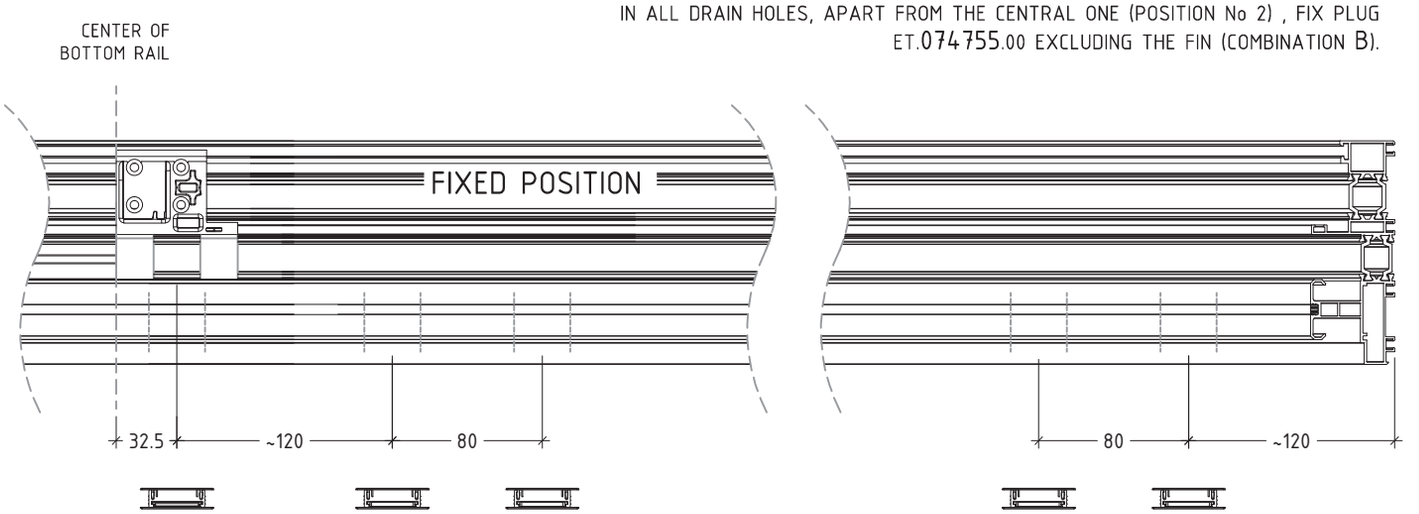


POSITION No 1 (CENTER OF BOTTOM RAIL)

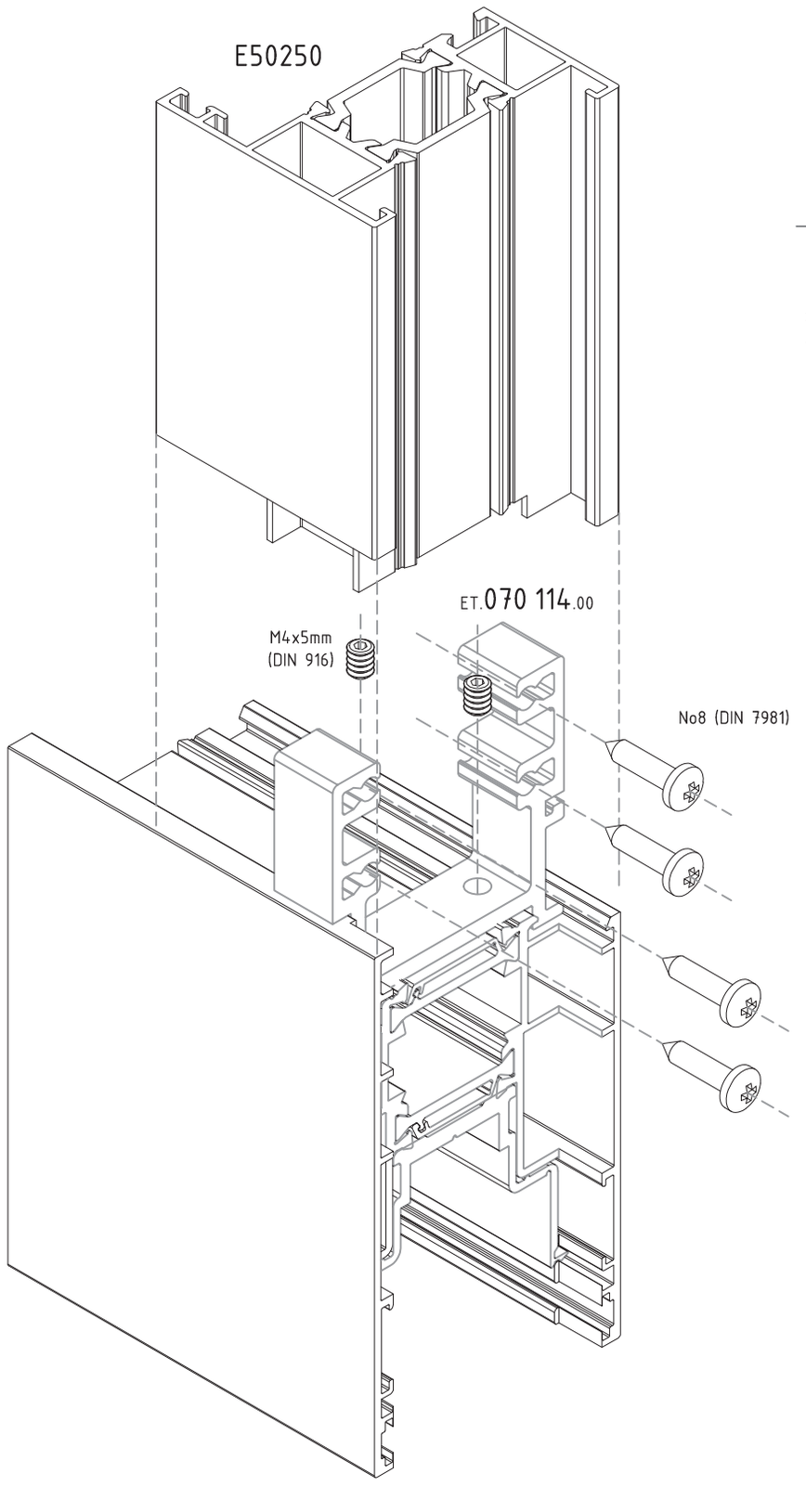
IN THE DRAIN HOLE, POSITIONED IN THE CENTER OF BOTTOM RAIL (POSITION No 1), ALWAYS FIX THE OUTER PART OF PLUG ET.074755.00, INCLUDING THE FIN (COMBINATION A)

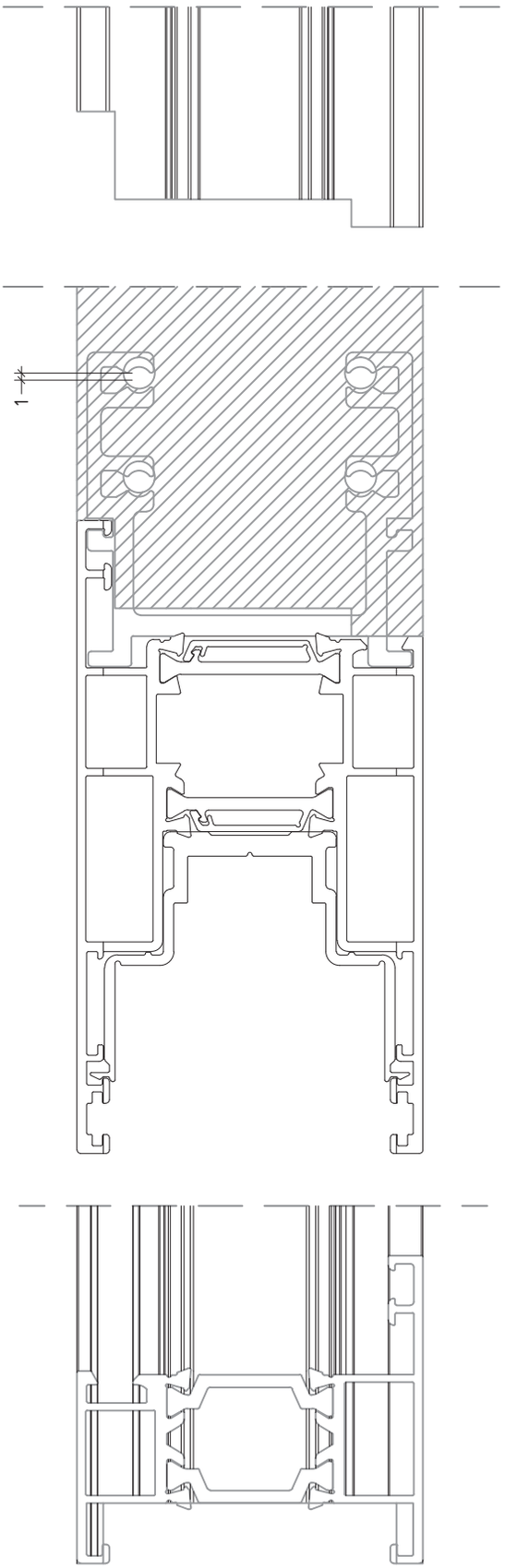
POSITION No 2 (ALL DRAIN HOLES APART FROM THE CENTRAL)

IN ALL DRAIN HOLES, APART FROM THE CENTRAL ONE (POSITION No 2) , FIX PLUG ET.074755.00 EXCLUDING THE FIN (COMBINATION B).

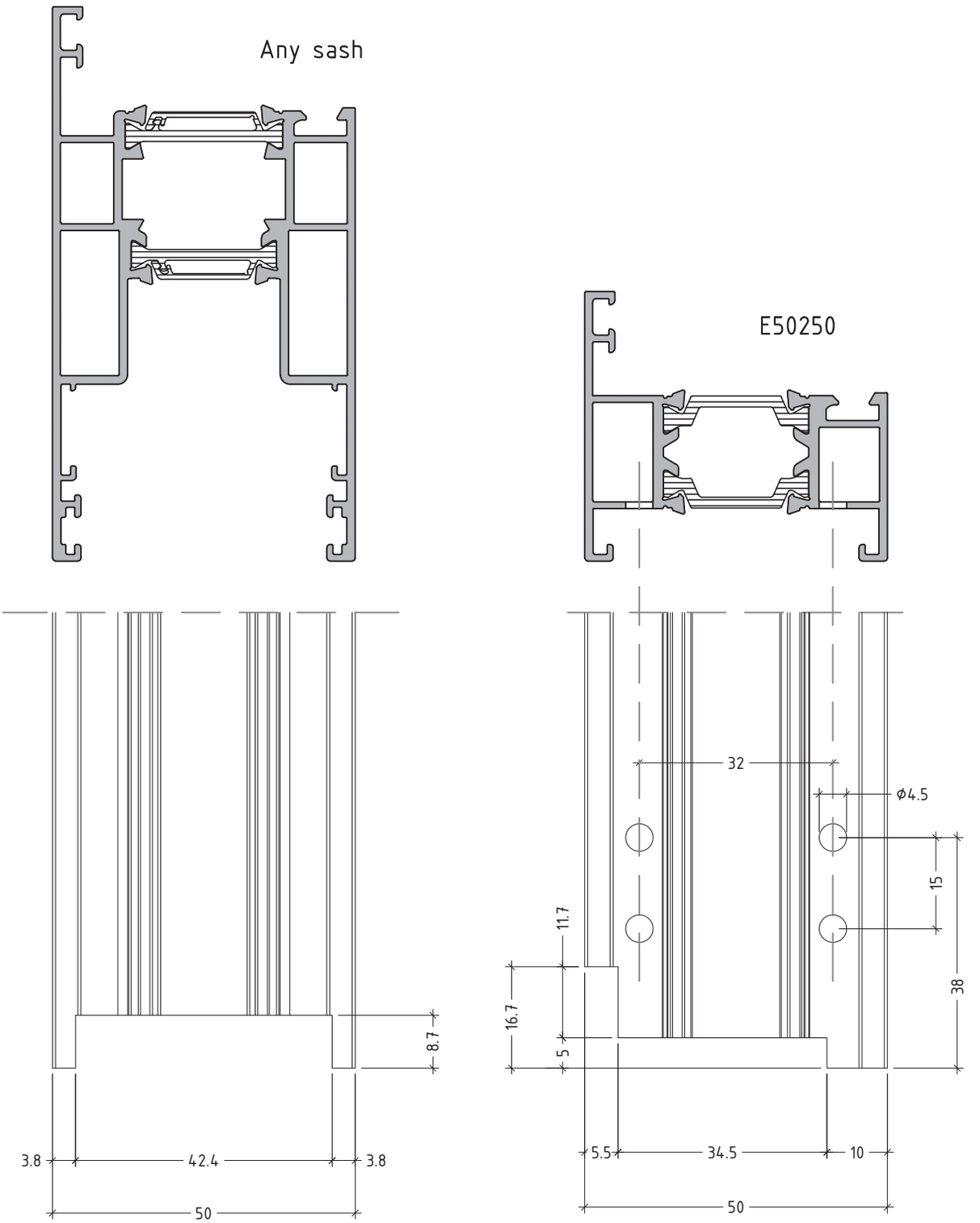


INSTRUCTIONS for E50250 connection. Narrow Sized Interlock detail. M50-57

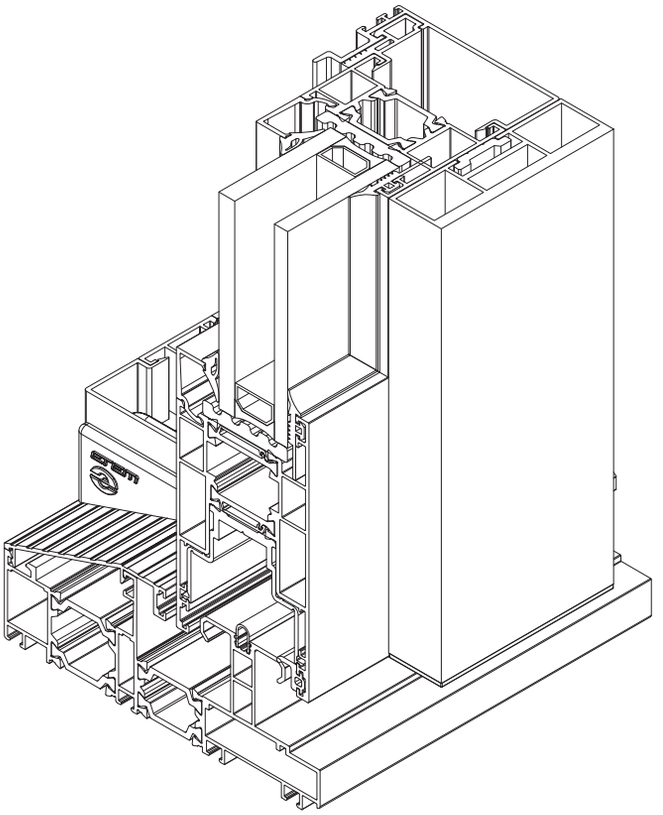


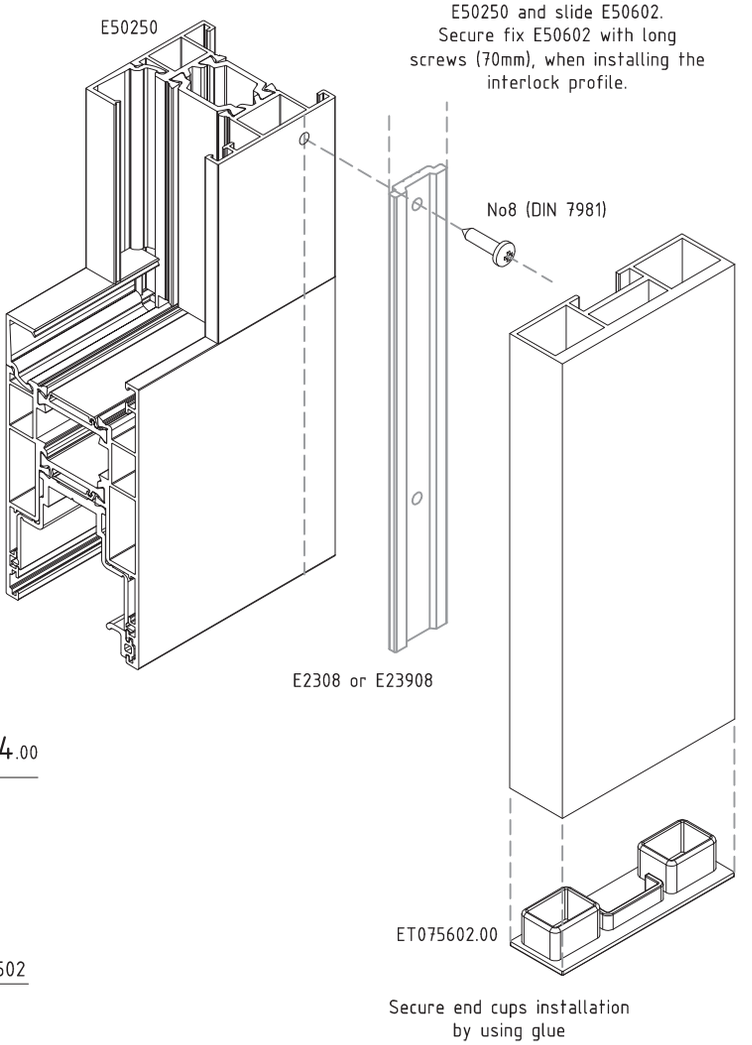


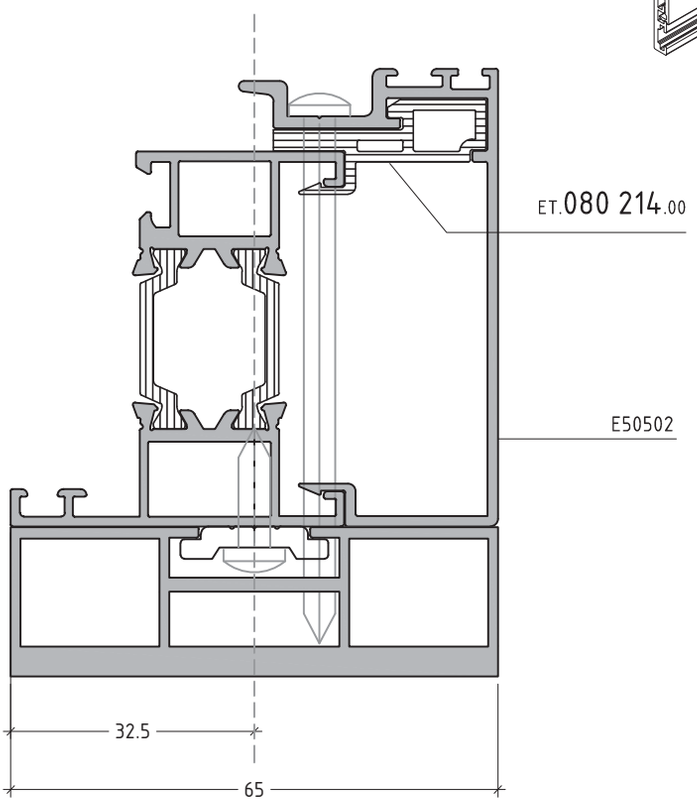
Machining for E50250 connection. Narrow Sized Interlock detail. M50-58



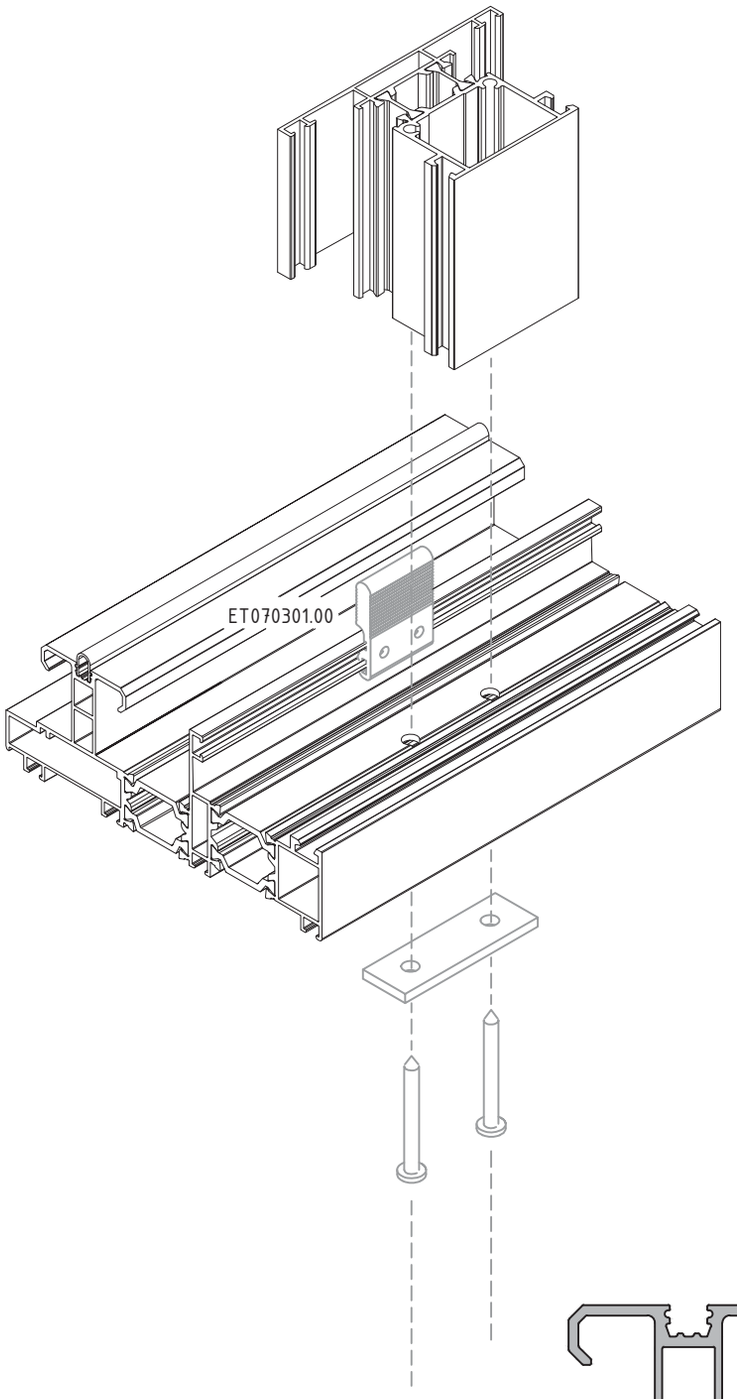
Instructions for fitting E50602 interlock reinforcing profile. M50-59

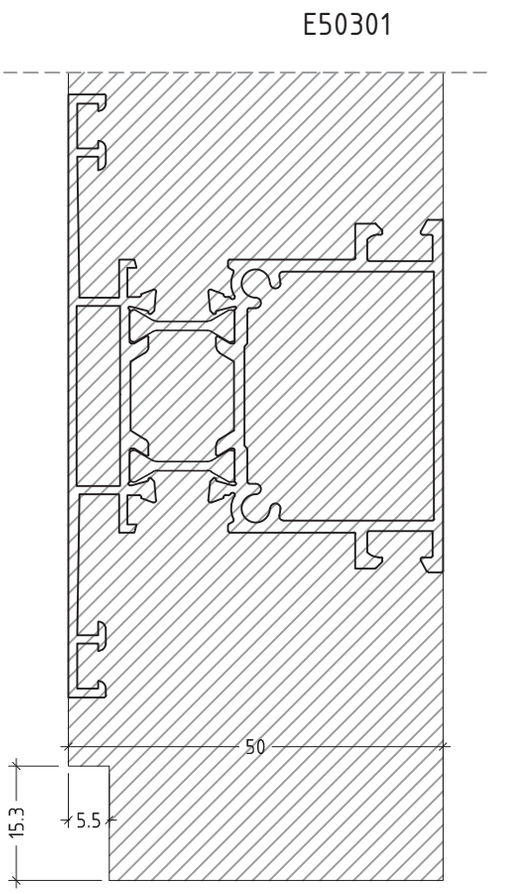


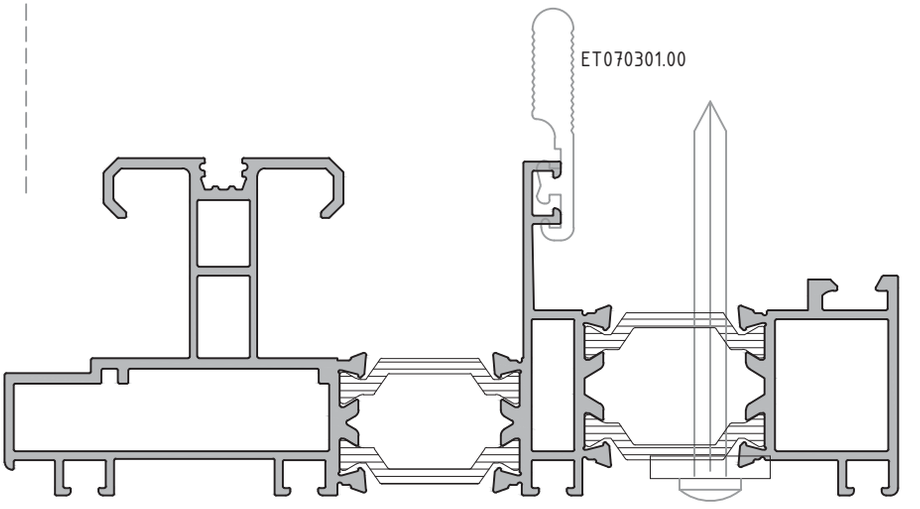




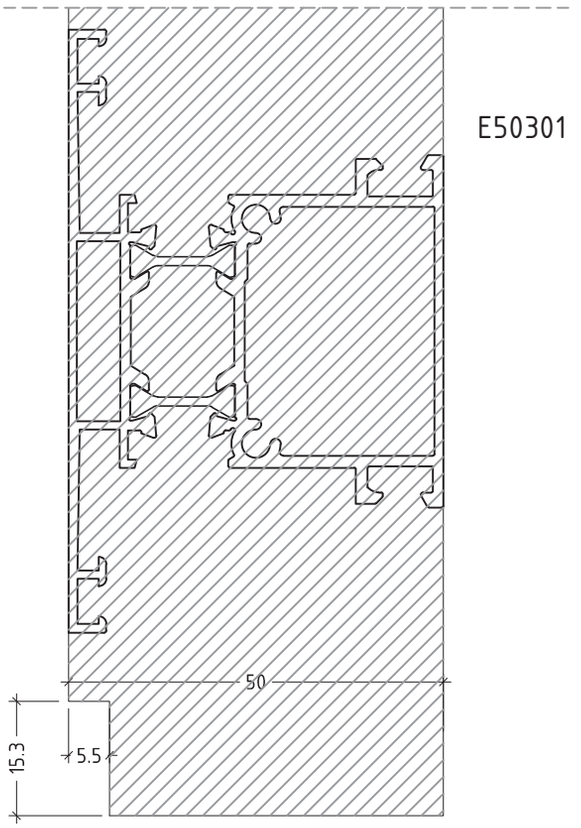
INSTRUCTIONS FOR FITTING E50301 on frame E50150 M50-60

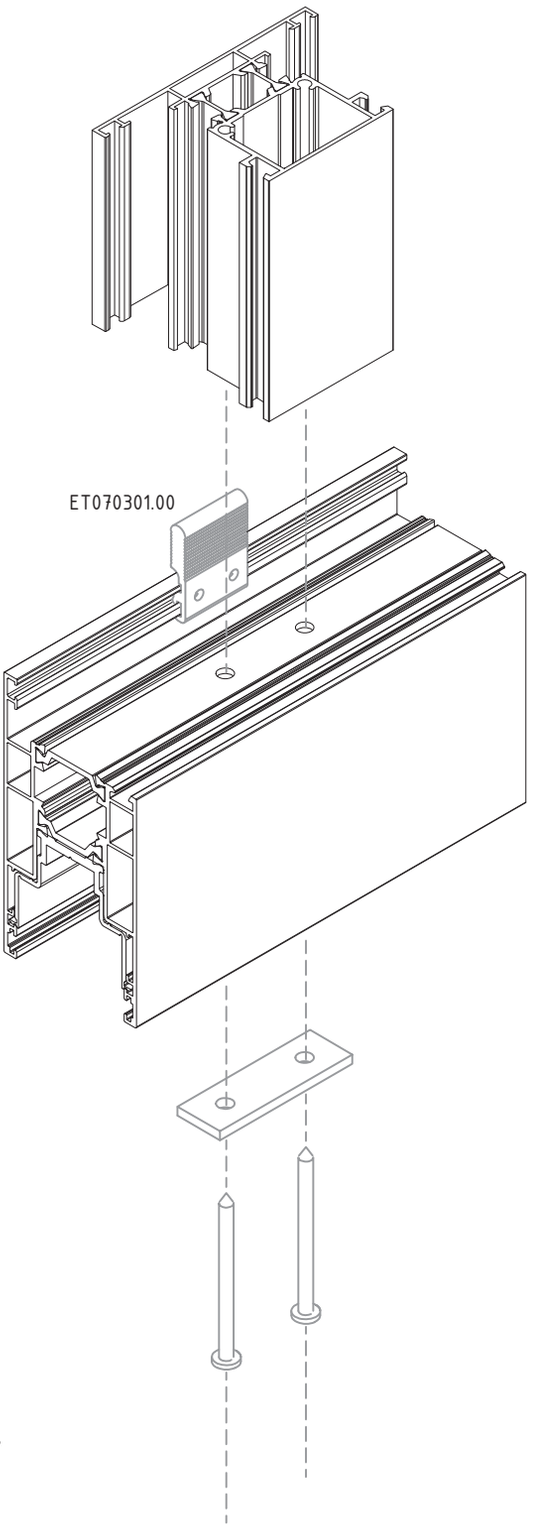


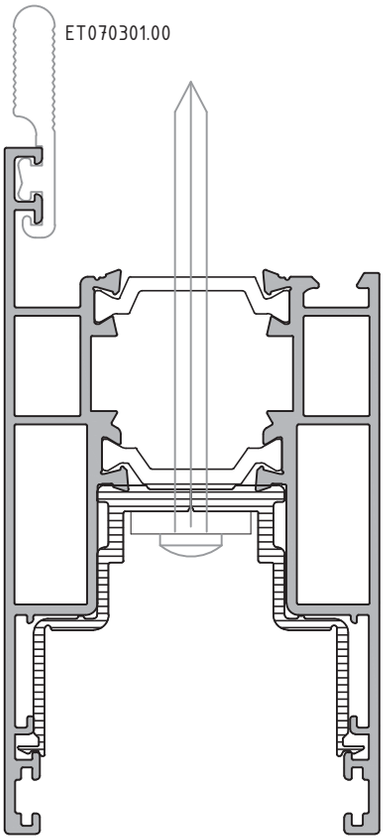




INSTRUCTIONS FOR FITTING E50301 on sash E50203 M50-61



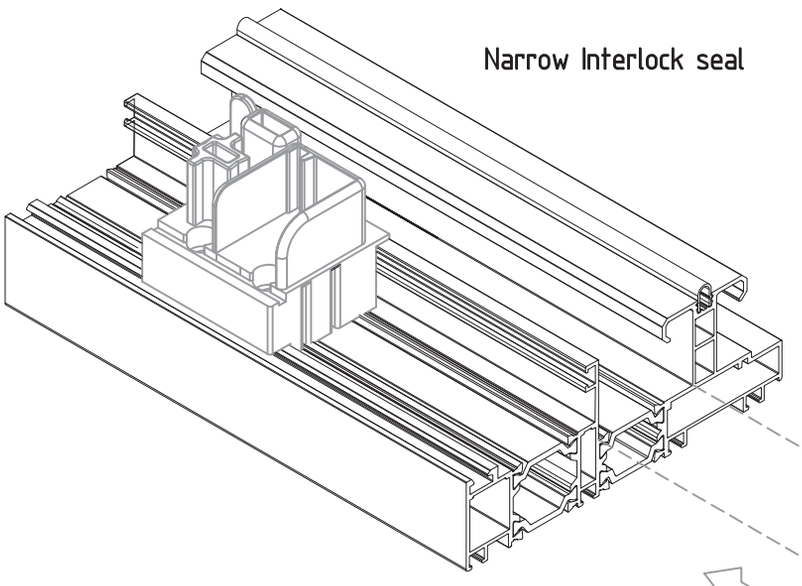


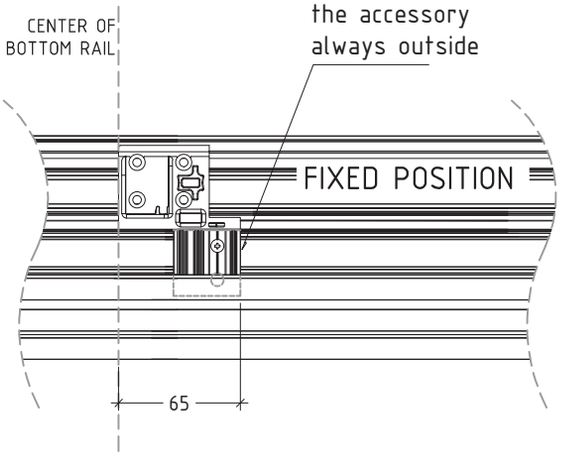


IMPORTANT:
When need "T" profile E50301,
always use sash E50203.

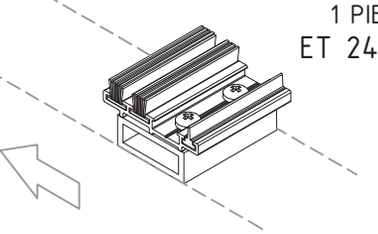
INSTRUCTIONS Monorail simple sliding (Not L&S) bottom interlock seal M50-62

Narrow Interlock seal



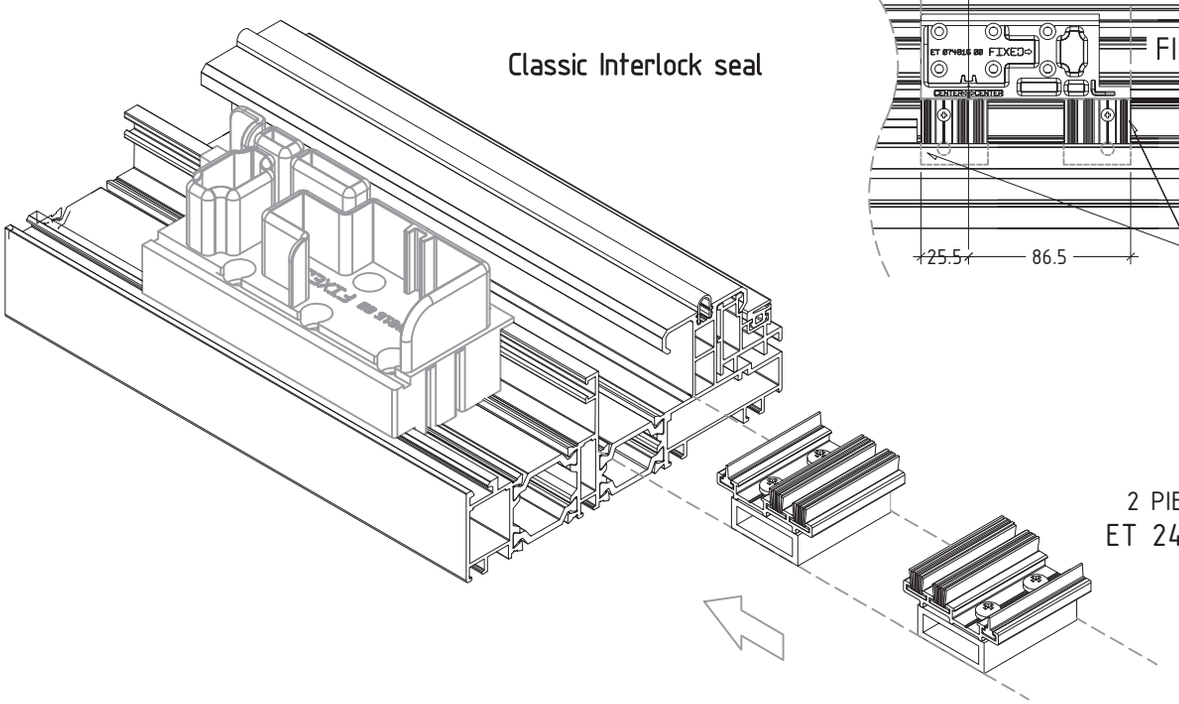


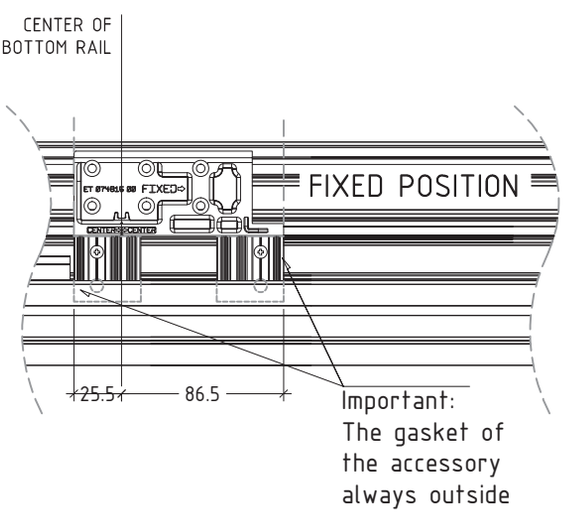
1 PIECE OF
ET 240823.00



Important:
You need to slide the accessories in the
E-50150 profile before close the frame.
Fix with glue and seal around with
silicone

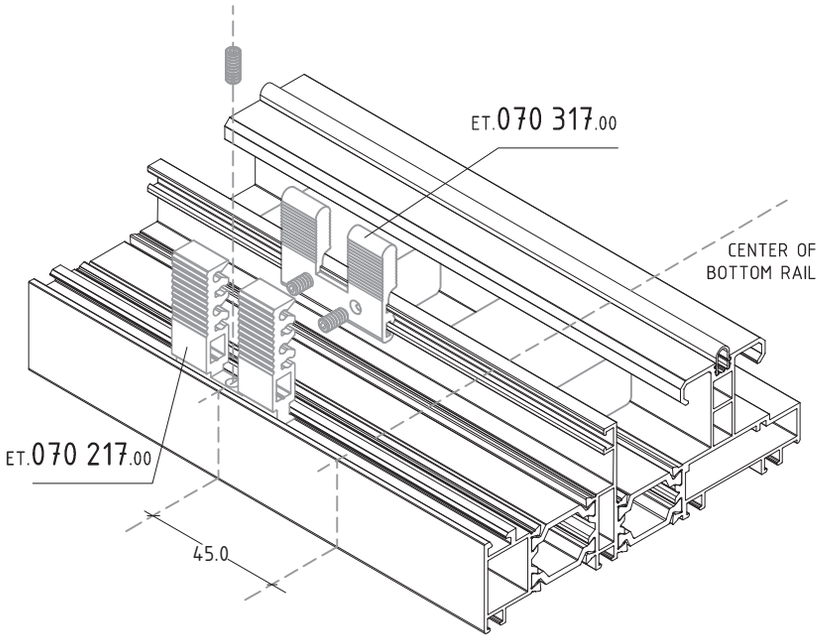
Classic Interlock seal

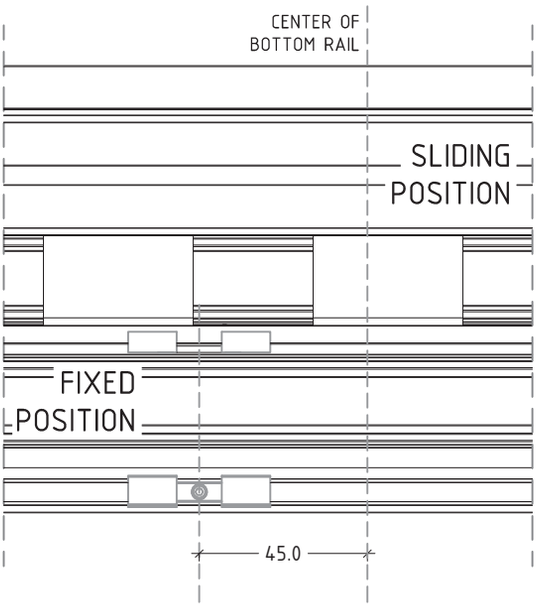




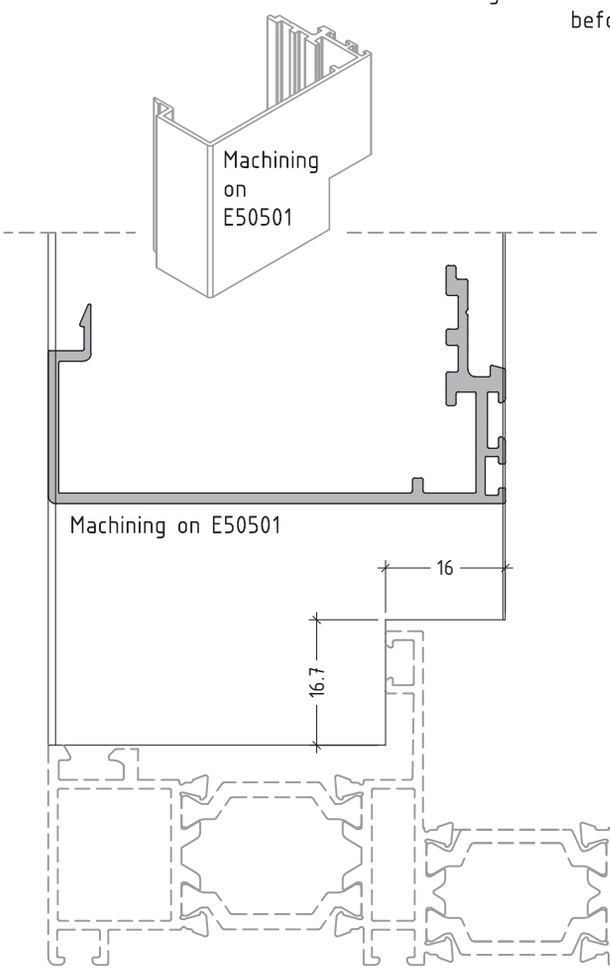
2 PIECES OF
ET 240823.00

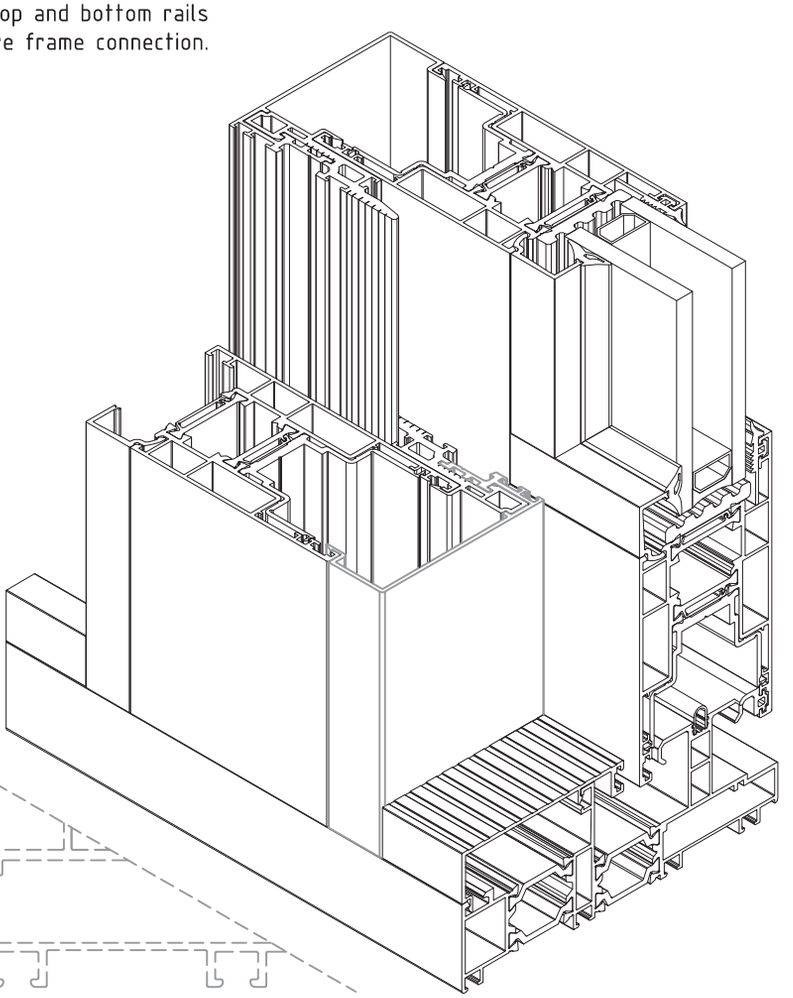
INSTRUCTIONS Monorail - Alternative Connection through Aluminum brackets M50-65



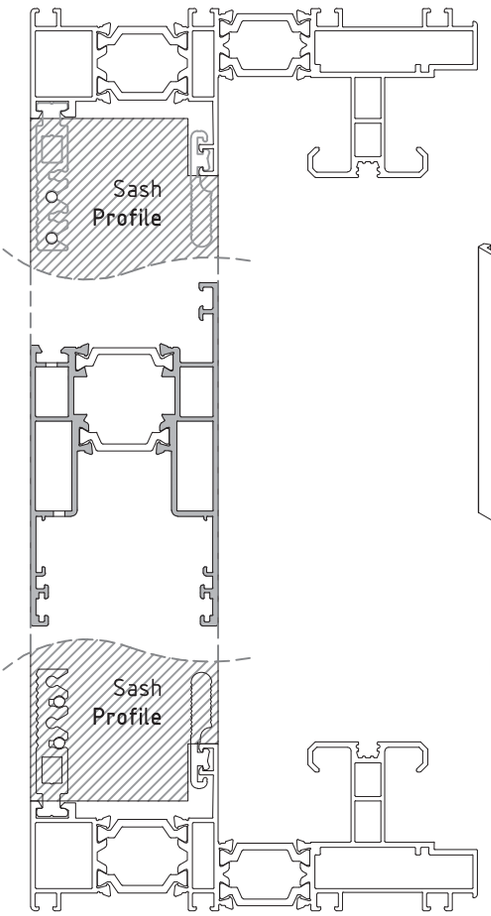


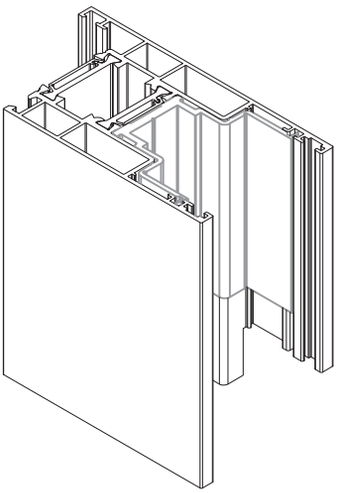
Slide Both ET **070217.00** and ET **070317.00** in the grooves of top and bottom rails before frame connection.



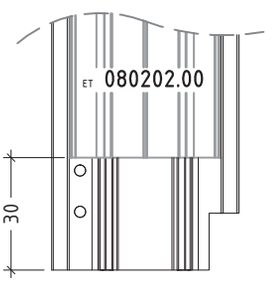


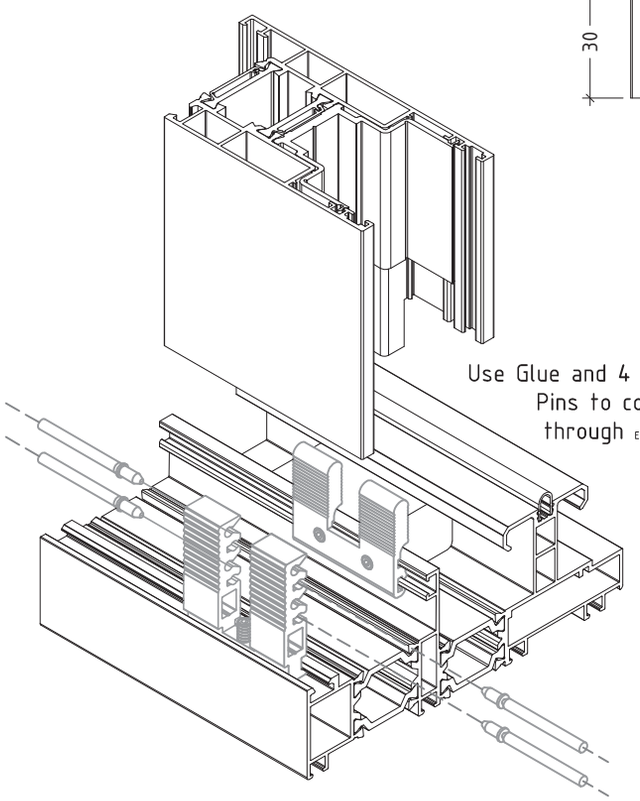
INSTRUCTIONS Monorail – Alternative Connection through Aluminum brackets M50-66





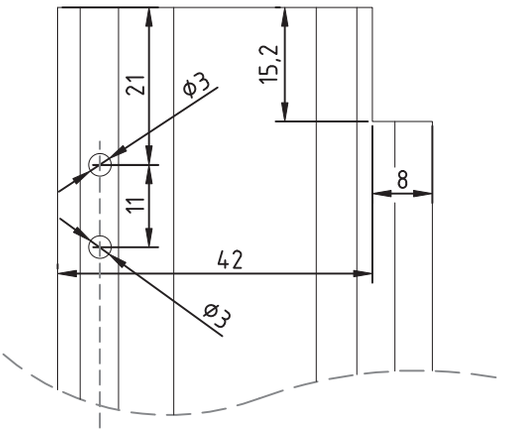
Reduce length of both sides of ET 080202.00 PVC Profile.



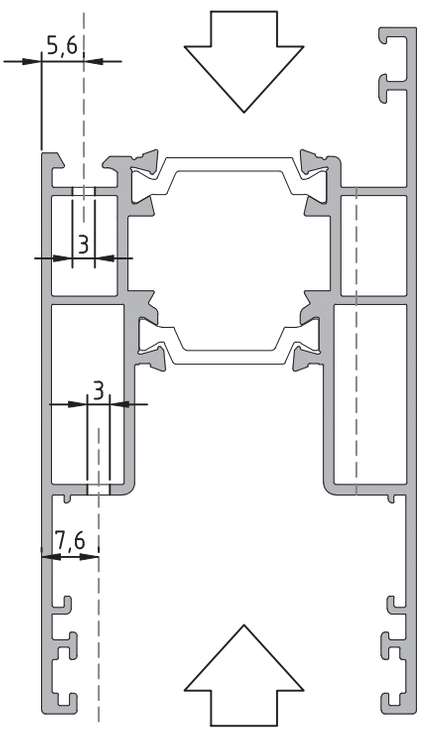


Use Glue and 4 x ET 143900.00 Roll Pins to connect Sash/Mullion through ET 070217.00 Bracket

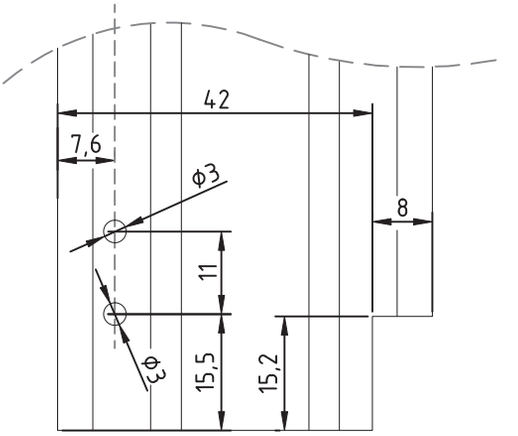
CAUTION !
Assembly sash/mullion profile before frame connection



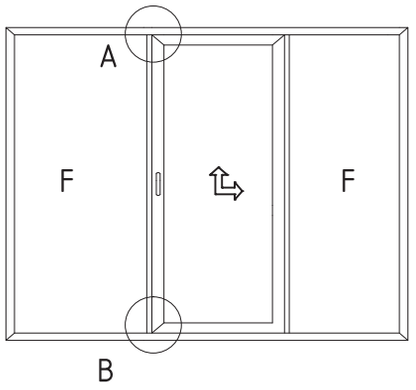
Machining for this side of sash

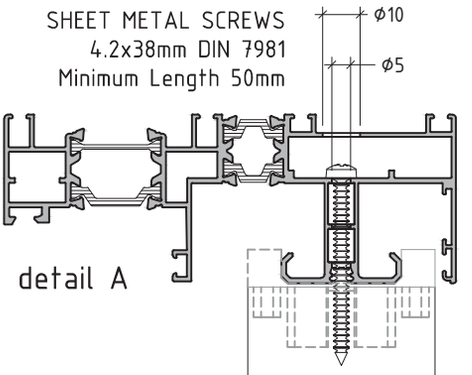


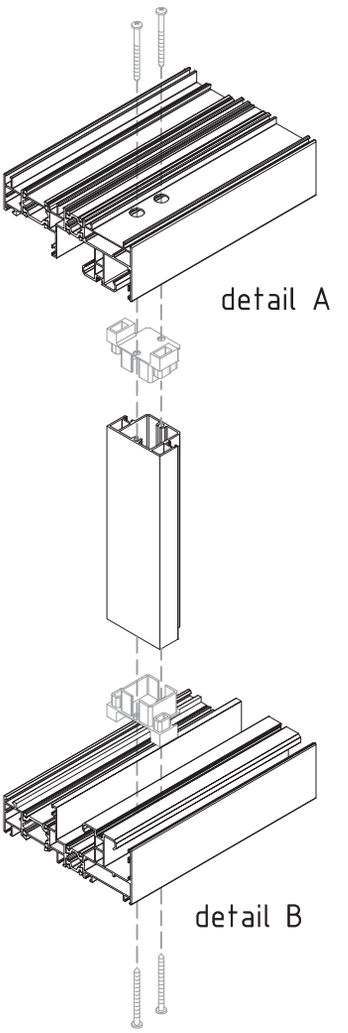
Machining for this side of sash

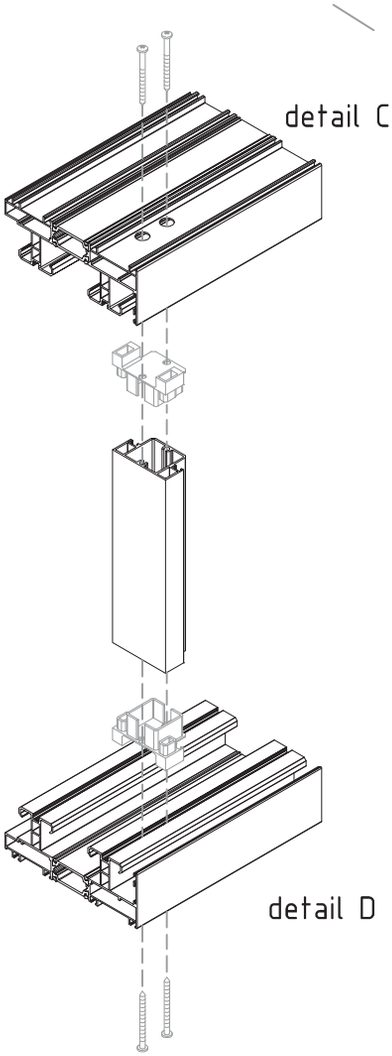


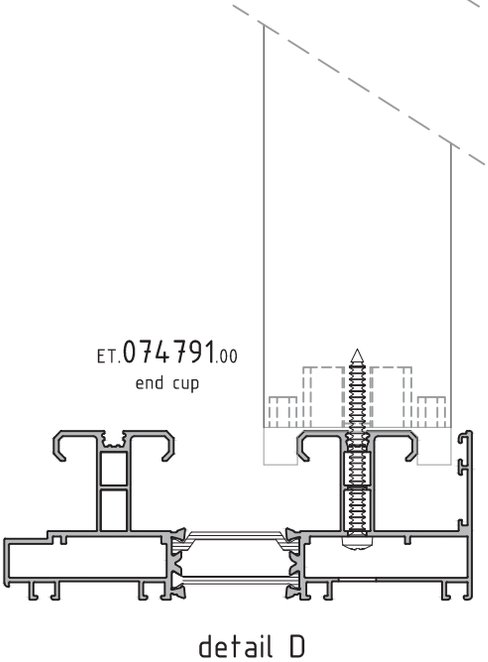
INSTRUCTIONS FOR FITTING ET 074791.00 Classic Sized Interlock detail. M50-67

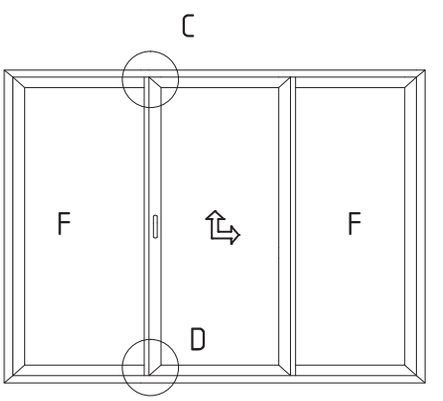






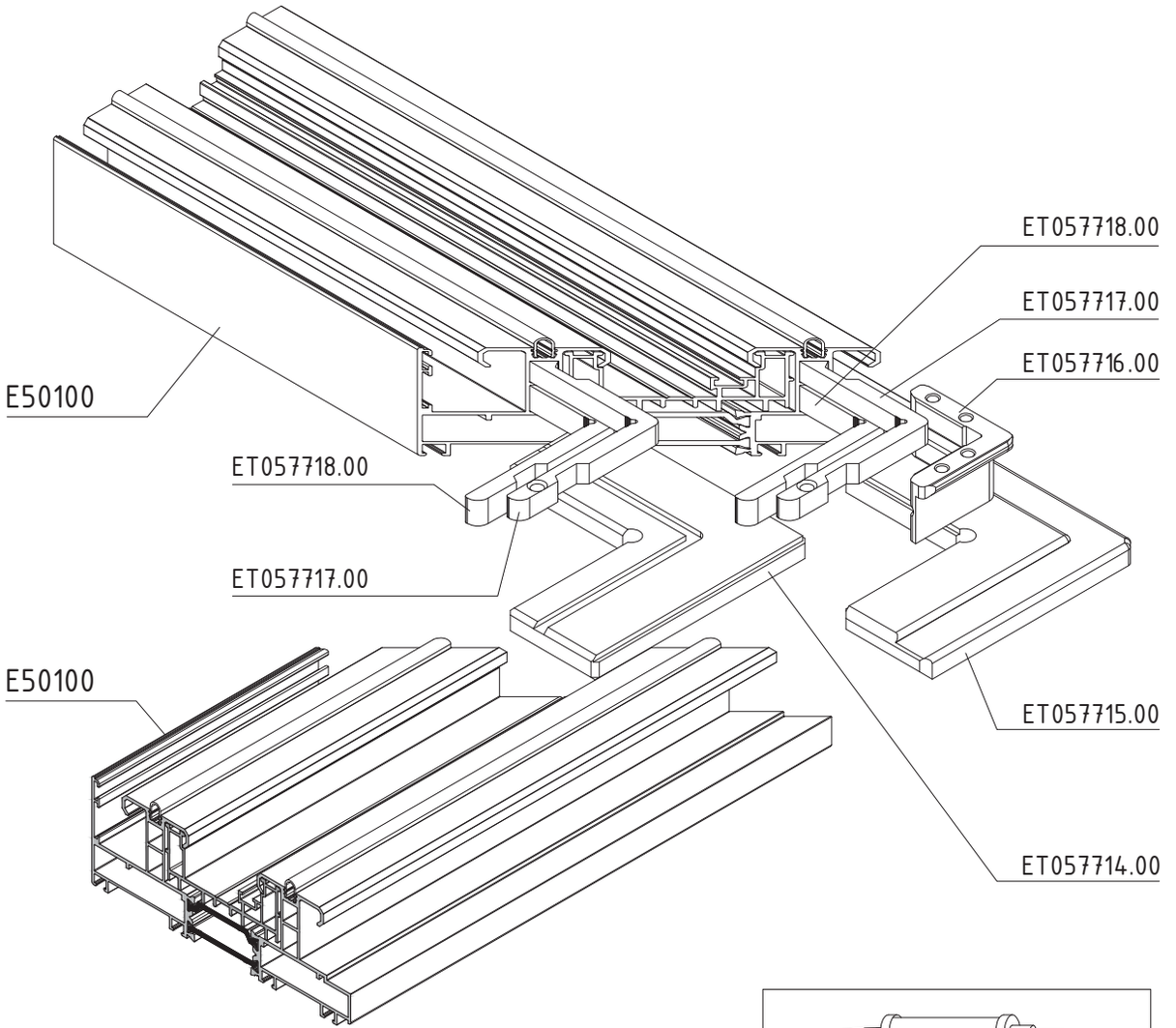




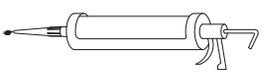


FRAME E50100 ALIGNMENT & ASSEMBLY
(FOR 90° CORNER)

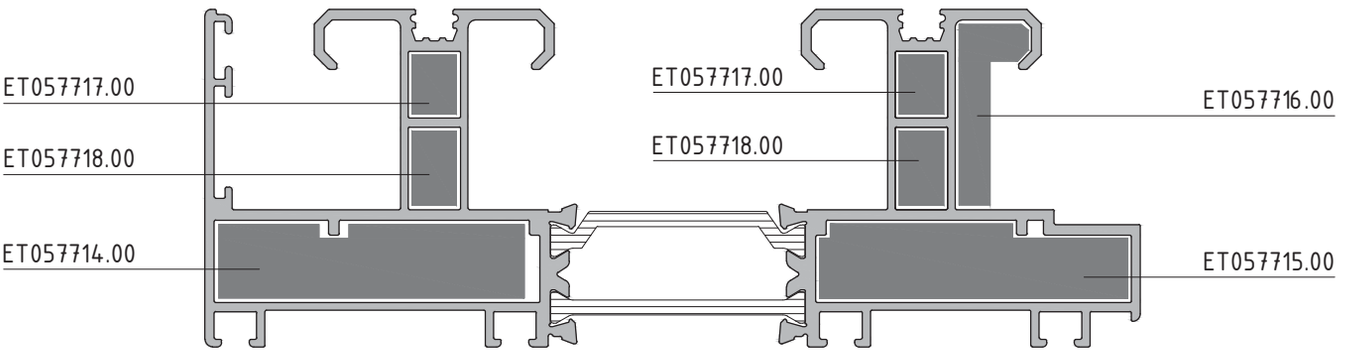
M50-68



ATTENTION: ALWAYS APPLY SEALANT
AT THE JOINT BETWEEN THE PROFILES

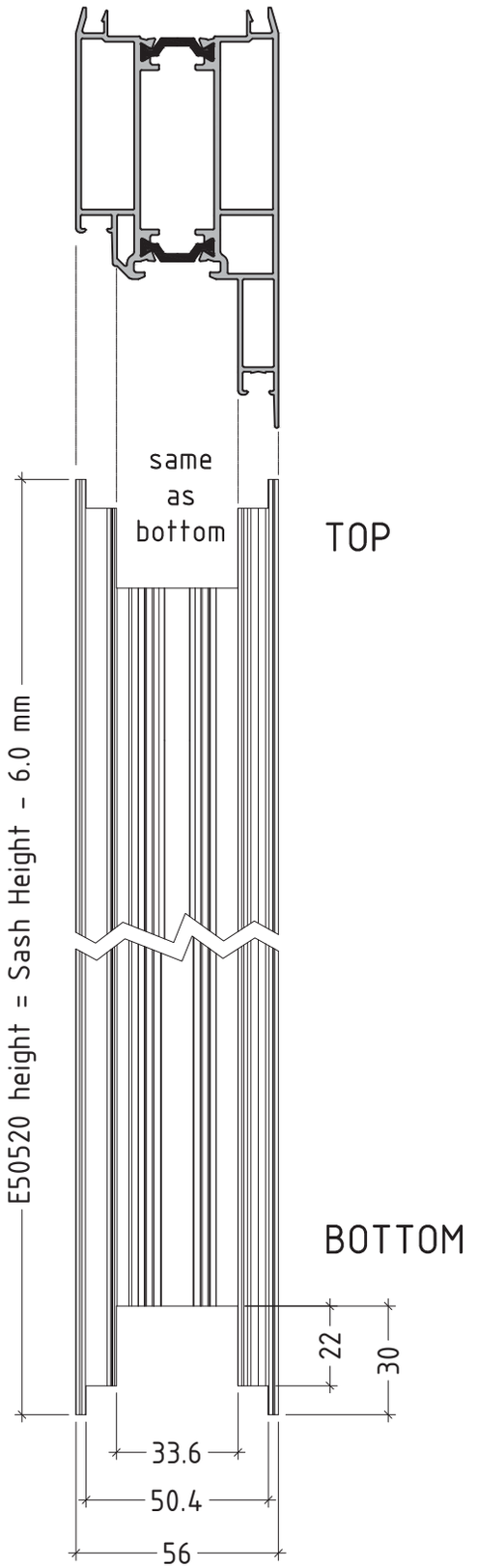


USE ADHESIVE ET 138004.00
FOR LONG LASTING JOINING



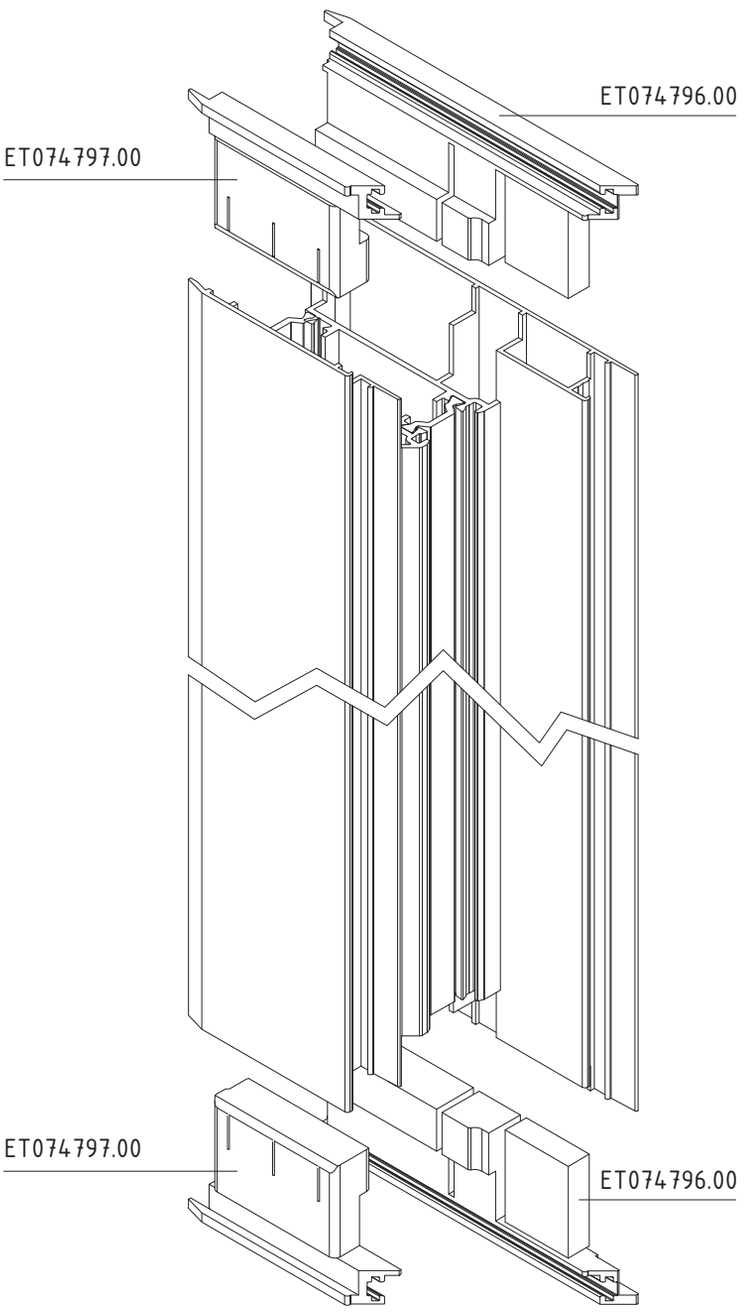
MACHINING OF SASH E50520 FOR PLASTIC PLUGS INSTALLATION
(FOR 90° CORNER)

M50-69



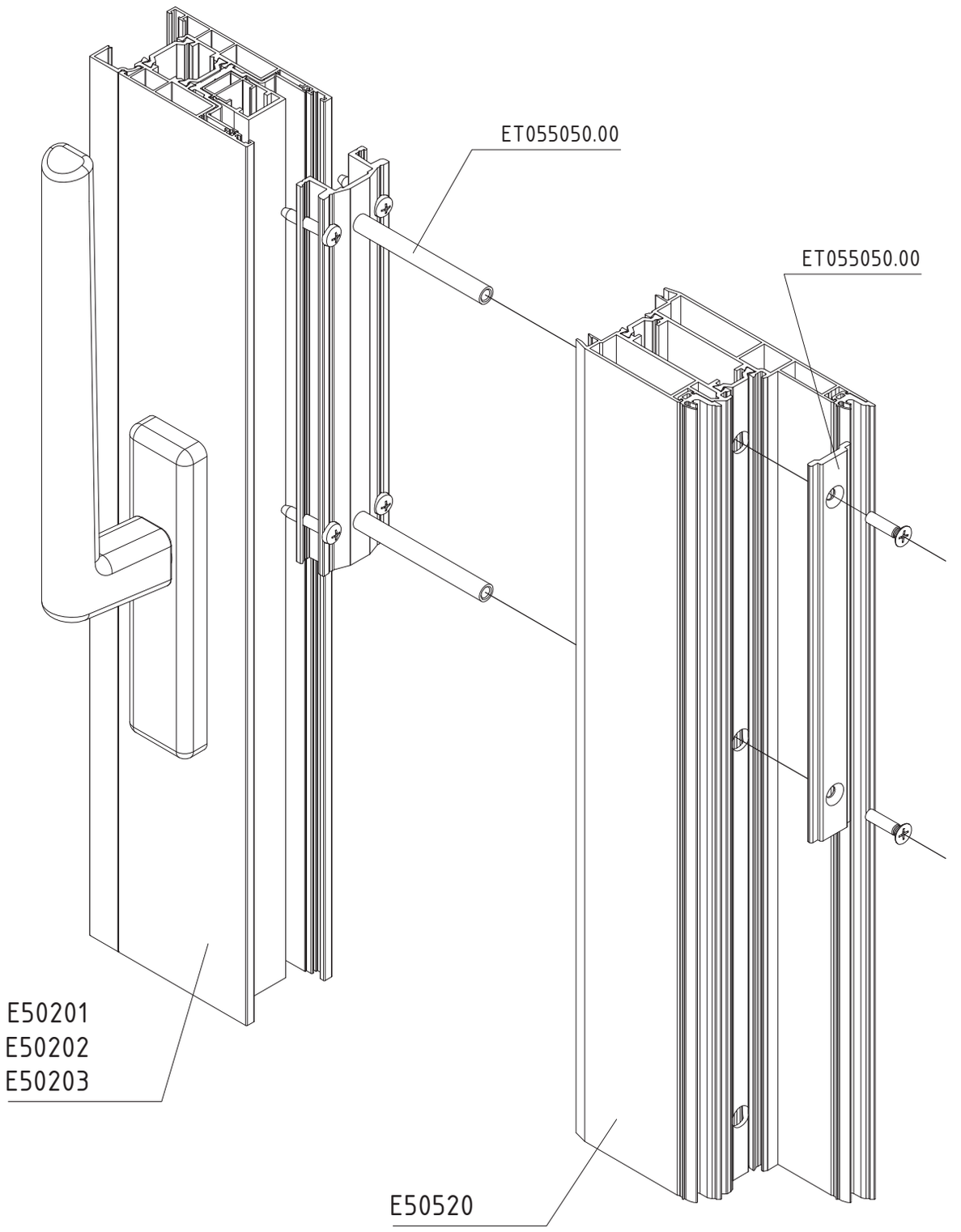
ATTENTION

MACHINING FOR TOP AND BOTTOM END
OF E50520 IS THE SAME



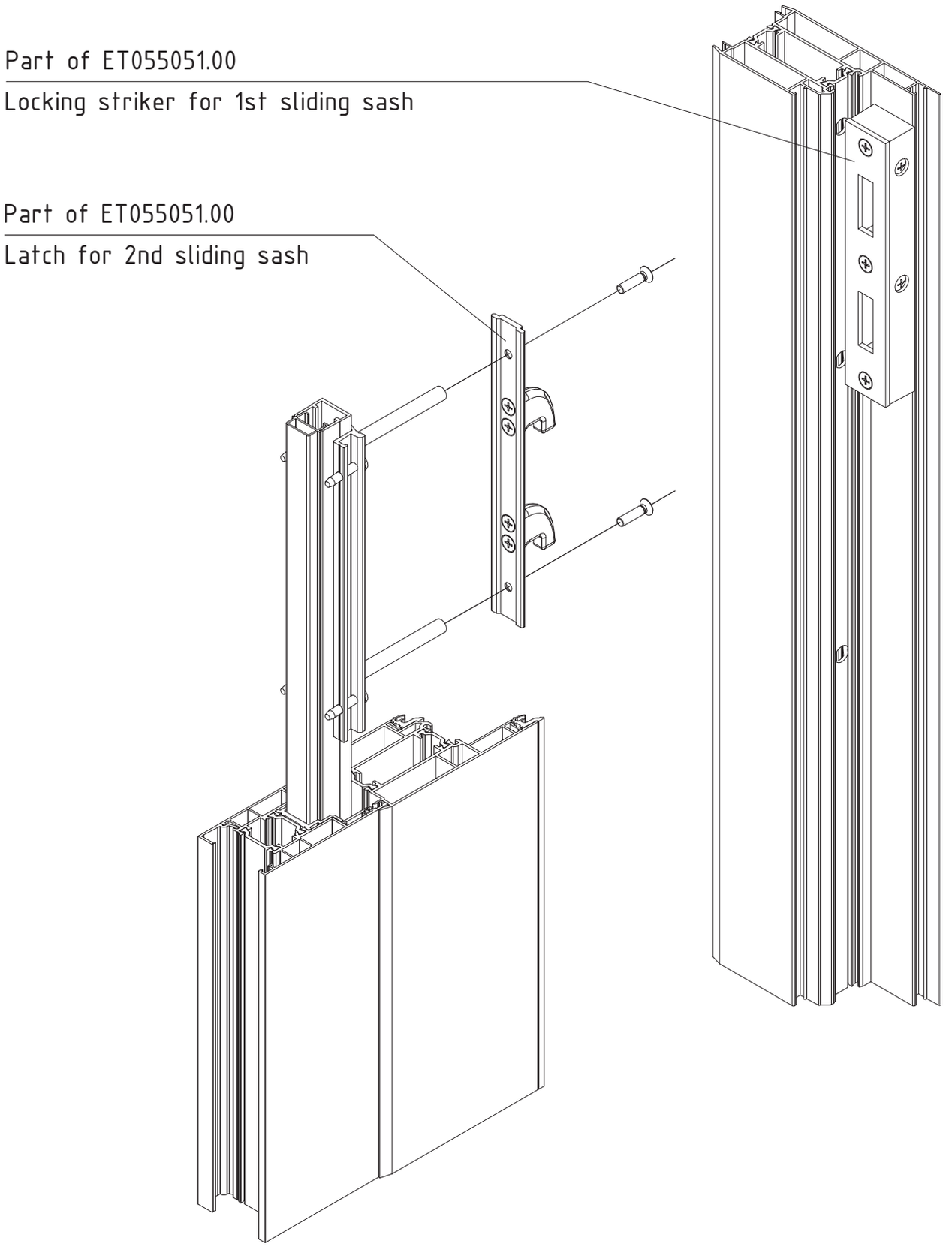
INSTALLATION OF E50250 ANCHOR ET.055050.00
(FOR 90° CORNER)

M50-70



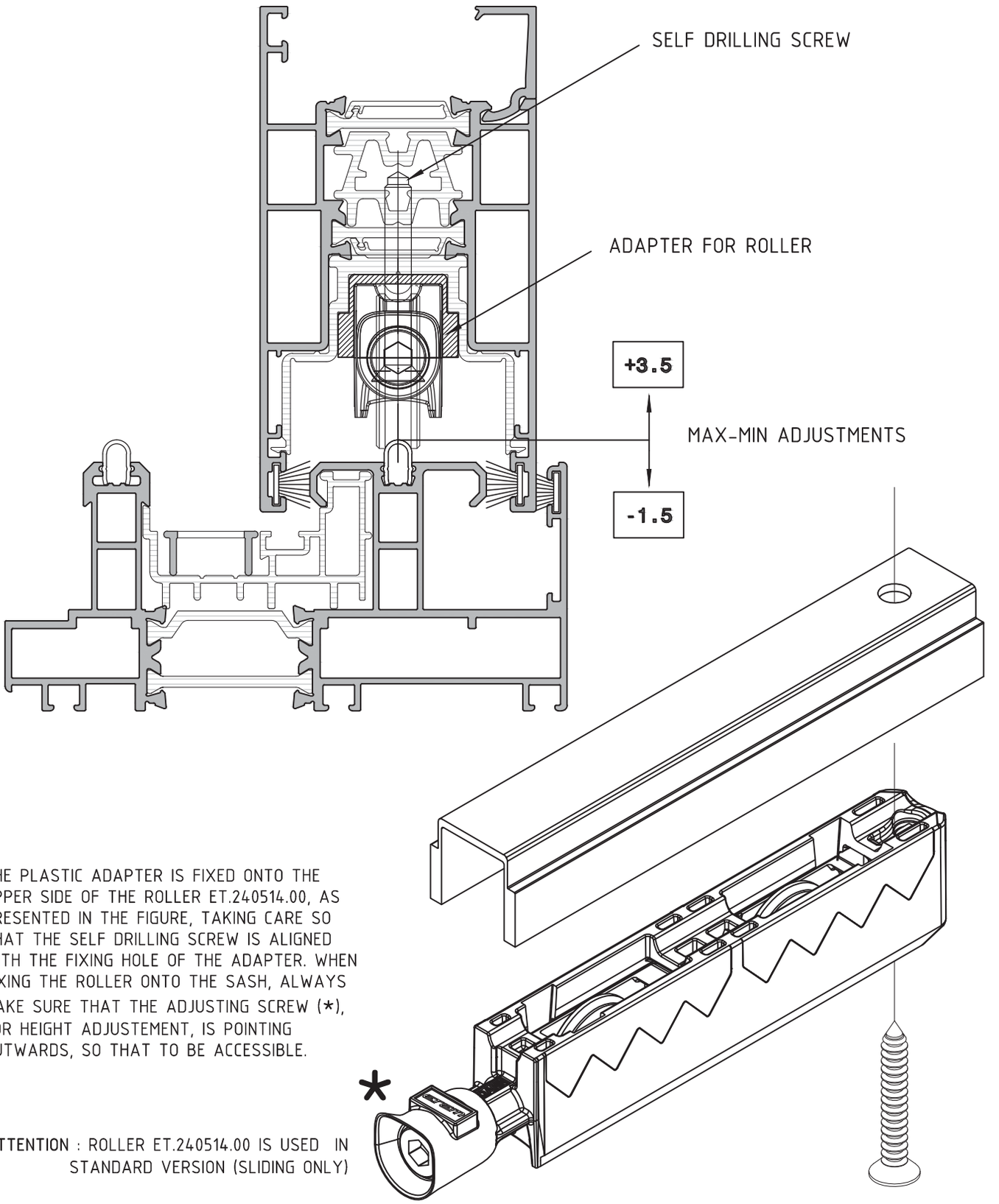
INSTALLATION OF E50250 ANCHOR WITH LATCH ET.055051.00
(FOR 90° CORNER)

M50-71



GUIDELINES FOR FIXING ROLLER ET.240514.00

M50-72

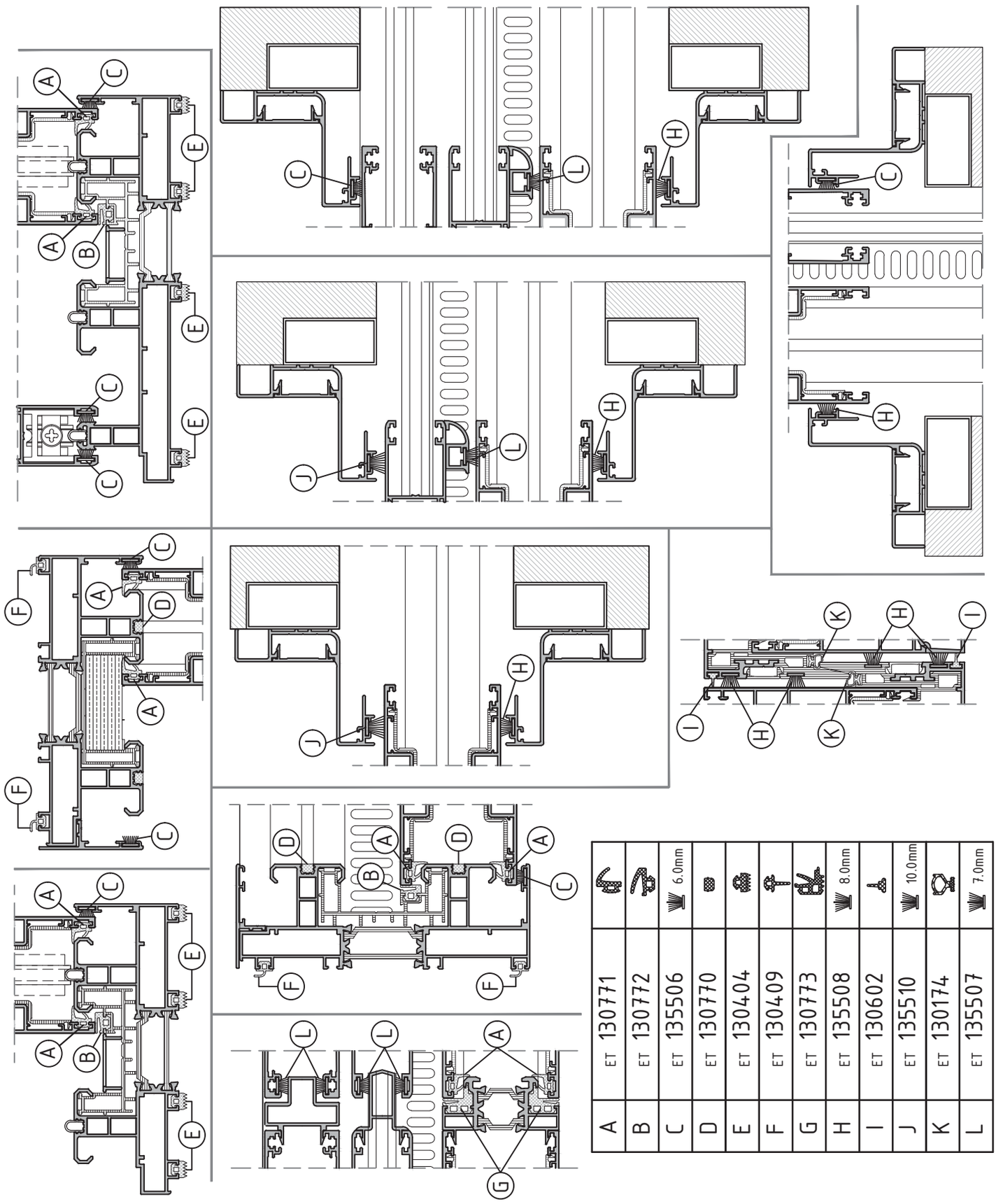


THE PLASTIC ADAPTER IS FIXED ONTO THE UPPER SIDE OF THE ROLLER ET.240514.00, AS PRESENTED IN THE FIGURE, TAKING CARE SO THAT THE SELF DRILLING SCREW IS ALIGNED WITH THE FIXING HOLE OF THE ADAPTER. WHEN FIXING THE ROLLER ONTO THE SASH, ALWAYS MAKE SURE THAT THE ADJUSTING SCREW (*), FOR HEIGHT ADJUSTEMENT, IS POINTING OUTWARDS, SO THAT TO BE ACCESSIBLE.

ATTENTION : ROLLER ET.240514.00 IS USED IN STANDARD VERSION (SLIDING ONLY)

SELECTION OF GASKET FOR E50 WITH LIFT & SLIDE HARDWARE

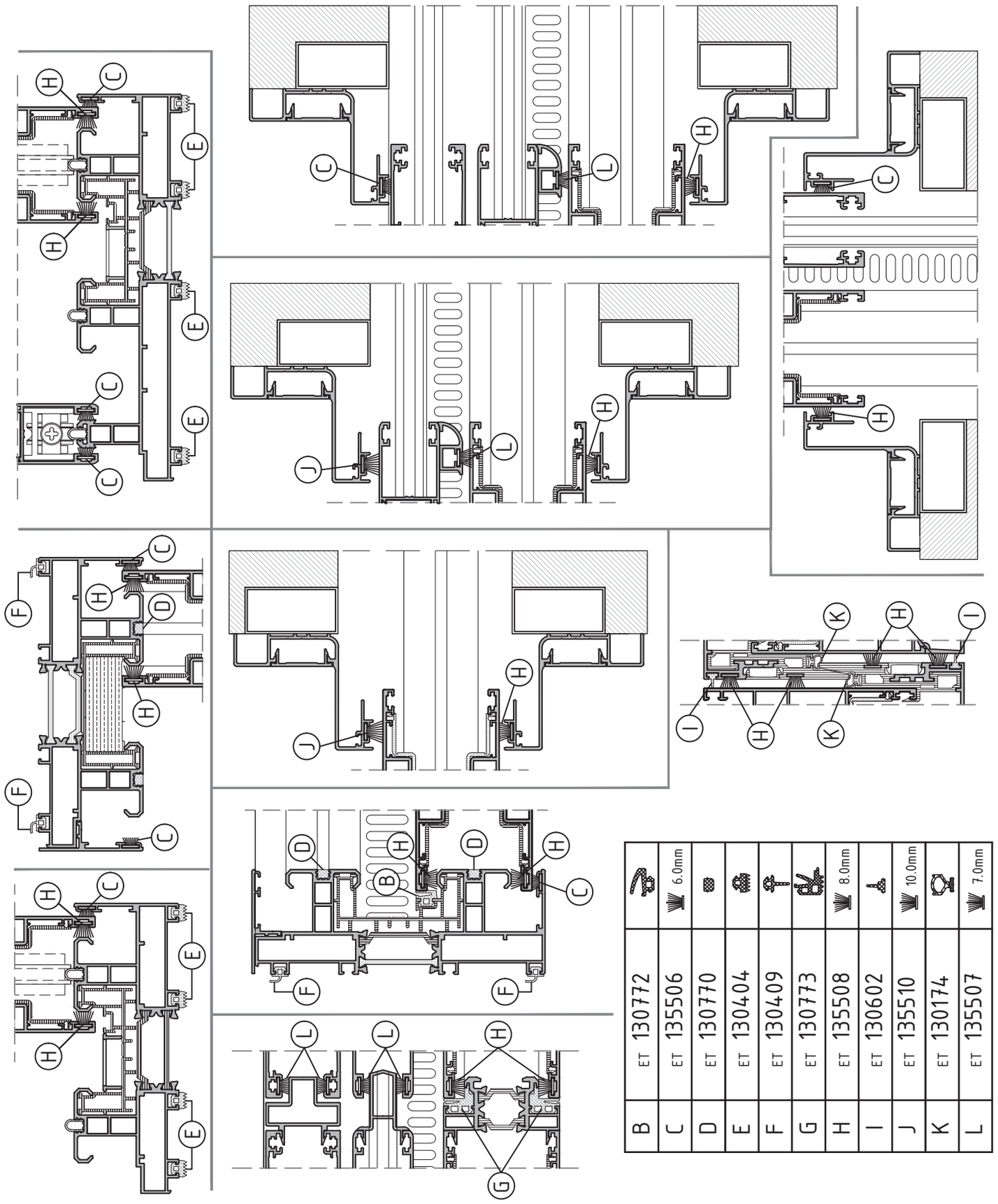
M50-73



A	ET 130771		6.0mm					8.0mm		10.0mm		7.0mm
B	ET 130772											
C	ET 135506											
D	ET 130770											
E	ET 130404											
F	ET 130409											
G	ET 130773											
H	ET 135508											
I	ET 130602											
J	ET 135510											
K	ET 130174											
L	ET 135507											

SELECTION OF GASKET FOR E50 - STANDARD VERSION

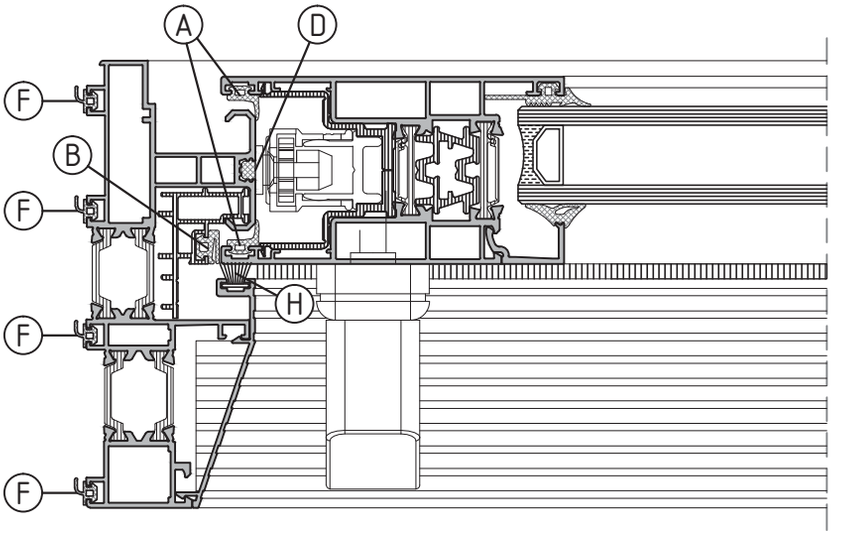
M50-74

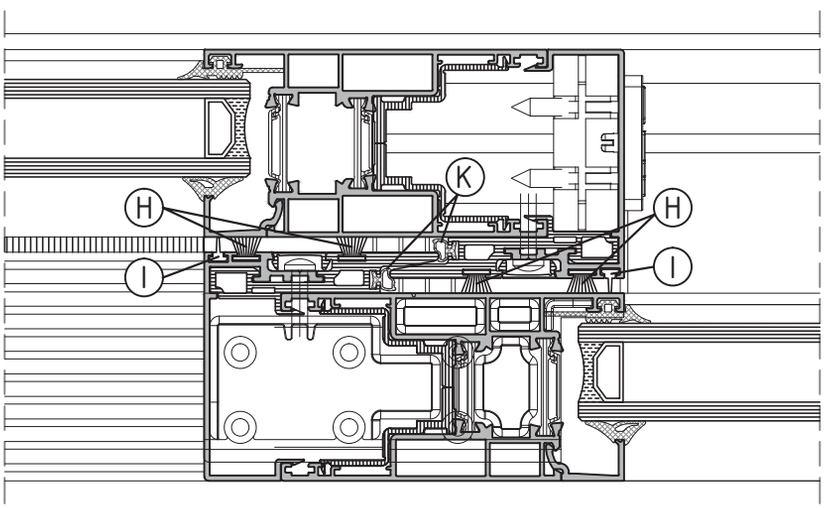


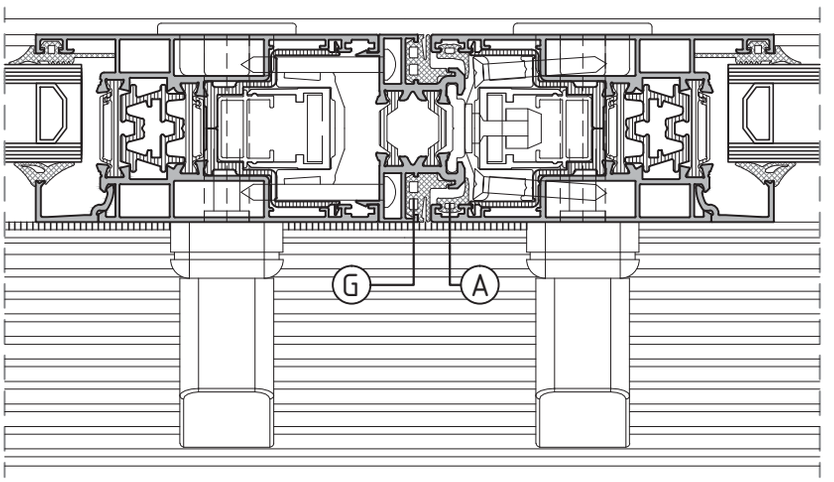
		6.0mm					8.0mm		10.0mm		7.0mm
B	ET 130772										
C	ET 135506										
D	ET 130770										
E	ET 130404										
F	ET 130409										
G	ET 130773										
H	ET 135508										
I	ET 130602										
J	ET 135510										
K	ET 130174										
L	ET 135507										

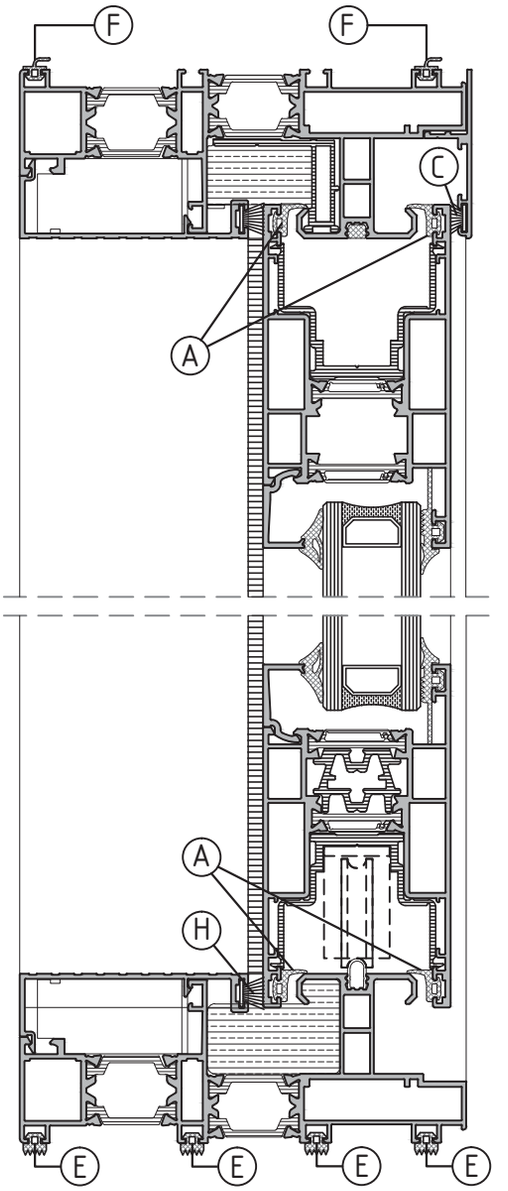
SELECTION OF GASKET FOR E50H WITH LIFT & SLIDE HARDWARE

M50-63





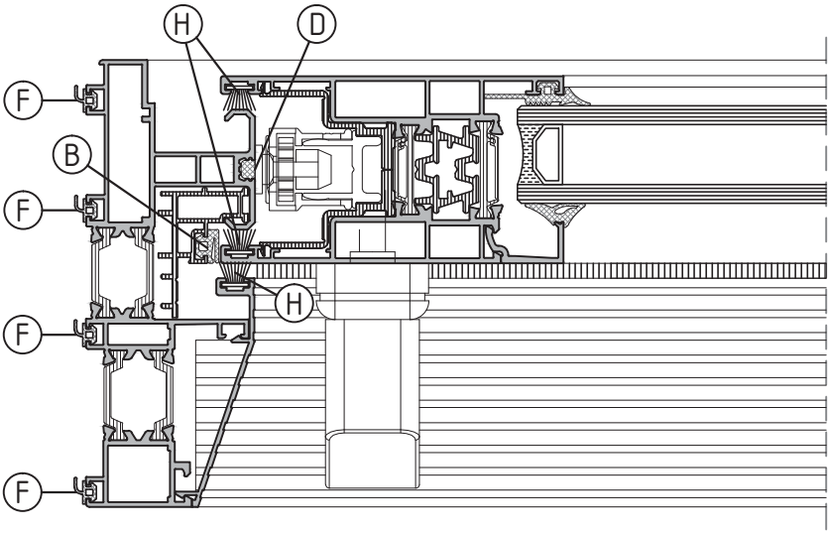


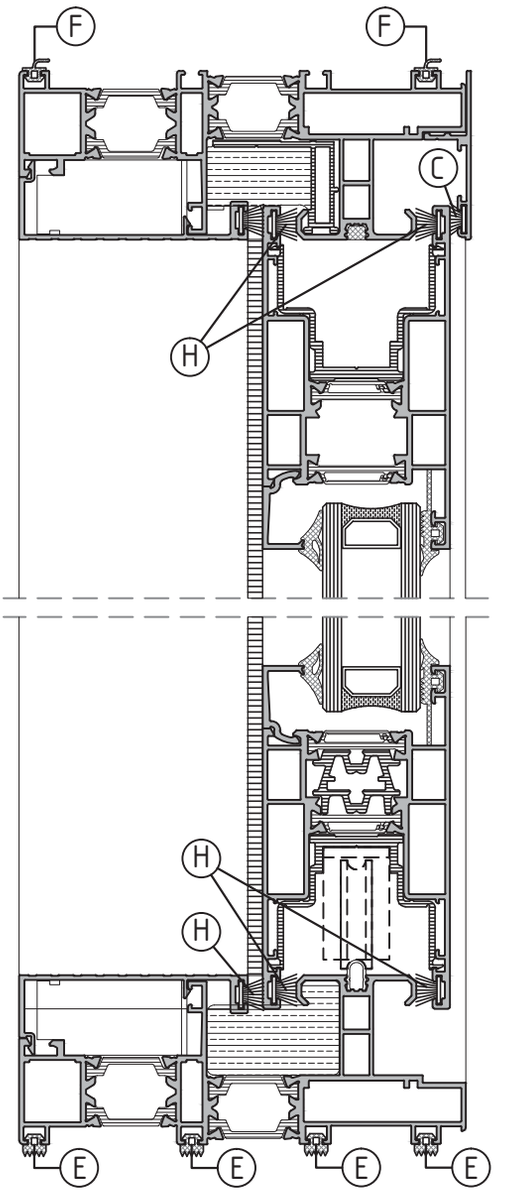


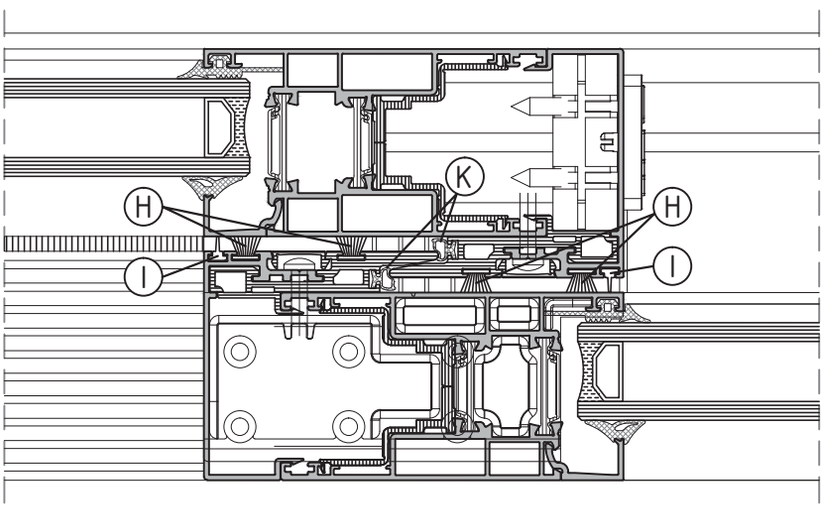
A	ET 130771	
B	ET 130772	
C	ET 135506	6.0mm
D	ET 130770	
E	ET 130404	
F	ET 130409	
G	ET 130773	
H	ET 135508	8.0mm
I	ET 130602	
K	ET 130174	

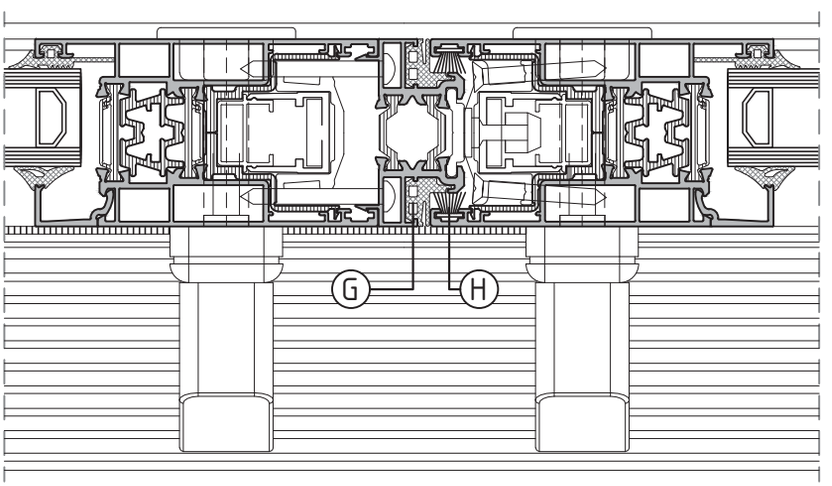
SELECTION OF GASKET FOR E50H WITH SLIDING HARDWARE

M50-64



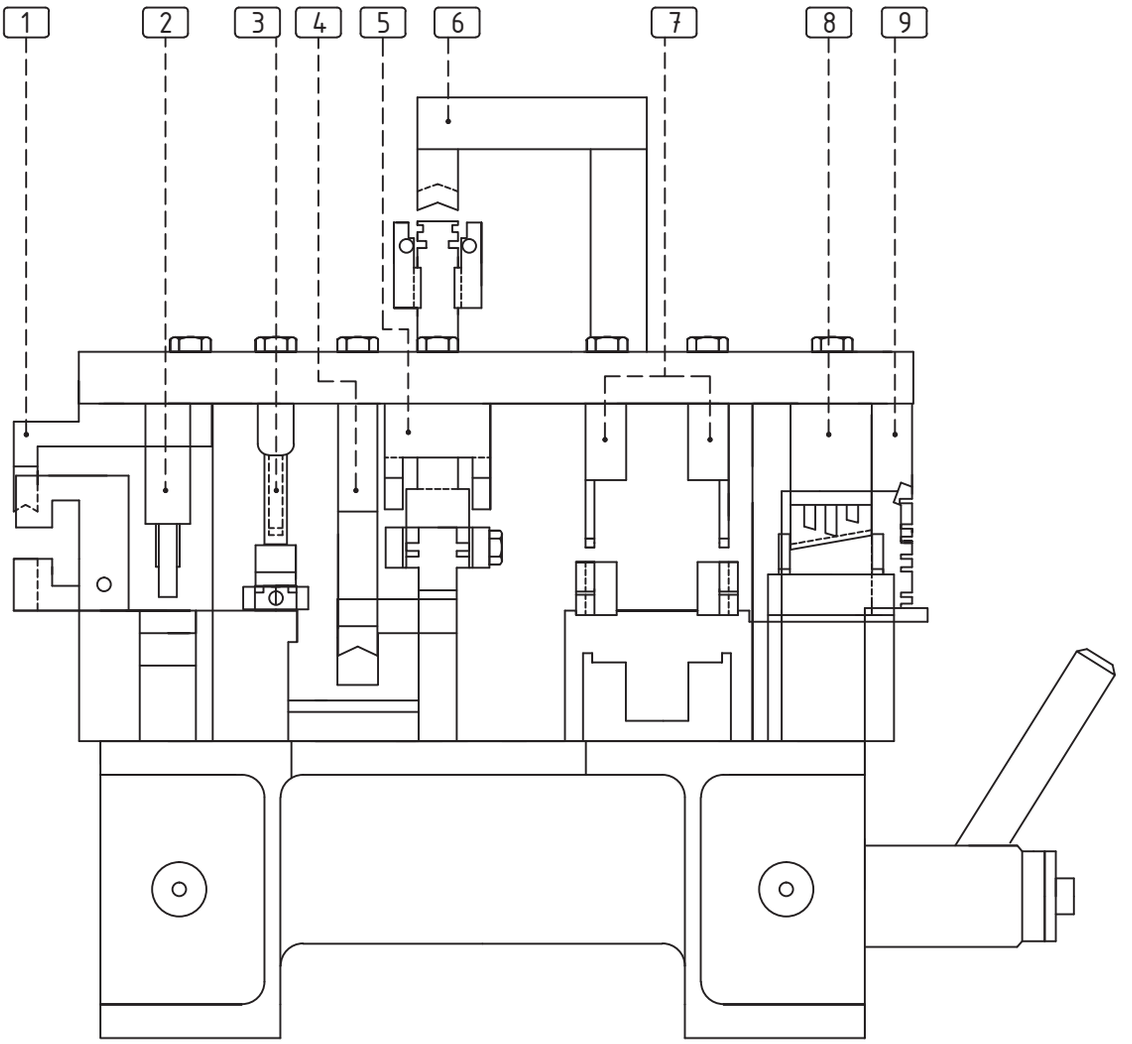






B	ET 130772	
C	ET 135506	6.0mm
D	ET 130770	
E	ET 130404	
F	ET 130409	
G	ET 130773	
H	ET 135508	8.0mm
I	ET 130602	
K	ET 130174	

PUNCHING MACHINE FOR E50 PROFILES, CODE No ET162263.00 PR50-01



1 Machining for rail upper water drainage
(Machining M50-31)

2 Machining for rails corner joint
(Machining M50-07 & M50-08)

3 Machining for corner joint brackets for E50202, E50203, E22214, E50210
(Machining M50-09, M50-15, M50-16)

4 Machining for drain holes on pvc profiles ET080201.00 & ET080206.00
(Machining M50-12, M50-13)

5 Machining for front side rail water drainage
(Machining M50-29)

6 Machining of profile E70640
(Machining M50-11)

7 Machining for sashes E50201, E50202 & E50203 water drain holes (Machining M50-06)

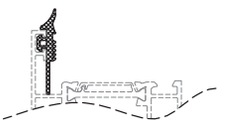
8 Machining on interlock profile E50501
(Machining M50-01)

9 Additional machining for pvc profiles ET080201.00 & ET080206.00
(Machining M50-12, M50-13)

ACCESSORIES

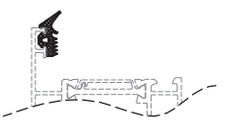
code/description	package/pcs	colour
ET 130769.00		

Elongated glazing epdm gasket 3.0 mm



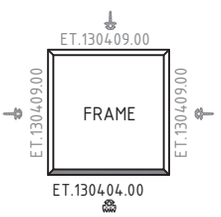
ET 130411.00		

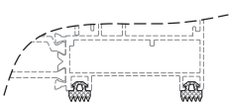
EPDM glazing gasket press-in 3.0 mm



ET 130404.00		

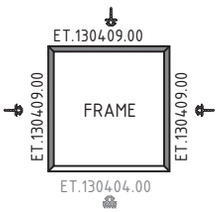
Wall-joining EPDM external gasket for straight fixed frame

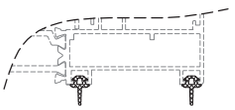




ET 130409.00		

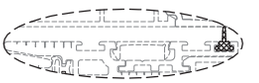
Wall-joining EPDM external gasket for straight fixed frame





code/description	package/pcs	colour
ET 130602.00		●

EPDM gasket for E50 interlock

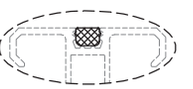


ET 130174.00		●

Interior seal EPDM gasket TOP LINE

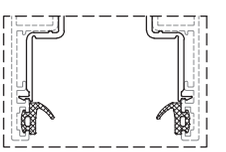
ET 130770.00		●

EPDM gasket for rail groove covering



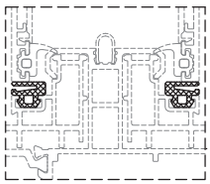
ET 130771.00		●

EPDM seal gasket for sash frame E50



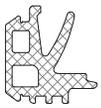
code/description	package/pcs	colour
ET 130772.00		●

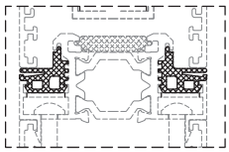
EPDM seal gasket
for rail E50



ET 130773.00		●

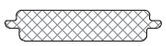
EPDM seal gasket for
adjoining profile E50

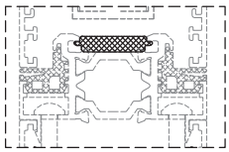




ET 130774.00		●

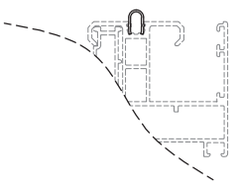
Central EPDM seal gasket
for adjoining profile E50





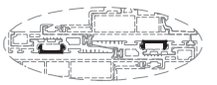
ET 082201.00		

Stainless steel rail -U-
shape for E50, E70, E3000



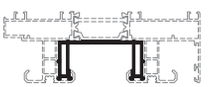
code/description	package/pcs	colour
ET 080199.00		●

PVC cover cap for
euro channel (black)



code/description	package/pcs	colour
ET 080200.00		●

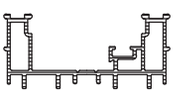
PVC profile for upper
rail E50

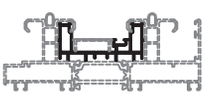


E50100
E50102
E50103

code/description	package/pcs	colour
ET 080201.00		●

PVC profile for bottom &
jamb rail E50

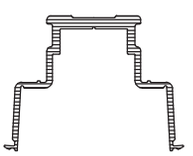


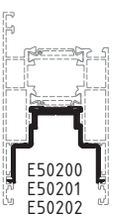


E50100
E50102
E50103

code/description	package/pcs	colour
ET 080202.00		●

Plastic profile (PVC)
for E50 sash

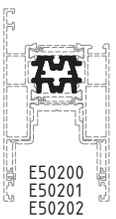




E50200
E50201
E50202

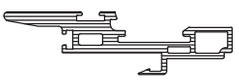
code/description	package/pcs	colour
ET 080203.00		

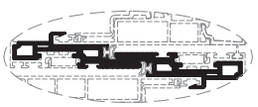
Plastic profile (PVC) for
fixing L&S hardware for E50



ET 080204.00		

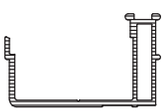
Plastic spacer for interlock
for E50201 & E50202

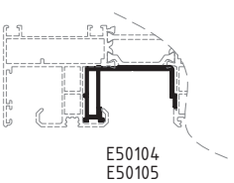




ET 080205.00		

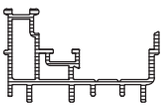
Plastic profile (PVC) for
pocket sliding E50 (upper rail)

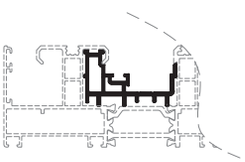




ET 080206.00		

Plastic profile (PVC) for
pocket sliding E50 (bottom &
jamb rail)





code/description	package/pcs	colour
ET 056607.00		inox
ET 055508.00		galv.steel
ET 057705.00		polyamid 6.6

Alignment square for
E19, E22, E50, E52

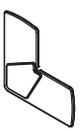
polyamid 6.6

E50100
E50102
E50103
E50104
E50105
E50110
E50155

E50200
E50201
E50202

ET 057706.00		polyamid 6.6

Alignment square for
E19, E22, E50, E52



E50210

ET 055507.00		galv.steel
ET 056604.00		inox

Alignment square for
E19, E22, E50, E52
E1000, E40, E45

E50210

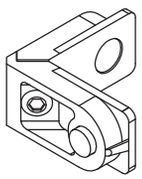
ET 055510.00		galv.steel
ET 055511.00		inox

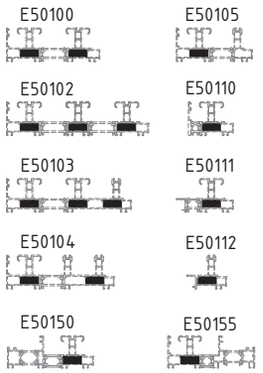
Alignment square for sash
E22214, E 19215

E22214

code/description	package/pcs	colour
ET 053316.00		silver

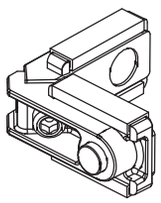
Die cast aluminium corner joint bracket for E40, E45 & E50

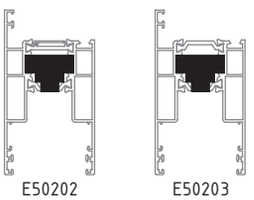




ET 053331.00		silver

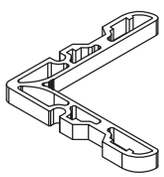
Die cast aluminium corner joint bracket for E50 sash

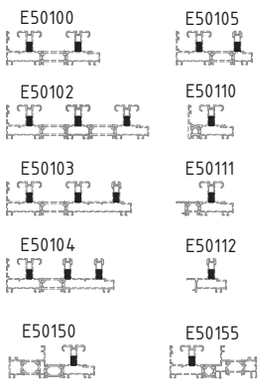




ET 054445.00		MF

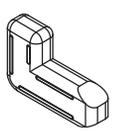
Extruded aluminium corner joint (6.6 mm width)

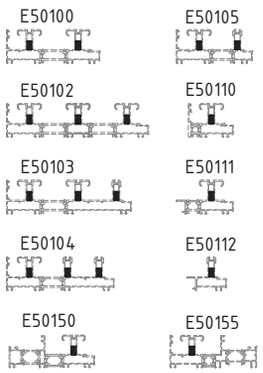




ET 061102.00		●

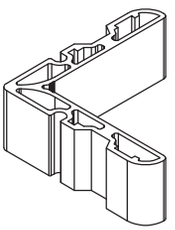
Corner joint bracket for E19, E22, E50 & E52



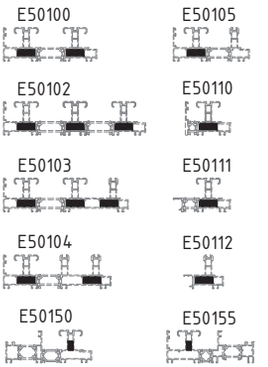


code/description	package/pcs	colour
ET 054255.00		MF

Extruded aluminium joint
corner (24.7 mm) for
E40, E45, E50, without hole

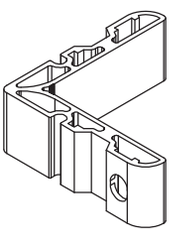


ATTENTION
ALWAYS USE ADHESIVE
ET138004.00

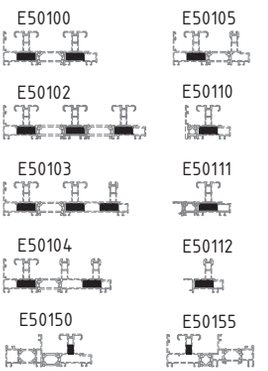


code/description	package/pcs	colour
ET 054253.00		MF

Extruded aluminium joint
corner (24.7 mm) for
E40, E45, E50 with hole

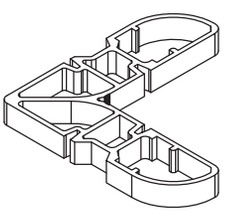


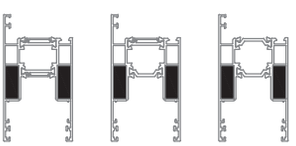
ATTENTION
ALWAYS USE ADHESIVE
ET138004.00



code/description	package/pcs	colour
ET 054475.00		MF

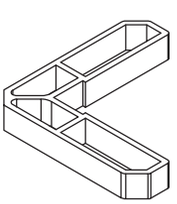
Extruded aluminium joint
corner (9.1 mm) for E50

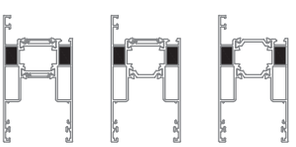




code/description	package/pcs	colour
ET 050027.00		MF

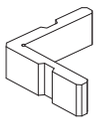
Extruded aluminium shiming
corner (8,2 mm) for E50

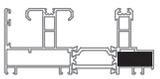




code/description	package/pcs	colour
ET 054479.00		MF

Extruded aluminium joint corner bracket (19.3 mm) for E50

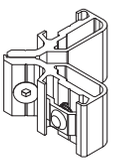




E50105

ET 052208.00		MF

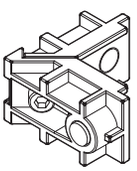
Extruded aluminium joint corner for E19, E22



E-50210

ET 053318.00		silver

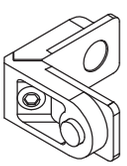
Die cast aluminium corner joint bracket for E19

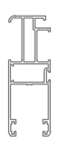


E50210

ET 053306.00		silver

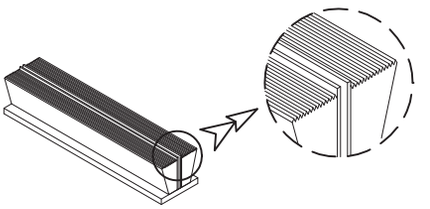
Die cast aluminium corner joint bracket for E19, E22





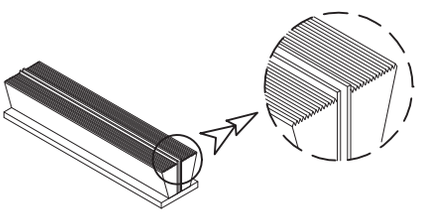
E22214

code/description	package/pcs	colour
ET 135506.01		○
ET 135506.02		●
ET 135506.04		◌



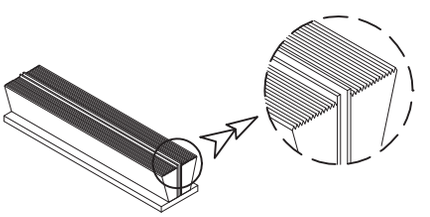
Pile weatherseal
FP 6 mm

ET 135508.01		○
ET 135508.02		●
ET 135508.04		◌



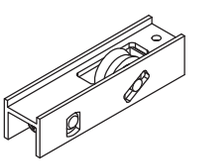
Pile weatherseal
FP 8 mm

ET 135510.01		○
ET 135510.02		●
ET 135510.04		◌



Pile weatherseal
FP 10 mm

ET 240427.00		silver



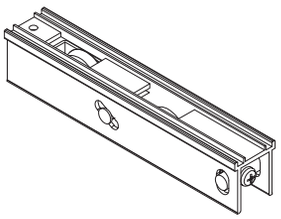
Single roller for insect screen
for E70 ("U" rail)

E22214

ATTENTION
suitable for "U" rail

code/description	package/pcs	colour
ET 240426.00		silver

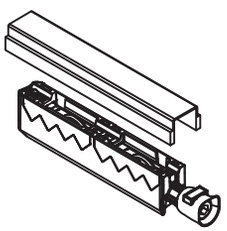
Double roller for E50 shutter (for "U" rail)

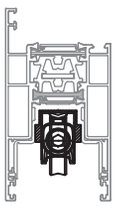


E52210

ET 240514.00		●

Double roller for E50 sashes



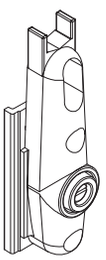


E50201

E50202, E50203

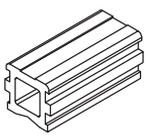
ET 074636.00		●

Plastic stopper for E50 sashes



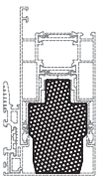
ET 074642.00		●

Epdm stopper for insect screen for E1200, E19, E22



code/description	package/pcs	colour
ET 080612.00		
ET 950501.00		

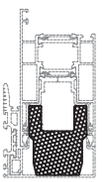
Additional insulator (XPS)
62x38.4 mm for sash



E50201, E50202, E50203

ET 080622.00		
ET 950501.99		

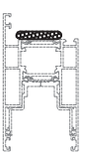
Additional insulator (XPS)
46.2x38.4 mm for triple sash



E50201, E50202, E50203

ET 080517.00		

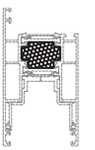
Foam insert (PEX) 30x5 mm
for E50 glazing



E50201, E50202, E50203

ET 080621.00		
ET 950201.00		

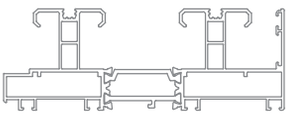
Additional insulator (XPS)
24x16 mm for sash inner tube



E50201, E50202, E50203

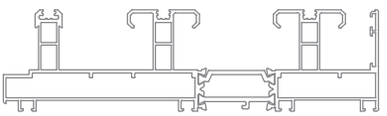
code/description	package/pcs	colour
ET 240812.00		

Set of foam inserts for
cavities of E50100



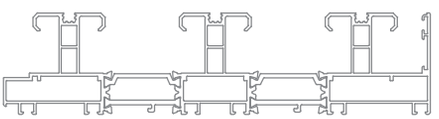
ET 240813.00		

Set of foam inserts for
cavities of E50102



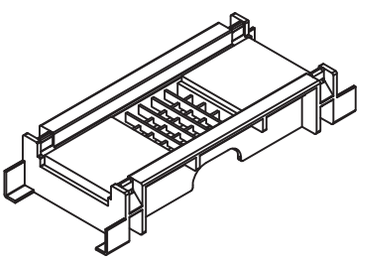
ET 240814.00		

Set of foam inserts for
cavities of E50103



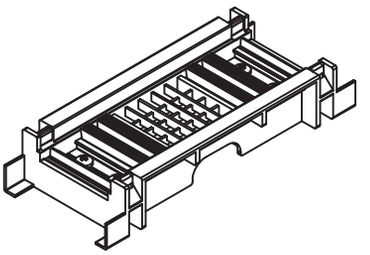
ET 240810.00		

Central sealing block for
bottom rail for E50 lift & slide



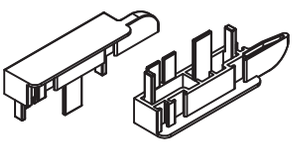
code/description	package/pcs	colour
ET 240811.00		

Central sealing block for
bottom rail for E50
without lift & slide



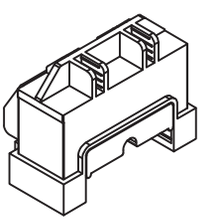
ET 074750.00		

Pair of plastic plugs
for interlock



ET 074741.00		

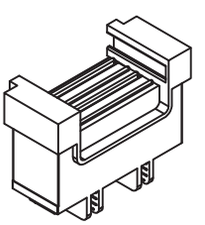
Plastic plug with foam insert
for interlock bottom
(ONLY lift & slide)



ET 074742.00		

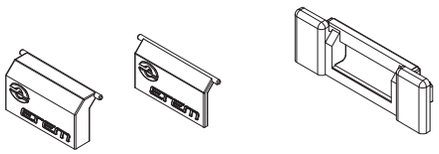
Plastic plug for upper side
of interlock (for lift & slide)

For sliding, without lift, it is
used for upper & bottom



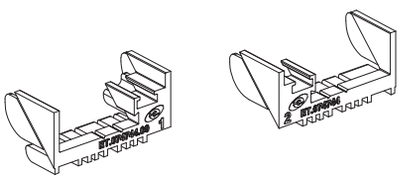
code/description	package/pcs	colour
ET 074771.00		

Plastic cap with flap for
drain of rail E50



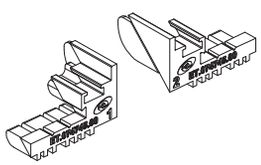
ET 074744.00		

Pair of plastic plugs for
thermal drain (080200 & 080201)



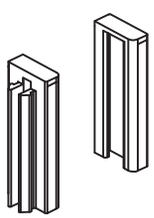
ET 074745.00		

Pair of plastic plugs for
thermal drain of pocket sliding
(080205 & 080206)



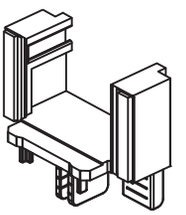
ET 074747.00		

Pair of plastic plugs
(stabilizer) for E50 sash



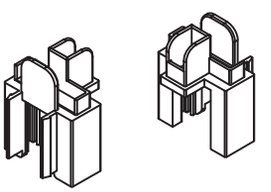
code/description	package/pcs	colour
ET 074746.00		

Plastic plugs for adjoining profile E50500



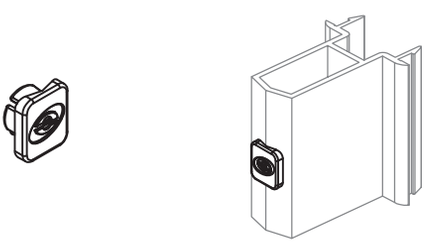
ET 074764.00		

Pair of plastic plugs for adjoining profile E50510



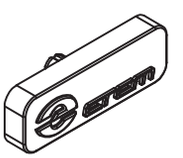
ET 074671.00		

Plastic plug for fixing hole on adjoining profile E19, E22



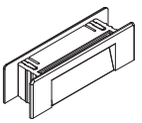
ET 074743.00		

Plastic plug for fixing hole covering



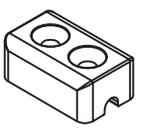
code/description	package/pcs	colour
ET 074755.00		

Plastic cap with flap
for drain



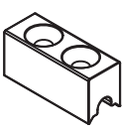
ET 074748.00		

Central stopper for glazed
sash frame



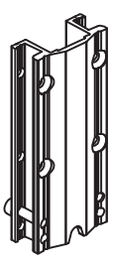
ET 074749.00		

Central stopper for shutter
and insect screen



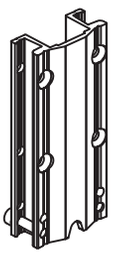
ET 240627.00		MF

Stopper for sash frame
bottom side



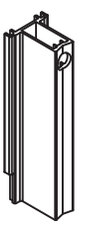
code/description	package/pcs	colour
ET 240628.00		MF

Stopper for top side
for sash frame



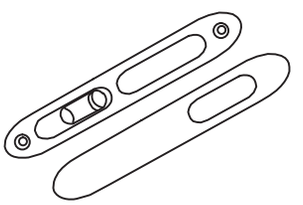
ET 071293.00		MF

Stopper for sash E50210



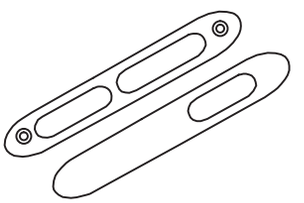
ET 240106.01		○
ET 240106.02		●

ETEM sliding door lock
for E19, E22

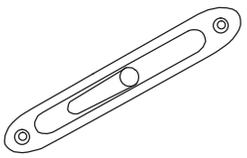


ET 240107.01		○
ET 240107.02		●

ETEM sliding door handle
for E19, E22

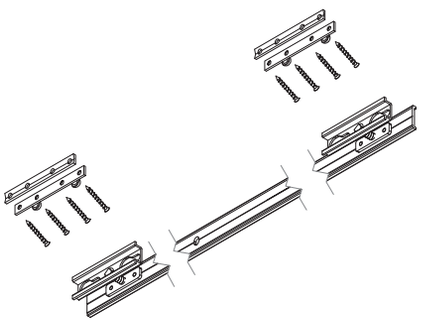


code/description	package/pcs	colour
ET 240122.01		○
ET 240122.02		brown
ET 240122.11		silver



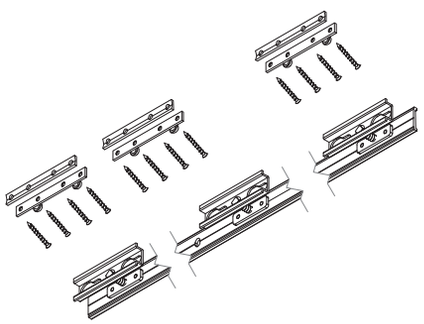
Single sided lock for
sliding shutters

ET 240200.00		



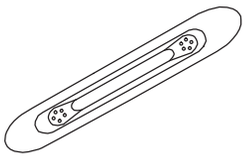
Connecting rod with kit
650 mm for sliding window,
sash E50210

ET 240201.00		



Connecting rod with kit
1400 mm for sliding door,
sash E50210

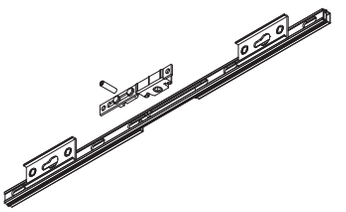
ET 240123.00		raw
ET 240123.01		○



Single sided handle for
sliding shutter

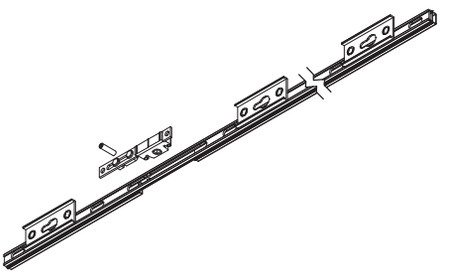
code/description	package/pcs	colour
ET 240198.00		

Connecting rod with kit
650 mm for E50 sliding window



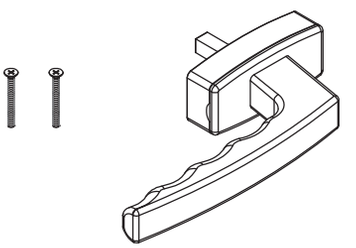
ET 240199.00		

Connecting rod with kit
650 mm for E50 sliding door



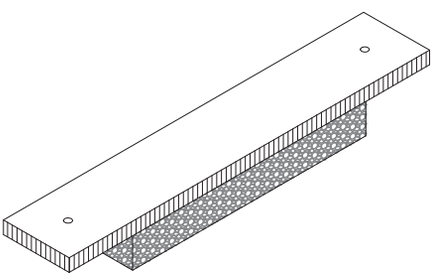
ET 271101.01		○
ET 271101.11		silver

HOPPE Secustik handle
with screws



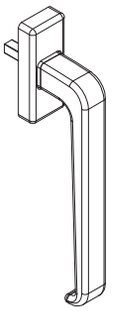
ET 240818.00		

Foam part (41 mm) for sealing
sash – interlock
on top of E50



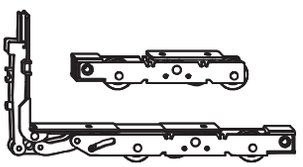
code/description	package/pcs	colour
ET 271104.01		○
ET 271101.02		●
ET 271101.11		silver

ETEM HS150 handle



ET 275211.00		

ETEM HS 150 set of rollers



ET 275231.00		silver

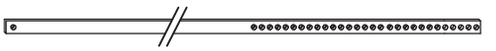
ETEM HS150 gear mechanism
for height 2090-2390 mm

ET 275232.00		silver

ETEM HS150 gear mechanism
for height 1190-1790 mm

code/description	package/pcs	colour
ET 275239.00		silver

Connecting rod for sash
width 650 - 1500 mm



ET 275241.00		silver

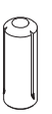
Connecting rod for sash
width 1500 - 1900 mm

ET 275250.00		silver

Connecting rod for sash
width 2000 - 2500 mm

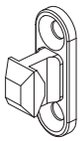
ET 275248.00		silver

Set of pins for ETEM HS150



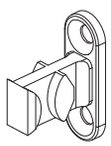
code/description	package/pcs	colour
ET 275220.00		

Upper striker for ETEM HS150



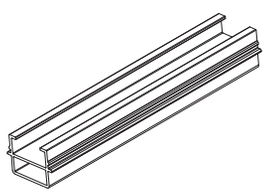
ET 275221.00		

ETEM HS150 striker
for microvetilation



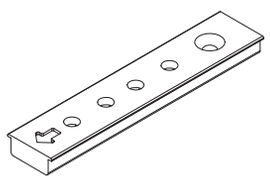
ET 071430.00		

Metal spacer for ETEM
HS150 gear



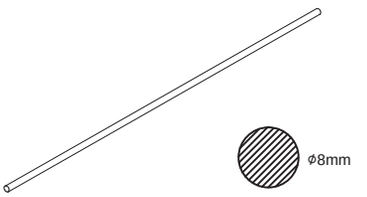
ET 074813.00		

Plastic corner spacer for
ETEM HS150 gear



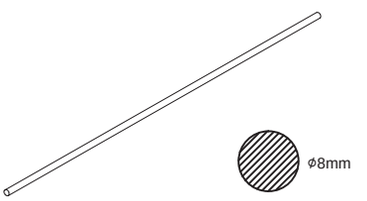
code/description	package/pcs	colour
GU 201055.00	1	MF

Connecting rod 8 mm
(for Sash W. 700 – 1600 mm)



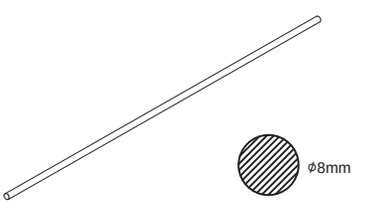
GU 201058.00	1	MF

Connecting rod 8 mm
(for Sash W. 1601 – 1850 mm)



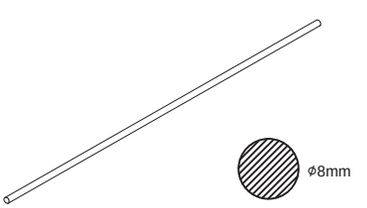
GU 201059.00	1	MF

Connecting rod 8 mm
(for Sash W. 1851 – 2350 mm)



GU 201056.00	1	MF

Connecting rod 8 mm
(for Sash W. 2351 – 3300 mm)

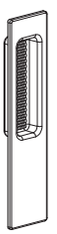


code/description	package/pcs	colour
ET 143500.00		

Screw M6x60 mm - DIN 965

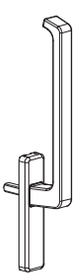
GU 250107.01		●
GU 250107.03		brown
GU 250107.11		silver

Flush pull for GU934



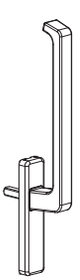
GU 250100.01		●
GU 250100.03		brown
GU 250100.11		silver

Internal handle without
cylinder bore with base plate



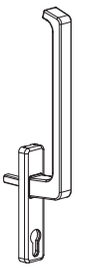
GU 250102.01		●
GU 250102.03		brown
GU 250102.11		silver

Internal handle without
cylinder bore for GU934/937



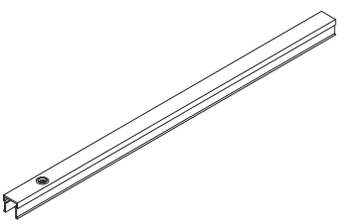
code/description	package/pcs	colour
GU 250005.01		●
GU 250005.03		brown
GU 250005.11		silver

Single handle with cylinder bore
for GU934/937



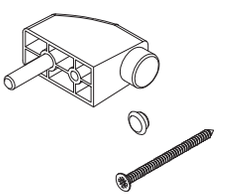
GU 250111.01		●
GU 250111.03		brown

Extension cover rail without
lock for gear GU934/937



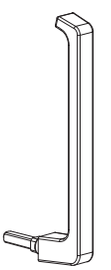
GU 250114.01		●
GU 250114.02		●
GU 250114.11		silver

Sash stopper for GU934/937



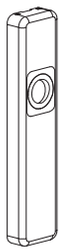
GU 250124.01		●
GU 250124.03		brown
GU 250124.11		silver

Removable handle for GU934



code/description	package/pcs	colour
GU 250125.01		●
GU 250125.03		brown
GU 250125.11		silver

Removable handle rosette
without cylinder bore

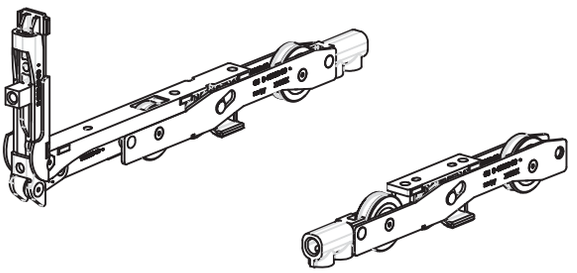


GU 250129.00		

External rosette for GU934

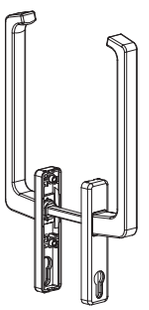
GU 250153.00		

Roller set for GU934/937



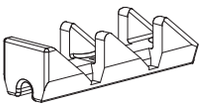
code/description	package/pcs	colour
GU 250140.01		●
GU 250140.03		brown
GU 250140.11		silver

Double handle (internal & external)
with cylinder bore for GU934/937



code/description	package/pcs	colour
GU 250119.00		

Horizontal ventilation striker
for E50 frame



GU 250130.03		brown
GU 250130.11		silver

Gear GU937 830-1250
Dorn 27.5

GU 250131.03		brown
GU 250131.11		silver

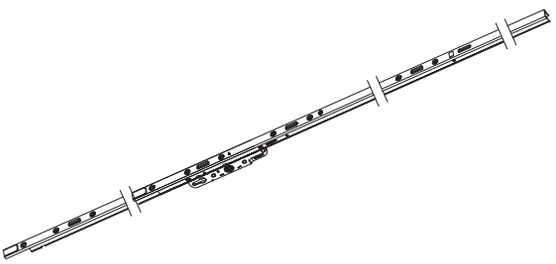
Gear GU937 1200-1830
Dorn 27.5

GU 250132.03		brown
GU 250132.11		silver

Gear GU937 1830-2330
Dorn 27.5

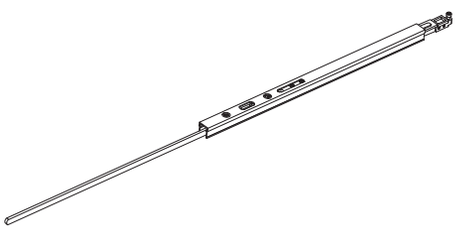
code/description	package/pcs	colour
GU 250133.03		brown
GU 250133.11		silver

Gear GU937 2080-2730
Dorn 27.5



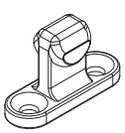
GU 250696.03		brown
GU 250696.11		silver

Gear extension with
locking point



GU 250142.00		

Striker GU934 for frame

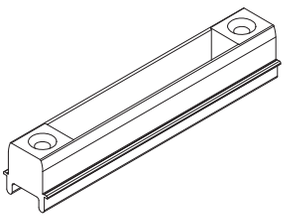


GU 250900.00		

Elastic stopper for interlock
for GU934

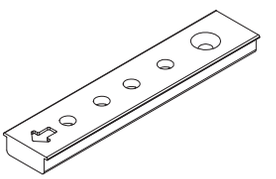
code/description	package/pcs	colour
ET 074812.00		

Plastic spacer for
ETEM HS150 gear



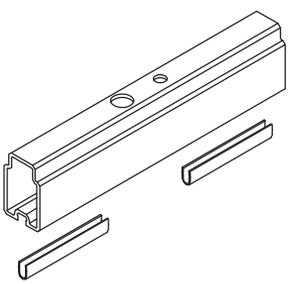
ET 074813.00		

Plastic spacer for 1st roller
& ETEM HS150 gear



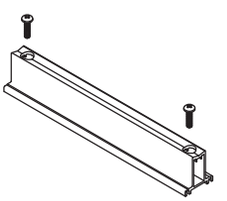
ET 240424.00		

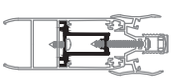
Spacer for E50 fixed frame



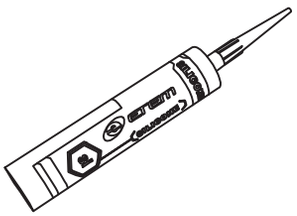
ET 074675.00		

Spacer for E19, E22
fixed sash



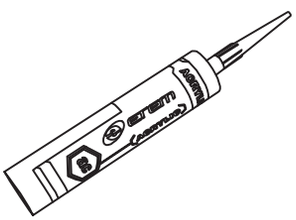


code/description	package/pcs	colour
ET 138001.00		transparent
ET 138001.01		white
ET 138001.02		black
ET 138001.03		brown
ET 138001.04		grey



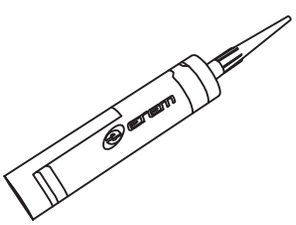
Silicone for general use 280 ml

ET 138000.01		●



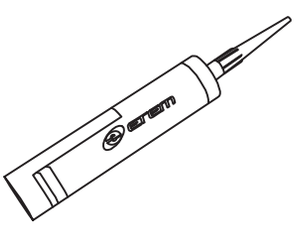
Acrylic putty 280 ml

ET 138004.00		



Crimping machine adhesive with
rapid vulcanisation 290 ml

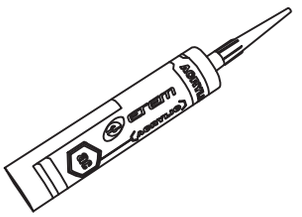
ET 138005.00		



High performance sealant
310 ml

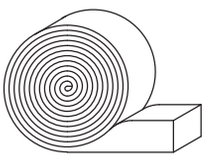
code/description	package/pcs	colour
ET 138013.00		

Boutyl for gluying gaskets



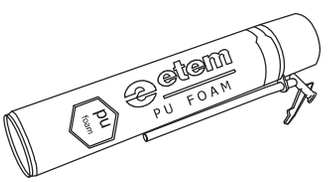
ET 133002.00		

Self adresive, self expand tape
SUPERSEAL 80 for watertightness
and sound insulation (4/20x20)



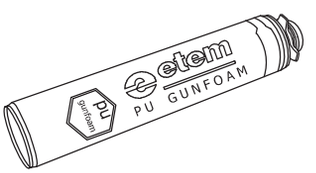
ET 136651.00		

P.U. Foam 750 ml



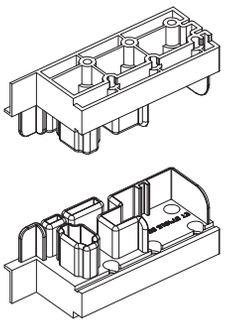
ET 136652.00		

P.U. Foam 750 ml
for foamgun



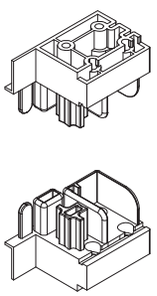
code/description	package/pcs	colour
ET 074815.00		

Pair of plastic connector for E50H - standard version



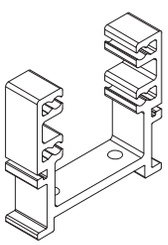
ET 074817.00		

Pair of plastic connector for E50H - narrow interlock



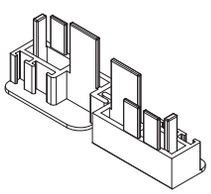
ET 070114.00		

'T' bracket for E50250



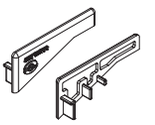
ET 074782.00		

Pair of plastic plugs for ET080214



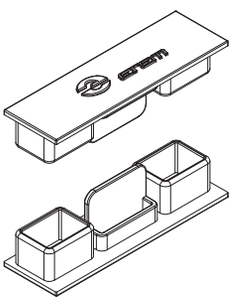
code/description	package/pcs	colour
ET 074816.00		

Cover cap for E50651



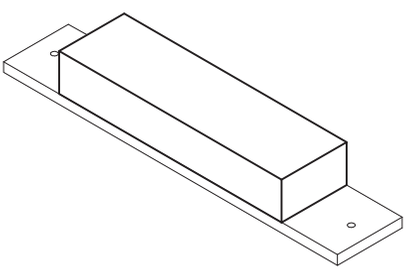
ET 075602.00		

Cover cap for E50602



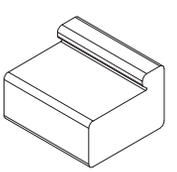
ET 240820.00		

Sealing block (35 mm) for sealing sash-interlock at the top side of E50H



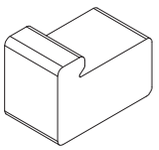
ET 240821.00		

Sealing block for sealing sash-interlock at the bottom side of E50H (lift & slide)



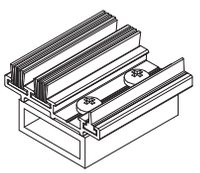
code/description	package/pcs	colour
ET 240822.00		

Sealing block for sealing sash-interlock at the bottom side of E50H-narrow interlock



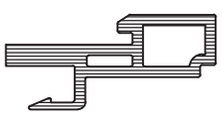
ET 240823.00		

Sealing block for sealing sash-interlock at the bottom side of E50H (for standard rollers-no L/S)



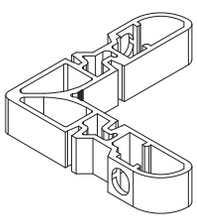
ET 080214.00		

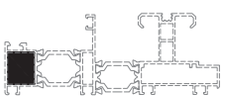
Plastic spacer for interlock for E50250



ET 054316.00		MF

Extruded aluminium corner joint (14.5 mm width) for E50H frame

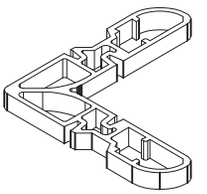


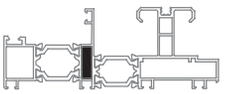


E50150

code/description	package/pcs	colour
ET 054317.00		MF

Extruded aluminium corner joint (5.0 mm width) for E50H frame

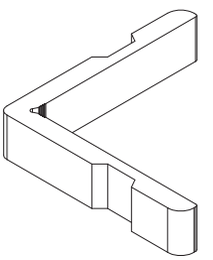


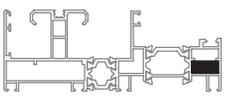


E50150

ET 054678.00		MF

Extruded aluminium joint corner bracket (14.5 mm width) for E50H frame

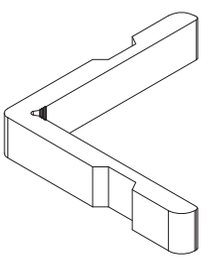


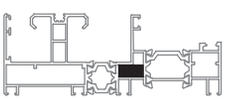


E50155

ET 054679.00		MF

Extruded aluminium joint corner bracket (13.1 mm width) for E50H frame

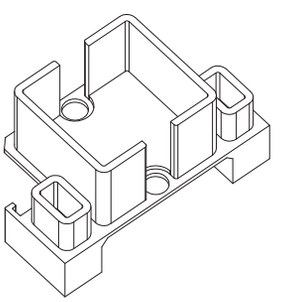




E50155

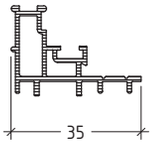
ET 074791.00		

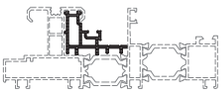
PVC end cup for E50350 (E50 Hotel)



code/description	package/pcs	colour
ET 080216.00		●

PVC profile for bottom & jamb rail E50H (alternatively, cut ET.080201.00 or ET.080206.00 - see chapter Machining M50-52)

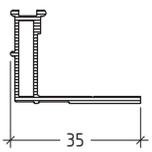


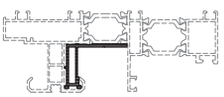


E50150
E50155

ET 080217.00		●

PVC profile for upper rail E50H (alternatively, cut ET.080200.00 or ET.080205.00)

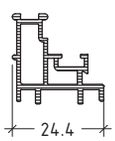


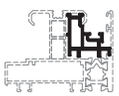


E50150
E50155

ET 080218.00		●

PVC profile for jamb single rail (alternatively, cut ET.080201.00 or ET.080206.00)

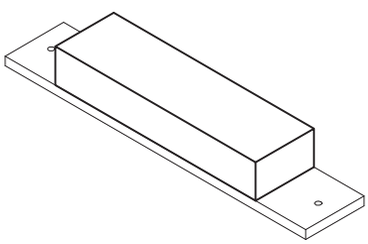


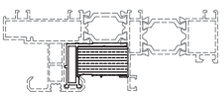


E50110

ET 240828.00		

Sealing block (28 mm) for sealing sash-interlock at the top side of E50H





E50150
E50155

code/description	package/pcs	colour
ET 143901.00		

Roll pin ϕ4.8mm x 6.5mm

ET 074773.00		

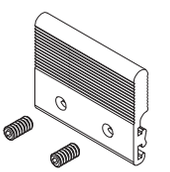
Water drainage valve
ϕ8.0 mm

ET 074774.00		

Water drainage valve
ϕ12.0 mm

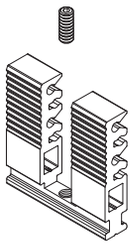
ET 070301.00		MF

T-bracket for E50301
(external side)
(23.5 mm width)



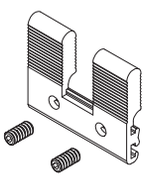
code/description	package/pcs	colour
ET 070217.00		MF

T-bracket for E50 hotel
(internal side)
(38 mm width)



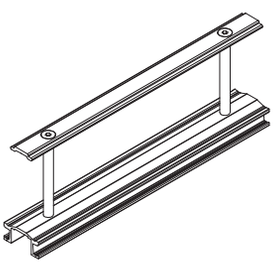
ET 070317.00		MF

T-bracket for E50 hotel
(external side)
(38 mm width)



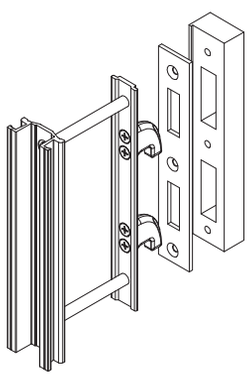
ET 055050.00		MF

Anchor for E50520
(For 90° corner)



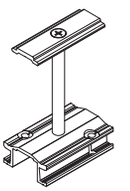
ET 055051.00		MF

Anchor for E50520
with lach
(For 90° corner)



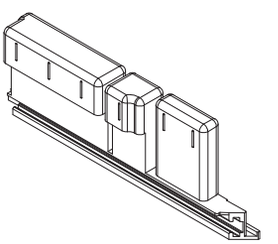
code/description	package/pcs	colour
ET 055052.00		

Small anchor for E50520
(For 90° corner)



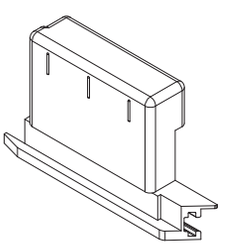
ET 074796.00		●

External end cup for
E50520 (pair)
(For 90° corner)



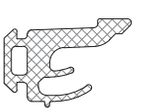
ET 074797.00		●

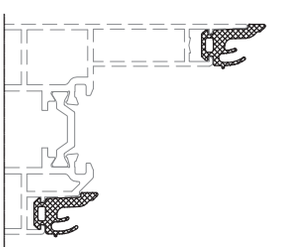
Internal end cup for
E50520 (pair)
(For 90° corner)



ET 130729.00		●

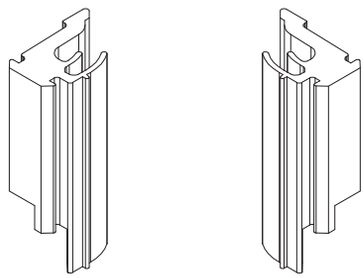
EPDM seal gasket
for E50520
(For 90° corner)





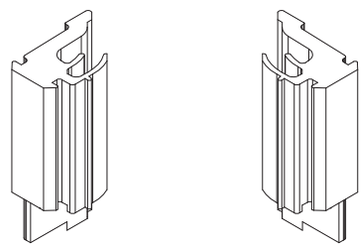
code/description	package/pcs	colour
ET 061729.00		●

EPDM internal end gasket
for ET 130729 (pair)
(For 90° corner)



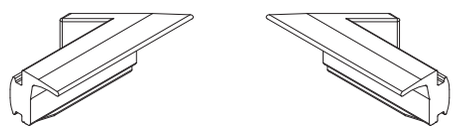
ET 062729.00		●

EPDM external end gasket
for ET 130729 (pair)
(For 90° corner)



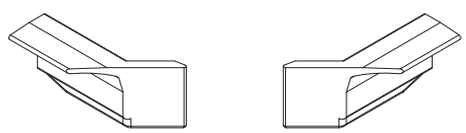
ET 061771.00		●

EPDM internal corner gasket
for ET 130771 (pair)
(For 90° corner)



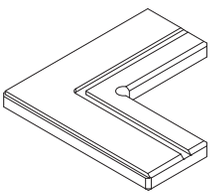
ET 062771.00		●

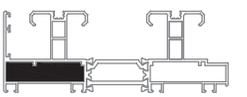
EPDM external corner gasket
for ET 130771 (pair)
(For 90° corner)



code/description	package/pcs	colour
ET 057714.00		●

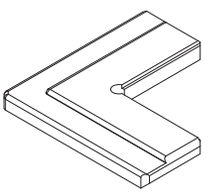
Internal alignment corner
for frame E50100
(For 90° corner)

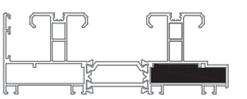




ET 057715.00		●

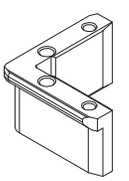
External alignment corner
for frame E50100
(For 90° corner)

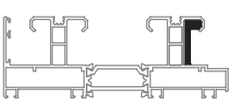




ET 057716.00		●

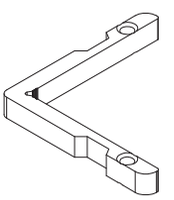
External alignment corner
for frame E50100
(For 90° corner)

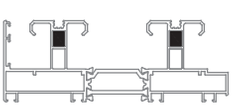




ET 057717.00		MF

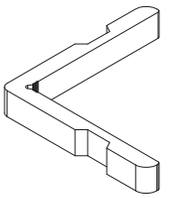
Top rail alignment corner
for frame E50100
(For 90° corner)

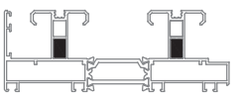




code/description	package/pcs	colour
ET 057718.00		MF

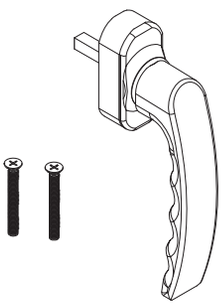
Top rail alignment corner
for frame E50100
(For 90° corner)





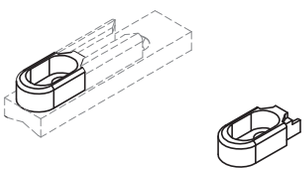
ET 212302.01		●
ET 212302.02		●
ET 212302.11		inox

ETEM handle for In-Line



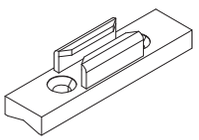
GU 250536.00		silver

"Anti-Lift" plate for in-line
striker



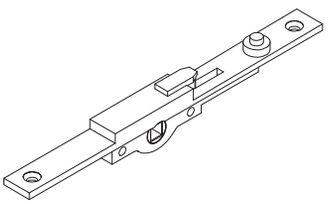
GU 250537.00		silver

In-Line striker



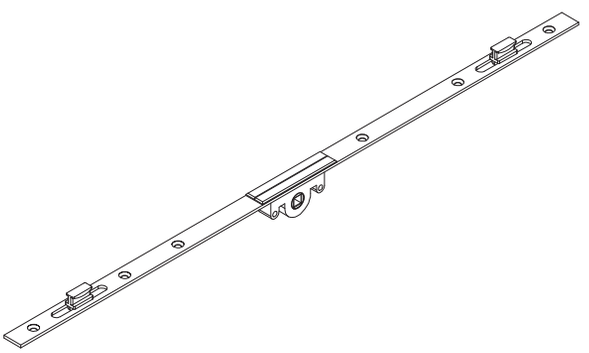
code/description	package/pcs	colour
GU 252418.00		silver

Single locking point in-line lock



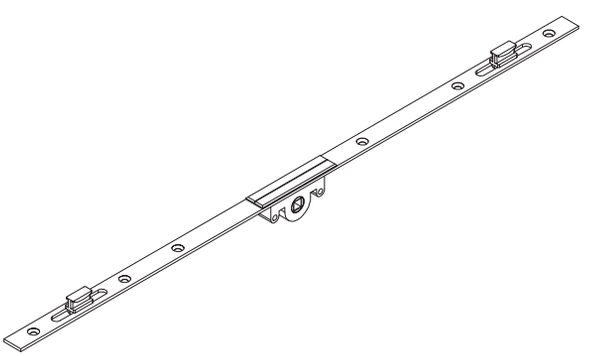
code/description	package/pcs	colour
GU 251823.00		silver

Double locking point in-line lock (600 mm)



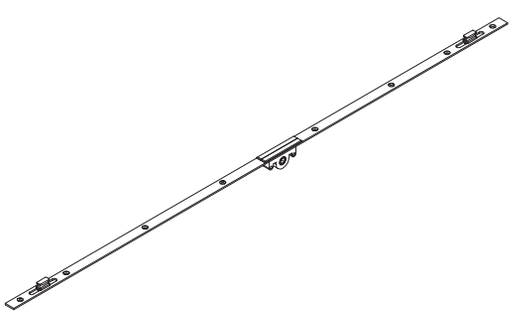
code/description	package/pcs	colour
GU 252510.00		silver

Double locking point in-line lock (1000 mm)



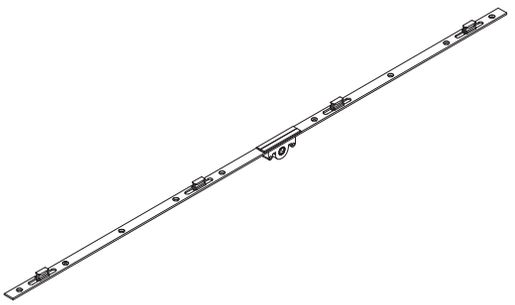
code/description	package/pcs	colour
GU 252419.00		silver

Double locking point in-line lock (1600 mm)



code/description	package/pcs	colour
GU 252420.00		silver

Four locking point in-line lock (1600 mm)

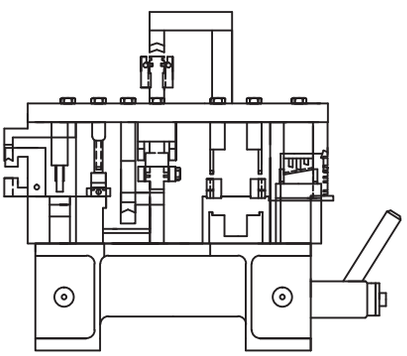


code/description	package/pcs	colour
ET 074795.00		

Plastic spacer for In-Line handle

code/description	package/pcs	colour
ET 162263.00		

Punching machine for E50 profiles



CE MARKING

STANDARDS / PERFORMANCE CHARACTERISTICS

CE MARKING

WHAT DOES THE SIGN CE MEAN?

It is an abbreviation of the French "Conformite Europeene"– i.e. European Conformity. By placing the CE marking the manufacturer declares that the product complies with the general safety requirements set out in the Construction Product Regulation 305/2011.

WHAT IS THE PURPOSE OF CE MARKING?

The CE marking represents "the European passport" of the product, its main objectives are:

CE is a declaration by the manufacturer that the product meets the essential requirements of relevant European legislation relating to health, safety and environmental protection;

CE indicates to officials in relevant ministries and departments that the product can be put on the market lawfully in the country;

CE ensures free movement of goods within the EU and the European Free Trade Association (EFTA);

CE permits the withdrawal of products that do not meet the standards by monitoring and custom authorities;

Marking with the CE mark is necessary in cases where the product is distributed within the internal market.

WHAT ARE THE REQUIREMENTS FOR THE CE MARKING?

Doors, windows and gates (except those intended to be used for internal communication only, for fire/smoke compartmentation and on escape routes) are covered by System 3 of assessment and verification of constancy of performance.
According to the Construction Product Regulation 305/2011, this system sets the following duties:

Tasks to be performed by the manufacturer	Tasks to be performed by Notified testing laboratory	Conformity accessment (the basis for CE marking, which is set by the final producer)
factory production control – FPC	Determination of the product type on the basis of type testing, type calculation, tabulated values, etc.	Declaration of performance issued by the manufacturer or his authorized representative based on test results.

LEGAL ACTS

- Construction Products Regulation (305/2011/EU – CPR) – replacing the Construction Products Directive (89/106/EEC – CPD)
- EN 14351-1:2006+A1:2010 – Windows and doors – Product standard, performance characteristics – Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics

MAIN METHODS FOR OBTAINING TEST RESULTS BY THE MANUFACTURER

According to the Construction Product Regulation 305/2011 there are three main options for the manufacturers of windows and doors to obtain test results.

1

THE MANUFACTURER SELECTS A SAMPLE FOR TESTING AND CARRIES OUT FACTORY PRODUCTION CONTROL

↓

NOTIFIED TESTING LABORATORY TESTS THE SAMPLE

↓

THE MANUFACTURER OWNS THE TEST REPORT

↓

MANUFACTURER ISSUES DECLARATION OF PERFORMANCE AND AFFIXES CE MARKING

2

PARTNER (SECOND MANUFACTURER PRODUCING PRODUCT WITH CORRESPONDING PRODUCT-TYPE) SELECTS A SAMPLE FOR TESTING AND CARRIES OUT FACTORY PRODUCTION CONTROL

↓

NOTIFIED TESTING LABORATORY TESTS THE SAMPLE

↓

THE PARTNER OWNS THE TEST REPORT

↓

THE MANUFACTURER CARRIES OUT FACTORY PRODUCTION CONTROL AND IS ALLOWED TO USE THE TEST RESULTS OF HIS PARTNER AFTER OBTAINING PARTNER'S AUTHORIZATION

↓

MANUFACTURER ISSUES DECLARATION OF PERFORMANCE AND AFFIXES CE MARKING

3

THE SYSTEM PROVIDER SELECTS SAMPLES FOR TESTING

↓

NOTIFIED TESTING LABORATORY TESTS THE SAMPLE

↓

THE SYSTEM PROVIDER OWNS THE TEST REPORT

↓

THE MANUFACTURER CARRIES OUT FACTORY PRODUCTION CONTROL AND IS ALLOWED TO USE THE TEST RESULTS OF THE SYSTEM PROVIDER AFTER OBTAINING SYSTEM PROVIDER'S AUTHORIZATION

↓

- AGREEMENT BETWEEN THE MANUFACTURER AND THE SYSTEM PROVIDER
- INSTRUCTIONS FOR ASSEMBLING AND INSTALLATION OF THE SYSTEM PROVIDER RELEVANT FOR FPC OF THE MANUFACTURER
- NO REDUCTION OF PERFORMANCE LEVEL OF THE PRODUCT

↓

MANUFACTURER ISSUES DECLARATION OF PERFORMANCE AND AFFIXES CE MARKING

STANDARDS

GENERAL

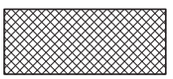
- EN 12020 (1÷2) – ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED PRECISION PROFILES IN ALLOYS EN AW-6060 AND EN AW-6063
- EN 755 (1÷9)– ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED ROD/BAR, TUBE AND PROFILES
- EN 573 (1÷3) – ALUMINIUM AND ALUMINIUM ALLOYS – CHEMICAL COMPOSITION AND FORM OF WROUGHT PRODUCTS
- EN 1990 EUROCODE – BASIS OF STRUCTURAL DESIGN
- EN 1991 EUROCODE 1 – ACTIONS ON STRUCTURES
- EN 1998 EUROCODE 8 – DESIGN OF STRUCTURES FOR EARTHQUAKE RESISTANCE
- EN 1999 EUROCODE 9 – DESIGN OF ALUMINIUM STRUCTURES

WINDOWS AND DOORS

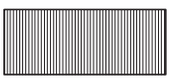
1. EN 14351 – WINDOWS AND DOORS – PRODUCT STANDARD, PERFORMANCE CHARACTERISTICS
2. EN 12519 – WINDOWS AND PEDESTRIAN DOORS – TERMINOLOGY
3. EN 12207 – WINDOWS AND DOORS – AIR PERMEABILITY – CLASSIFICATION
4. EN 1026 – WINDOWS AND DOORS – AIR PERMEABILITY – TEST METHOD
5. EN 12208 – WINDOWS AND DOORS – WATERTIGHTNESS – CLASSIFICATION
6. EN 1027 – WINDOWS AND DOORS – WATERTIGHTNESS – TEST METHOD
7. EN 12210 – WINDOWS AND DOORS – RESISTANCE TO WIND LOAD – CLASSIFICATION
8. EN 12211 – WINDOWS AND DOORS – RESISTANCE TO WIND LOAD – TEST METHOD
9. EN 1191 – WINDOWS AND DOORS – RESISTANCE TO REPEATED OPENING AND CLOSING – TEST METHOD
10. EN ISO 10077 (1÷2) – THERMAL PERFORMANCE OF WINDOWS, DOORS AND SHUTTERS – CALCULATION OF THERMAL TRANSMITTANCE
11. EN 12412-2 – THERMAL PERFORMANCE OF WINDOWS, DOORS AND SHUTTERS – DETERMINATION OF THERMAL TRANSMITTANCE BY HOT BOX METHOD – PART 2: FRAMES
12. EN 13115 – WINDOWS – CLASSIFICATION OF MECHANICAL PROPERTIES – RACKING, TORSION AND OPERATING FORCES
13. EN 1627 – WINDOWS, DOORS, SHUTTERS – BURGLAR RESISTANCE – REQUIREMENTS AND CLASSIFICATION
14. EN 1628 – WINDOWS, DOORS, SHUTTERS – BURGLAR RESISTANCE – TEST METHOD FOR THE DETERMINATION OF RESISTANCE UNDER STATIC LOADING
15. EN 1629 – WINDOWS, DOORS, SHUTTERS – BURGLAR RESISTANCE – TEST METHOD FOR THE DETERMINATION OF RESISTANCE UNDER DYNAMIC LOADING
16. EN 1630 – WINDOWS, DOORS, SHUTTERS – BURGLAR RESISTANCE – TEST METHOD FOR THE DETERMINATION OF RESISTANCE TO MANUAL BURGLARY ATTEMPTS
17. EN ISO 717-1 – ACOUSTICS – RATING OF SOUND INSULATION IN BUILDINGS AND OF BUILDING ELEMENTS – PART 1: AIRBORNE SOUND INSULATION
18. EN ISO 10140 – ACOUSTICS – LABORATORY MEASUREMENT OF SOUND INSULATION OF BUILDING ELEMENTS

HATCHES

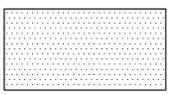
Hatches for different materials



EPDM

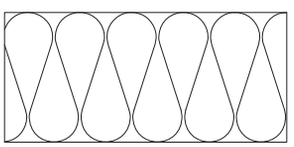


PVC

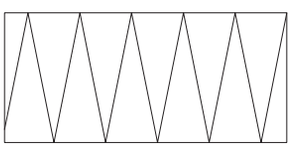


gypsum board

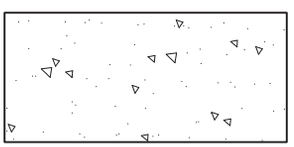
silicone seal



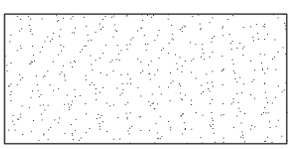
Insulation soft



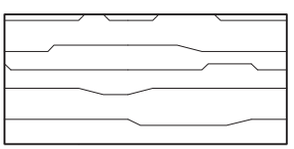
Insulation hard



concrete wall



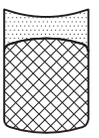
plaster



wood

butyl seal

membrane



silicone seal

backer rod

PVC spacer

etalbond

sheet aluminium

glass

aluminium profile

steel

LIABILITY

The stated data and calculating methods are provided by ETEM as a guideline only.
The information given in this catalogue does not substitute all applicable regulations – Eurocodes, harmonized European standards, national or regional building codes.

The specific conditions and technical details of every particular project have to be taken into consideration.

The right choice of all elements as well as any special requirements regarding stability of the structure must always be considered by the structural/façade engineer, responsible for the project.

The solutions presented in these pages are indicative and can not cover all possible project cases. Because of that every single project has to be evaluated by the structural/facade engineer in charge taking into consideration the specific features, such as climate conditions, location, orientation, etc.

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