TECHNICAL CATALOGUE

WINDOW AND FLAT DOOR SYSTEM WITH THERMAL BREAK

Q60 E85 E70 E52 E75 E40 E19 E1600 E8000 Q72 E45 E2300

ETEM

E75
WINDOW AND FLAT 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 on the Balkans. With over 40 years of experience ETEM is the first 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.

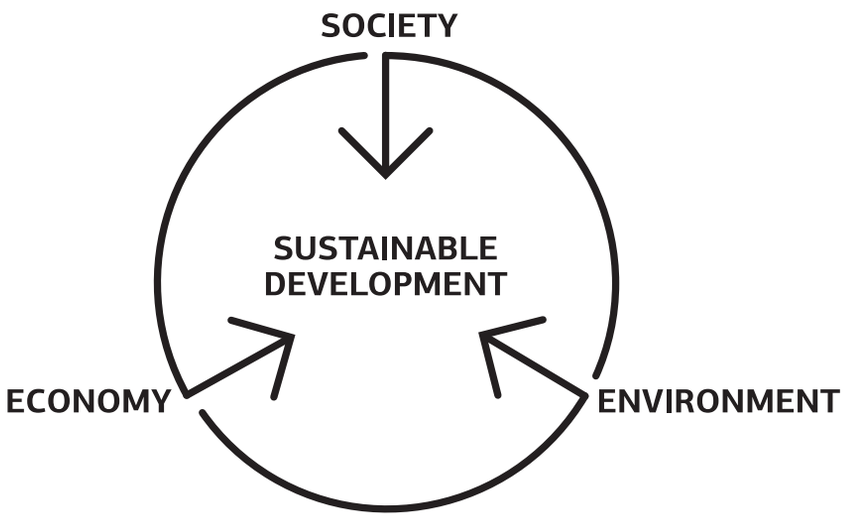
For us meeting this objective translates into the challenge of satisfying market demands at the lowest economic, social and environmental cost possible.

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

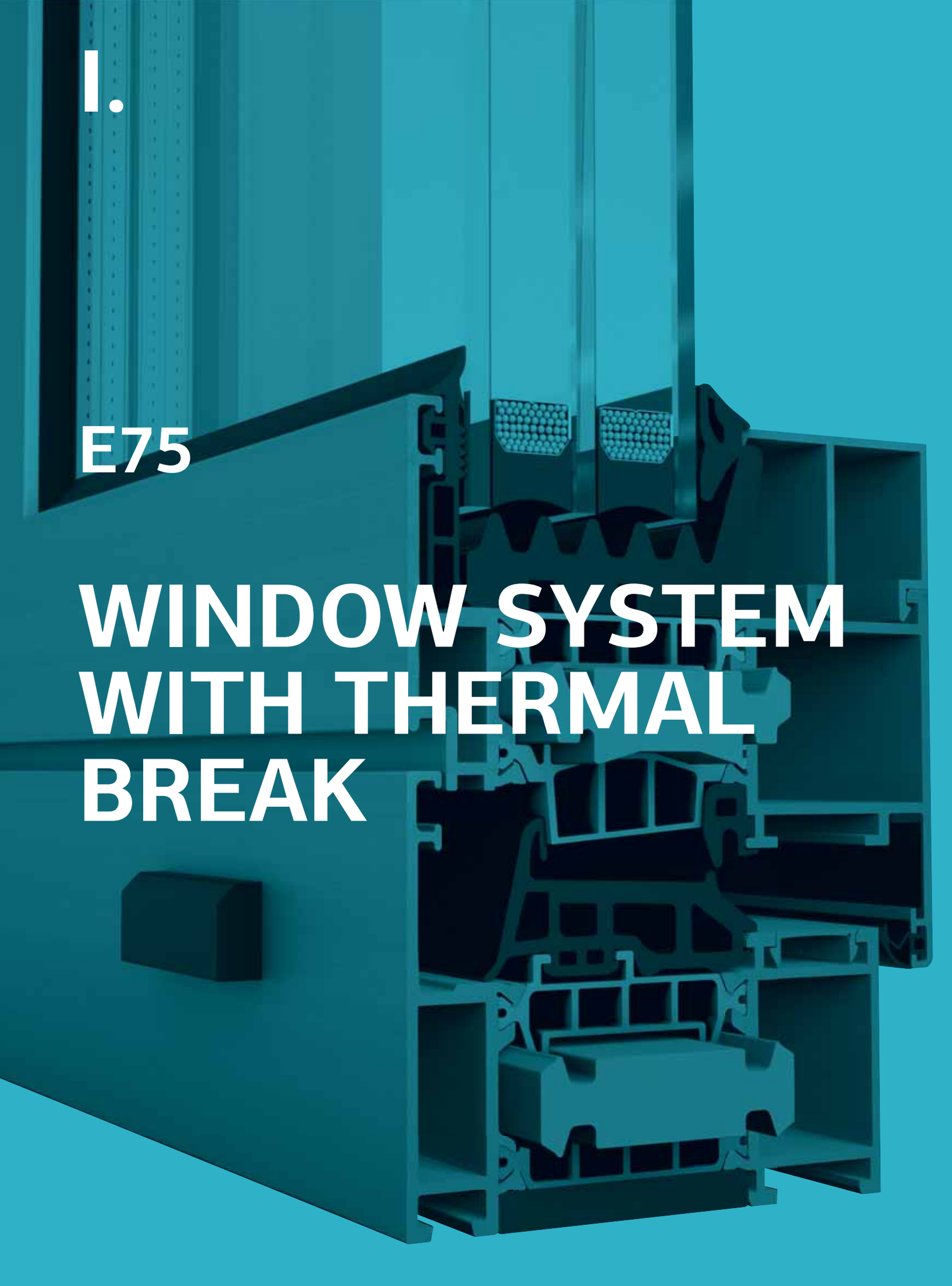


* Extract from Brundtland Report, from the United Nations World Commission on Environment and Development WCED

I.

E75

WINDOW SYSTEM WITH THERMAL BREAK



GENERAL INFORMATION

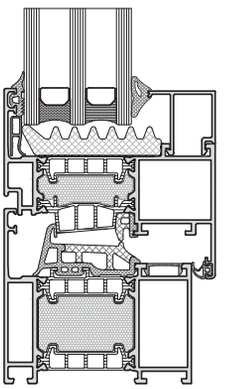
CONCEPT / ADVANTAGES / CERTIFICATES

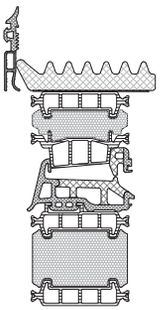
E75 WINDOW CONCEPT

E75 WINDOW IS A SYSTEM CORRESPONDING TO THE MOST STRINGENT REQUIREMENTS FOR THERMAL INSULATION, FUNCTIONALITY AND AESTHETICS.

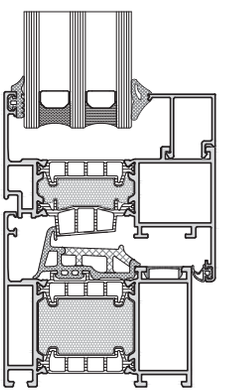
- Elegant straight design
- 75 mm system width allowing usage of triple glazing
- Wide polyamide bars
- Excellent thermal insulation from 1,1 $W/m^2.K$
- Additional insulator in the thermo-break area
- Additional insulator under the glass
- Effective drainage
- Excellent water-tightness and air-permeability
- Co-extruded central gasket
- Possibility for mounting anti-burglar hardware for good security performance
- Extruded corners for crimping machine with glue allowing greater connections

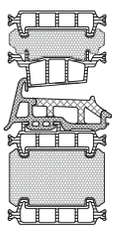
ADVANCED SYSTEM



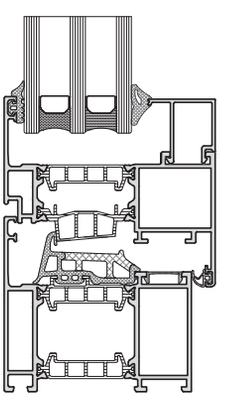


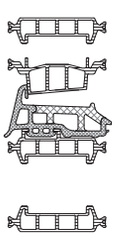
IMPROVED SYSTEM



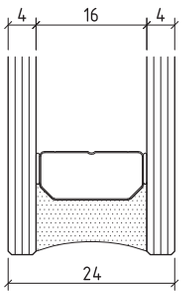
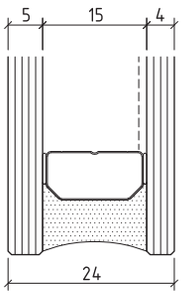
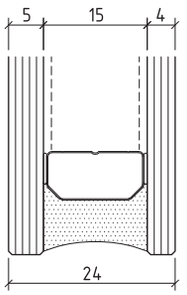
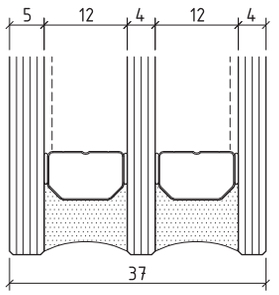


BASIC SYSTEM





ADVANTAGES AND COMBINATIONS

PERFORMANCE CHARACTERISTICS	Type ot glazing			
	Double Glazing	Double Glazing	Double Glazing	Triple Glazing
	4/16/4 Low Emission	5/15/4 Low Emission Argon	5 Sun Guard/15/4 Low Emission	5 Sun Guard/12/4/12/4 Low Emission
				
Uglass	1,4	1,1	1,0	0,6
Uwindow[1]	1,4	1,2	1,1	0,8
g value[2]	0,6	0,6	0,5	0,46

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

Notes:
1. Uw value is calculated by using warm edge spacer.
2. g value is calculated 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.

Environmental product declaration according to ISO 14040, ISO 14044, EN 15804 and ISO 14025.

Factory production control system is certified according to the requirements of EN 15088.

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 E 75

Characteristic	**Classification / value**	**Standard**
Air permeability	up to class 4	EN 1026 / EN 12207
Watertightness	up to class E 1500	EN 1027 / EN 12208
Resistance to wind load	up to class C 5	EN 12211 / EN 12210
Thermal transmittance	from 1,2 $W/m^2.K$	EN 12412-2 / EN ISO 10077-2
Acoustic performance	up to 52 dB	EN ISO 717-1
Burglar Resistance	RC2/RC3	EN 1627

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 AW 6063 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	$q = \frac{V^2}{16}$		$Wp^* = 1,,25 \times cp \times q$ $c_p = 0,8$		$h/b \leq 0,25$ $W_s = c_p \times q$ $c_p = 0,5$		$h/b \geq 0,5$ $W_s = c_p \times q$ $c_p = 0,7$		$b/8 \leq 2$ m $W_s = c_p \times q$ $c_p = 2,0$	
m	m/s	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2	kg/m2
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/m2 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

1m = 100cm = 1000mm

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

1kg/m^2 = 0,01kN/m^2
1Pa = 1N/m^2 = 0,1kg/m^2
1kPa = 1000Pa = 1kN/m^2 =100kg/m^2
1MPa = 1000kPa = 1 000 000 Pa
1MPa = 1N/mm^2 = 0,1kN/cm^2 =100 000kg/m^2

MULLION SELECTION

*Wind load actions:

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

a) triangle load

$$\text{If } \frac{H}{c} \le 1,\ I_{yc} \ge \frac{w \cdot (H/2) \cdot H^4 \cdot 10^8}{120 \cdot E_{al} \cdot f_{max}},\ cm^4$$

or

b) trapezoid load

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

Use the same method to calculate I_{yd}

Total of required moment of inertia:
$I_y = I_{yc} + I_{yd},\ cm^4$

Where:
I_y – Moment of inertia of a transom, cm^4
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

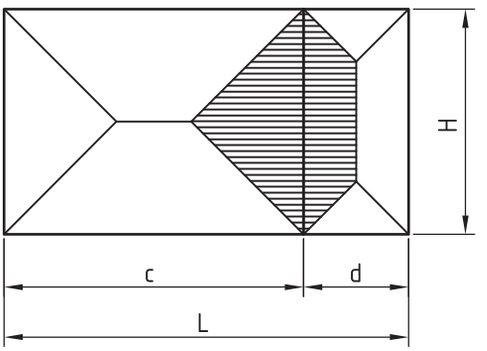
Maximum transom deflection f_{max} by wind load:

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

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

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

Example:



Initial data:
H = 2,2 m w = 60 kg/m^2
c = 2,4 m E_{al} = 7.10^9 kg/m^2
d = 0,8 m

$$f = \frac{H}{200} = \frac{2,2}{200} = 0,011m \quad \text{or 0,015 m (EN 14351-1)}$$

$\Longrightarrow f_{max}$ = 0,011m in the following formulas:

$$\frac{H}{c} = \frac{2,2}{2,4} = 0,91 < 1$$

$$I_{yc} \ge \frac{w \cdot (H/2) \cdot H^4 \cdot 10^8}{120 \cdot E_{al} \cdot f_{max}},cm^4$$

$$I_{yc} \ge \frac{60 \cdot (2,2/2) \cdot 2,2^4 \cdot 10^8}{120 \cdot 7 \cdot 10^9 \cdot 0,011},cm^4 \Longrightarrow I_{yc} \ge 16,73\ cm^4$$

$$\frac{H}{d} = \frac{2,2}{0,8} = 2,75 > 1$$

$$I_{yd} \ge \frac{w \cdot (d/2) \cdot H^4}{1920 \cdot E_{al} \cdot f_{max}} \cdot 10^8 \cdot \left[25 - 40 \cdot \frac{(d/2)^2}{H^2} + 16 \cdot \frac{(d/2)^4}{H^4}\right],cm^4$$

$$I_{yd} \ge \frac{60 \cdot (0,8/2) \cdot 2,2^4}{1920 \cdot 7 \cdot 10^9 \cdot 0,011} \cdot 10^8 \cdot \left[25 - 40 \cdot \frac{(0,8/2)^2}{2,2^2} + 16 \cdot \frac{(0,8/2)^4}{2,2^4}\right],cm^4$$

$I_{yd} \ge 9,01\ cm^4$

$I_y = I_{yc} + I_{yd},\ cm^4 \Longrightarrow I_y = 16,73 + 9,01 = 25,74\ cm^4$

Use ETEM Catalodue to choose the appropriate mullion with
$I_y \ge 25,74\ cm^4$
We choose mullion E75300S with I_x = 13,91 cm^4
and I_y = 41,75 cm^4

TRANSOM SELECTION

*Dead load actions:

*Glass pane self weight:

Weight of the glass pane G is calculated as follows:

The required moment of inertia of a transom due to the weight of the glazing is given by:

$$I_{x1} \geq \frac{G \cdot a \cdot 10^8}{48 \cdot E_{al} \cdot f_{max}} \cdot (3 \cdot L^2 - 4 \cdot a^2) \text{ ,cm}^4$$

Where:
G – Weight of glass pane, kg
t – Glass pane thickness, mm
ρ_{glass} – Density of glass material, kg/m^2/mm
l_g – Horizontal dimension of the glass pane, m
h_g – Vertical dimension of the glass pane, m

*Transom self weight:

The required moment of inertia of a transom due to its self weight is given by:

$$I_{x2} \geq \frac{5 \cdot q \cdot L^4 \cdot 10^8}{384 \cdot E_{al} \cdot f_{max}} \text{ ,cm}^4$$

Total of required moment of inertia:
$I_x = I_{x1} + I_{x2}$,cm^4

Where:
a=0,15 – Distance of a glazing supports of the glass pane, m
I_x – Moment of inertia of a transom, cm^4
q – Self weight of a transom per linear meter, kg/m
E_{al} – Modulus of Elasticity of aluminium, kg/m^2
f_{max} – Maximum transom deflection, m
L – Length of a transom, m

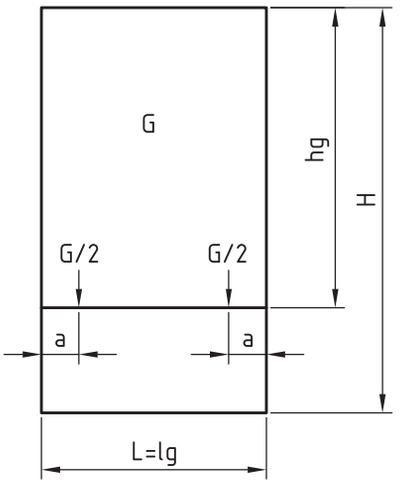
Maximum transom deflection f max by dead load:

$$f = \frac{L}{500} \text{ ,m} \quad \text{or 0,003m – whichever is less (EN 14351-1)}$$

Use ETEM Catalogue to choose the appropriate transom with I_y exceeding or equal to the required I_y.

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

Example: $G = t \cdot \rho_{glass} \cdot l_g \cdot h_g$



Initial data:

t = 12 mm	E_{al} = 7.10^9 kg/m^2
l_g = 1,5 m	ρ_{glass} = 2,5 kg/m^2/mm
h_g = 2,0 m	q = 2 kg/m
a = 0,15 m	

$G = t \cdot \rho_{glass} \cdot l_g \cdot h_g = 10 \cdot 2{,}5 \cdot 1{,}5 \cdot 2{,}0 = 75$ kg

$$\Longrightarrow f_{max} = \frac{L}{500} = \frac{1{,}5}{500} = 0{,}003\text{m} \quad \text{or 0,003m (EN 14351-1)}$$

$\Longrightarrow f_{max}$ = 0,003m in the following formulas:

$$I_{x1} \geq \frac{G \cdot a \cdot 10^8}{48 \cdot E_{al} \cdot f_{max}} \cdot (3 \cdot L^2 - 4 \cdot a^2) \text{ ,cm}^4$$

$$I_{x1} \geq \frac{75 \cdot 0{,}15 \cdot 10^8}{48 \cdot 7 \cdot 10^9 \cdot 0{,}003} \cdot (3 \cdot 1{,}5^2 - 4 \cdot 0{,}15^2) \text{ ,cm}^4$$

$$I_{x1} \geq \frac{75 \cdot 0{,}15 \cdot 10^8}{48 \cdot 7 \cdot 10^9 \cdot 0{,}003} \cdot (3 \cdot 1{,}5^2 - 4 \cdot 0{,}15^2), \text{ cm}^4 \Longrightarrow I_{x1} \geq 7{,}43\text{cm}^4$$

$$I_{x2} \geq \frac{5 \cdot q \cdot L^4 \cdot 10^8}{384 \cdot E_{al} \cdot f_{max}} \text{,cm}^4 \quad J_{x2} \geq \frac{5 \cdot 2 \cdot 1{,}5^4 \cdot 10^8}{384 \cdot 7 \cdot 10^9 \cdot 0{,}003} \text{,cm}^4 \Longrightarrow I_{x1} \geq 0{,}63\text{cm}^4$$

$I_x = I_{x1} + I_{x2}$,cm^4

I_x = 7,43 + 0,63 = 8,06 cm^4

Use ETEM Catalodue to choose the appropriate transom with $I_x \geq 8{,}06$ cm^4
We choose transom E75300S with I_x = 13,91 cm^4
and I_y = 41,75 cm^4

TRANSOM SELECTION

*Wind load actions:

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

a) triangle load

$$\text{If } \frac{L}{a} \le 1,\ I_{ya} \ge \frac{w \cdot (L/2) \cdot L^4 \cdot 10^8}{120 \cdot E_{al} \cdot f_{max}}\ ,cm^4$$

or

b) trapezoid load

$$\text{If } \frac{L}{a} > 1,\ I_{ya} \ge \frac{w \cdot (a/2) \cdot L^4}{1920 \cdot E_{al} \cdot f_{max}} \cdot 10^8 \cdot \left[25-40 \cdot \frac{(a/2)^2}{L^2} + 16 \cdot \frac{(a/2)^4}{L^4}\right], cm^4$$

Use the same method to calculate I_{xb}

Total of required moment of inertia:
$I_y = I_{ya} + I_{yb}$, cm^4

Where:
I_y – Moment of inertia of a transom, cm^4
w – Wind pressure, kg/m^2
E_{al} – Modulus of Elasticity of aluminium, kg/m^2
f_{max} – Maximum transom deflection, m
L – Length of a transom, m
a,b – Distance between transoms, m

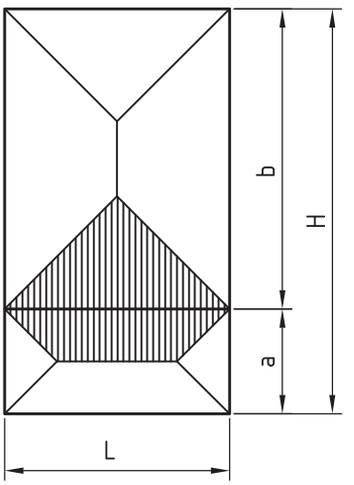
Maximum transom deflection f_{max} by wind load:

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

Use ETEM Catalogue to choose the appropriate transom with I_x exceeding or equal to the required I_x.

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

Example:



Initial data:
L = 1,5 m w = 60 kg/m^2
a = 0,7 m E_{al} = 7.10 kg/m^2
b = 2,0 m

$$f = \frac{L}{200} = \frac{1{,}5}{200} = 0{,}0075m \text{ or } 0{,}015 \text{ m (EN 14351-1)}$$

$\Rightarrow f_{max}$ = 0,0075m in the following formulas:

$$\frac{L}{a} = \frac{1{,}5}{0{,}7} = 2{,}14 > 1$$

$$I_{ya} \ge \frac{w \cdot (a/2) \cdot L^4}{1920 \cdot E_{al} \cdot f_{max}} \cdot 10^8 \cdot \left[25 - 40 \cdot \frac{(a/2)^2}{L^2} + 16 \cdot \frac{(a/2)^4}{L^4}\right], cm^4$$

$$I_{ya} \ge \frac{60 \cdot (0{,}7/2) \cdot 1{,}5^4}{1920 \cdot 7 \cdot 10^9 \cdot 0{,}0075} \cdot 10^8 \cdot \left[25 - 40 \cdot \frac{(0{,}7/2)^2}{1{,}5^2} + 16 \cdot \frac{(0{,}7/2)^4}{1{,}5^4}\right], cm^4$$

$I_{ya} \ge 2{,}41\ cm^4$

$$\frac{L}{b} = \frac{1{,}5}{2{,}0}, = 0{,}75 < 1$$

$$I_{yb} \ge \frac{w \cdot (L/2) \cdot L^4 \cdot 10^8}{120 \cdot E_{al} \cdot f_{max}}, cm^4 \quad \Rightarrow I_{yb} \ge \frac{60 \cdot (1{,}5/2) \cdot 1{,}5^4 \cdot 10^8}{120 \cdot 7 \cdot 10^9 \cdot 0{,}0075}, cm^4$$

$\Rightarrow I_{yb} \ge 3{,}62\ cm^4$

$I_y = I_{ya} + I_{yb}\ , cm^4$

$\Rightarrow I_y = 2{,}41 + 3{,}62 = 6{,}03\ cm^4$

Use ETEM Catalodue to choose the appropriate mullion with $I_y \ge 6{,}03\ cm^4$
We choose mullion E75300S with I_x = 13,91 cm^4
and I_y = 41,75 cm^4

CALCULATION OF GLASS PANE THICKNESS

*Glazing thickness:

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

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

or

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

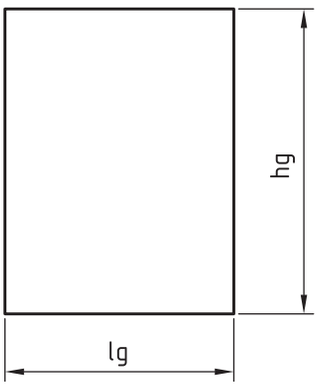
Where:
t – Minimum theoretical glass thickness, mm
w – Wind pressure, kg/m^2
l_g – The smallest dimension of the glass pane, m
h_g – The largest dimension of the glass pane, m

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 facade engineer or glazing manufacturer when calculating for required glazing thickness and maximum allowable dimensions.

Example:



Initial data:
l_g = 1,5 m
h_g = 2,0 m
w = 60 kg/m^2

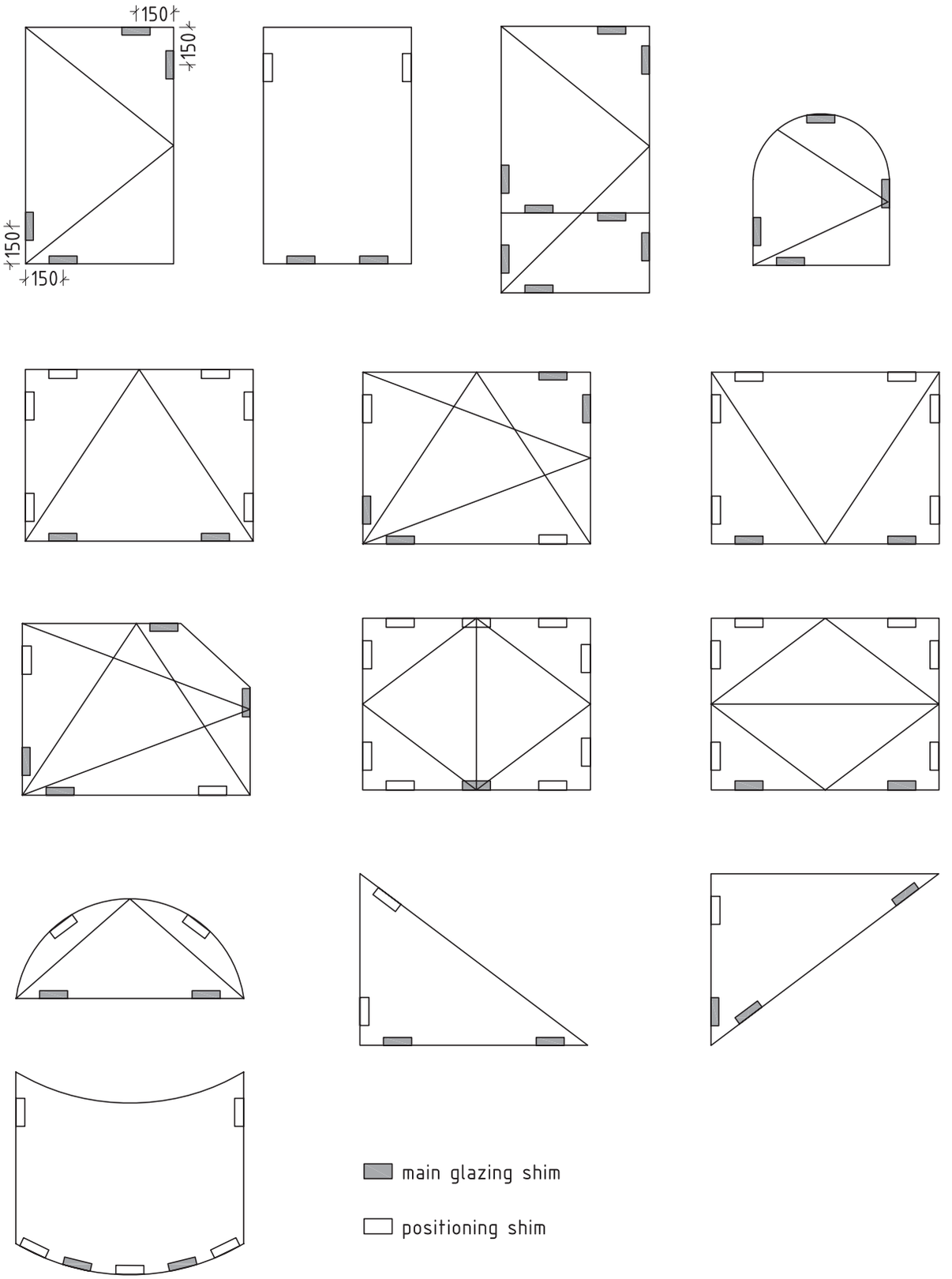
$$\frac{h_g}{l_g} = \frac{2}{1,5} = 1,33 \leq 3$$

$$t = \sqrt{\frac{10 \cdot l_g \cdot h_g \cdot w}{72}} = \sqrt{\frac{10 \cdot 1,5 \cdot 2 \cdot 60}{72}} = \sqrt{\frac{1800}{72}} = 5mm$$

For double glazing t_{req} = 1,5 . 5 = 7,5 mm

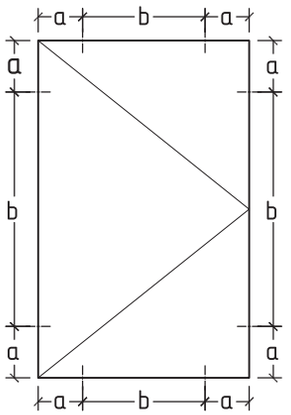
We choose double glazing 5/14/5

GLAZING SHIMS

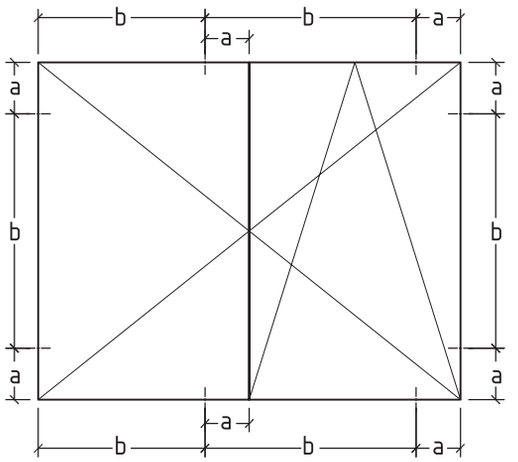


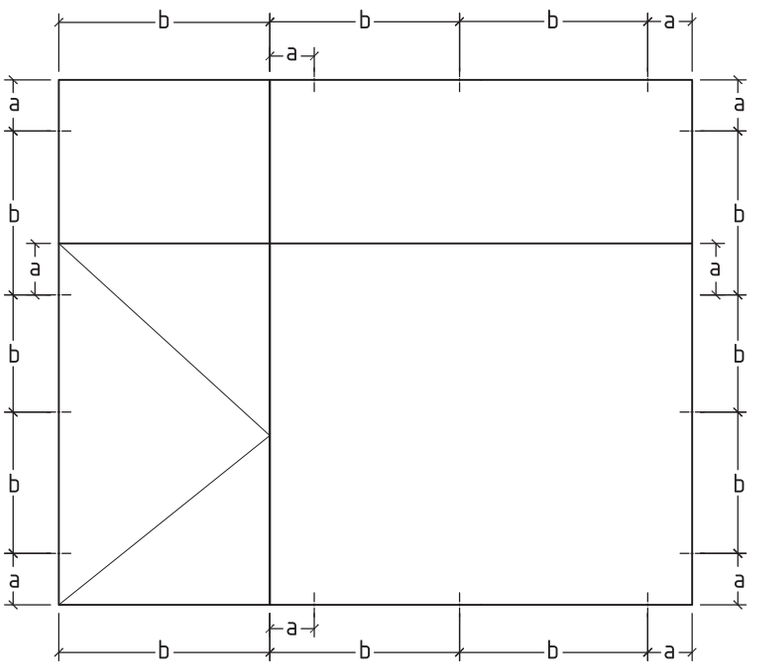
Note:
Main glazing shims should be positioned on 150 mm distance from the glazing edge.
Positioning shims do not have exactly defined position.

POSITION OF ANCHORS



a = 150 ÷ 200 mm
b ≤ 800 mm



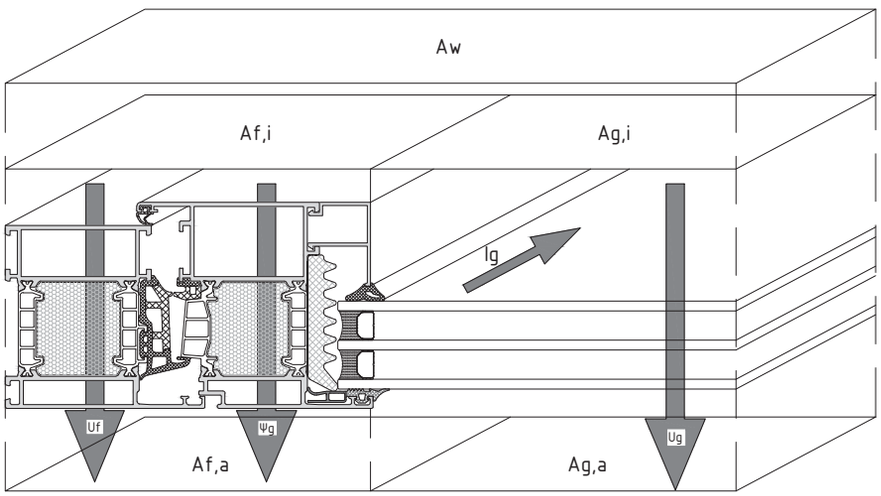


METHOD FOR CALCULATION OF THERMAL TRANSMITTANCE ACCORDING to EN ISO 10077-2

$$U_w = \frac{A_g \times U_g + A_f \times U_f + l_g \times \Psi_g}{A_g + A_f} \qquad (1)$$

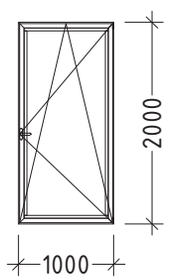
U_w – thermo-transmittance coefficient of the whole structure
U_g – glass thermal transmittance coefficient
U_f – thermo-transmittance coefficient of the aluminium frame (frame and sash)
Ψ_g – spacer linear thermal transmittance
l_g – total length of the spacer
A_g – glass area
A_f – aluminium frame 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 TRANSMITTANCE COEFFICIENT

frame:	E75	U_f	1.34	W/(m²K)
spacer:	warm edge	Ψ_g	0.051	W/(m²K)
glass:	triple glazing	U_g	1.00	W/(m²K)
window width:		1.00 m		
window height:		2.00 m		
length of glass edge lg:		4,89 m		



A_g = 1.24 m²; A_f = 0.76 m²

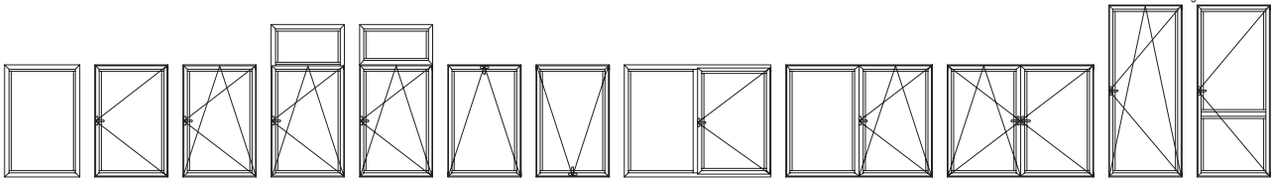
$$U_w = \frac{1.24 \times 1 + 0.76 \times 1.34 + 4.89 \times 0.051}{1.24 + 0.76}$$

$U_w \approx$ 1,3 W/(m²K)

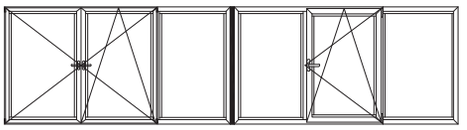
TABLES

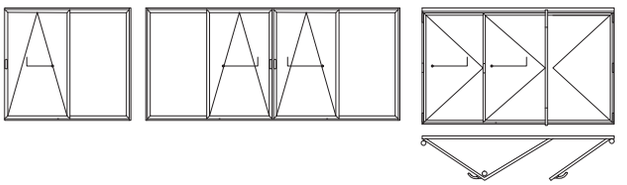
TYPOLOGIES / LIST OF PROFILES / CHARACTERISTICS

door height window



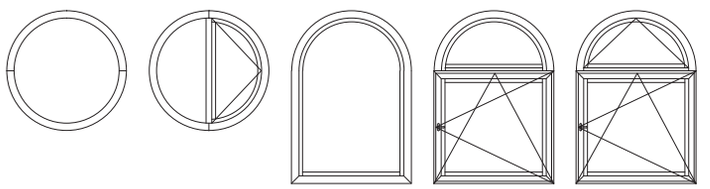
stripe windows

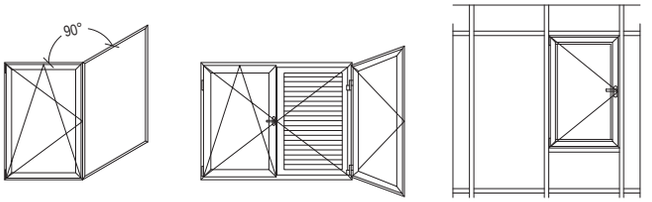




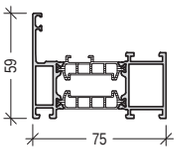
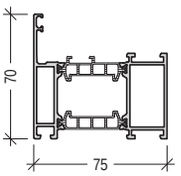
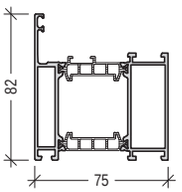
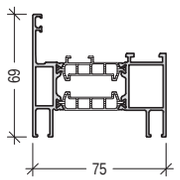
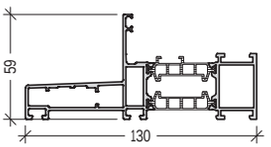
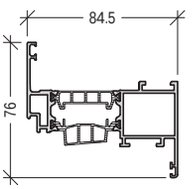
opening Schemes:

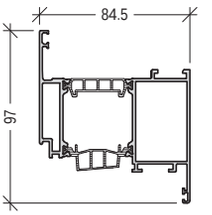
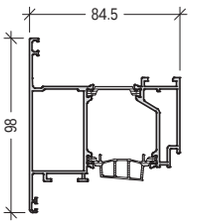
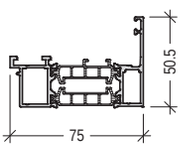
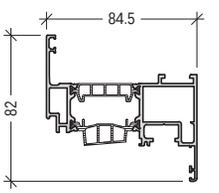
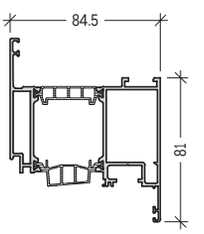
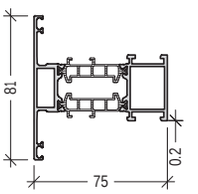
321;330;431;541;550;
532;651;633;761;770;743



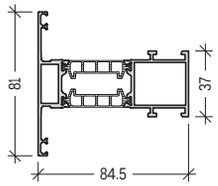
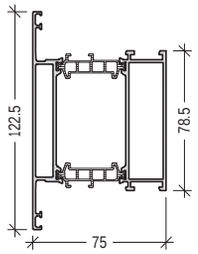
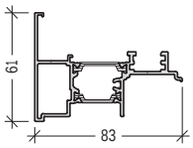
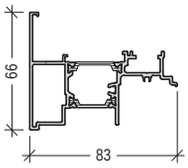
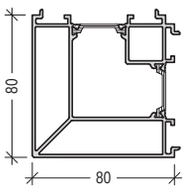
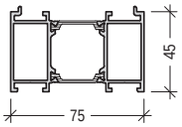


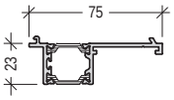
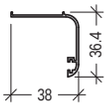
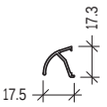
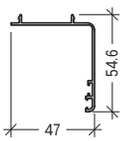
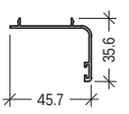
G75-1

code	profile	weight length moment of inertia
E75100 frame		L=6.01 m 1560 g/m Ix=9.68 cm^4 Iy=38.61 cm^4
E75101 frame		L=6.01 m 1762 g/m Ix=17.48 cm^4 Iy=45.08 cm^4
E75102 frame		L=6.01 m 1983 g/m Ix=29.79 cm^4 Iy=52.1 cm^4
E75105 frame		L=6.01 m 1695 g/m Ix=13.4 cm^4 Iy=44.73 cm^4
E75190 frame		L=6.01 m 2209 g/m Ix=12.22 cm^4 Iy=113.16 cm^4
E75200 sash		L=6.01 m 1651 g/m Ix=11.8 cm^4 Iy=51.36 cm^4

code	profile	weight length moment of inertia
E75201 sash		L=6.01 m 2036 g/m Ix=31.19 cm^4 Iy=66.94 cm^4
E75241		L=6.01 m 2068 g/m Ix=33.1 cm^4 Iy=66.68 cm^4
E75140 reverse profile		L=6.01 m 1325 g/m Ix=5.85 cm^4 Iy=29.83 cm^4
E75220 sash PVC groove		L=6.01 m 1806 g/m Ix=14.83 cm^4 Iy=56.28 cm^4
E75221 sash PVC groove		L=6.01 m 2186 g/m Ix=37.2 cm^4 Iy=71.8 cm^4
E75300 T profile		L=6.01 m 1660 g/m Ix=13.91 cm^4 Iy=41.75 cm^4

L75-01

code	profile	weight length moment of inertia
E75340 T profile		L=6.01 m 1718 g/m Ix=14.39 cm^4 Iy=54.44 cm^4
E75304 T profile		L=6.01 m 2426.8 g/m Ix=68.51 cm^4 Iy=66.9 cm^4
E75500 overhung secondary sash profile		L=6.01 m 1408 g/m Ix=8.13 cm^4 Iy=30.72 cm^4
E75540 overhung secondary sash profile PVC groove		L=6.01 m 1488 g/m Ix=8.1 cm^4 Iy=30.74 cm^4
E75600 column for angle 90°		L=6.01 m 2533 g/m Ix=68.24 cm^4 Iy=68.24 cm^4
E75610 frame extension		L=6.01 m 1600 g/m Ix=11.76 cm^4 Iy=37.77 cm^4

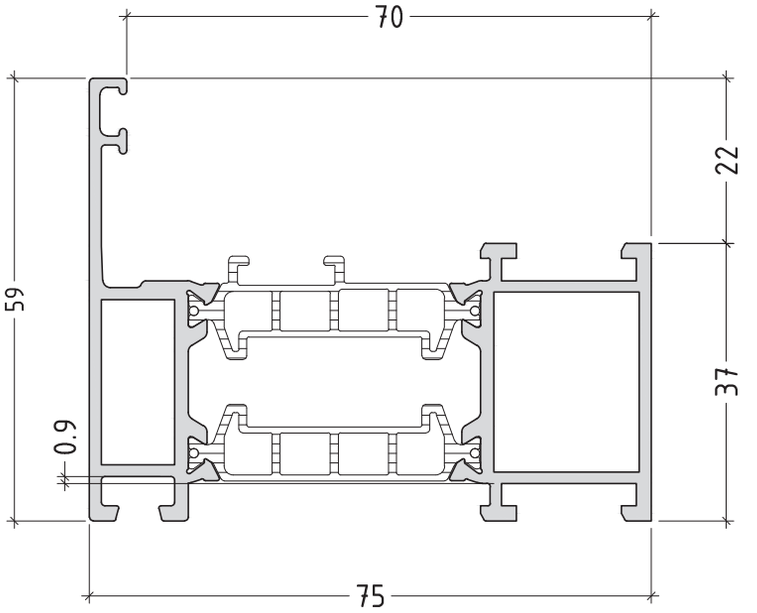
code	profile	weight length moment of inertia
E75601 adapter profile		L=6.01 m 898.5 g/m
E5366 wall joining profile		L=6.01 m 269 g/m
E2357 drip profile		L=6.01 m 144 g/m
E40820 drip profile		L=6.01 m 143 g/m
E1115 wall joining profile		L=6.01 m 408 g/m
E1127 wall joining profile		L=6.01 m 288 g/m

L75-02

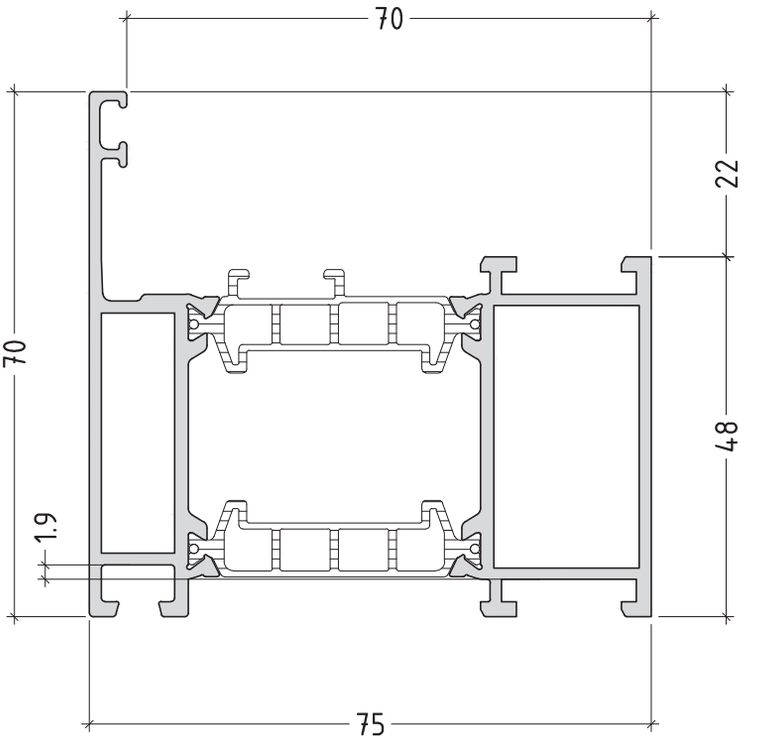
PROFILES

DRAWINGS

E75100
frame
1560 g/m



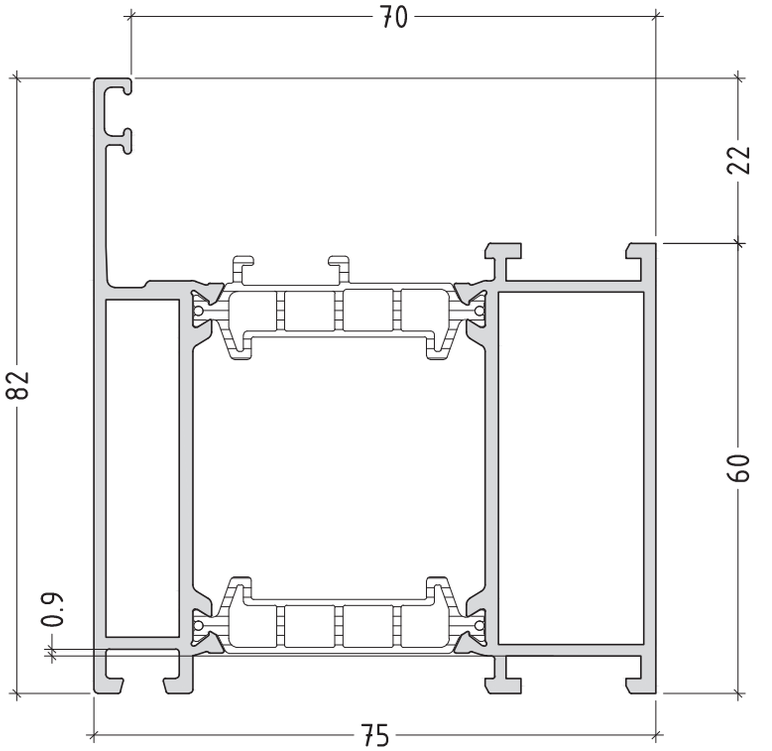
E75101
frame
1762 g/m



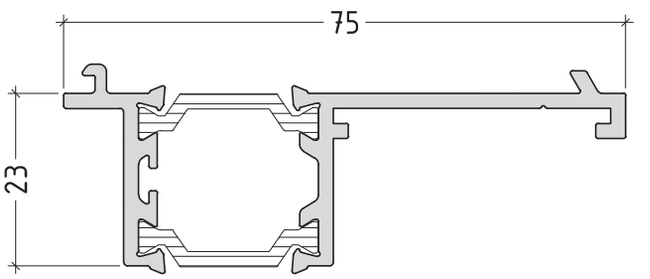
scale : 1:1

P75-01

E75102
frame
1983 g/m



E75601
adapter
profile
898.5 g/m



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P75-02

E75105
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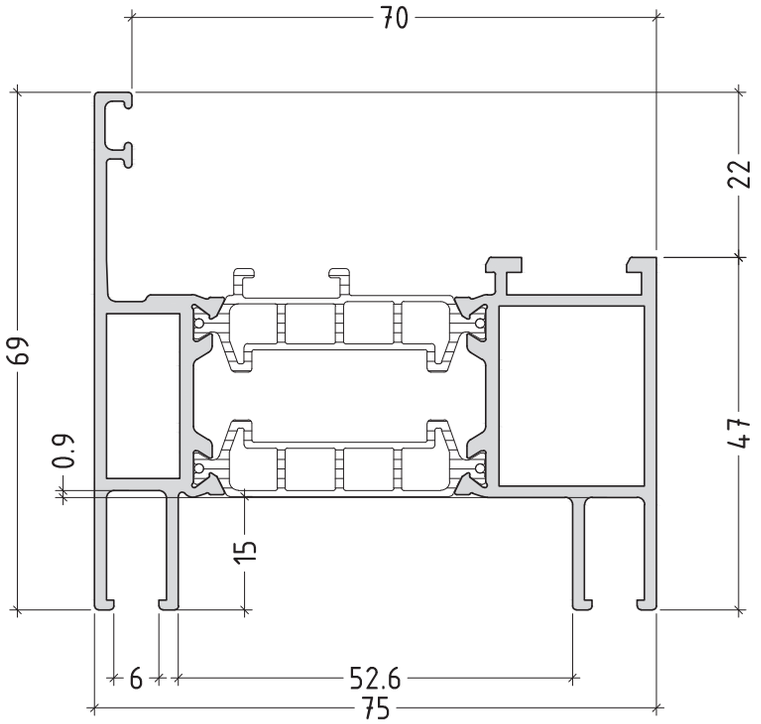
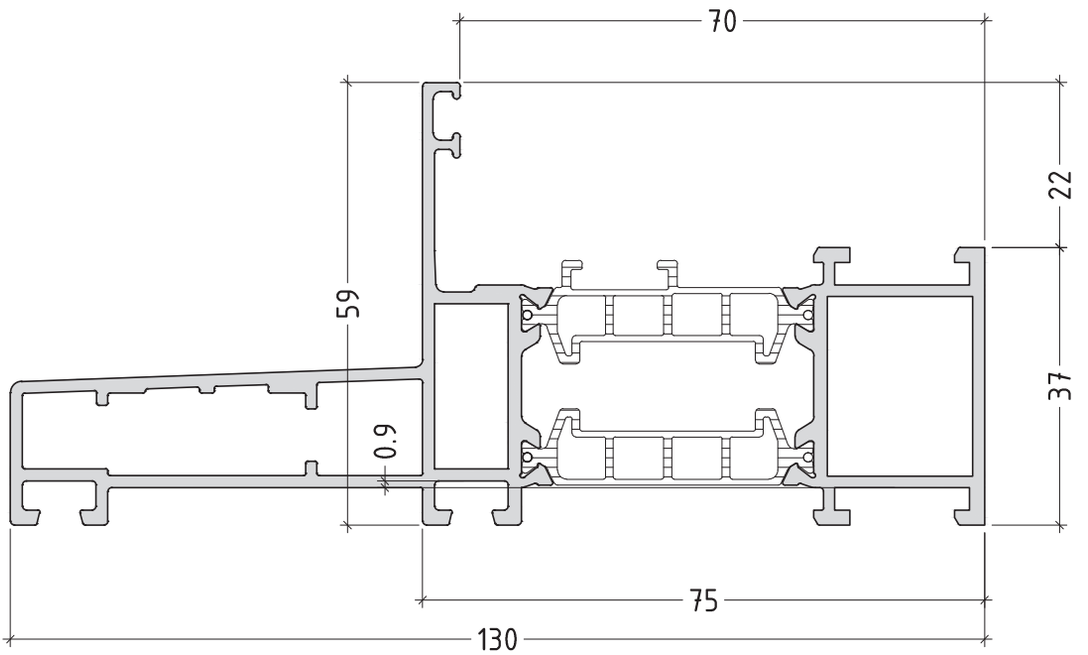
1695 g/m



E75190
frame
2209 g/m



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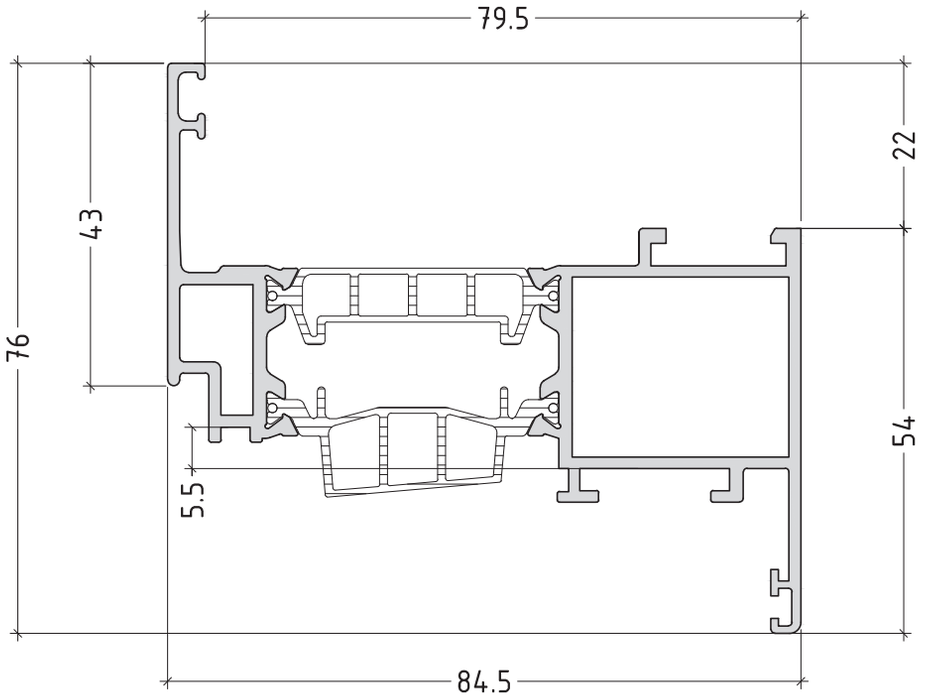
P75-03

E75200
sash Euro groove
1651 g/m



E75201
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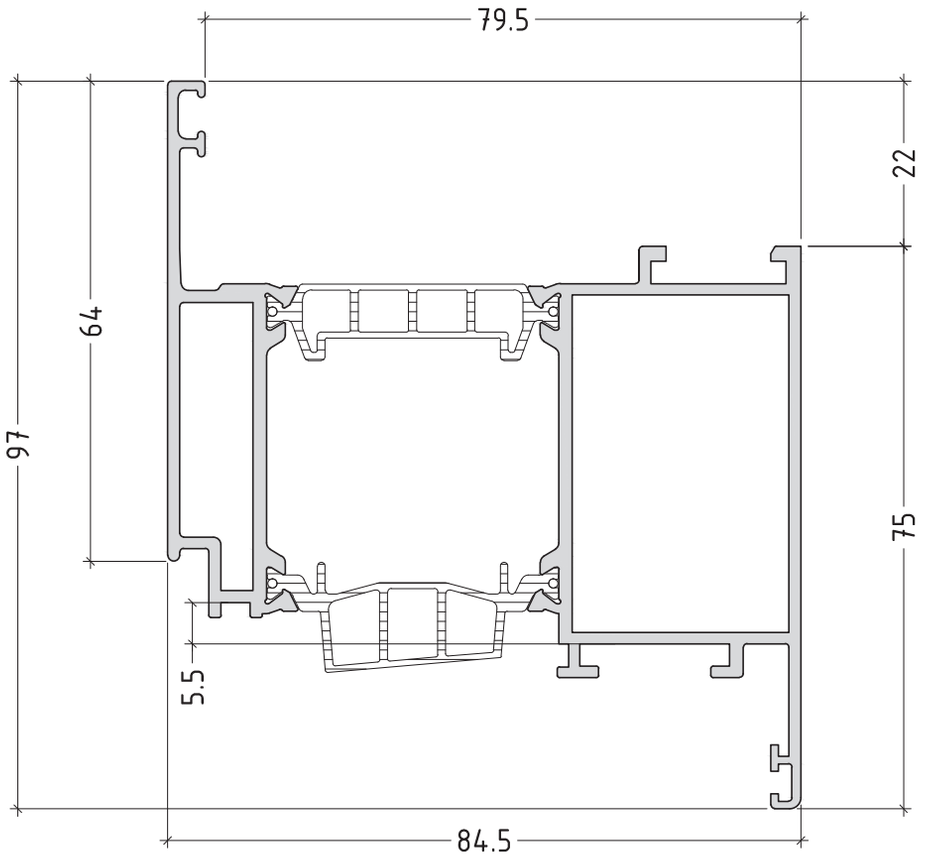
2036 g/m



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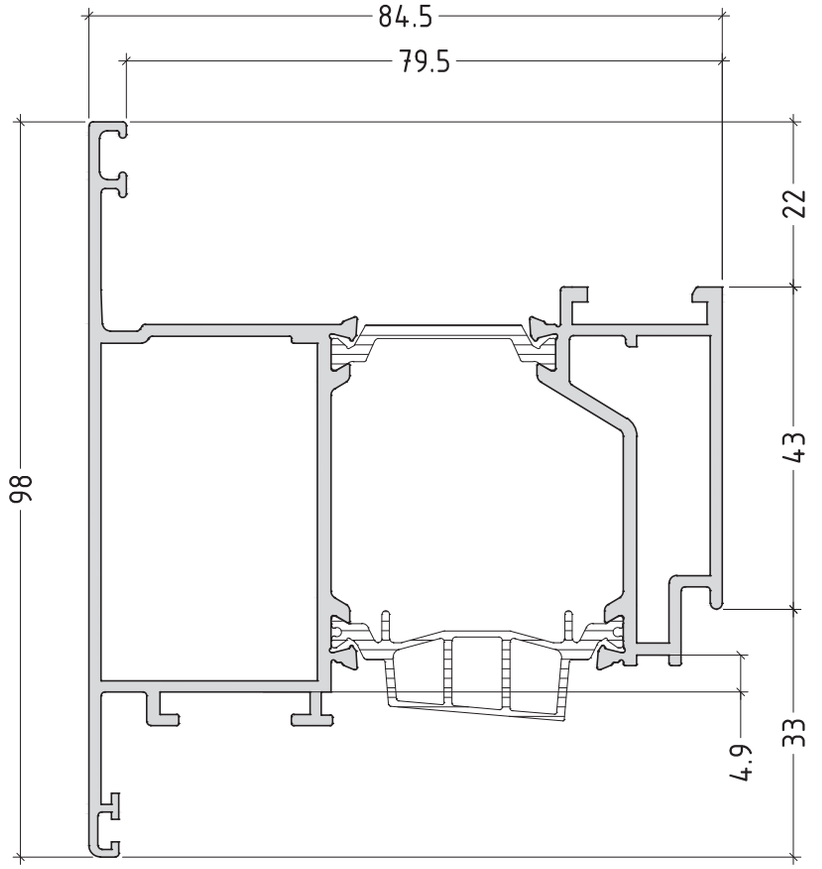
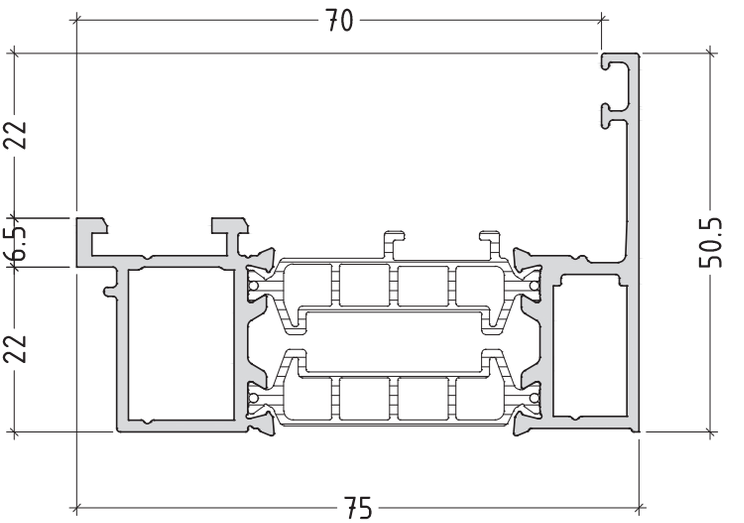
P75-04

E75241
2068 g/m



E75140
reverse
profile
1325 g/m



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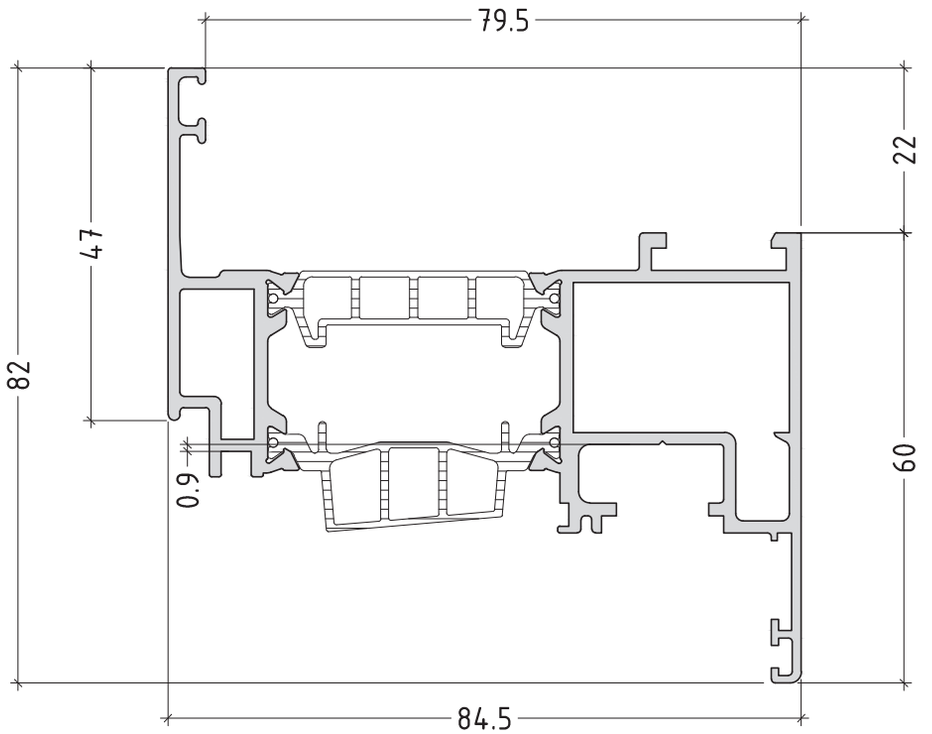
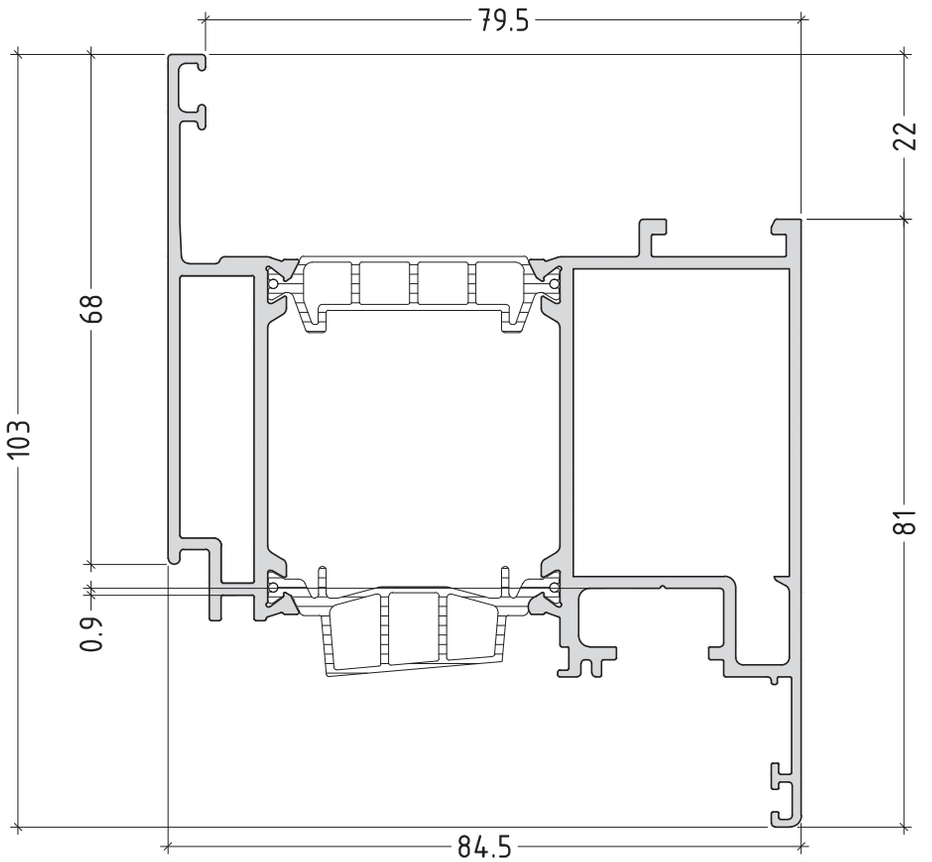
P75-05

E75220
sash
PVC groove
1806 g/m



E75221
sash
PVC groove
2186 g/m



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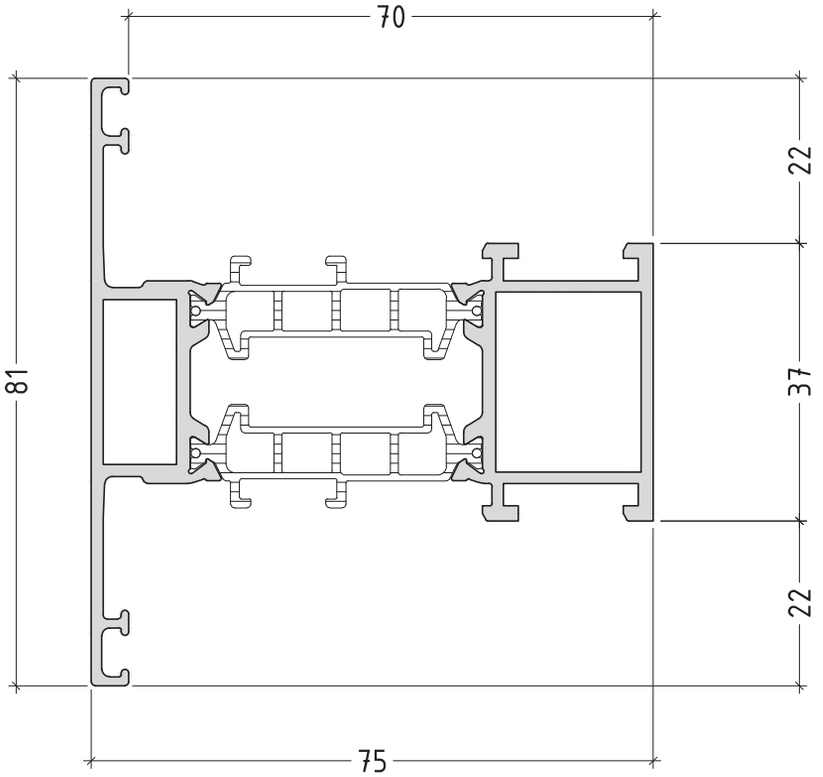
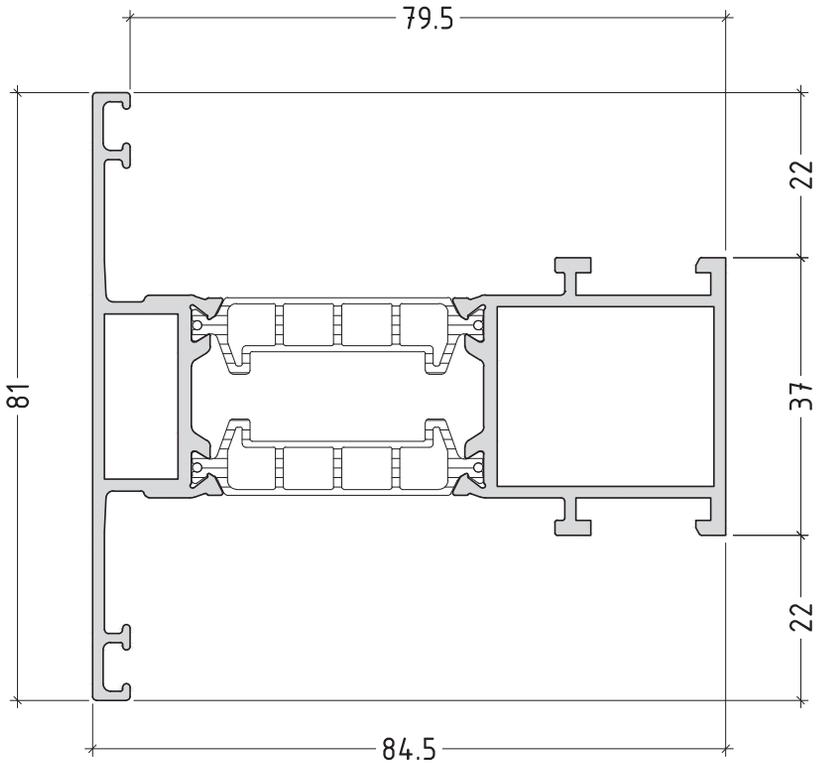
P75-06

E75300
T profile
for frame
1660 g/m



E75340
T profile
for sash
1718 g/m



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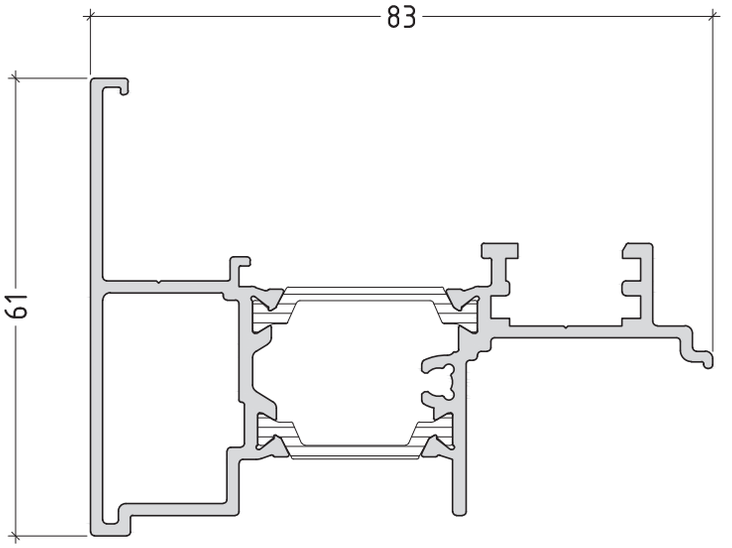
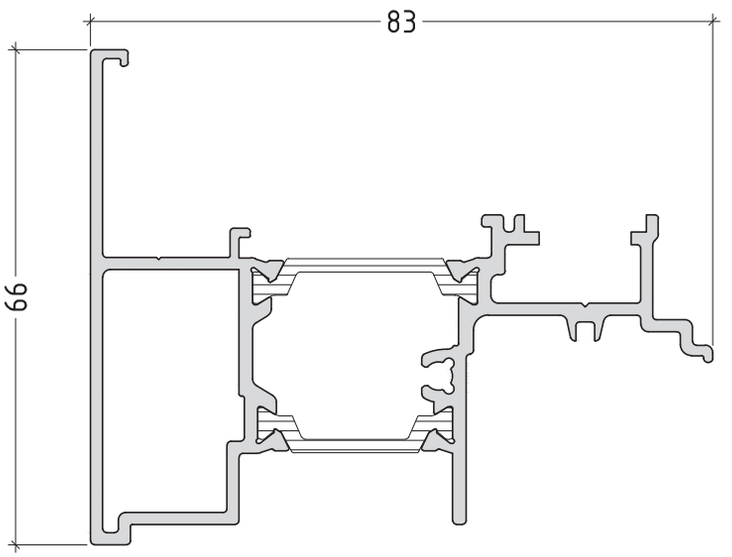
P75-07

E75500
overhung
secondary
Sash profile
Euro groove
1408 g/m



E75540
overhung
secondary
Sash profile
PVC groove
1488 g/m



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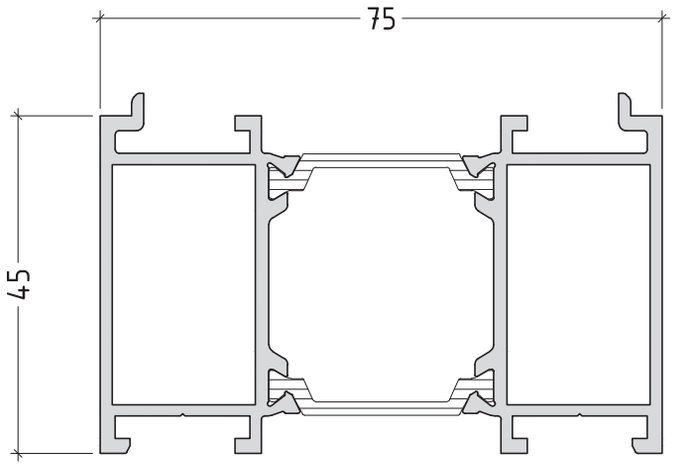
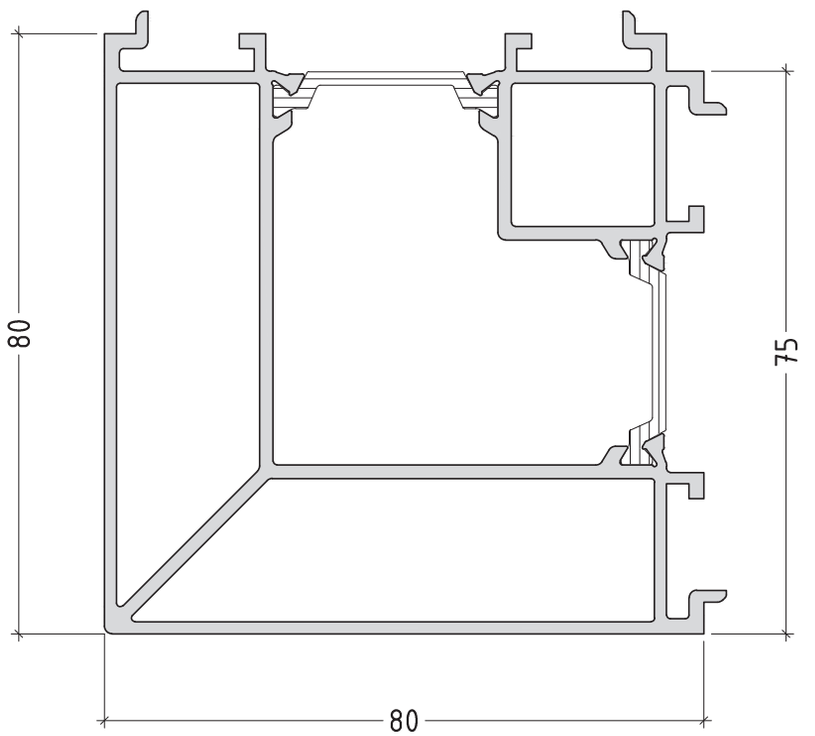
P75-08

E75610
frame extension
1600 g/m



E75600
column for
angle 90°
2533 g/m



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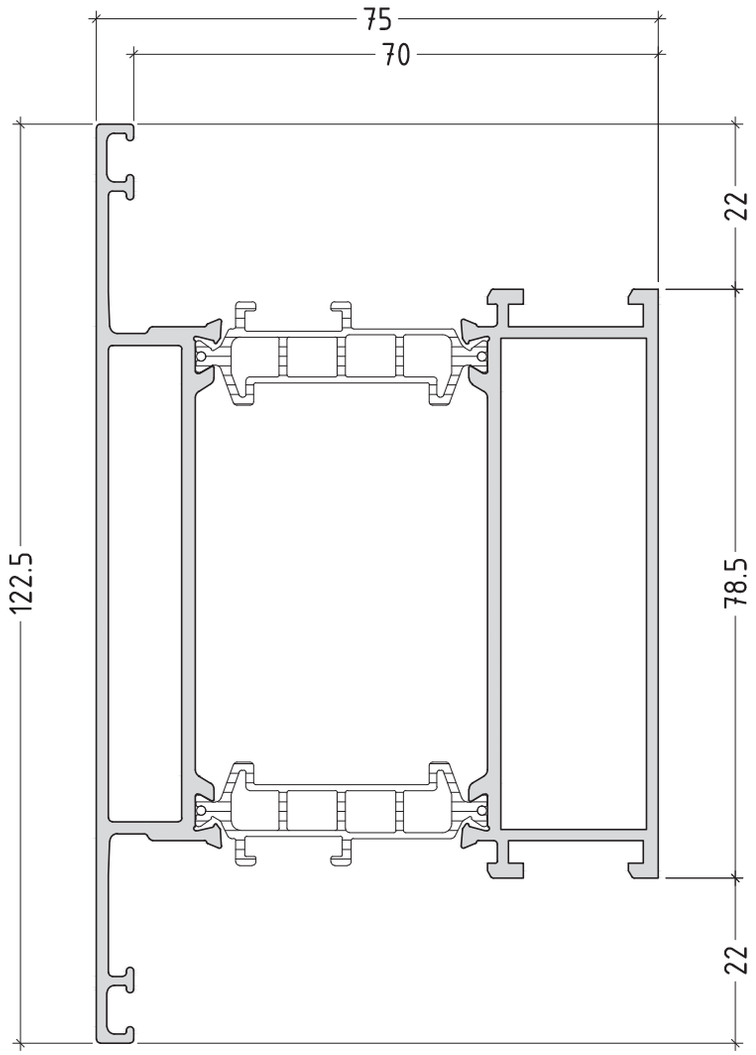
P75-09

E75304
T profile
2426.8 g/m



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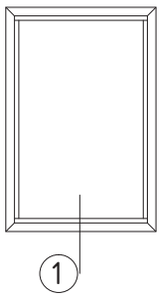
P75-10

SECTIONS

SECTIONS / DETAILS



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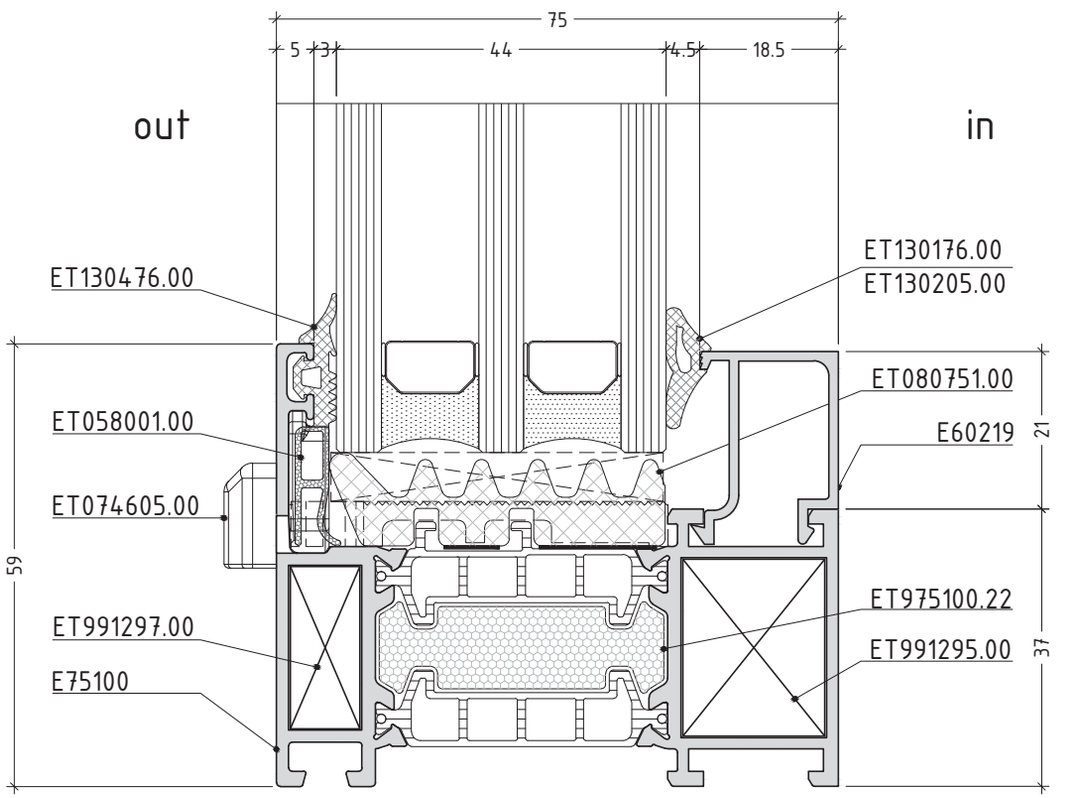

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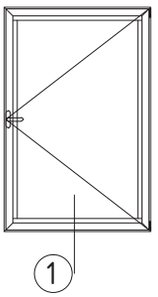
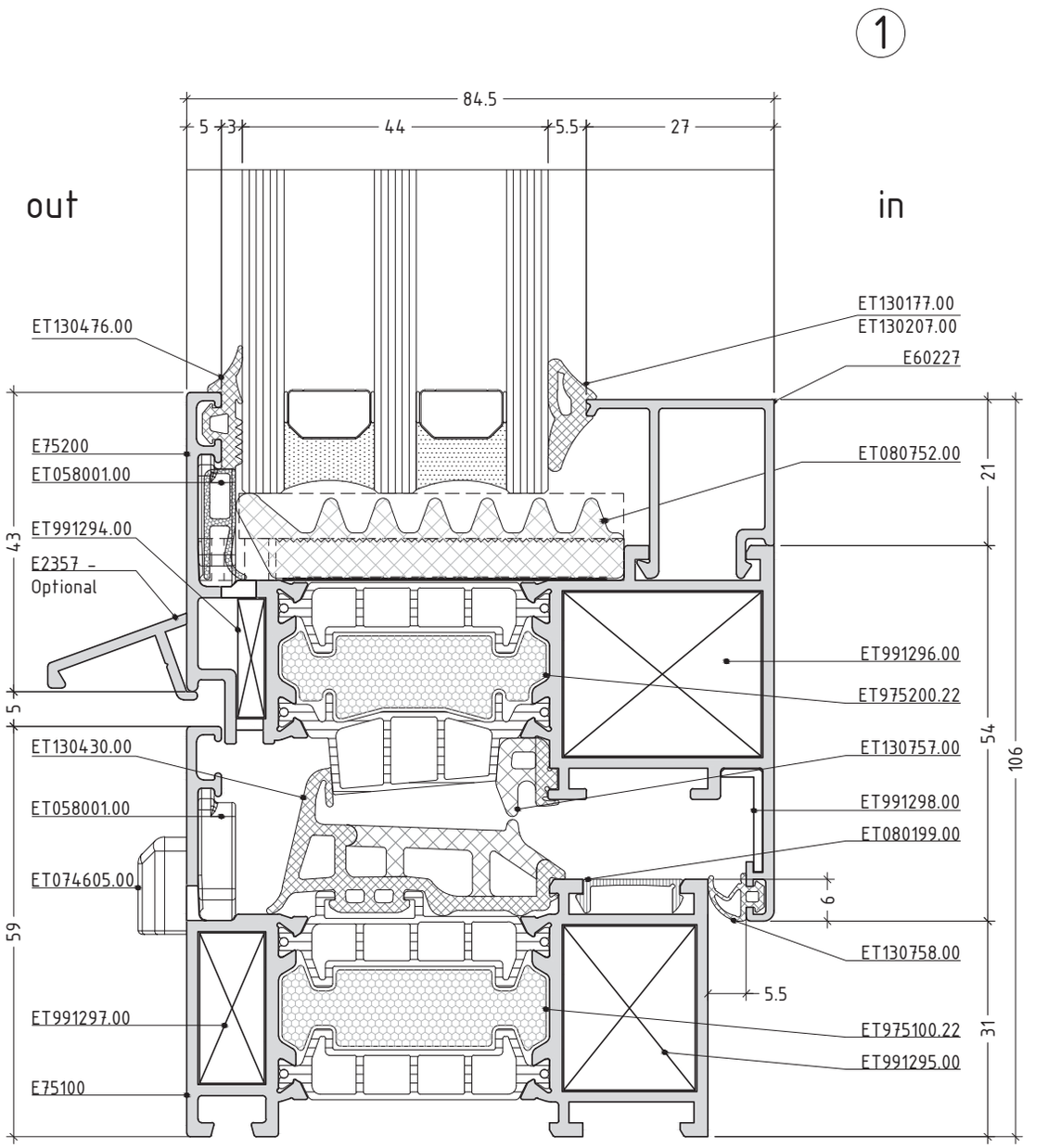
D75-1





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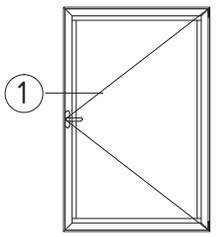
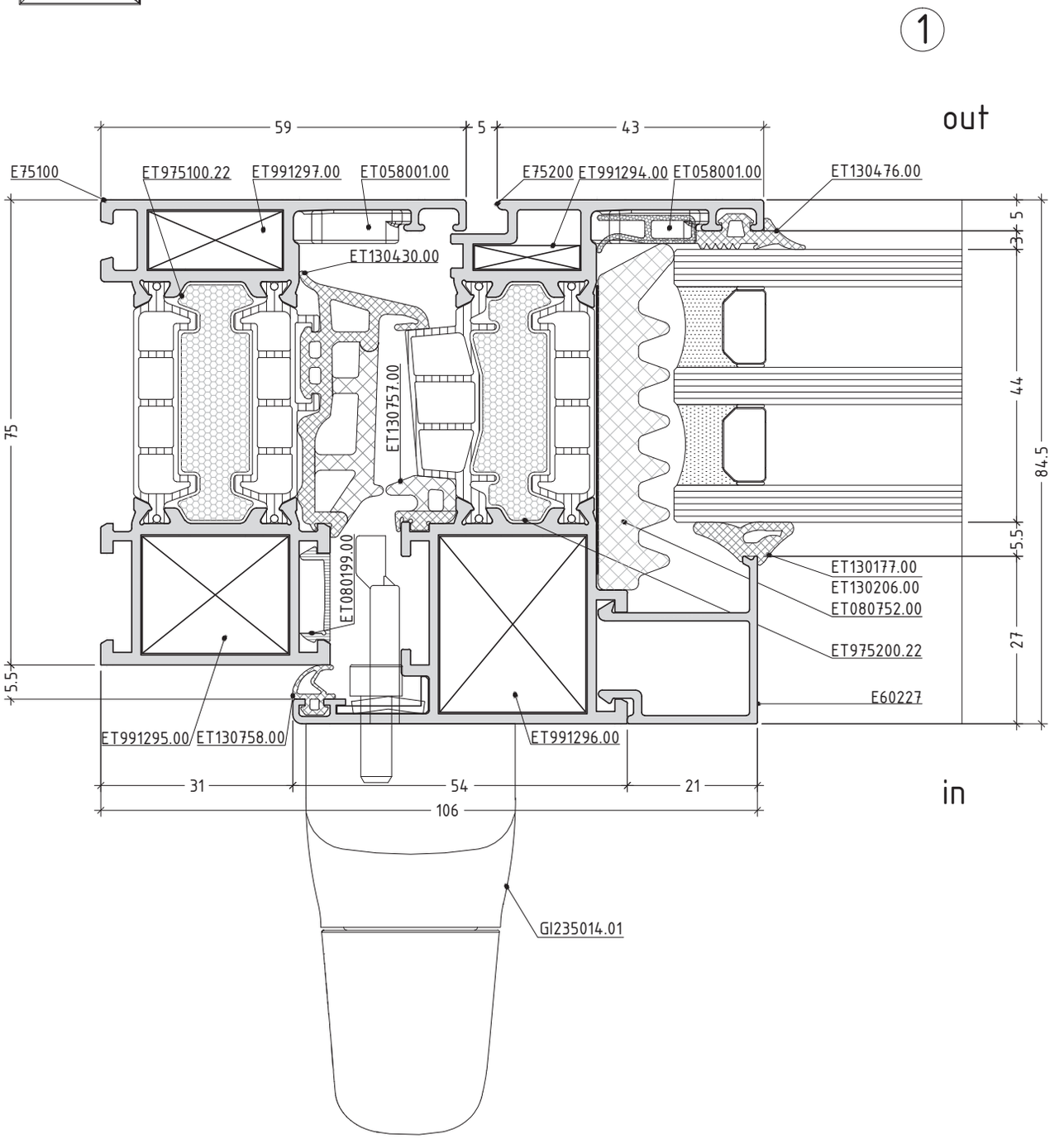
D75-2





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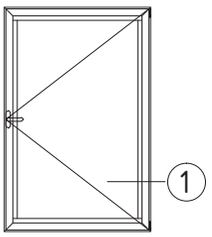
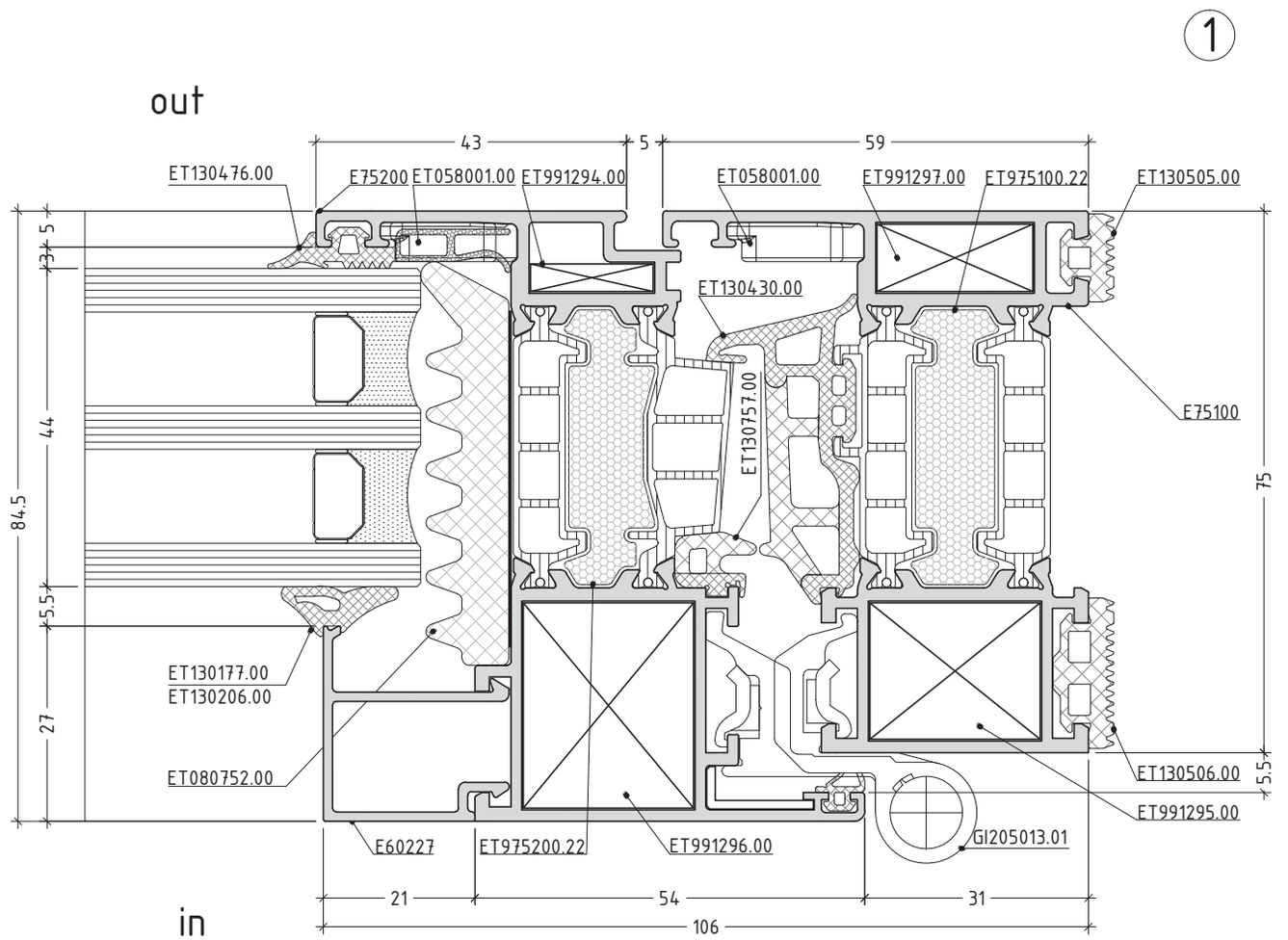
D75-3





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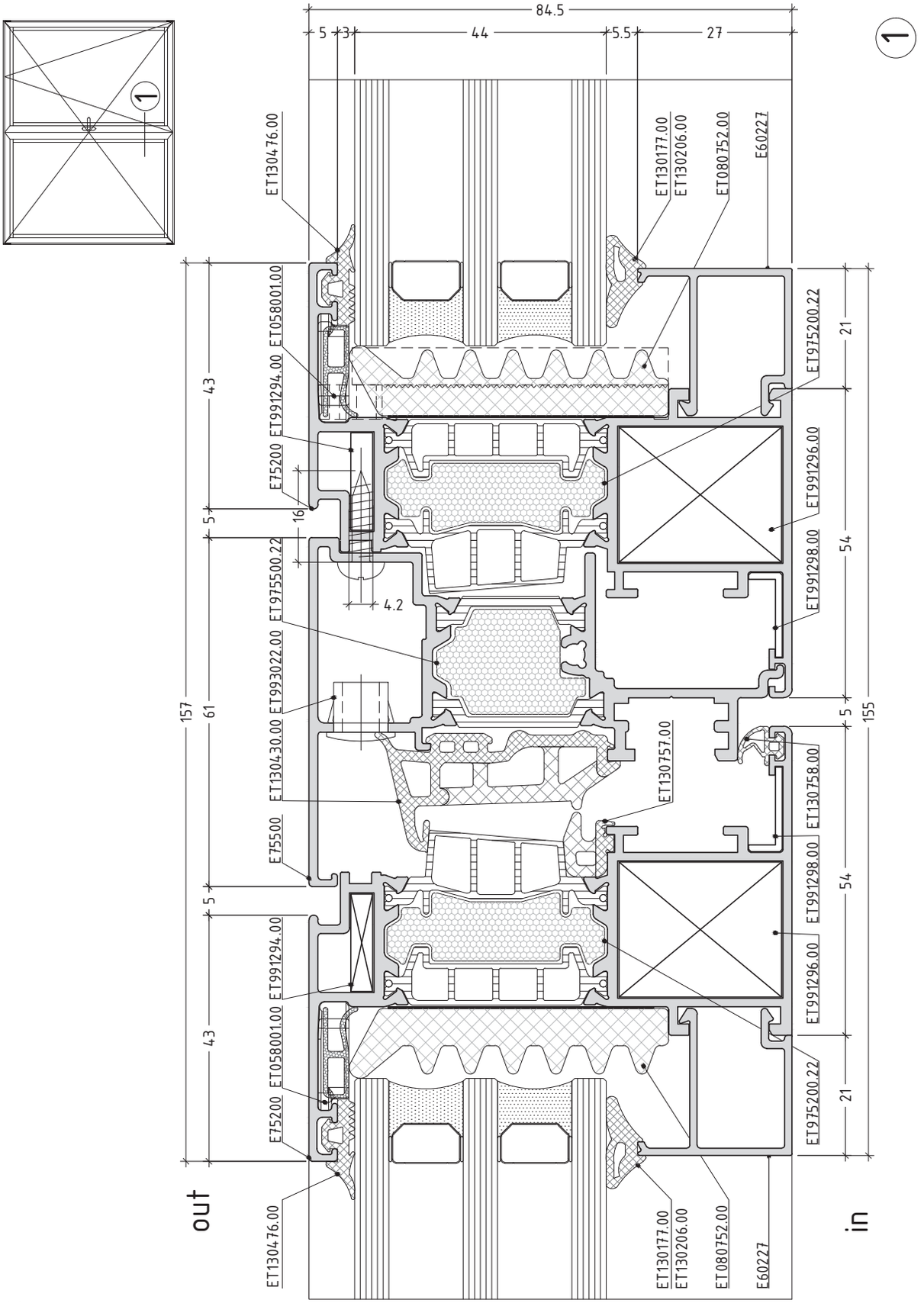
075-4



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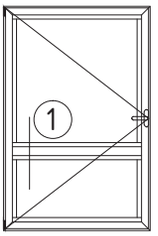
D68-5



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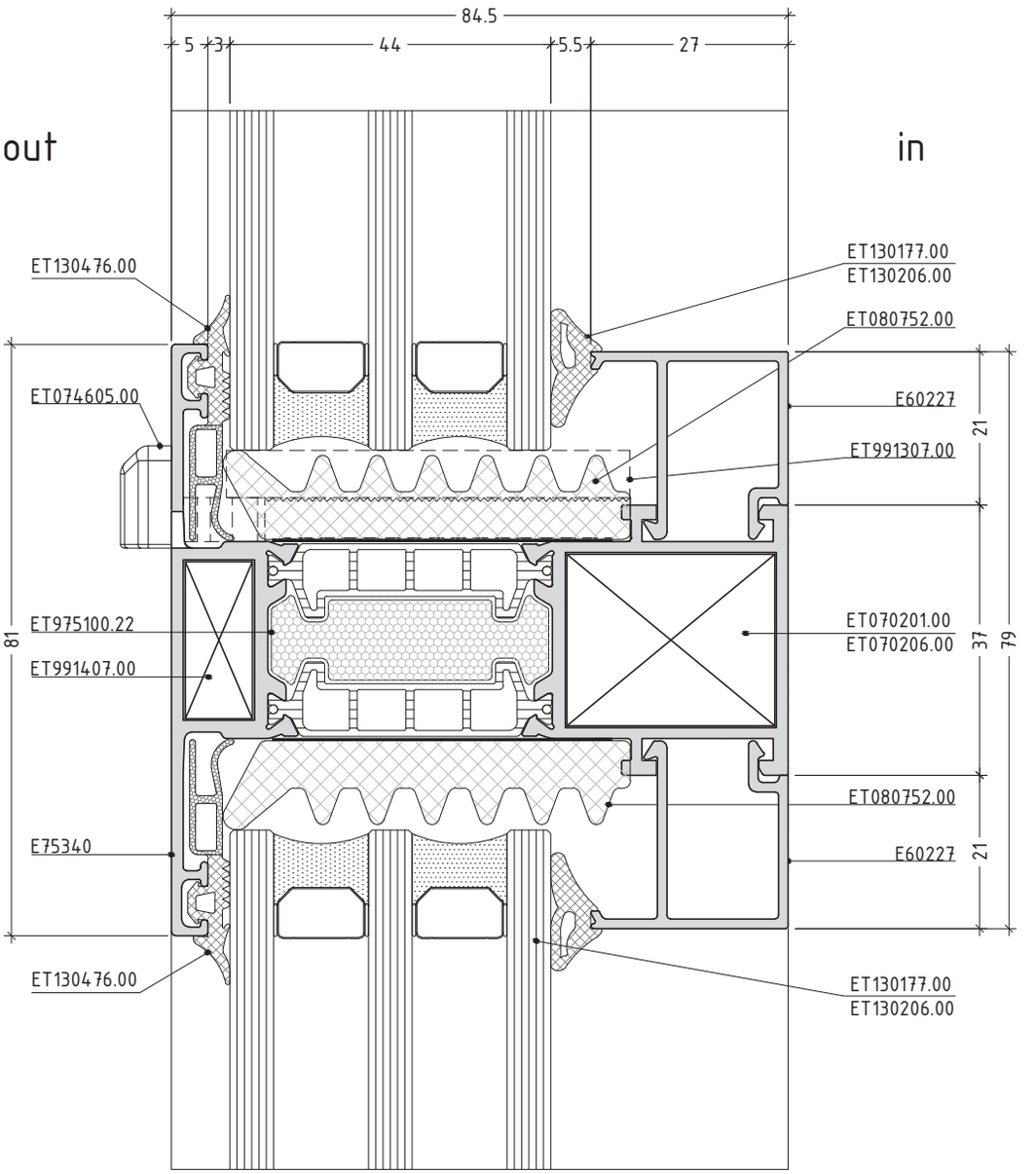

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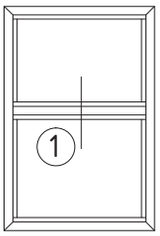

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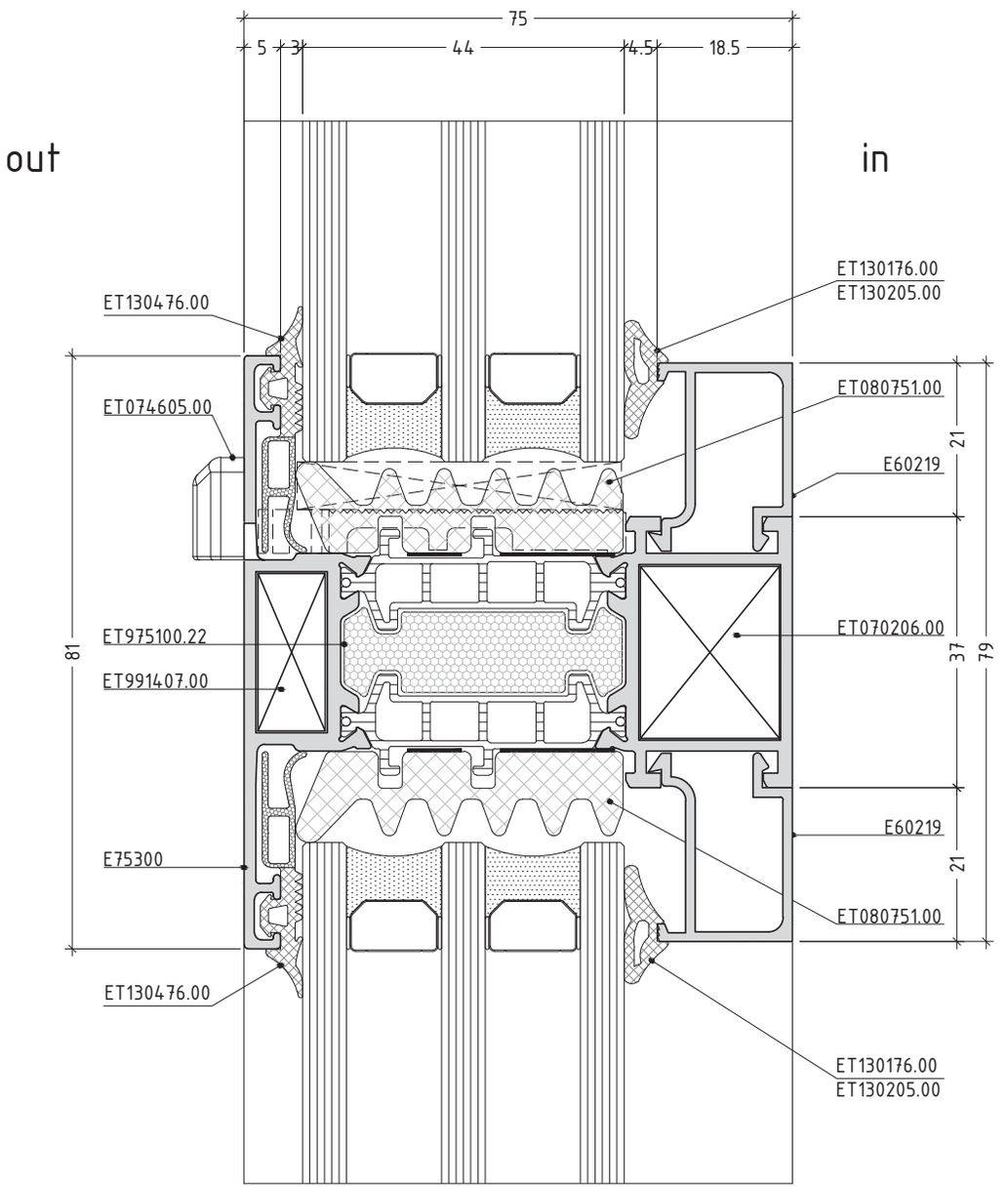

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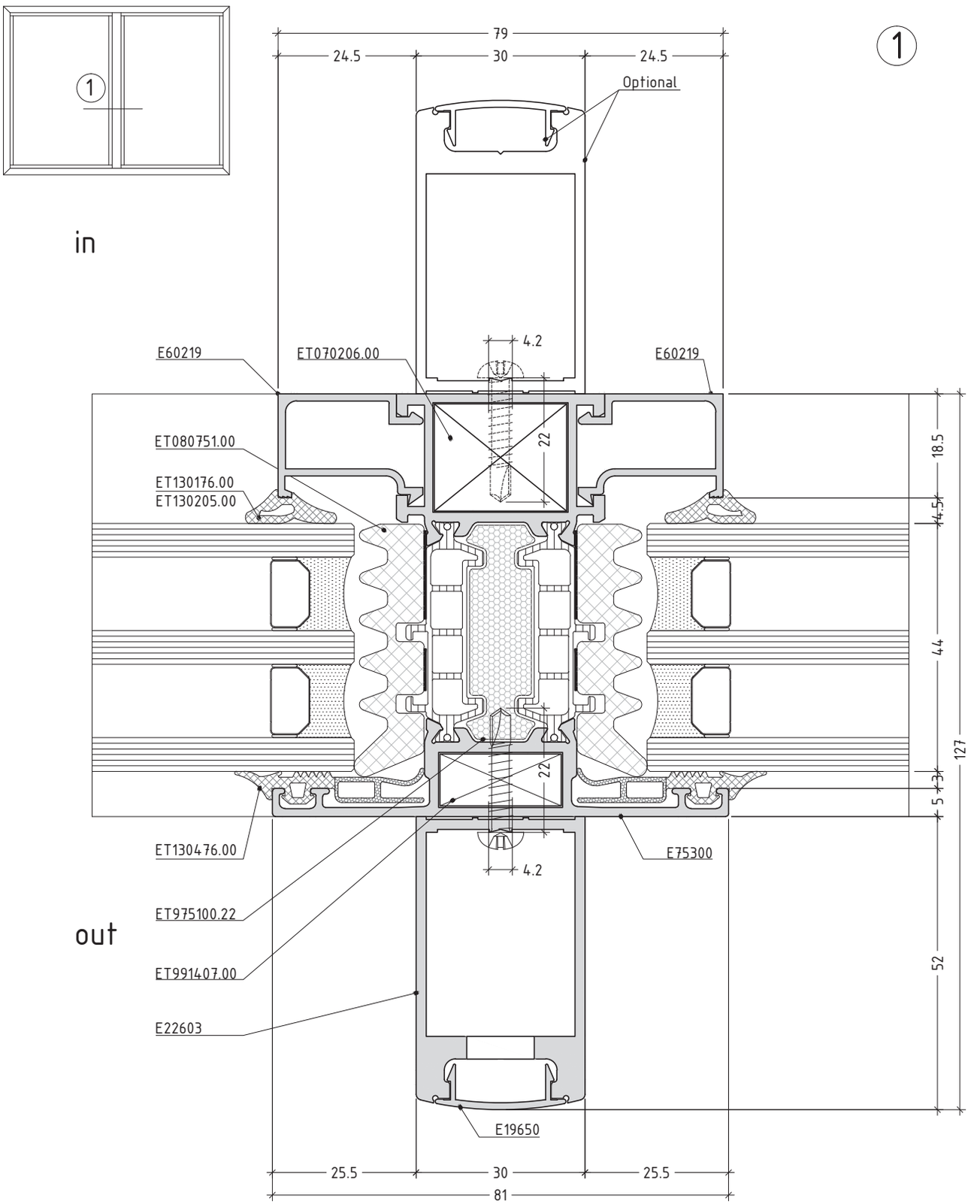
D75-7



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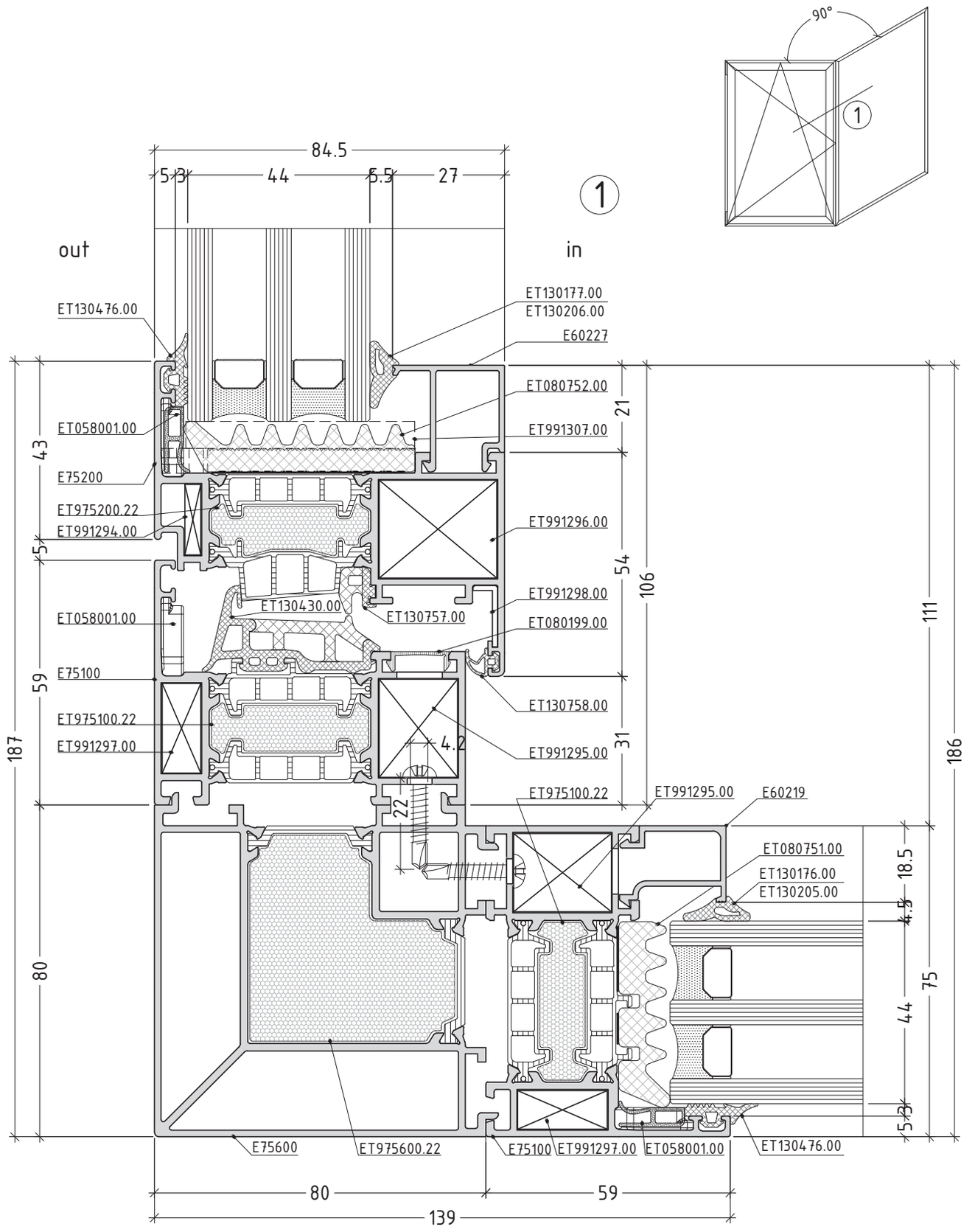
D75-8



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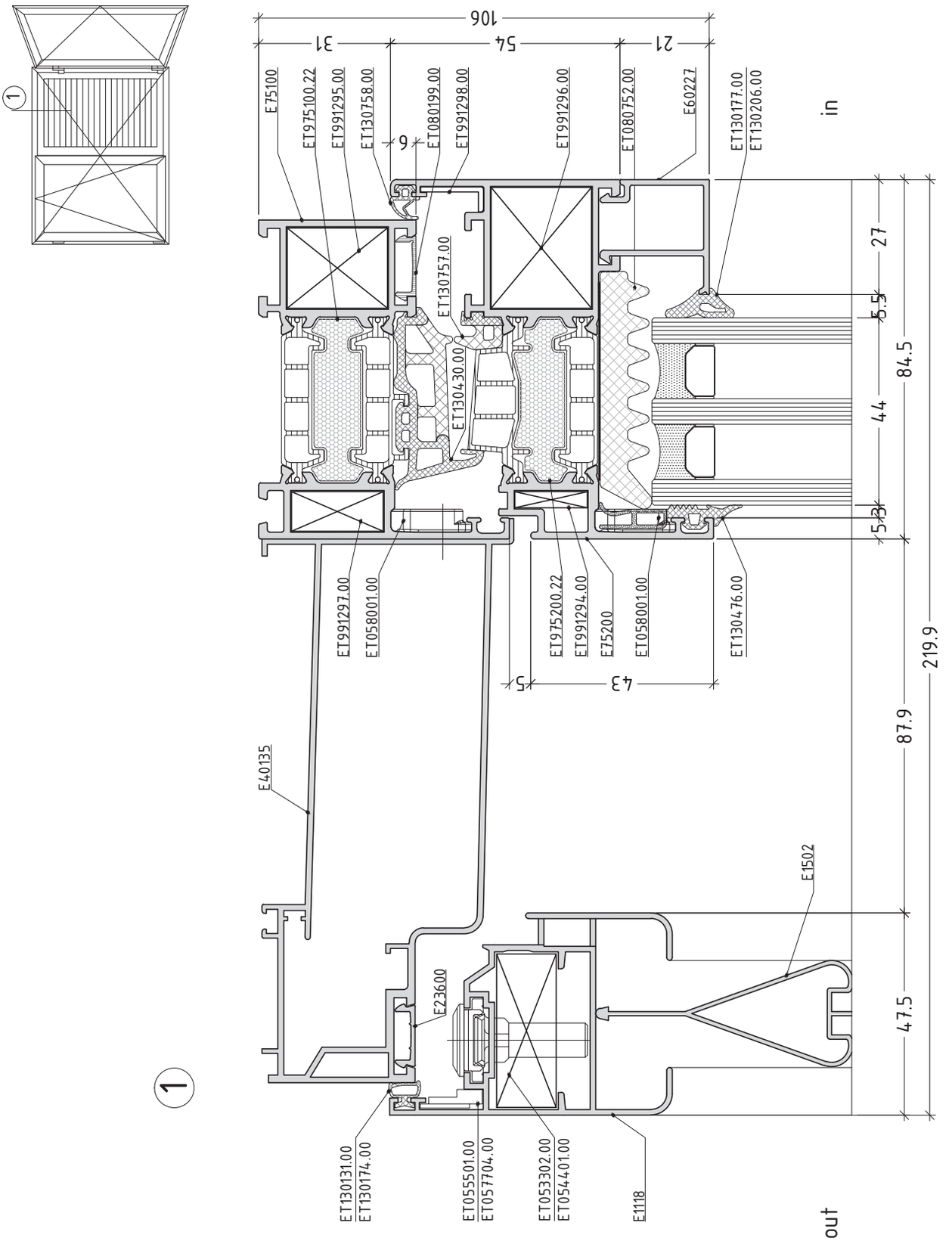
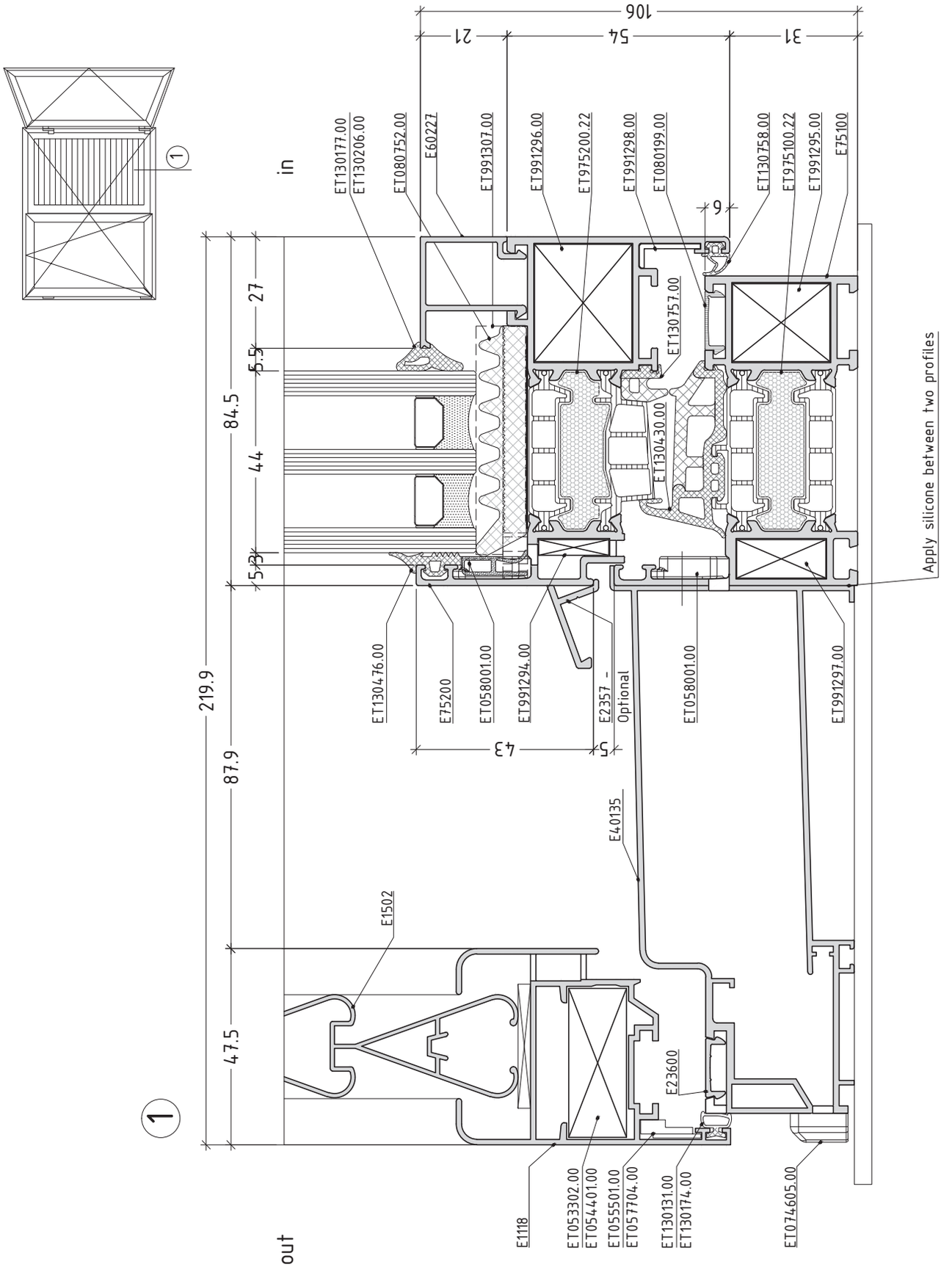
D75-9



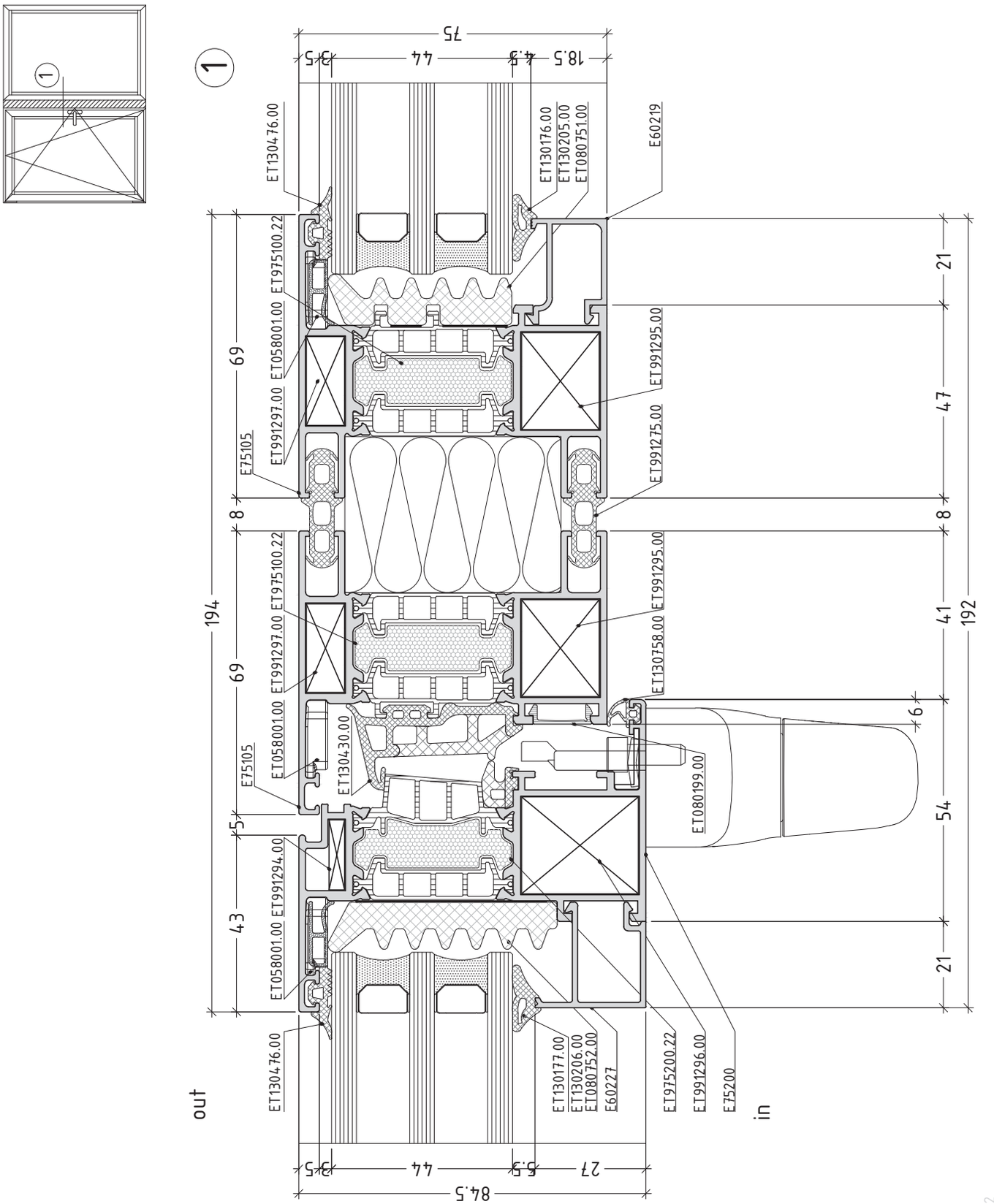
scale : 3/4

D75-10



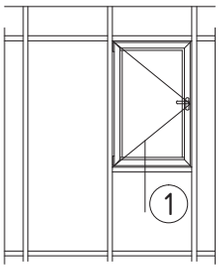
scale : 3/4

D75-11



scale : 3/4

D75-12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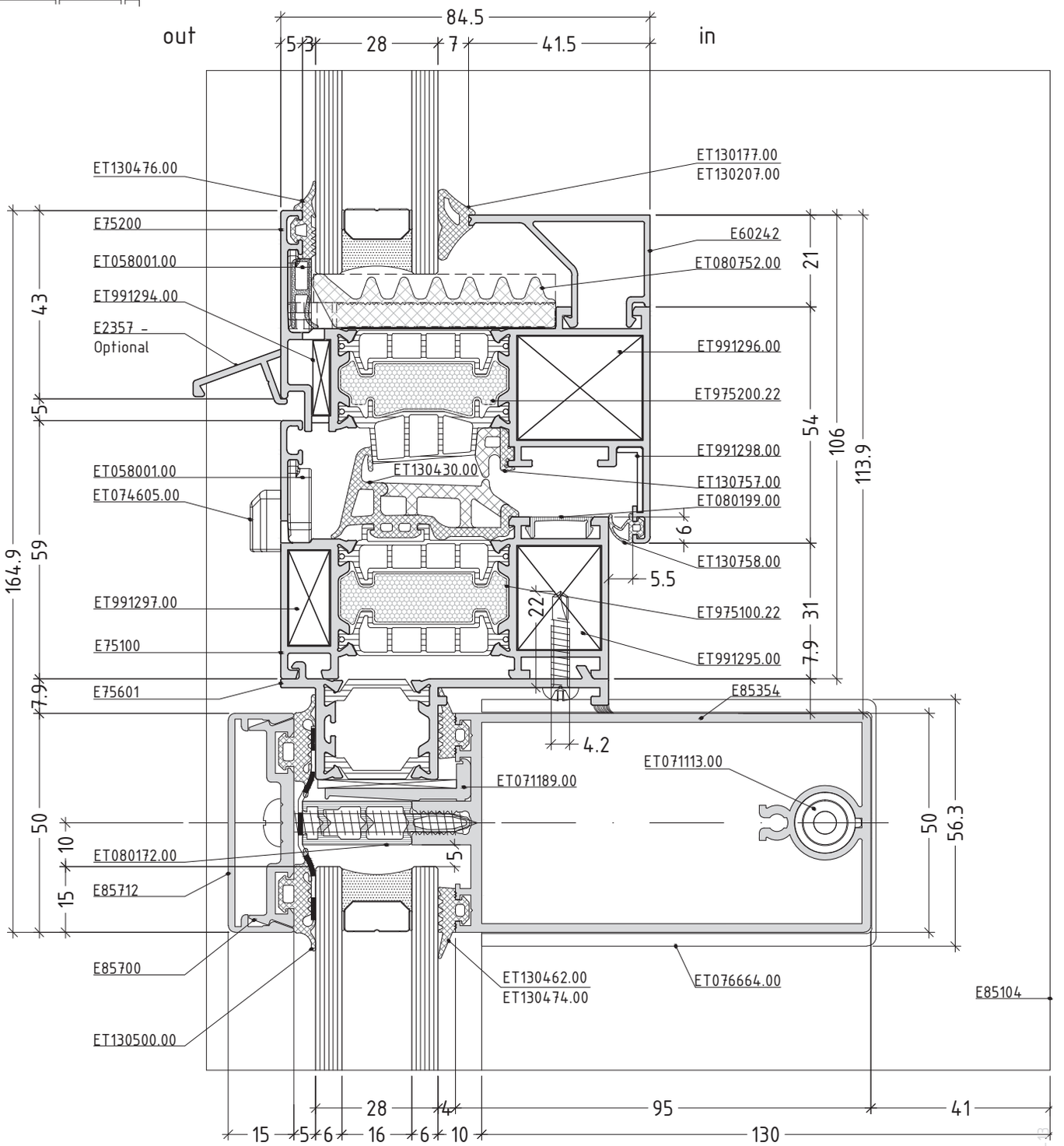
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41.5
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E2357 -
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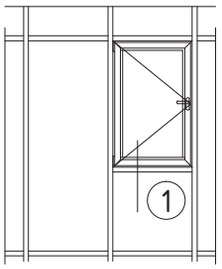
scale : 3/4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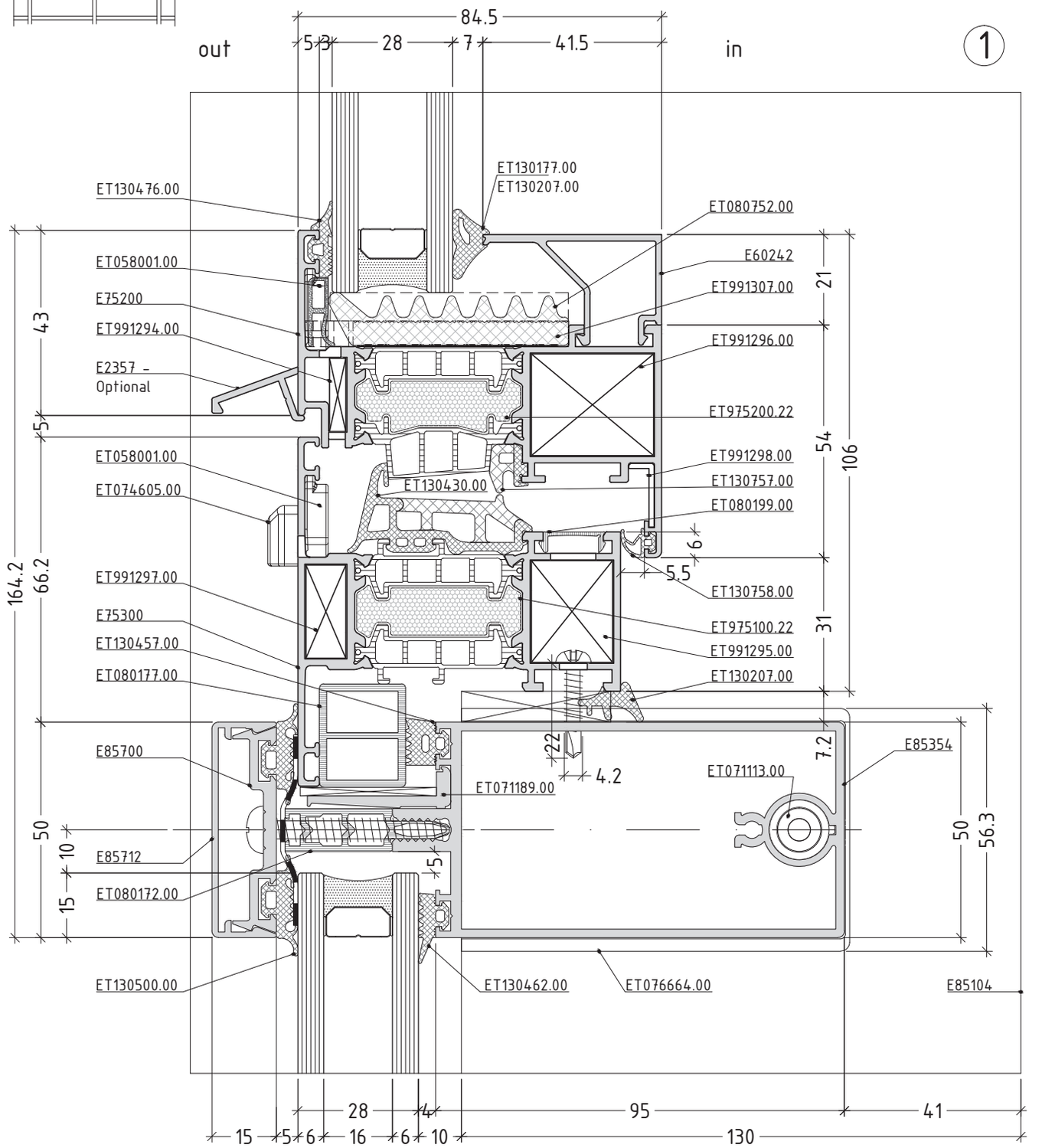
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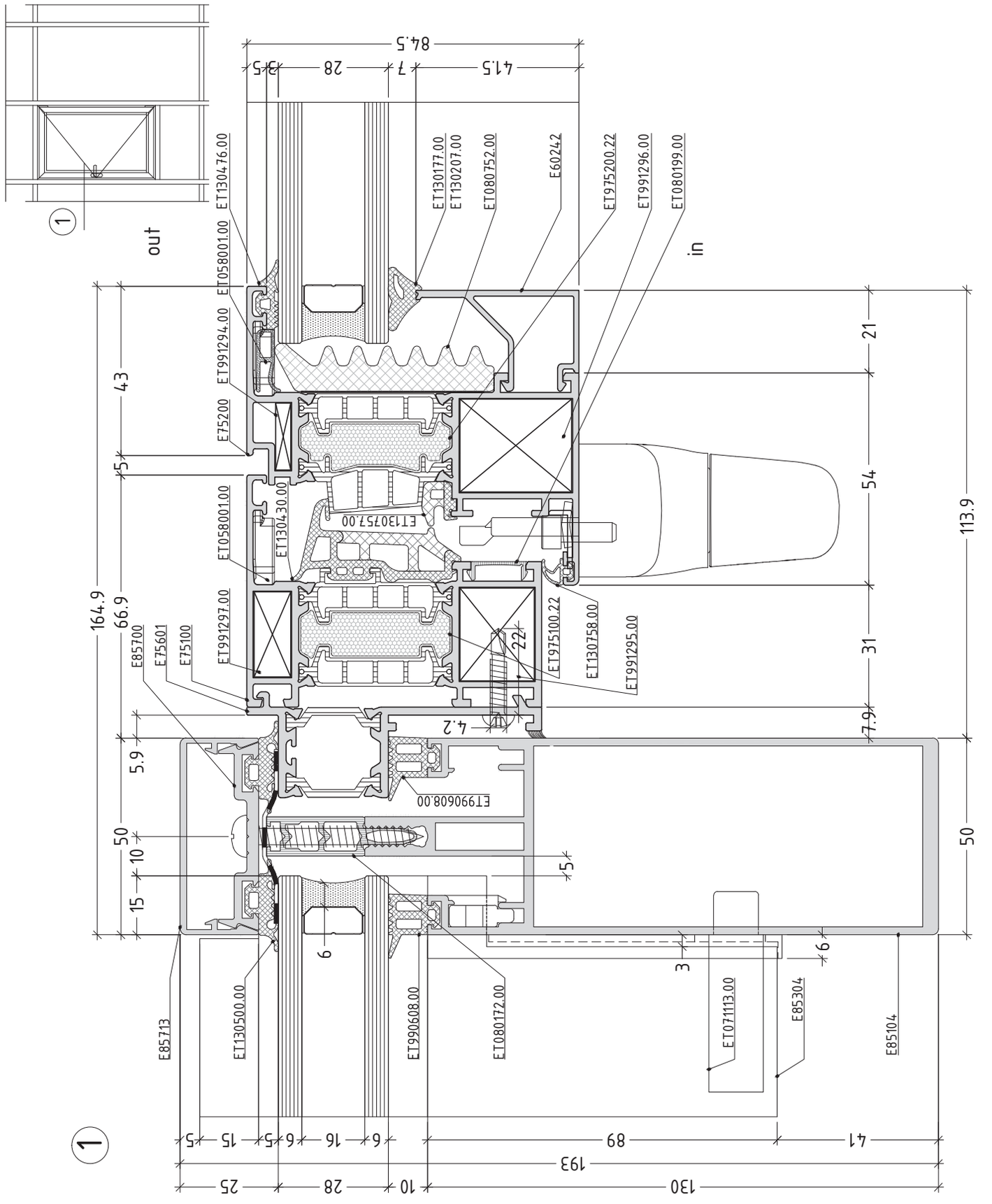
scale : 3/4
075-27



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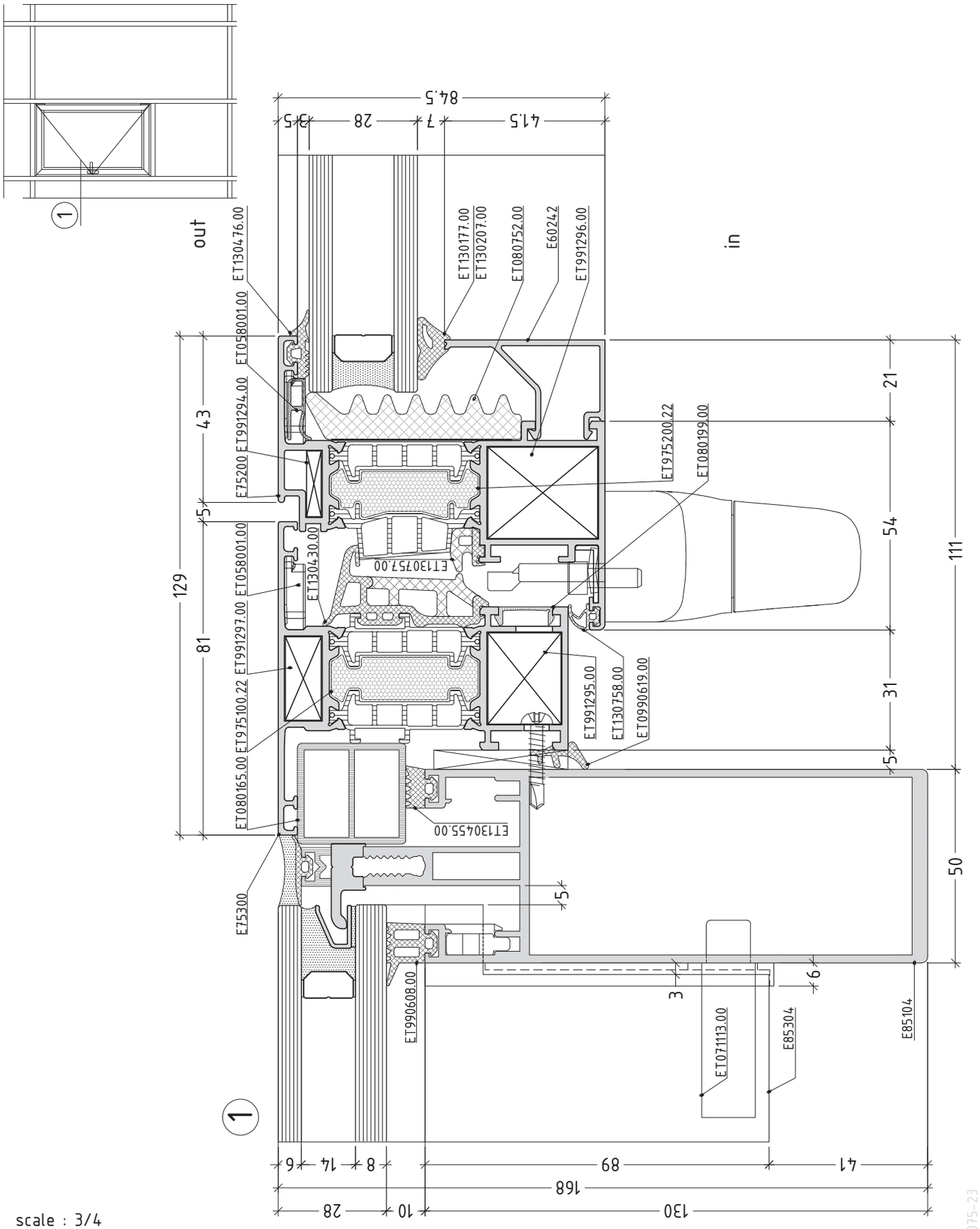
D75-14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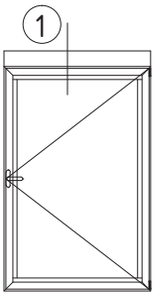
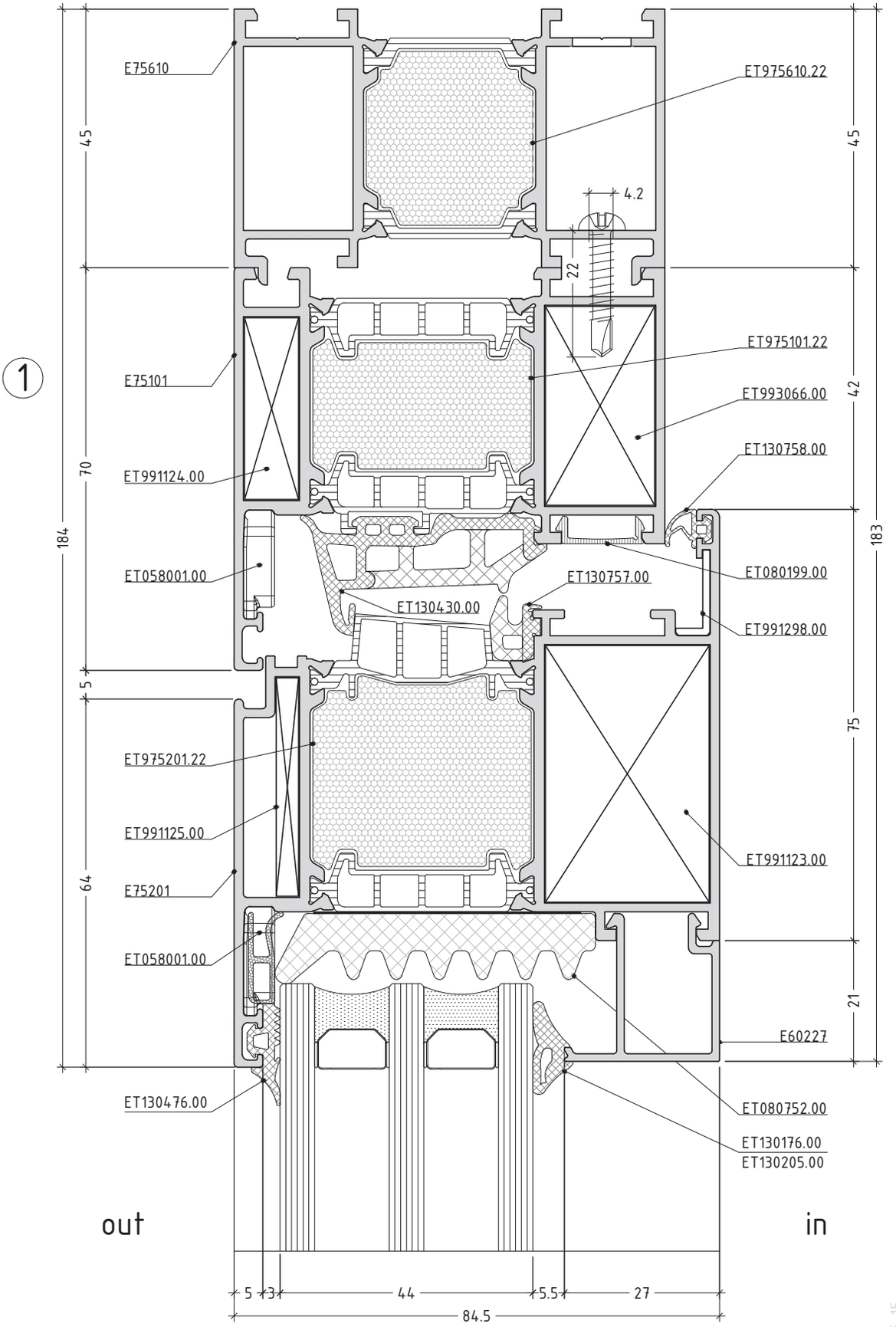
scale : 3/4
075-23





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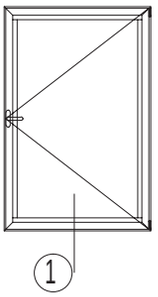
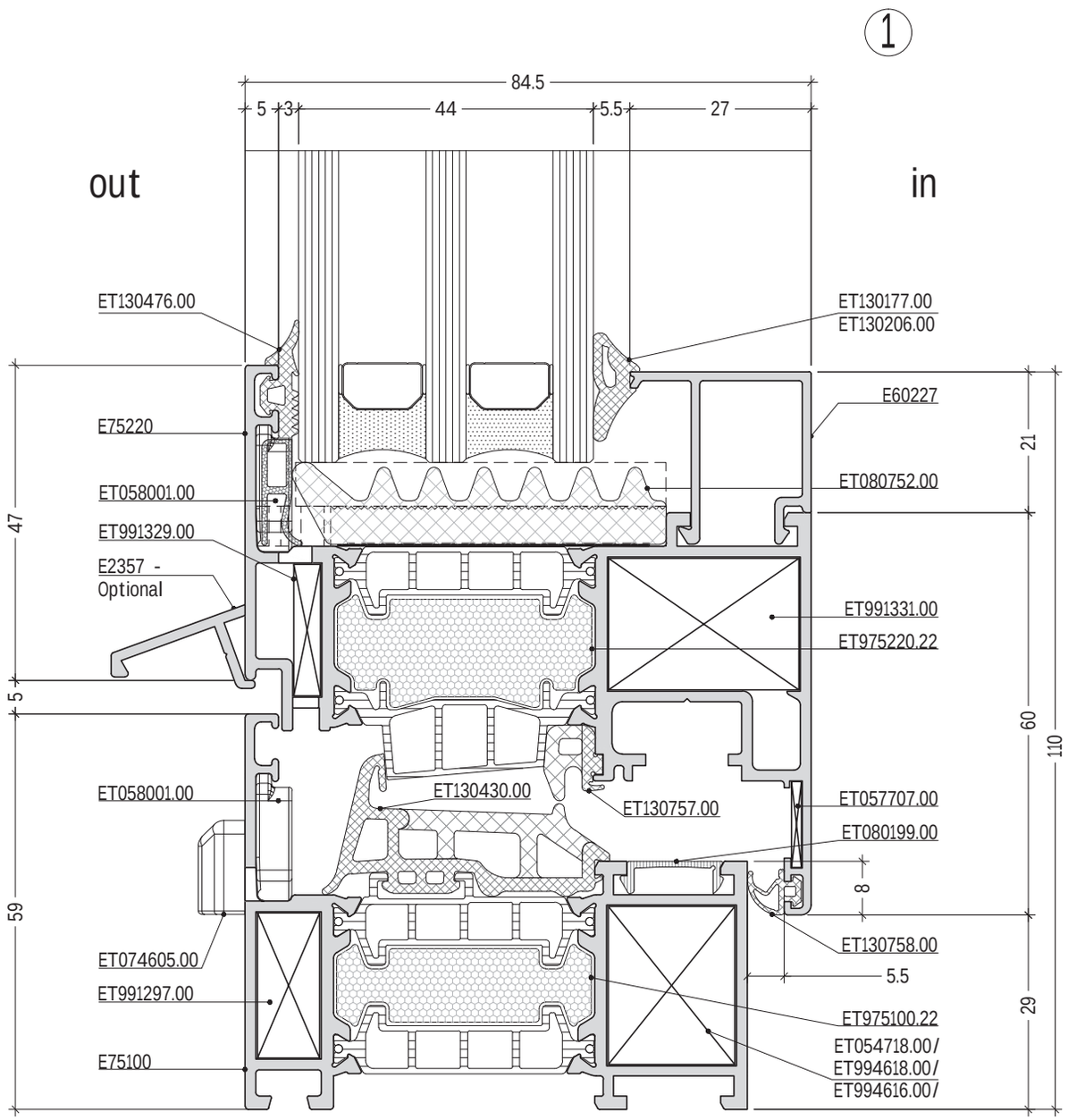
D75-15





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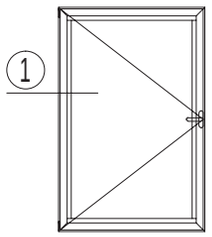
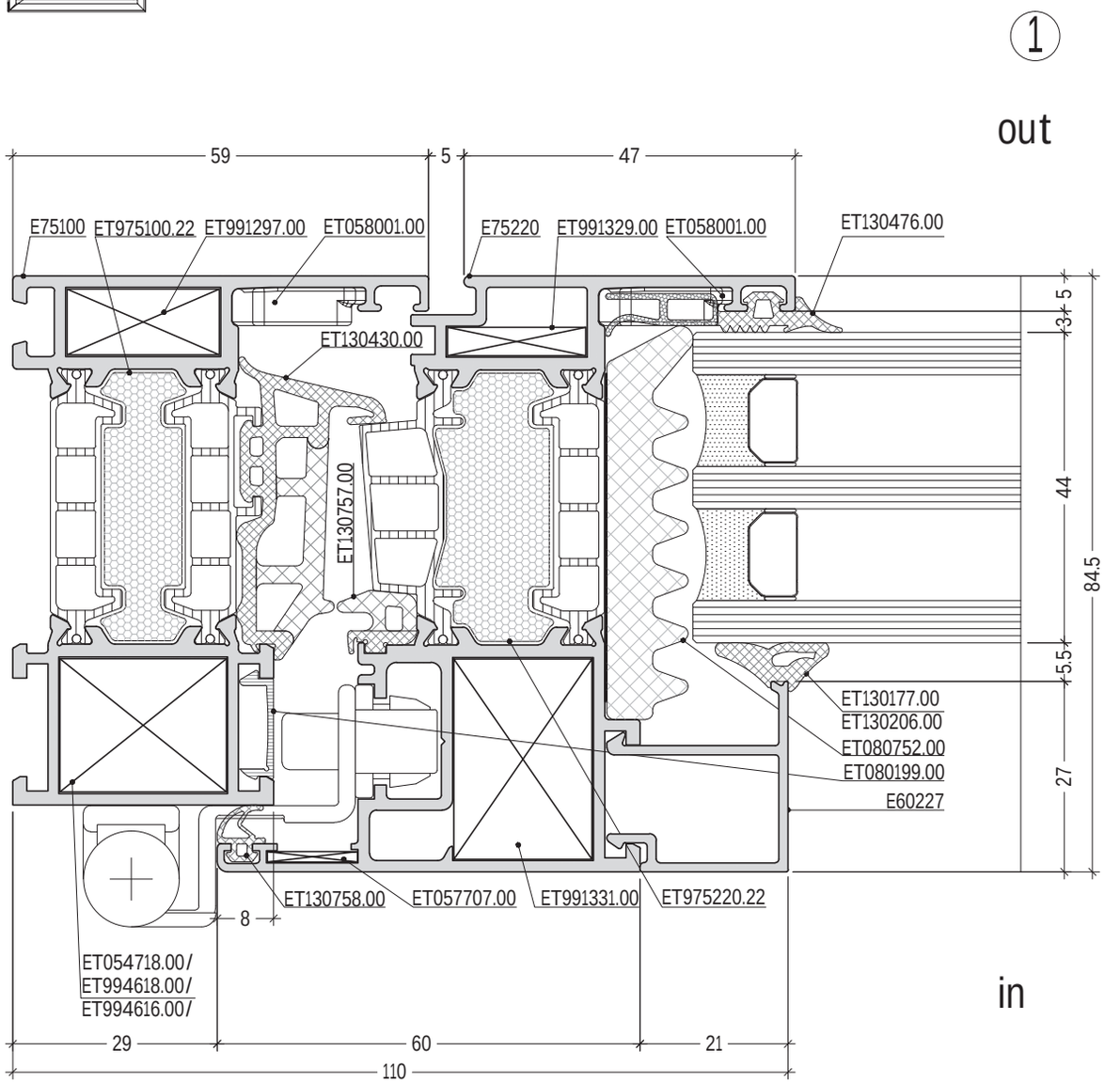
D75-16





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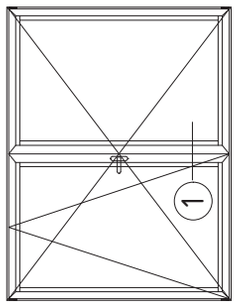
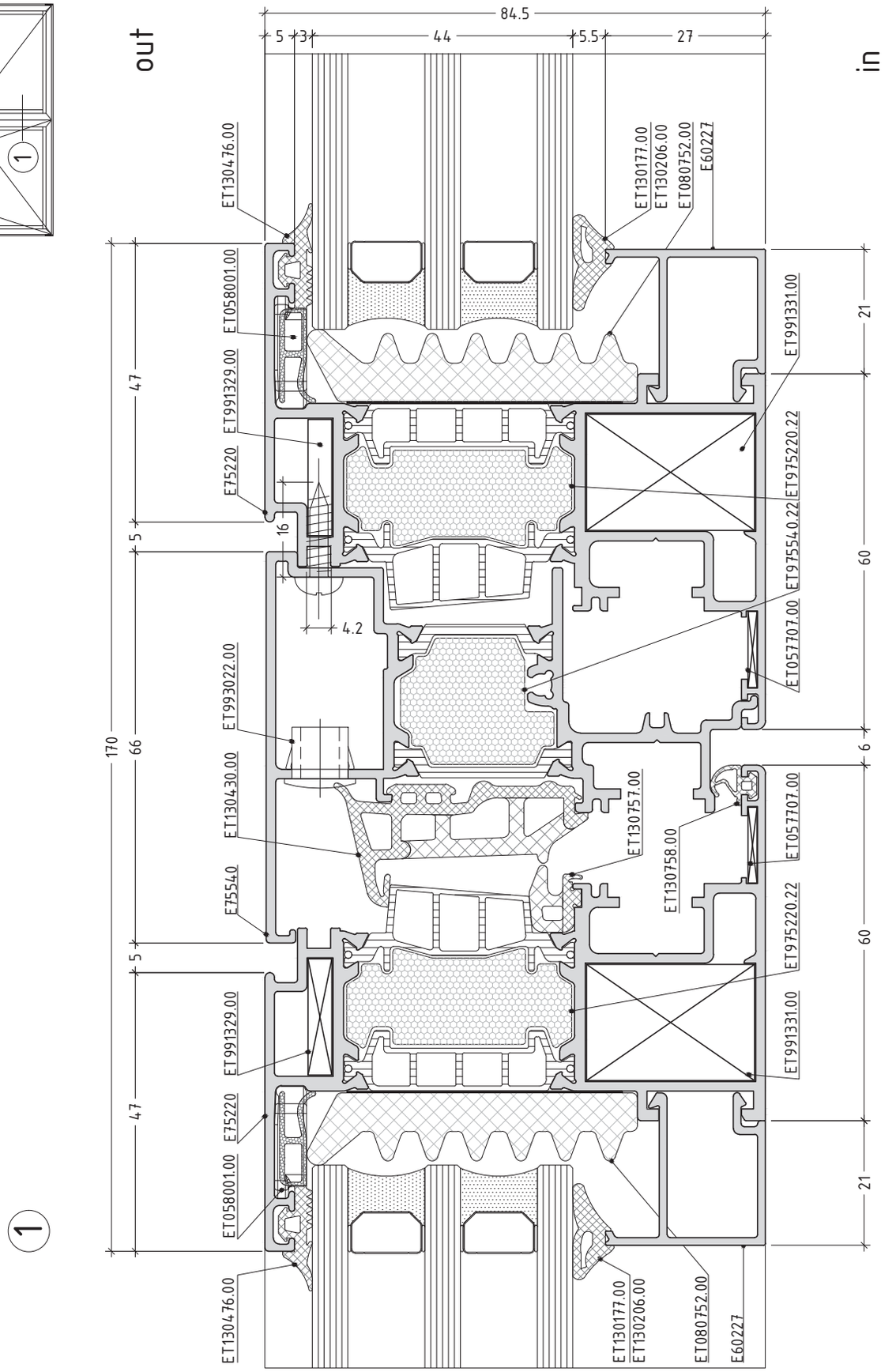
D75-17

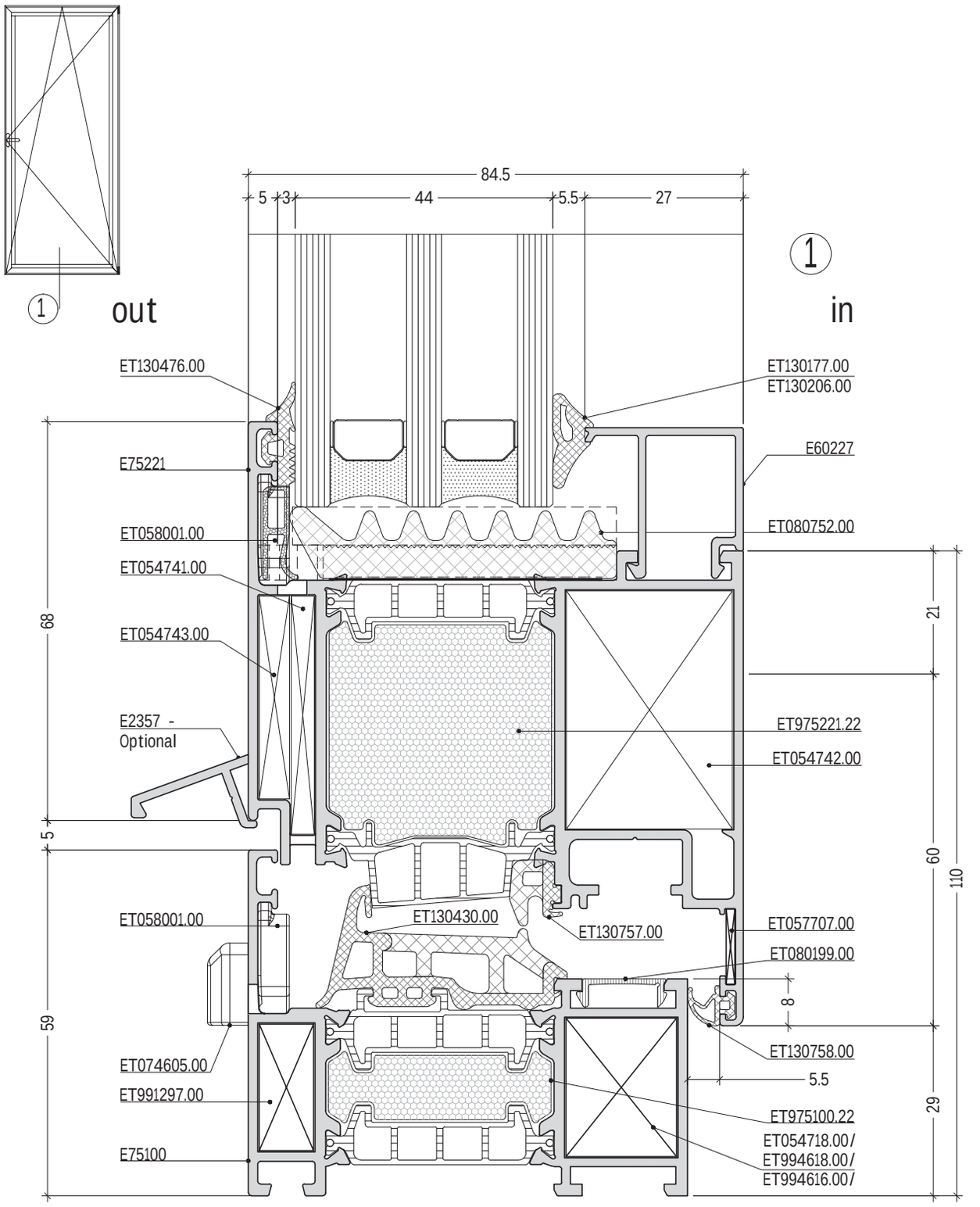




1

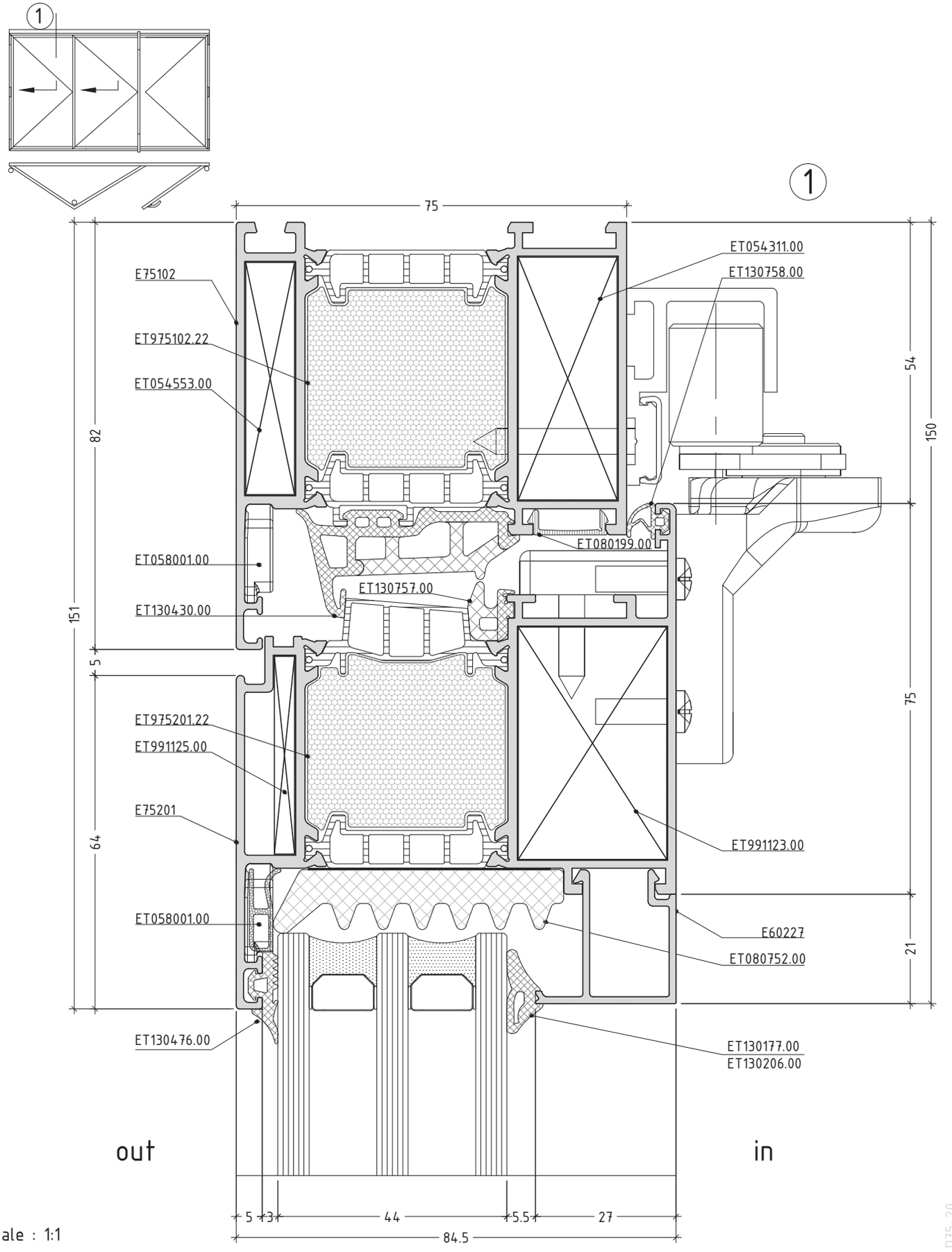
scale : 1:1

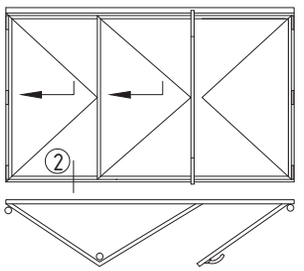
D75-18

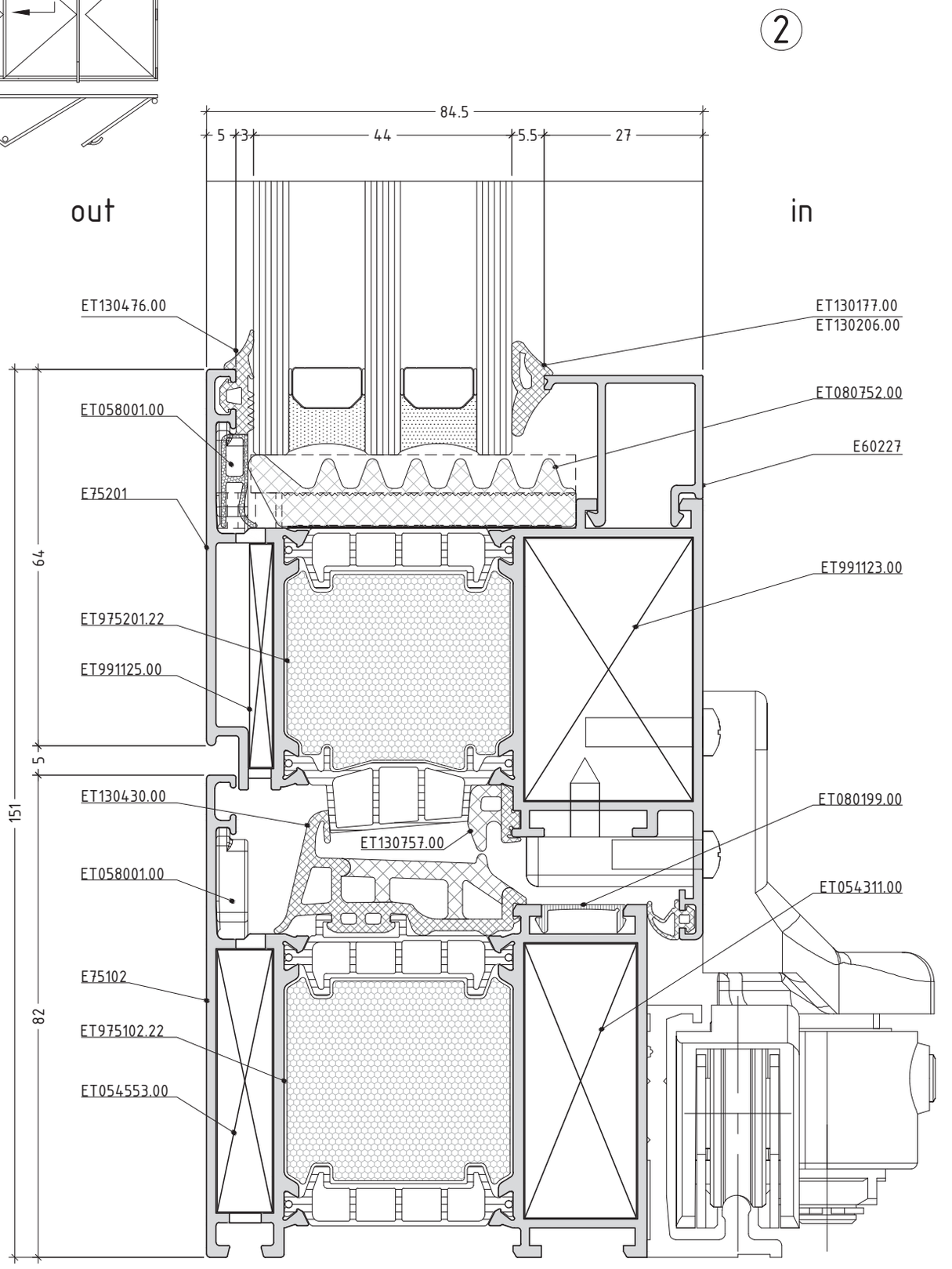


scale : 1:1

D75-19

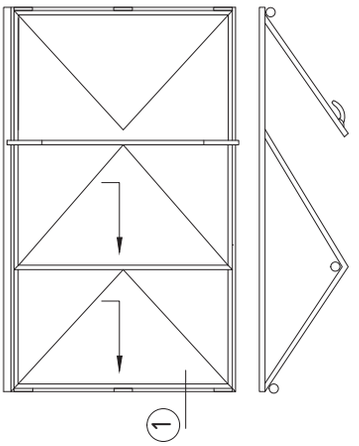

1
1
75
E75102
ET975102.22
ET054553.00
ET058001.00
ET130430.00
ET975201.22
ET991125.00
E75201
ET058001.00
ET130476.00
ET054311.00
ET130758.00
ET080199.00
ET130757.00
ET991123.00
E60227
ET080752.00
ET130177.00
ET130206.00
82
151
5
64
54
150
75
21
out
in
5
3
44
5.5
27
84.5
scale : 1:1
D75-20

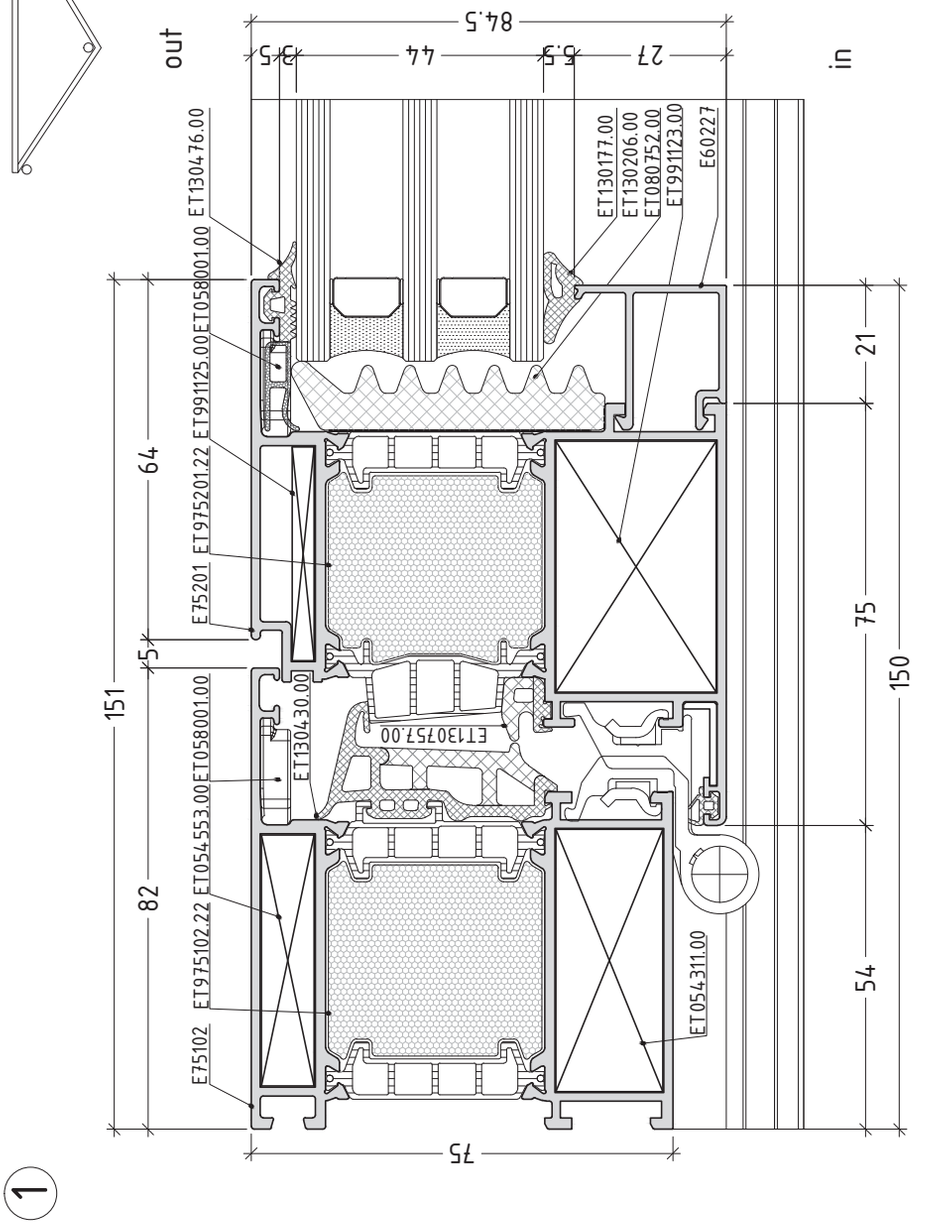




scale : 1:1

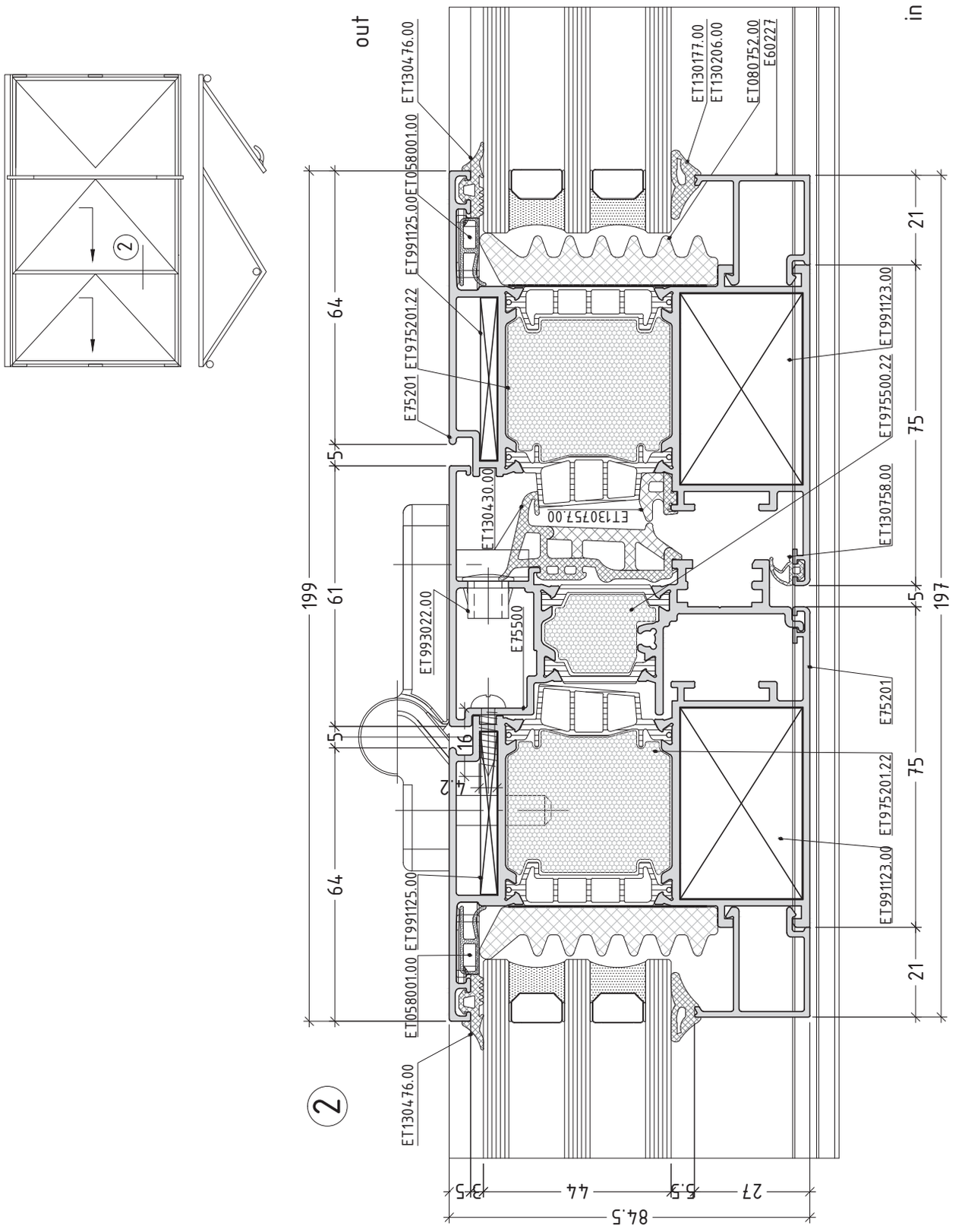
D75-21





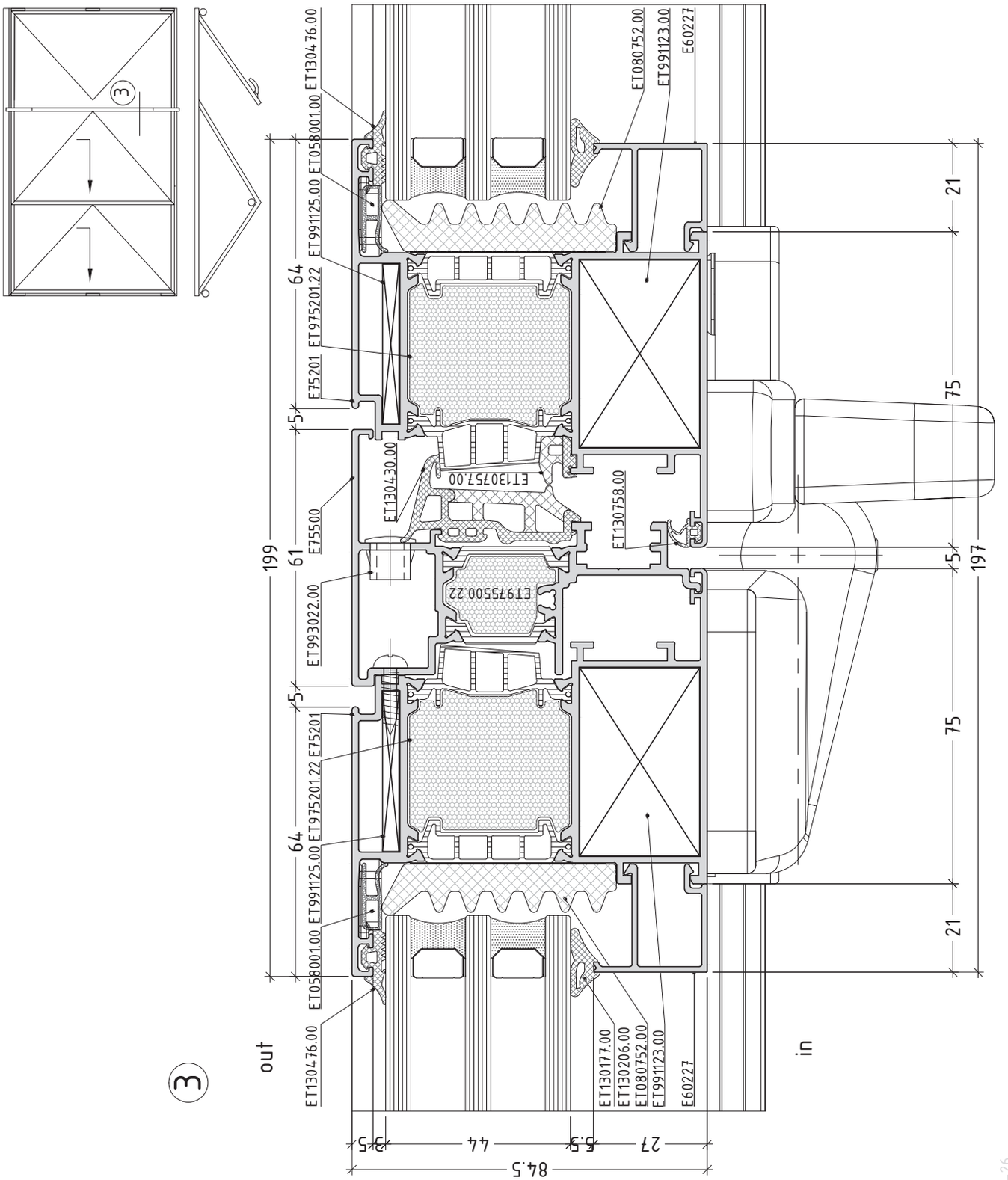
scale : 3/4

D75-24



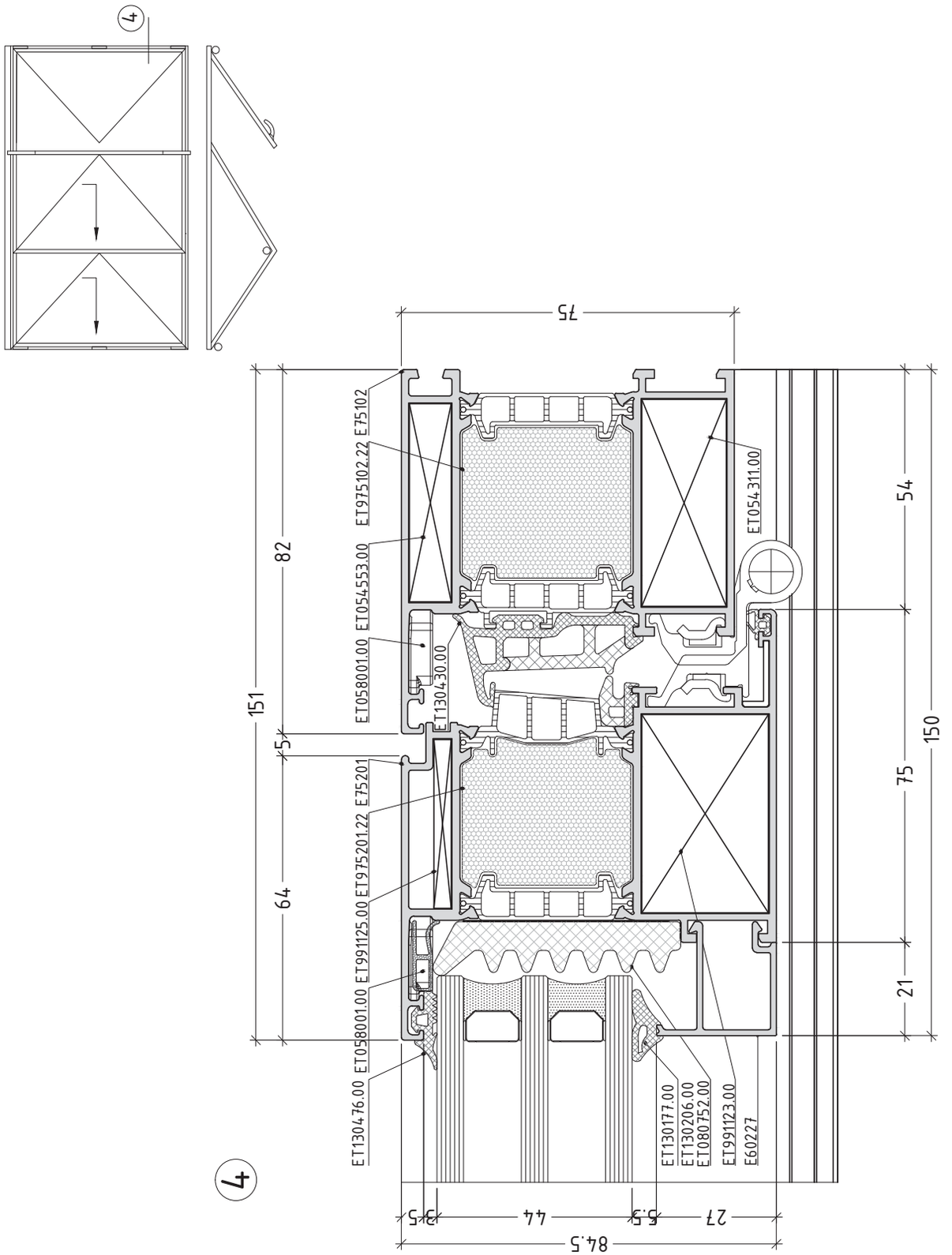
scale : 3/4

D75-25



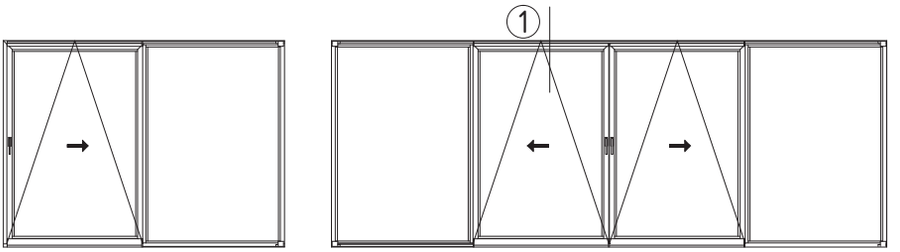
scale : 3/4

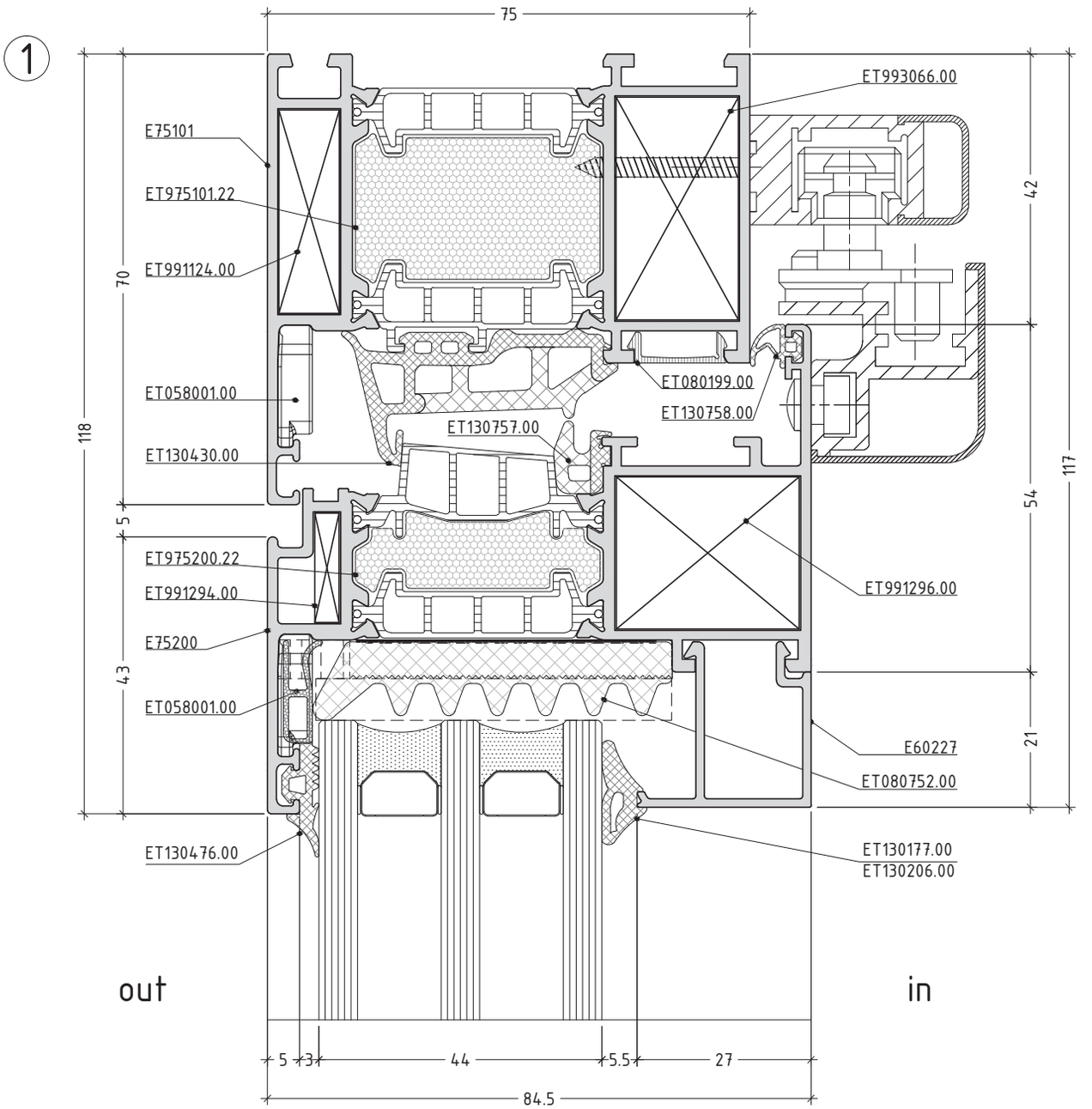
D75-26



scale : 3/4

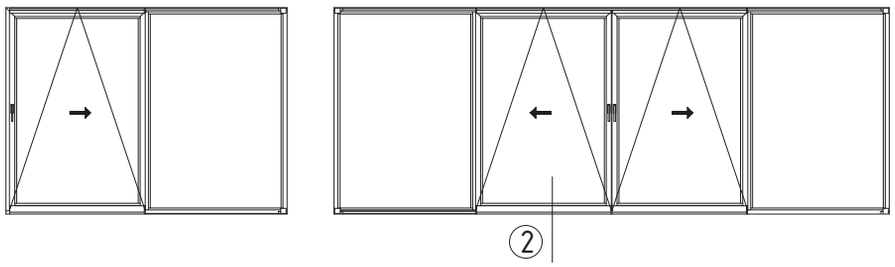
D75-29

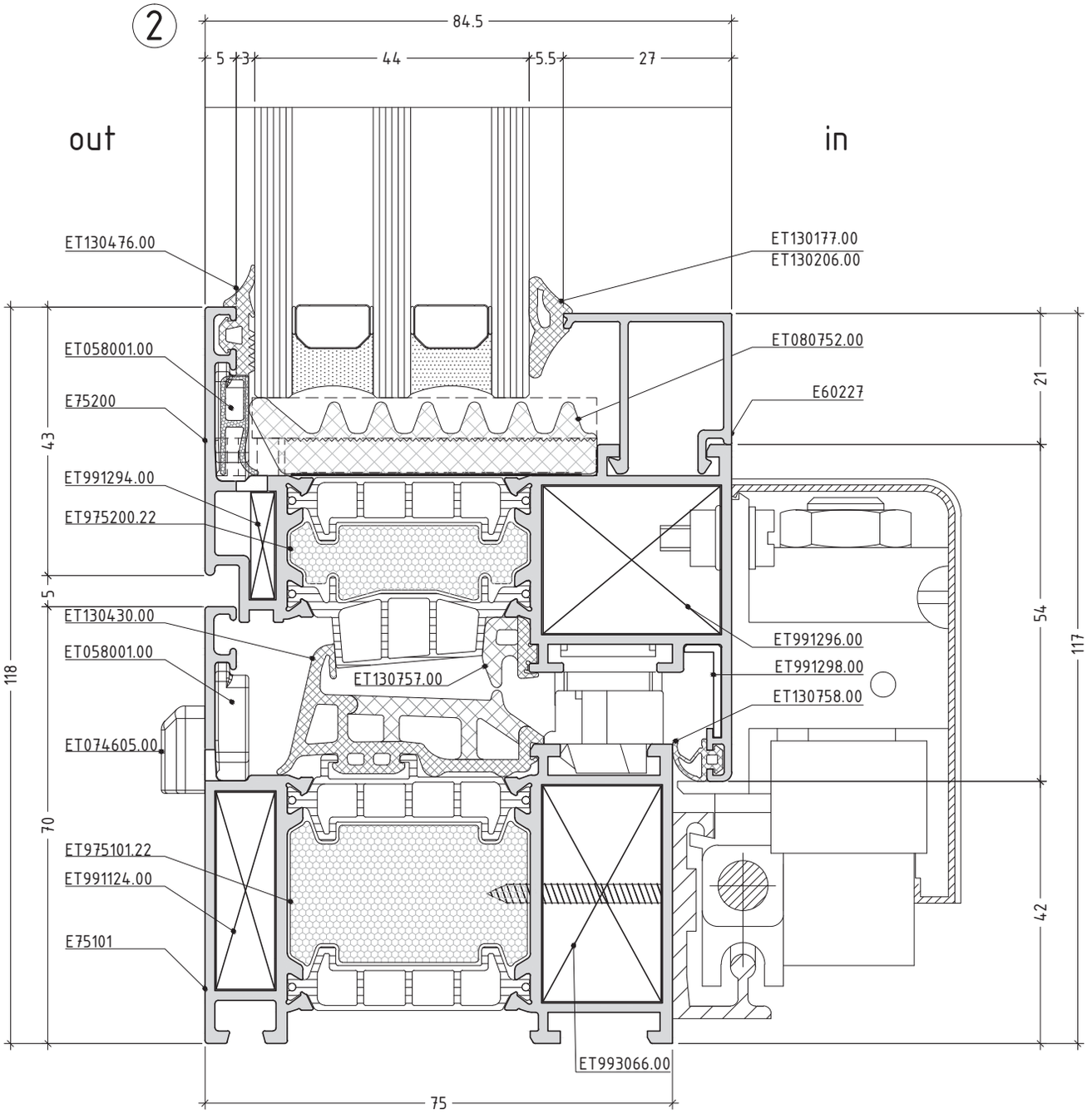




scale : 1:1

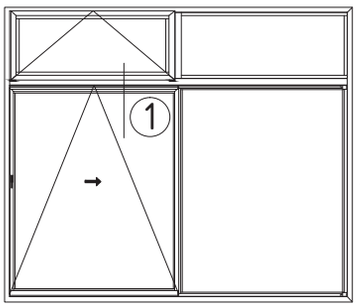
D75-22

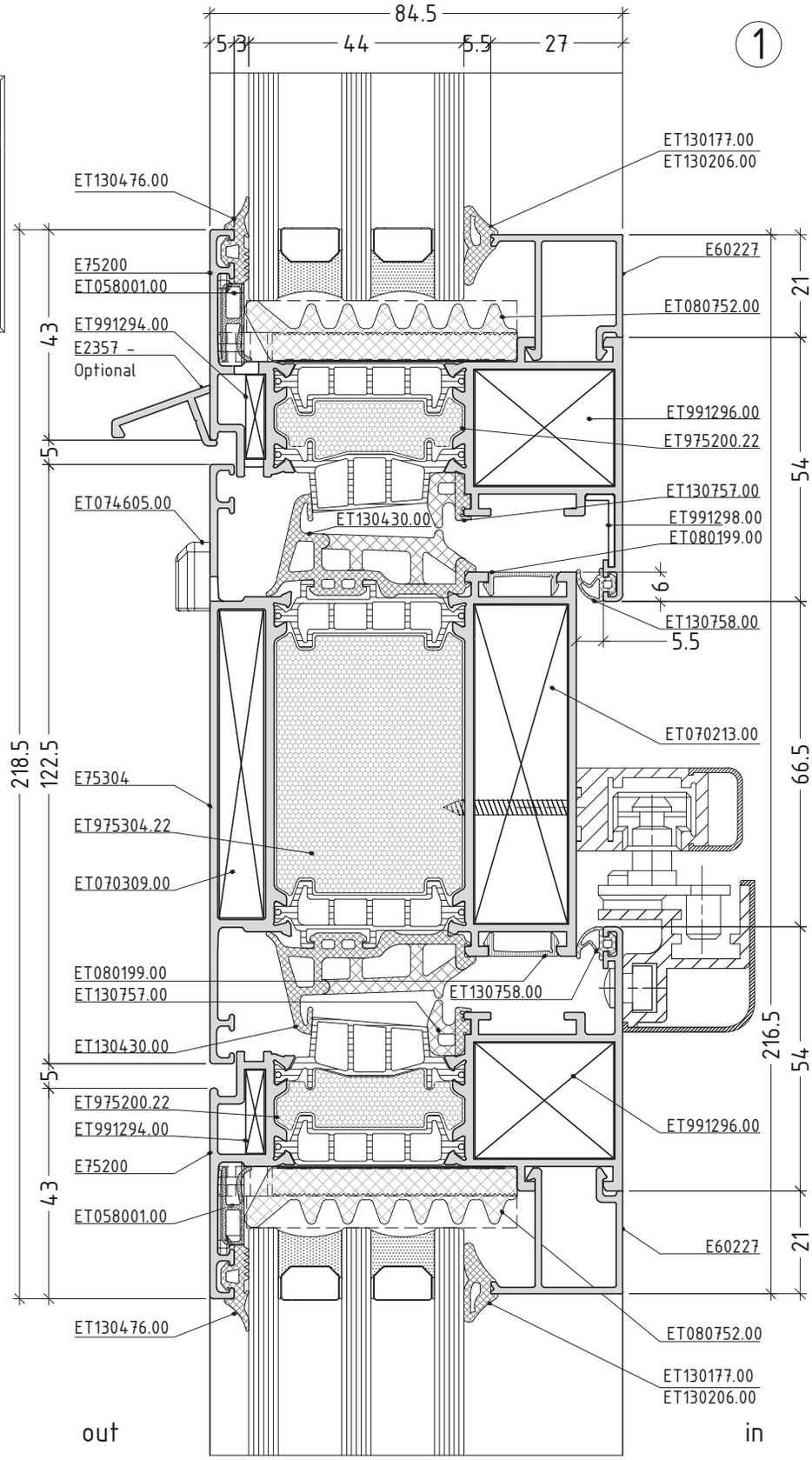




scale : 1:1

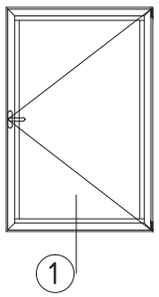
D75-28

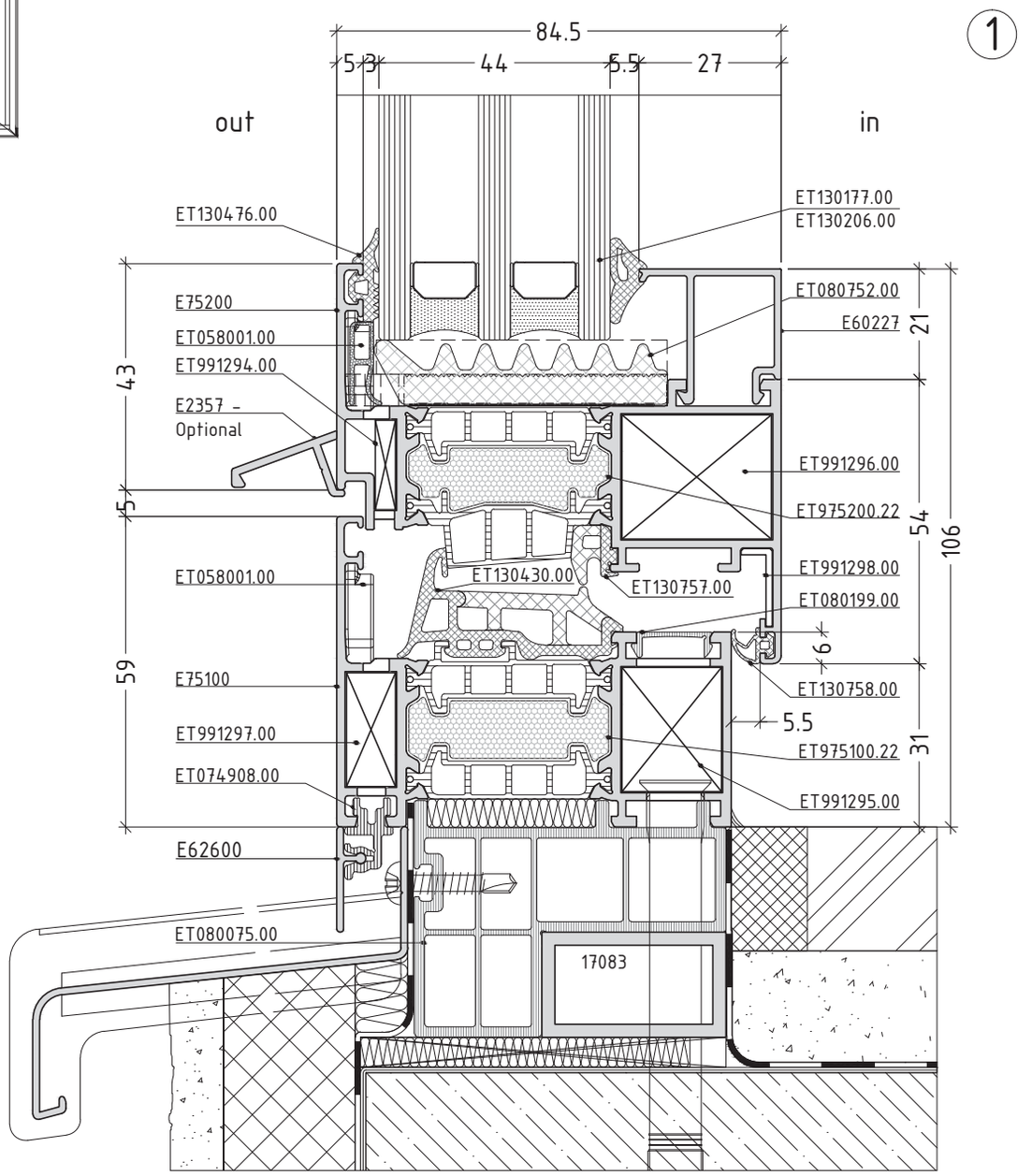




scale : 3/4

D75-30

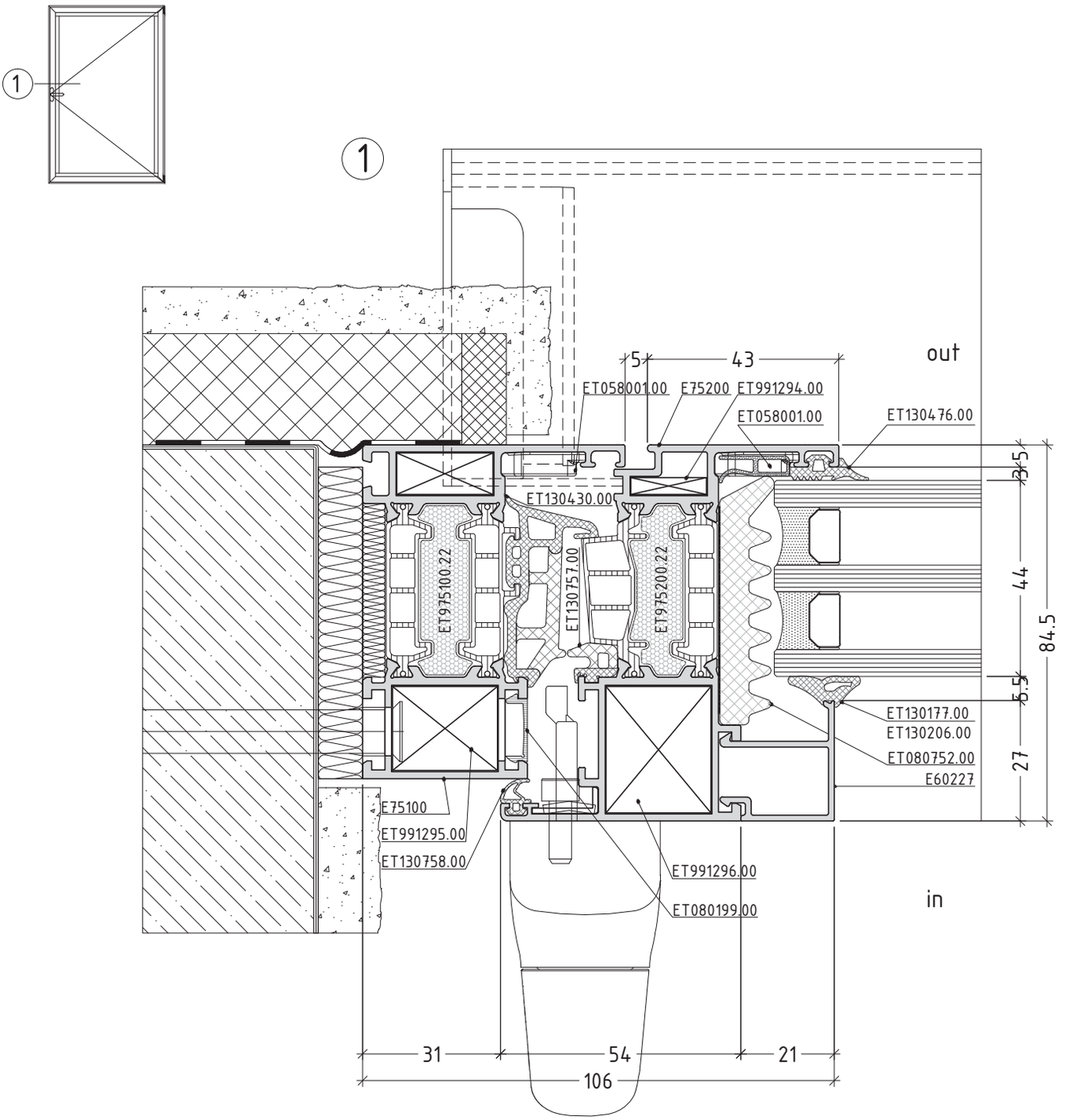




Interface shown on the drawing is an example ONLY!
Connection between backing wall and frame is specific for each single project. It is obligatory to observe different projects' features. All final decisions about materials used, interface finishing, etc. should be approved by the structural / façade engineer responsible for the specific project.

scale : 3/4

D75-31



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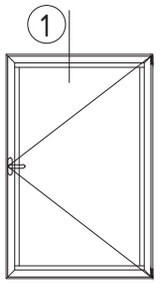
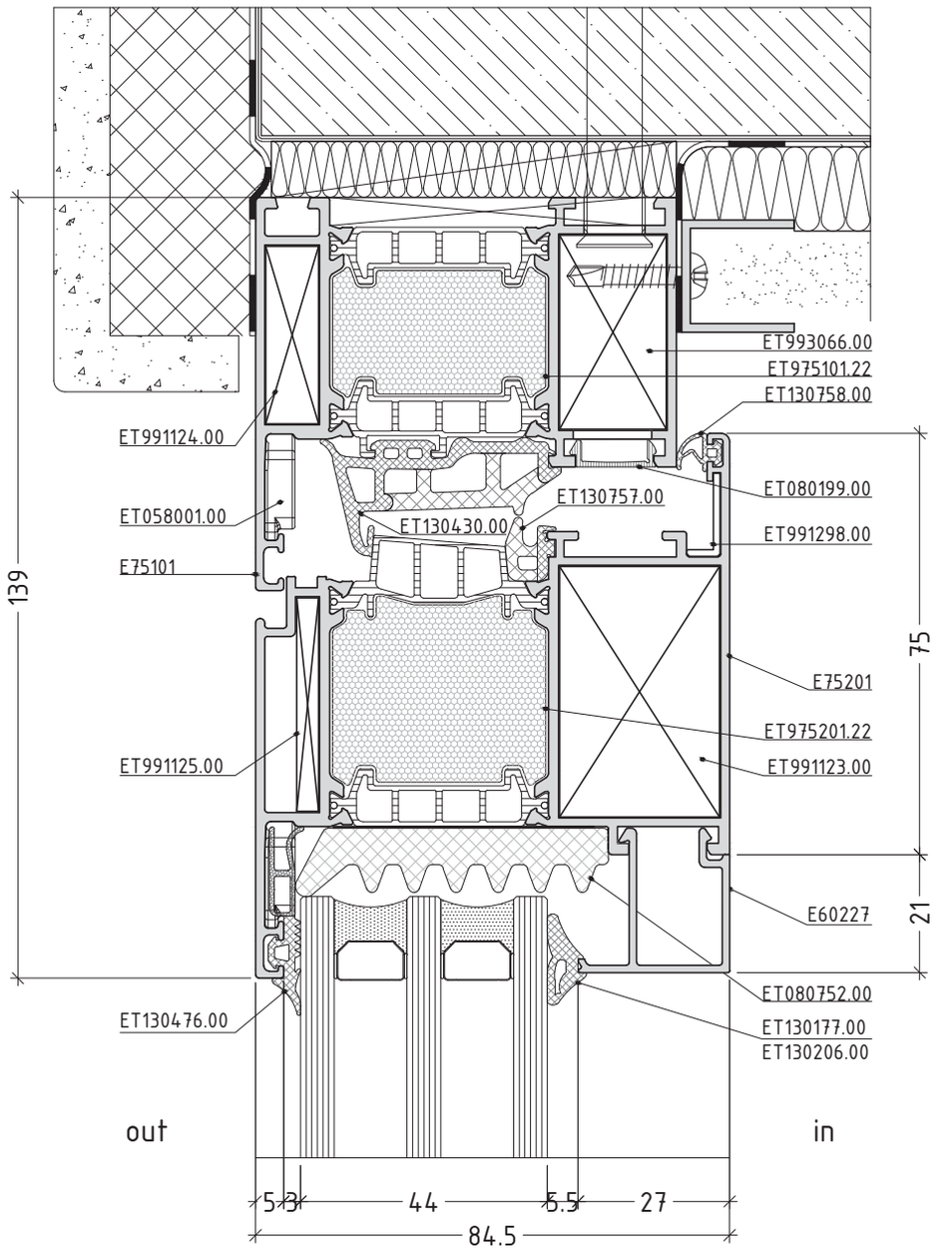
scale : 3/4

D75-32



1



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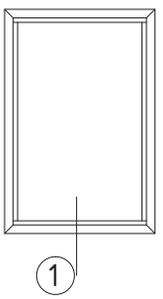
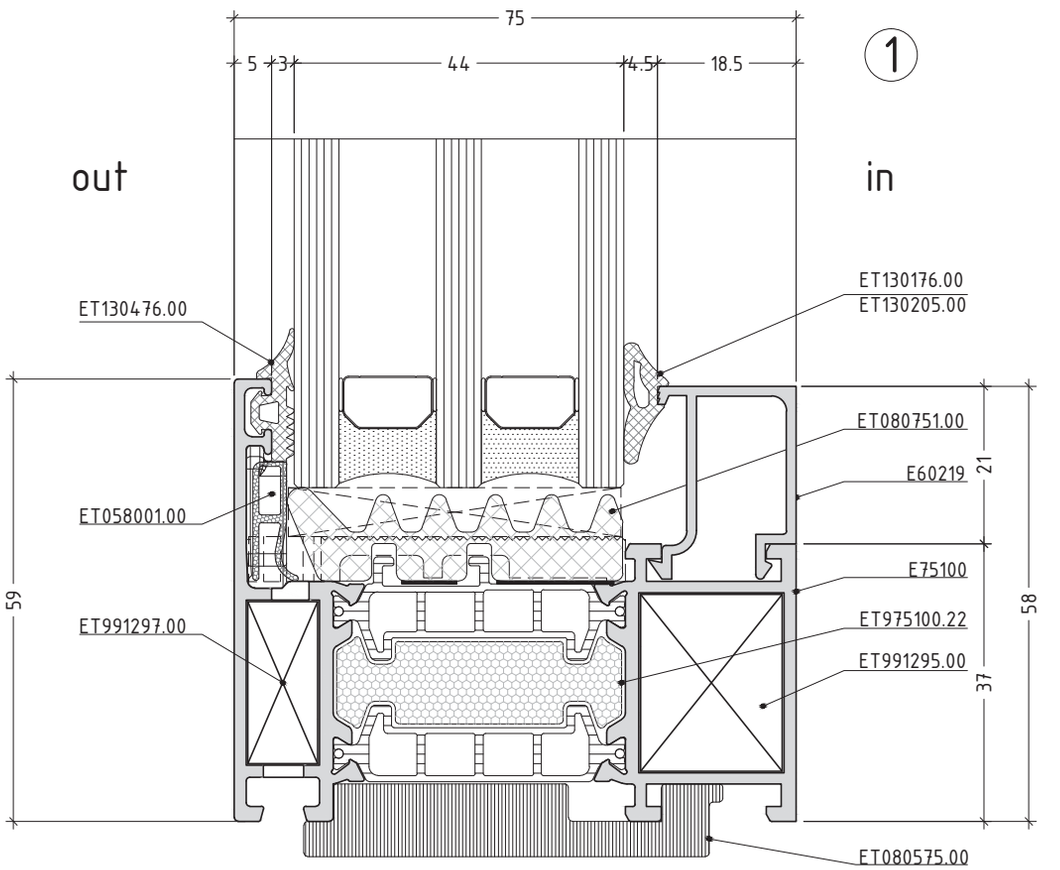
scale : 3/4

D75-33





Interface shown on the drawing is an example ONLY!
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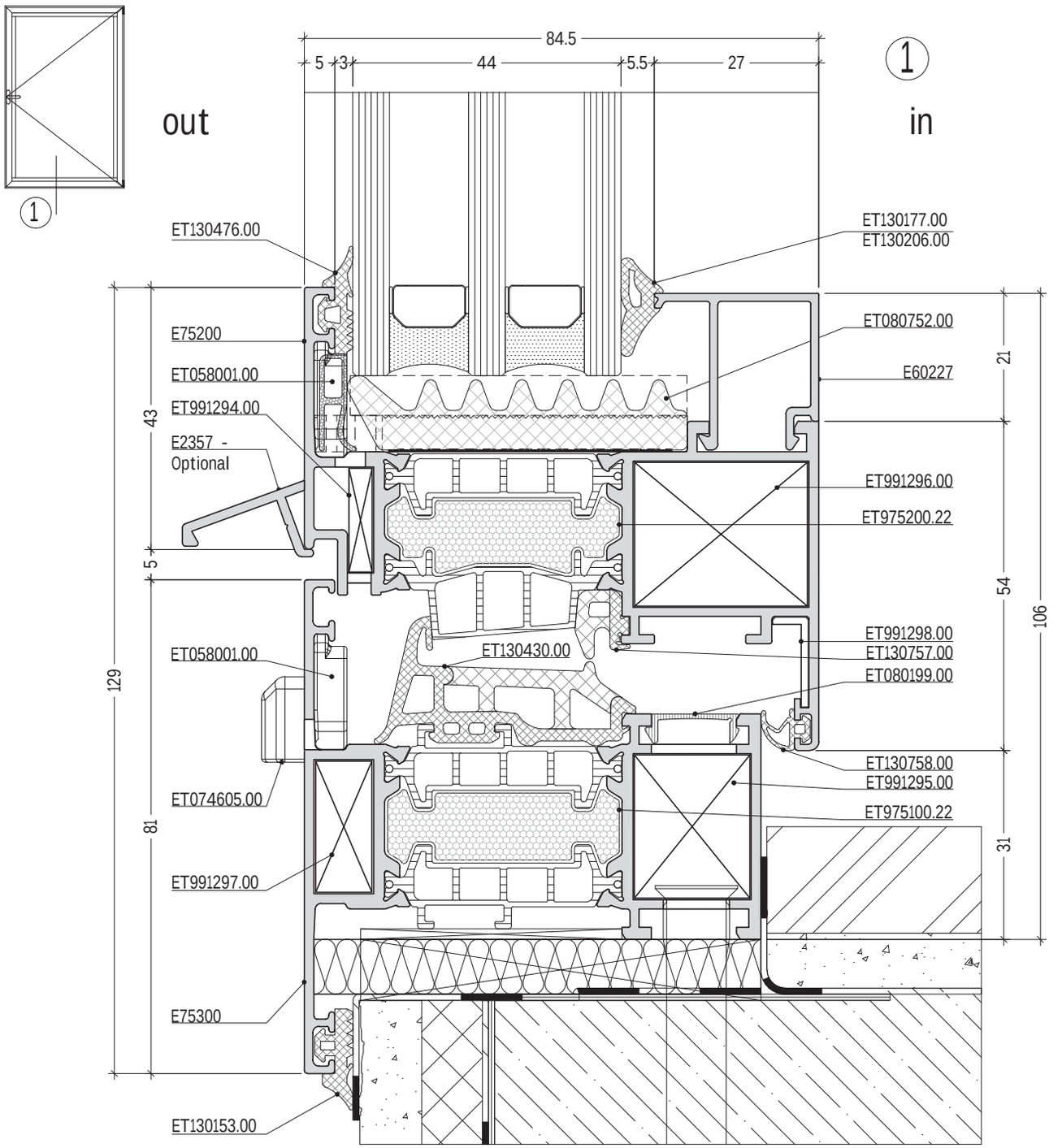
scale : 1:1

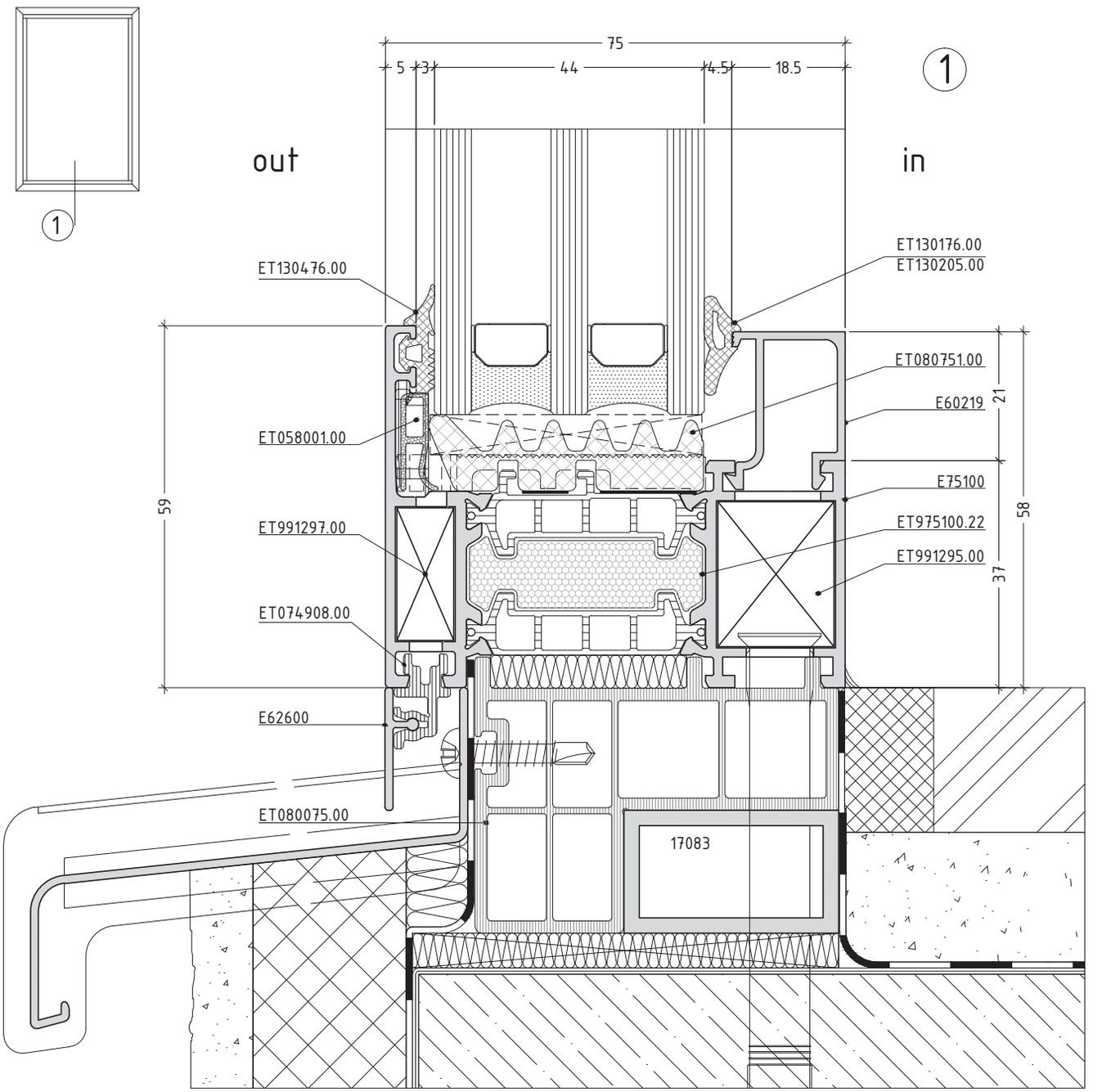
D75-34



Interface shown on the drawing is an example ONLY!
Connection between backing wall and frame is specific for each single project. It is obligatory to observe different projects' features. All final decisions about materials used, interface finishing, etc. should be approved by the structural / façade engineer responsible for the specific project.

scale : 1:1

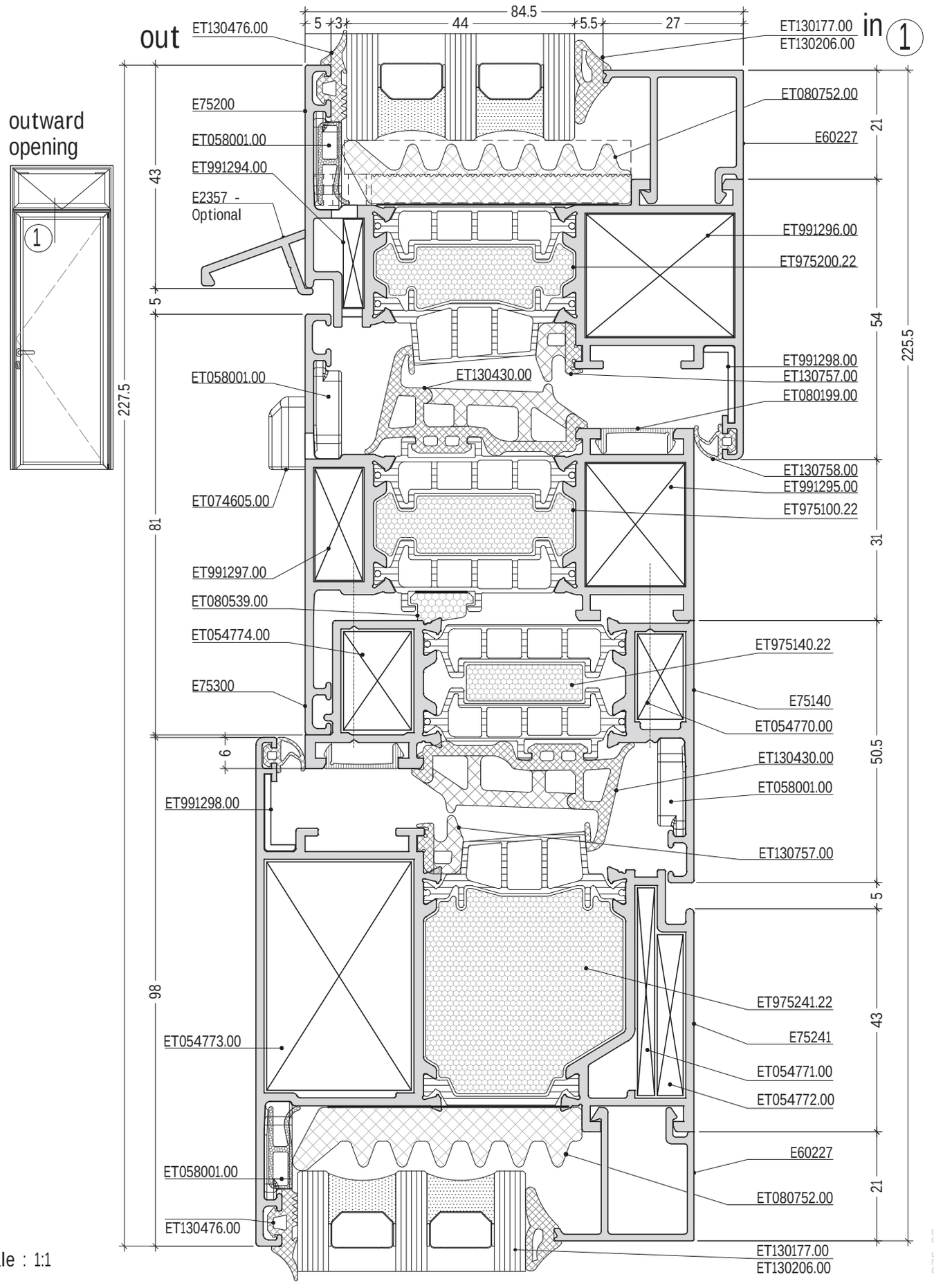
D75-35



Interface shown on the drawing is an example ONLY!
Connection between backing wall and frame is specific for each single project. It is obligatory to observe different projects' features. All final decisions about materials used, interface finishing, etc. should be approved by the structural / façade engineer responsible for the specific project.

scale : 1:1

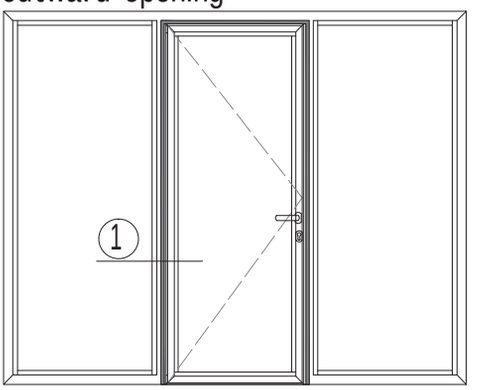
D75-36

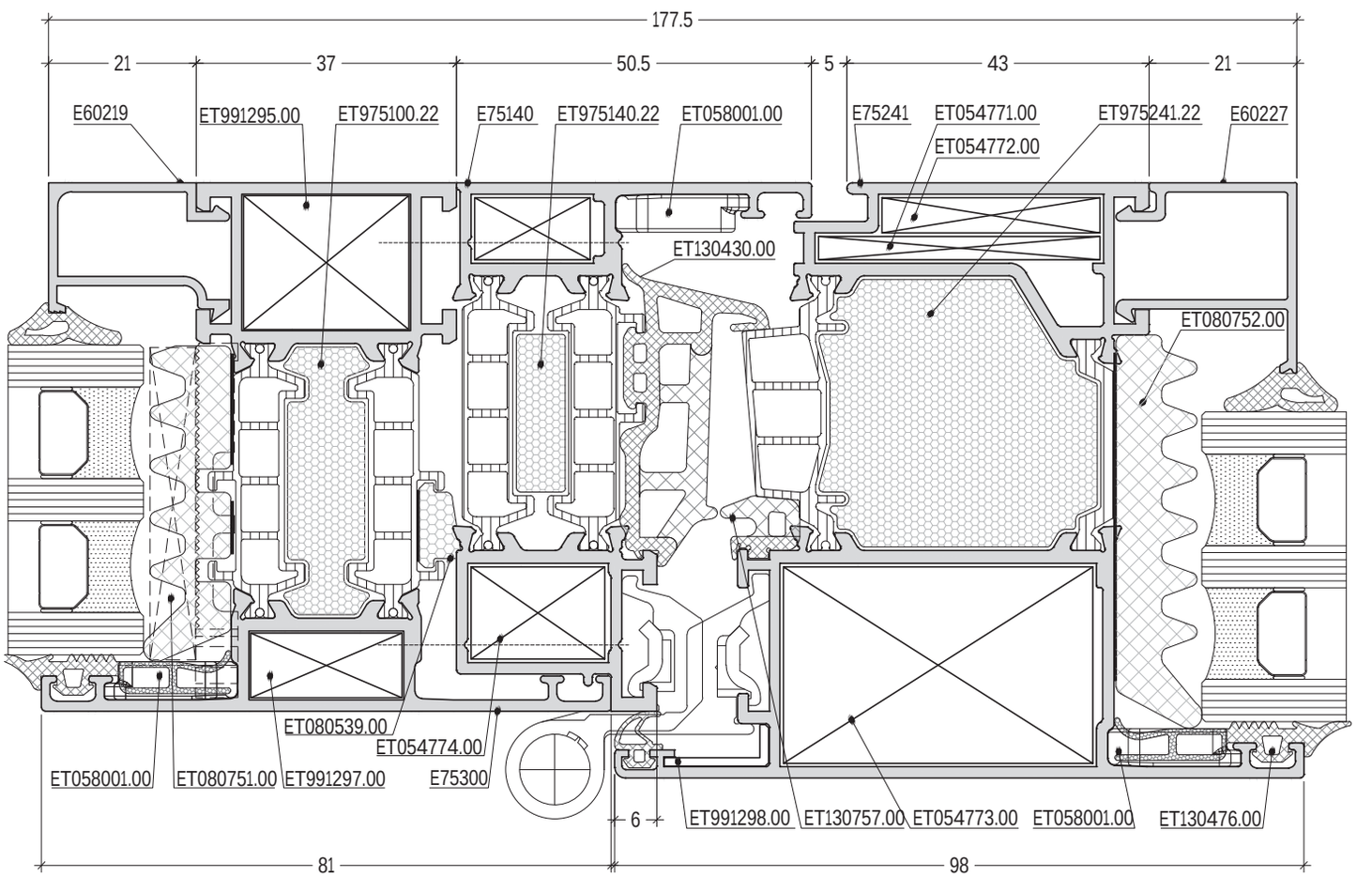


scale : 1:1

D75-37

outward opening

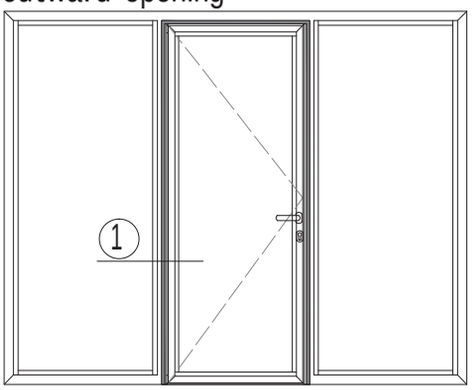


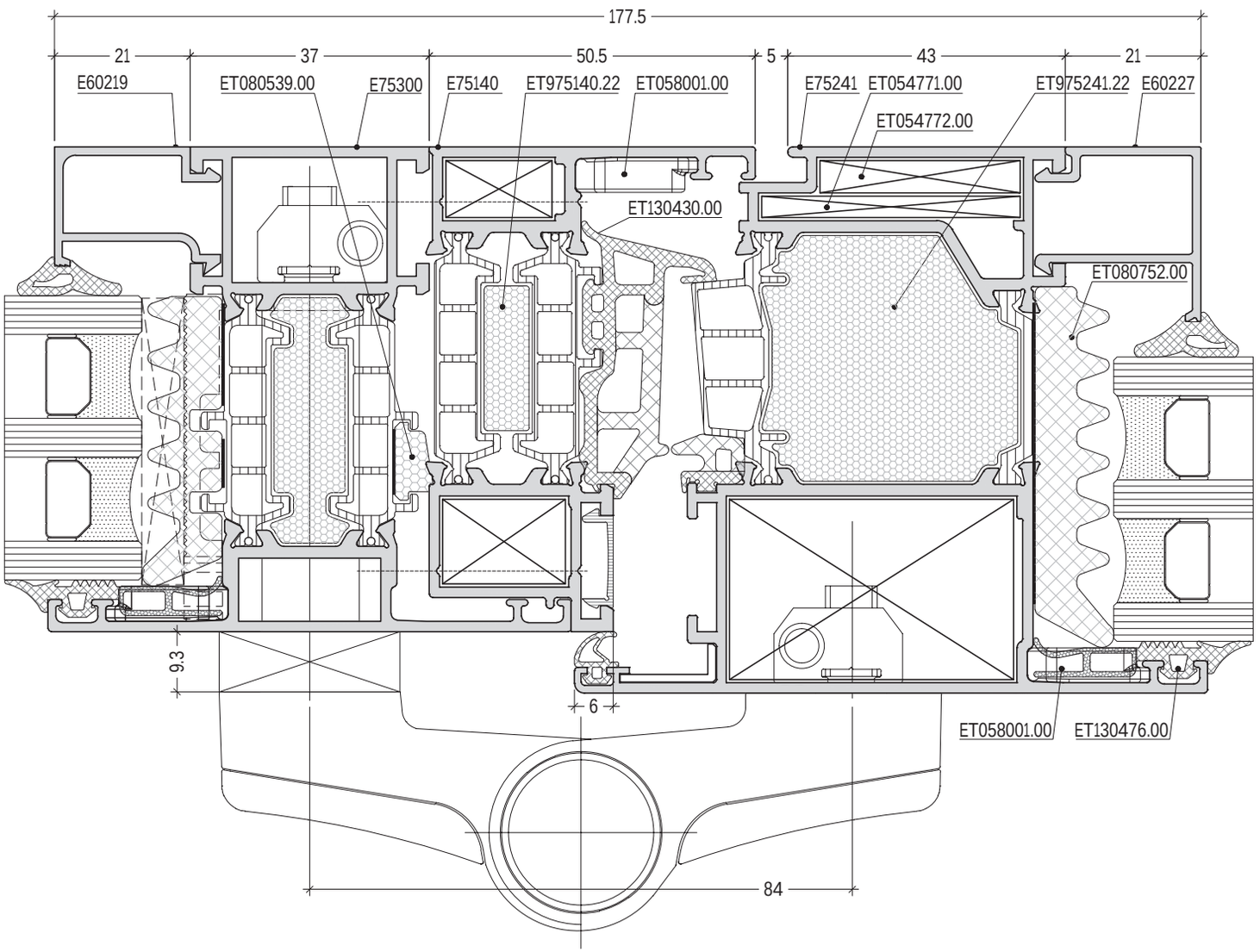


scale : 1:1

D75-38

outward opening



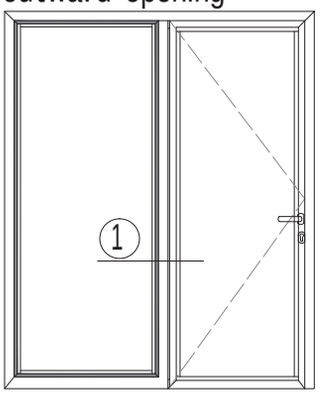


When the hinge and reverse profile are inside the openable part, the distance between axes of hinges has to be 84 mm

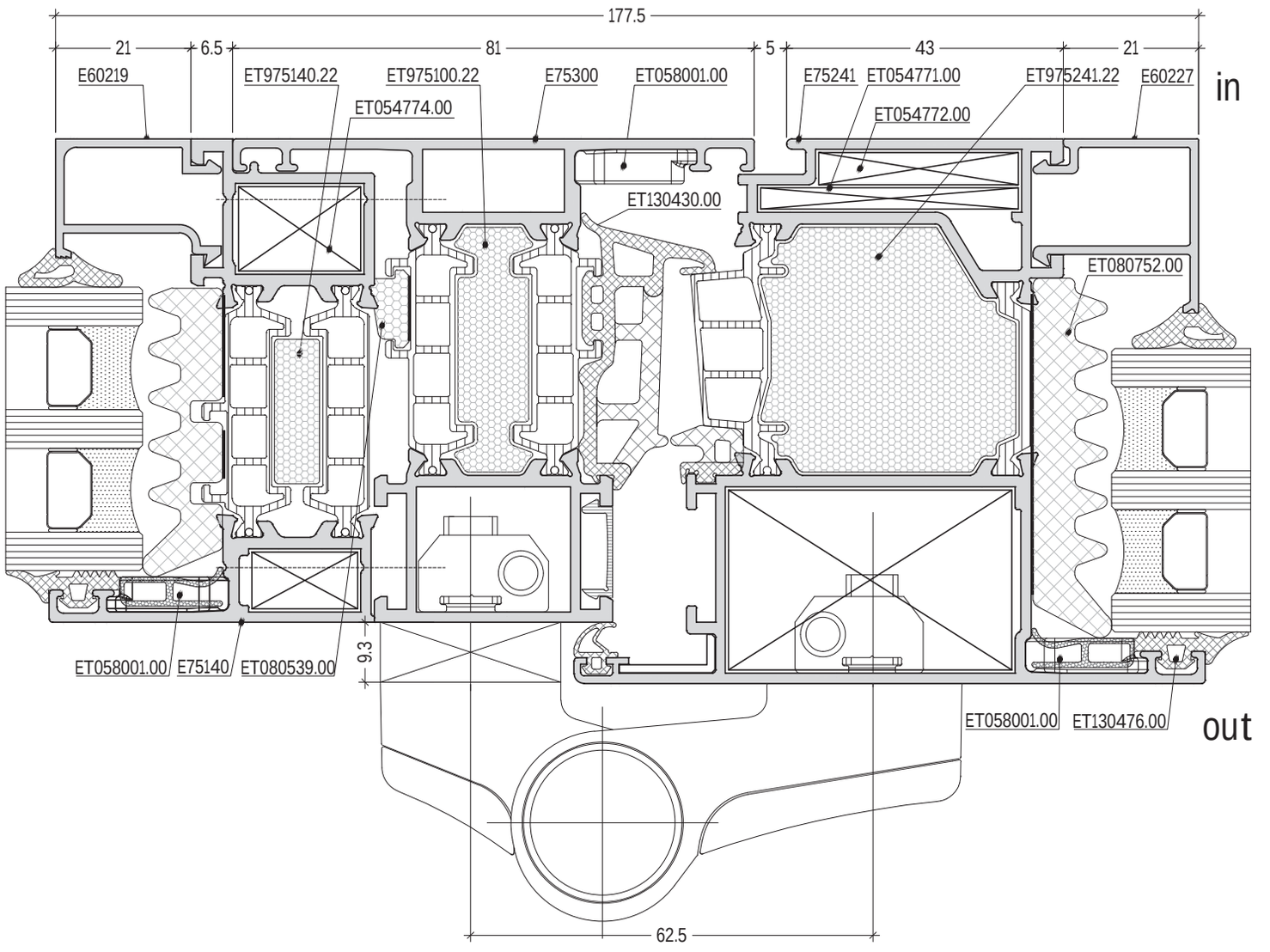
scale : 1:1

D75-39

outward opening



1

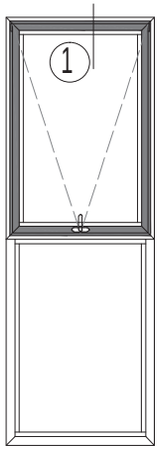


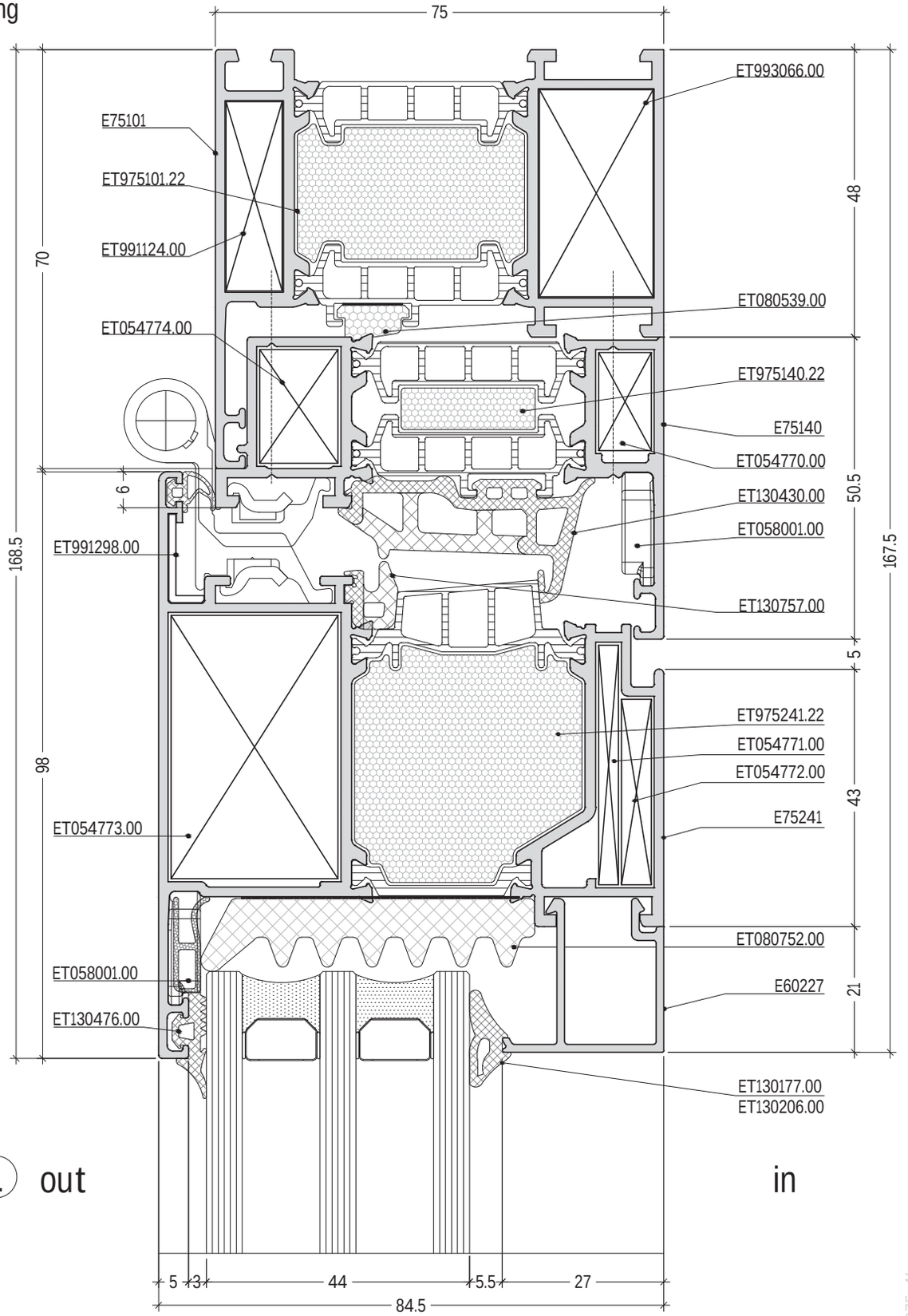
When the hinge and reverse profile are inside the fixed part, the distance between axes of hinges has to be 62,5 mm

scale : 1:1

D75-40

outward opening

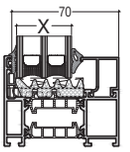
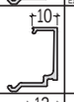
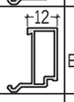
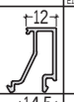
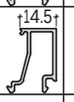
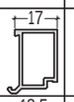
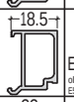
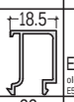
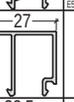
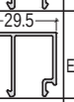
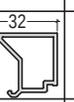
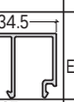
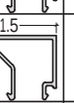




scale : 1:1

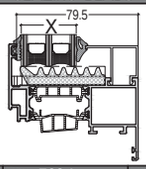
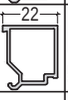
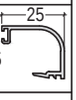
D75-41

GLAZING OPTIONS

GLAZING OPTIONS										
external gaskets	INTERNAL GASKETS					GLAZING BEADS				
	5 - 6 mm 130176		7 - 8 mm 130177							
3 mm 130476	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	10 mm 130210					
4 mm 130153	X mm					E601xx	E602xx	E604xx	E605xx	E607xx
130476	55	54	53	52	50					
130153	54	53	52	51	49					
130476	52	51	50	49	47					
130153	51	50	49	48	46					
130476	50	49	48	47	45					
130153	49	48	47	46	44					
130476	48	47	46	45	43					
130153	47	46	45	44	42					
130476	45	44	43	42	40					
130153	44	43	42	41	39					
130476	43	42	41	40	38					
130153	42	41	40	39	37					
130476	40	39	38	37	35					
130153	39	38	37	36	34					
130476	37	36	35	34	32					
130153	36	35	34	33	31					
130476	35	34	33	32	30					
130153	34	33	32	31	29					
130476	32	31	30	29	27					
130153	31	30	29	28	26					
130476	30	29	28	27	25					
130153	29	28	27	26	24					
130476	27	26	25	24	22					
130153	26	25	24	23	21					
130476	25	24	23	22	20					
130153	24	23	22	21	19					
130476	20	19	18	17	15					
130153	19	18	17	16	14					
130476	15	14	13	12	10					
130153	14	13	12	11	9					

Note:
Tolerance in dimension chain ±0.5mm

T75-1

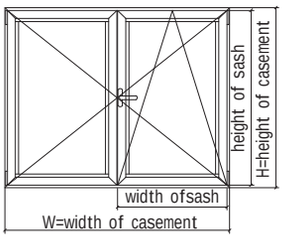
GLAZING OPTIONS										
external gaskets	INTERNAL GASKETS					GLAZING BEADS				
3 mm 130476 4 mm 130153	5 - 6 mm 130176		7 - 8 mm 130177							
	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	10 mm 130210					
	X mm					E601xx	E602xx	E604xx	E605xx	E607xx
130476	54	53	52	51	49	 E60117 old code E5311				
130153	53	52	51	50	48					
130476	53	52	51	50	48	 E60119 old code E5314	 E60219 old code E5304	 E60419 old code E5394		
130153	52	51	50	49	47					
130476	49	48	47	46	44	 E60122 old code E5312	 E60222 old code E1113	 E60422		 E60722
130153	48	47	46	45	43					
130476	46	45	44	43	41		 E60225 old code E5307	 E60425 old code E5308		 E60725 old code E5348
130153	45	44	43	42	40					
130476	44	43	42	41	39	 E60127 old code E5325	 E60227			
130153	43	42	41	40	38					
130476	42	41	40	39	37		 E60230	 E60430		
130153	41	40	39	38	36					
130476	39	38	37	36	34	 E60132				
130153	38	37	36	35	33					
130476	37	36	35	34	32		 E60235	 E60435		
130153	36	35	34	33	31					
130476	34	33	32	31	29	 E60137	 E60237			
130153	33	32	31	30	28					
130476	30	29	28	27	25		 E60242 old code E75701			
130153	29	28	27	26	24					
130476	24	23	22	21	19		 E60247 old code E75700			
130153	23	22	21	20	18					

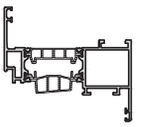
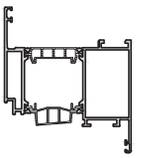
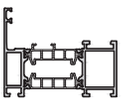
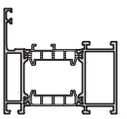
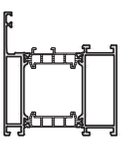
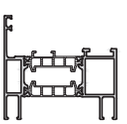
Note:
Tolerance in dimension chain ±0.5mm

T75-2

CUTTING LISTS

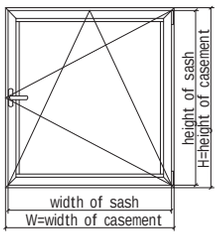
calculation of cutting length for one leaf window

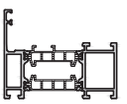
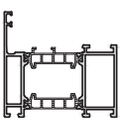
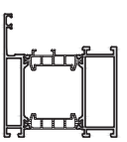
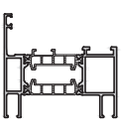


frame profile selection		sash profile selection	E75200 	E75201 
E75100 	width of sash		$\frac{W - 68}{2}$	$\frac{W - 68}{2}$
	height of sash		H - 63	H - 63
	height of secondary sash profile		H - 135	H - 135
E75101 	width of sash		$\frac{W - 90}{2}$	$\frac{W - 90}{2}$
	height of sash		H - 85	H - 85
	height of secondary sash profile		H - 157	H - 157
E75102 	width of sash		$\frac{W - 114}{2}$	$\frac{W - 114}{2}$
	height of sash		H - 109	H - 109
	height of secondary sash profile		H - 181	H - 181
E75105 	width of sash		$\frac{W - 88}{2}$	$\frac{W - 88}{2}$
	height of sash		H - 83	H - 83
	height of secondary sash profile		H - 155	H - 155

T75-1

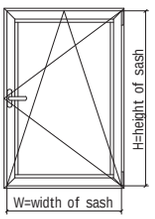
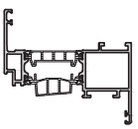
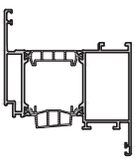
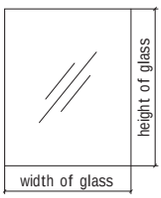
calculation of cutting length for one leaf window



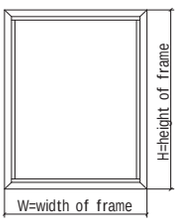
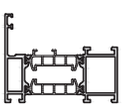
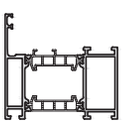
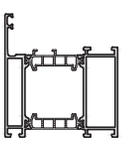
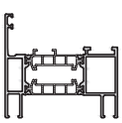
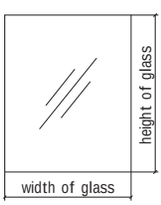
frame profile selection		sash profile selection: E75200	sash profile selection: E75201
E75100 	width of sash	W - 63	W - 63
	height of sash	H - 63	H - 63
E75101 	width of sash	W - 85	W - 85
	height of sash	H - 85	H - 85
E75102 	width of sash	W - 109	W - 109
	height of sash	H - 109	H - 109
E75105 	width of sash	W - 83	W - 83
	height of sash	H - 83	H - 83

T75-2

calculation of cutting length for glass unit

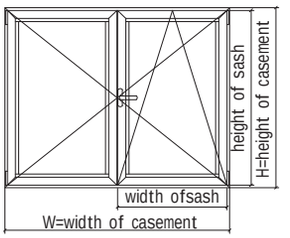
 dimension of glass unit		sash profile E75200 	sash profile E75201 
	width of glass unit	W - 123	W - 165
	height of glass unit	H - 123	H - 165

calculation of cutting length for glass unit

 dimension of glass unit		frame profile E75100 	frame profile E75101 	frame profile E75102 	frame profile E75105 
	width of glass unit	W - 88	W - 110	W - 134	W - 109
	height of glass unit	H - 88	H - 110	H - 134	H - 88

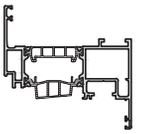
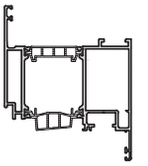
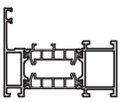
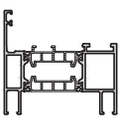
T75-3

calculation of cutting length for double leaf window



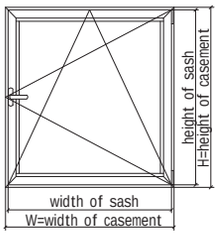
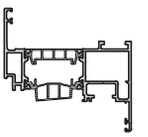
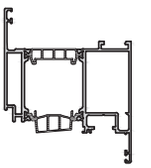
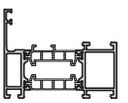
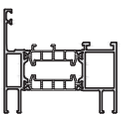
sash profile selection

frame profile selection

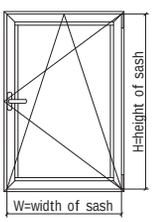
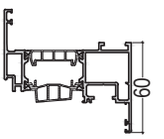
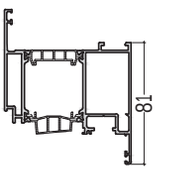
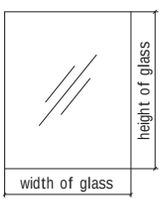
		E75220 	E75221 
E75100 	width of sash	$\frac{W - 64}{2}$	$\frac{W - 64}{2}$
	height of sash	H - 58	H - 58
	height of secondary sash profile	H - 134	H - 134
E75105 	width of sash	$\frac{W - 83}{2}$	$\frac{W - 83}{2}$
	height of sash	H - 78	H - 78
	height of secondary sash profile	H - 154	H - 154

T75-4

calculation of cutting length for one leaf window

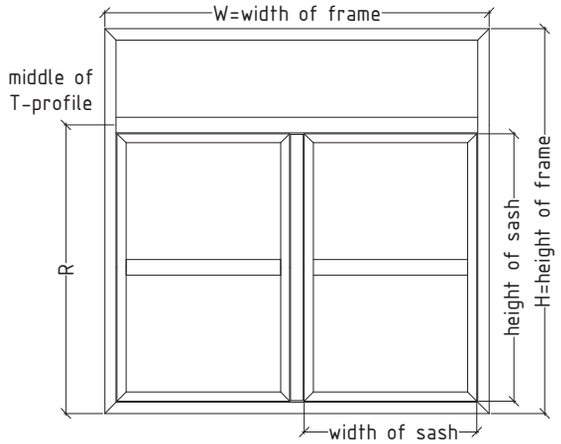
 sash profile selection / frame profile selection		E75220 	E75221 
E75100 	width of sash	W - 58	W - 58
	height of sash	H - 58	H - 58
E75105 	width of sash	W - 78	W - 78
	height of sash	H - 78	H - 78

calculation of cutting length for glass unit

 sash profile / dimension of glass unit		E75220 	E75221 
	width of glass unit	W - 135	W - 177
	height of glass unit	H - 135	H - 177

T75-5

MACHINING



Sample for manufacturing E75 position with combination of profile:

E75100 Frame

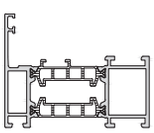
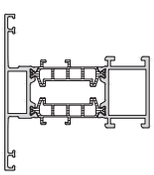
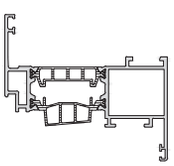
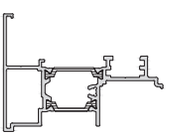
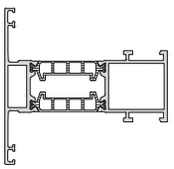
E75300 T profile for frame

E75200 Sash

E75500 overhung secondary sash profile Euro groove

E75340 T profile for sash

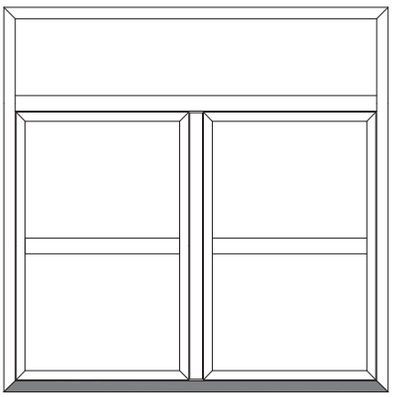
calculation of cutting length and angle for E75 profile

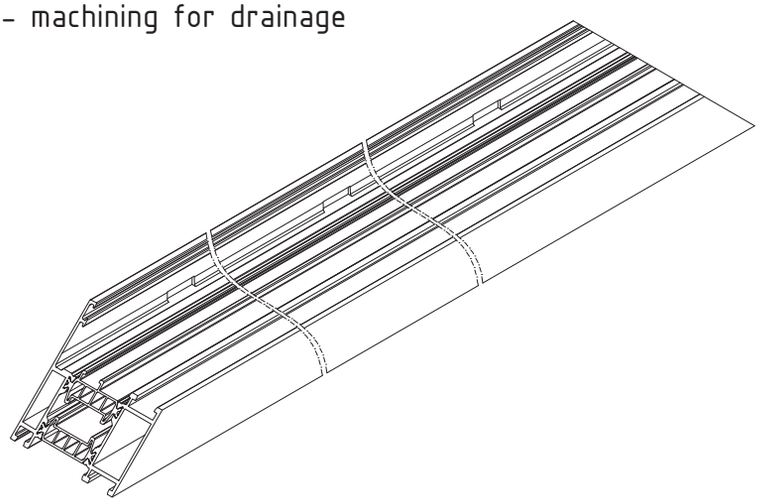
profile selection		pieces	cutting formula	cutting angles
E75100 frame 	width of frame	2	W	2x45°
	height of frame	2	H	2x45°
E75300 T profile 	width of T profile	1	W - 65.5	2x90°
E75200 sash 	width of sash	4	$\frac{W - 68}{2}$	2x45°
	height of sash	4	R - 44.5	2x45°
E75500 overhung secondary Sash profile Euro groove 	height of overhung	1	height of sash - 72	2x90°
E75340 T profile 	width of T profile	2	width of sash - 99.5	2x90°

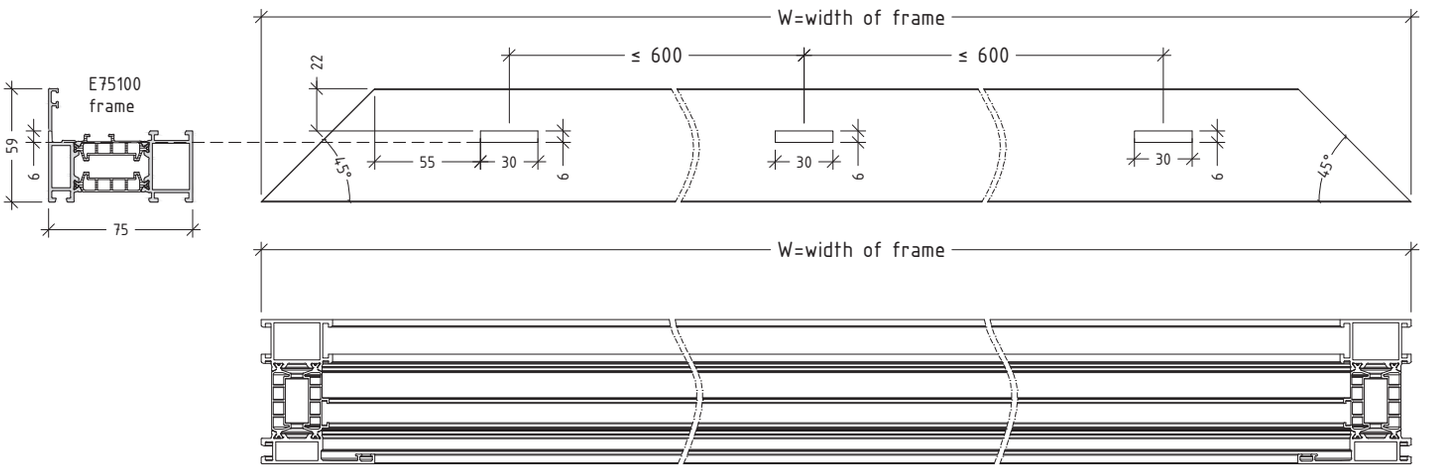
M75-1

Additional treatment of profiles after cutting
Frame E75100 – machining for drainage

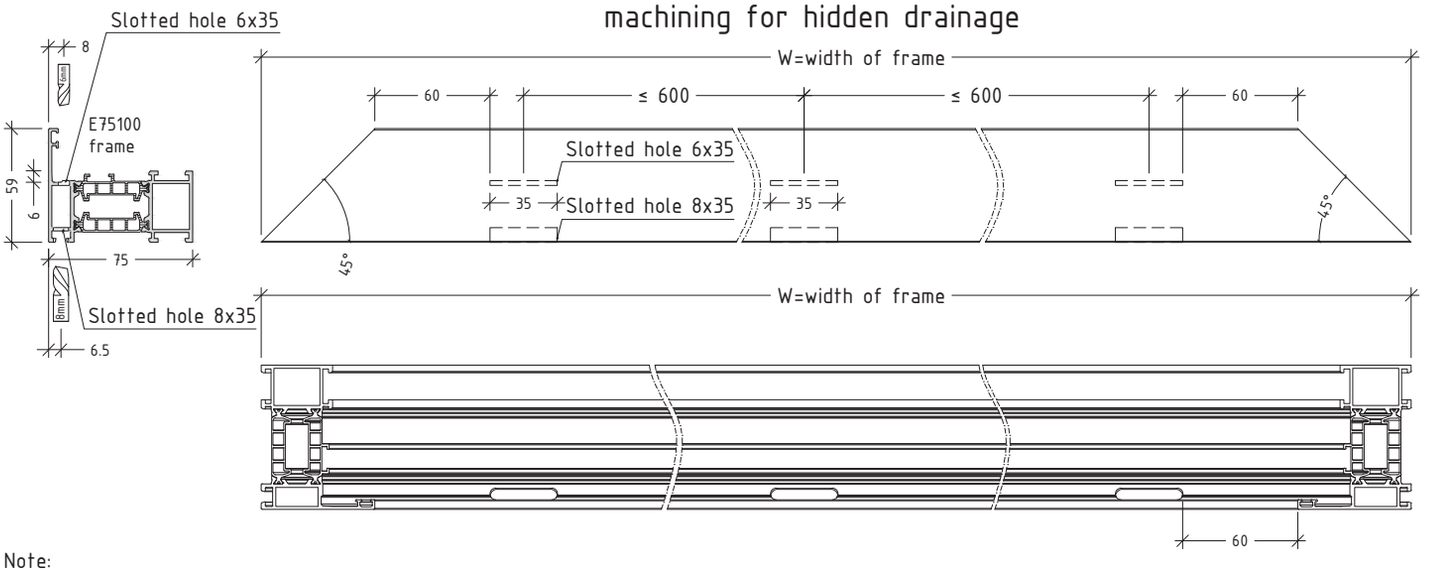
exterior view







Optional
machining for hidden drainage

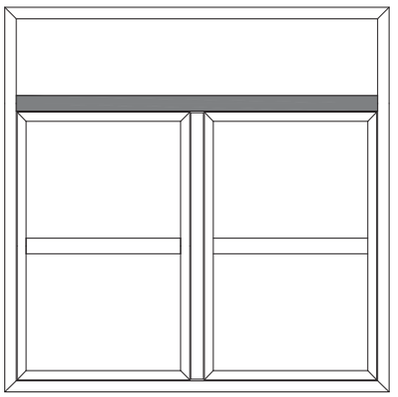


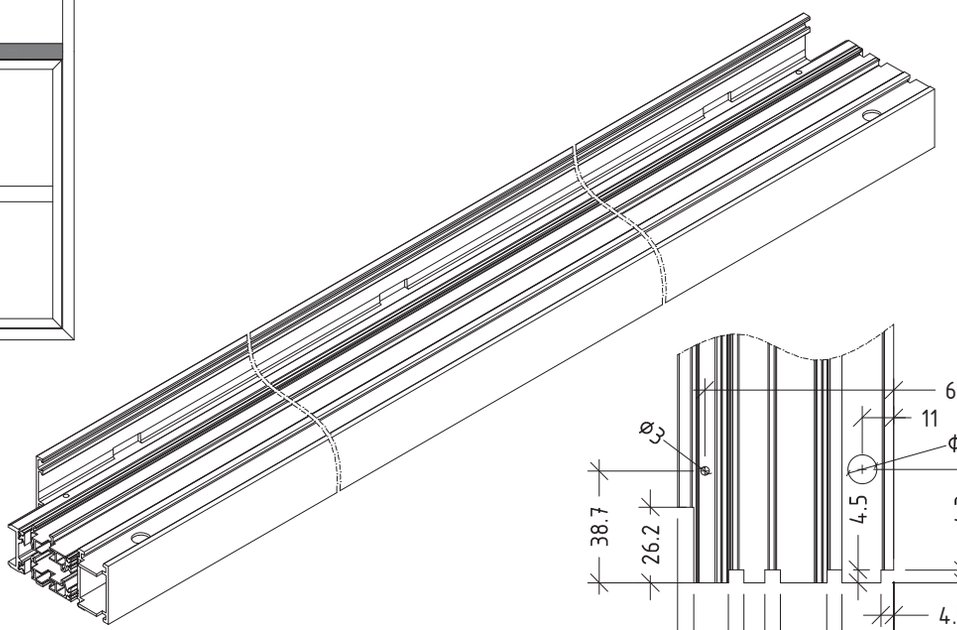
Note:
This machining is valid for all the frame profiles of the system

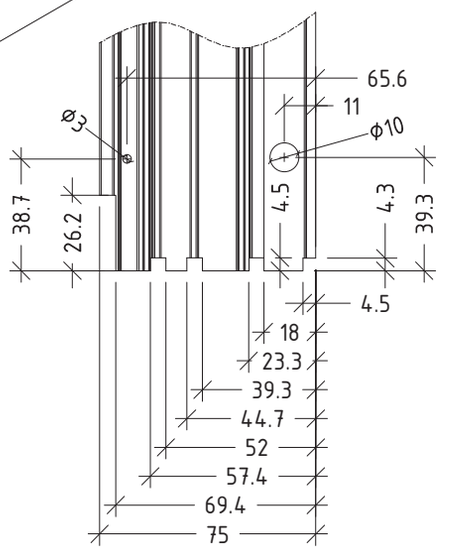
M75-2

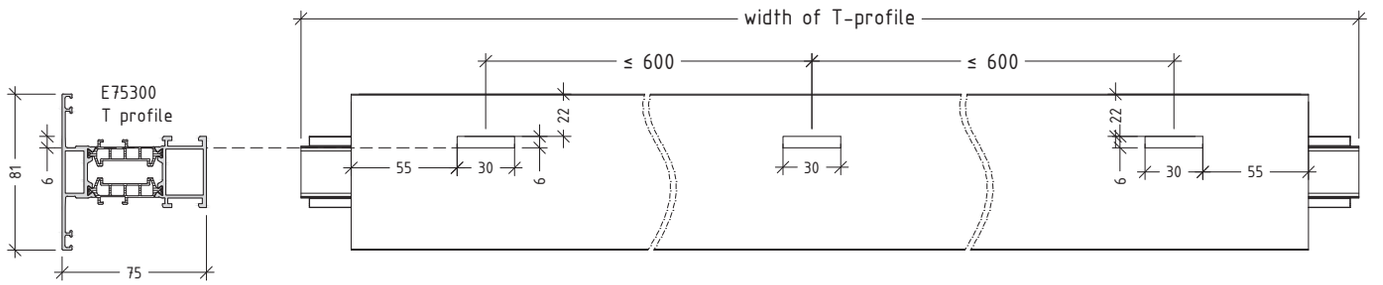
Additional treatment of profiles after cutting
T profile E75300 – machining for visible drainage and connecting to the frame

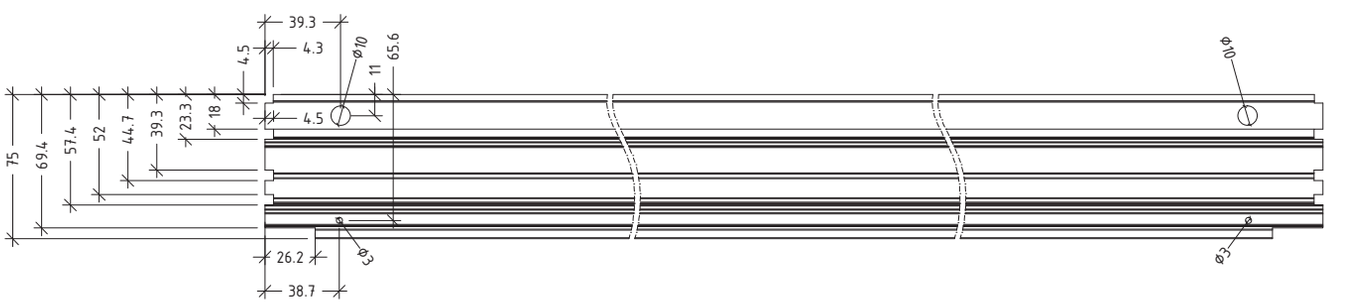
exterior view







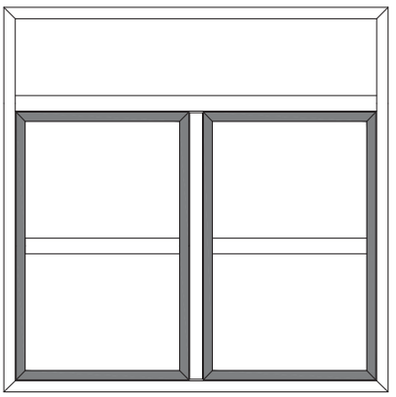


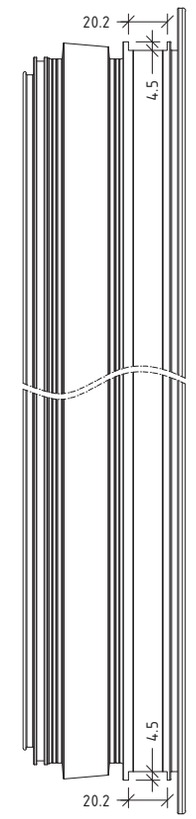


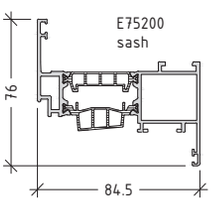
M75-3

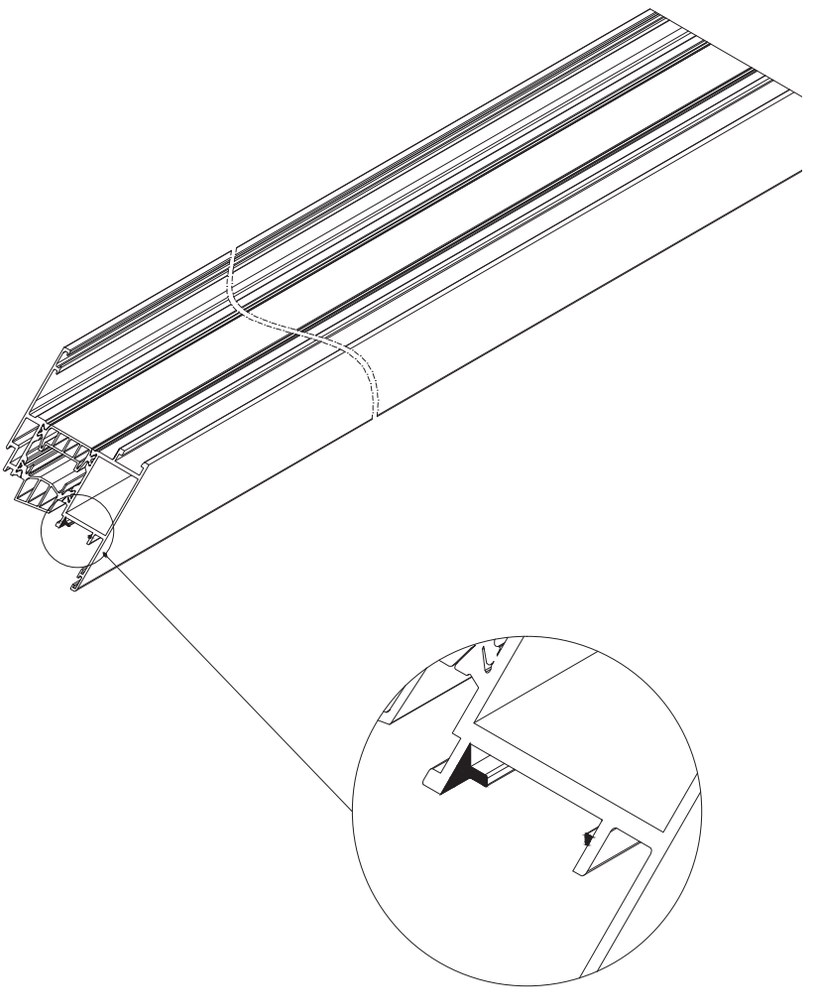
Additional treatment of profiles after cutting
Sash E75200 – machining for connecting rod E2308

exterior view







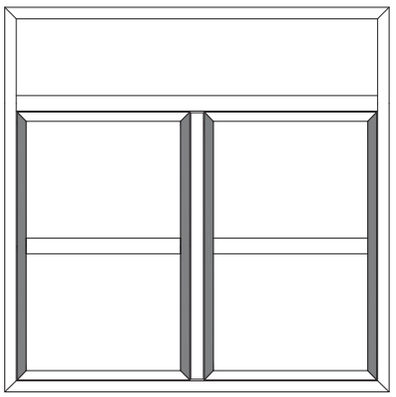


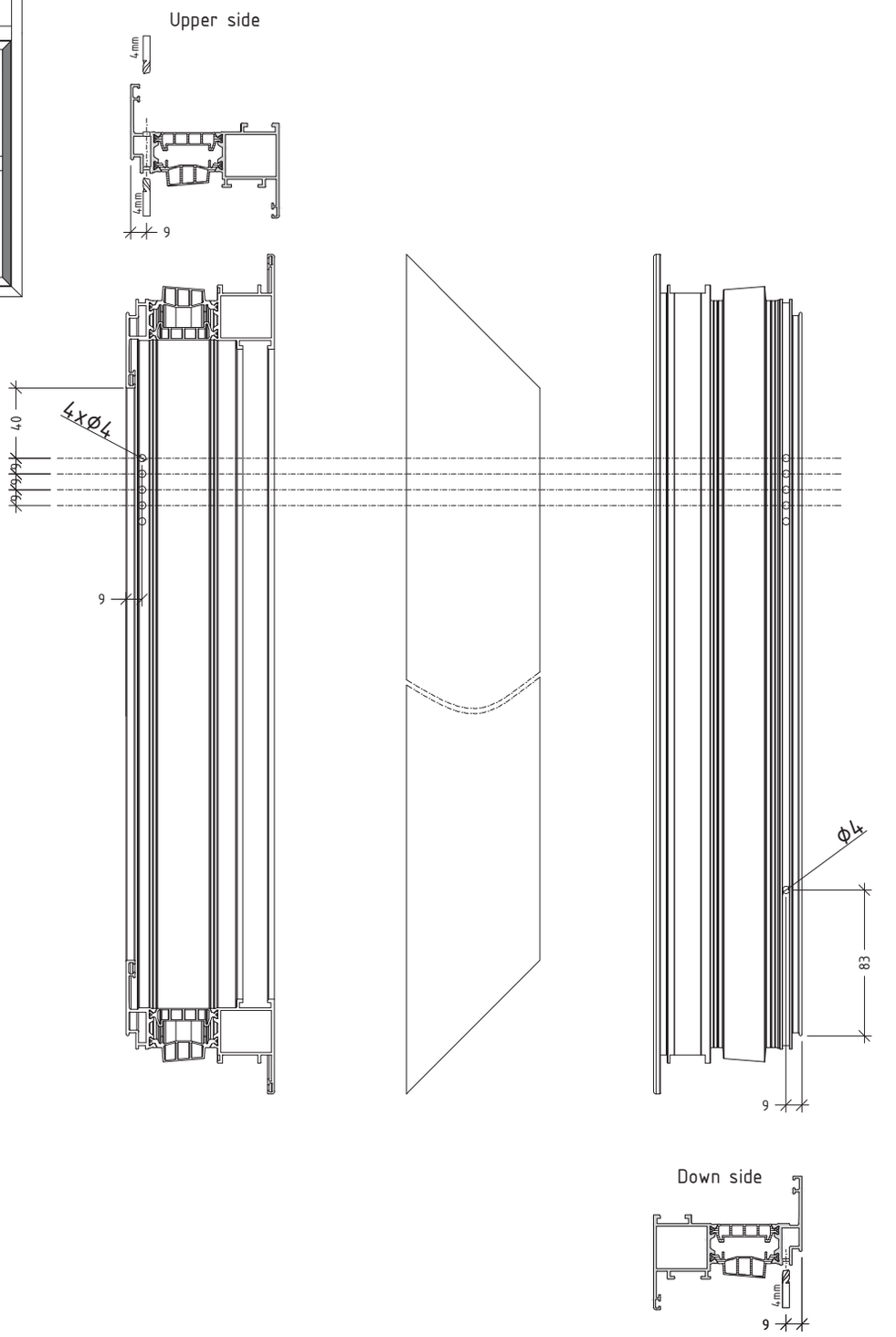
Note:
This machining's is valid for all the sash profiles with Euro groove in the system

M75-4

Additional treatment of profiles after cutting
Sash E75200 – machining for ventilation

exterior view



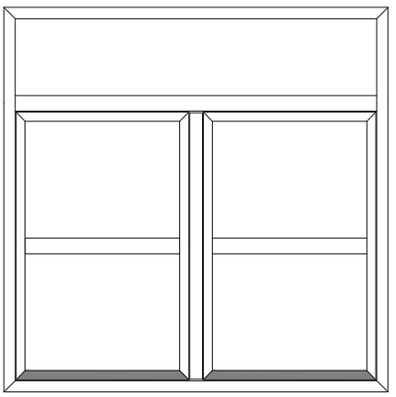


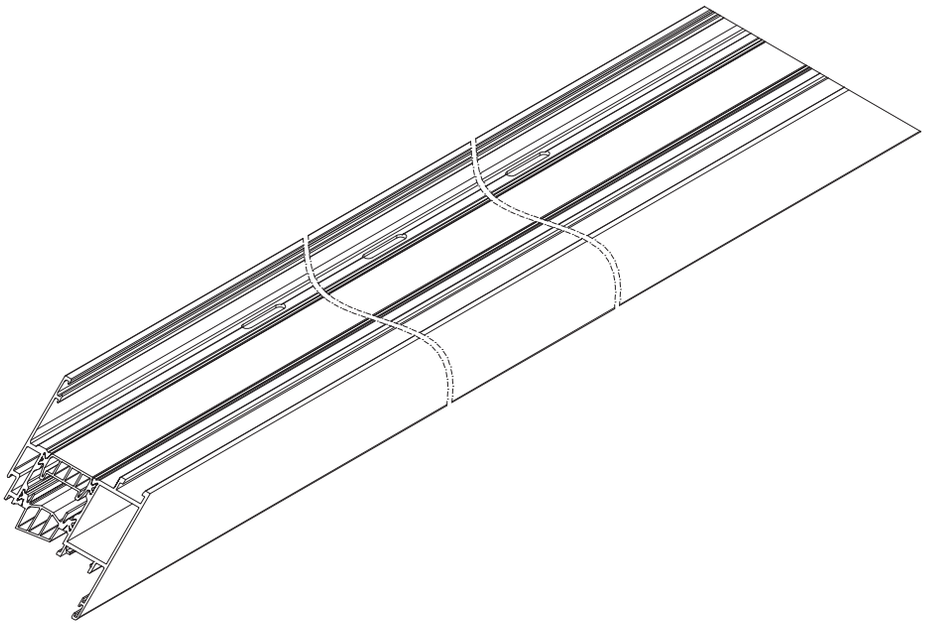
Note:
This machining's is valid for all the sash profiles with Euro groove in the system

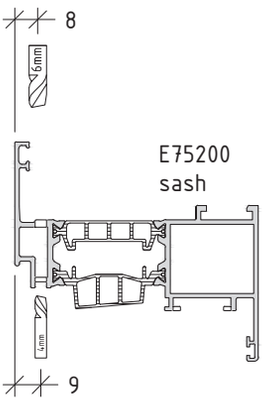
M75-4.1

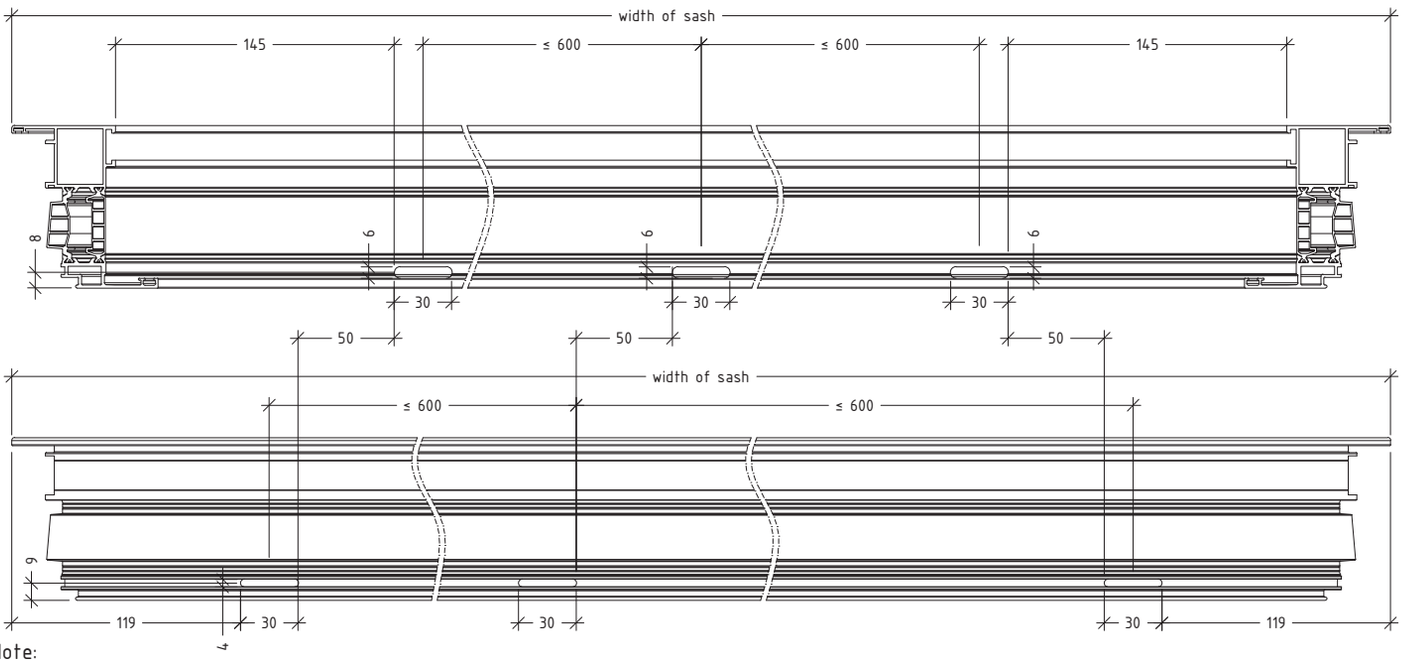
Additional treatment of profiles after cutting
Sash E75200 - machining for drainage

exterior view







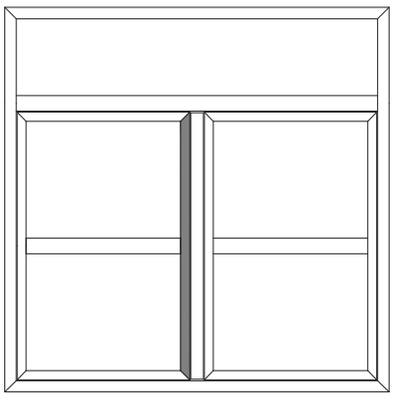


Note:
This machining is valid for all the sash profiles in the system

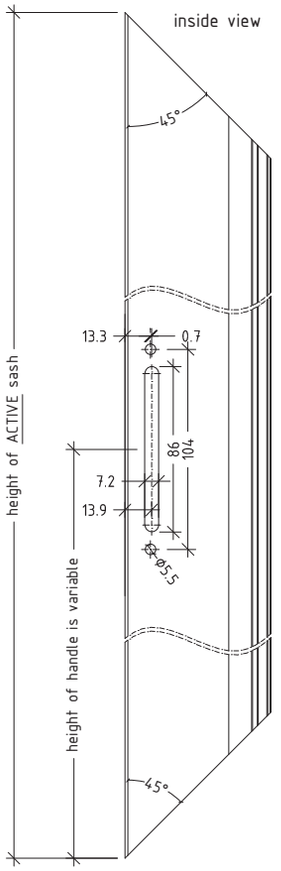
M75-5

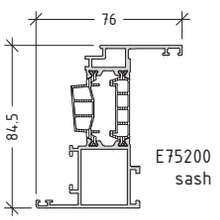
Additional treatment of profiles after cutting
Sash E75200 – machining for handle on active sash

exterior view

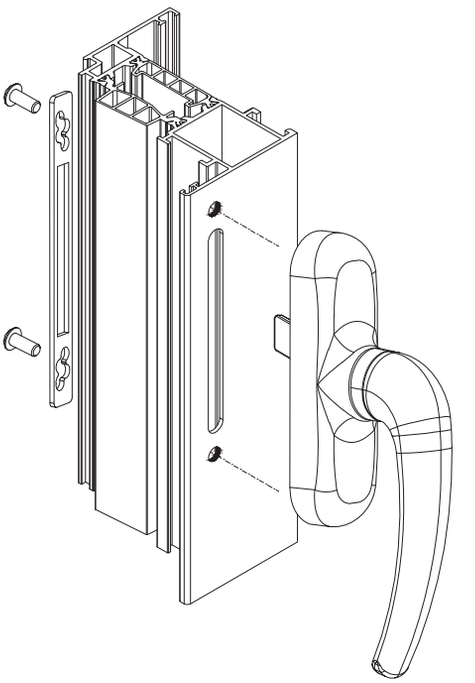


inside view





machining's to fix T/T handle



NOTE:

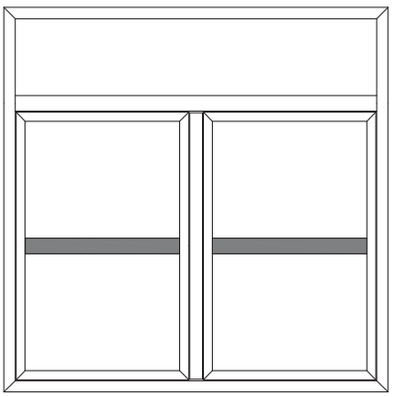
- For different cases active and passive sash positions varied!
- For different hardware the machining for handle may not fit! (use mounting scheme for hardware supplier!!)

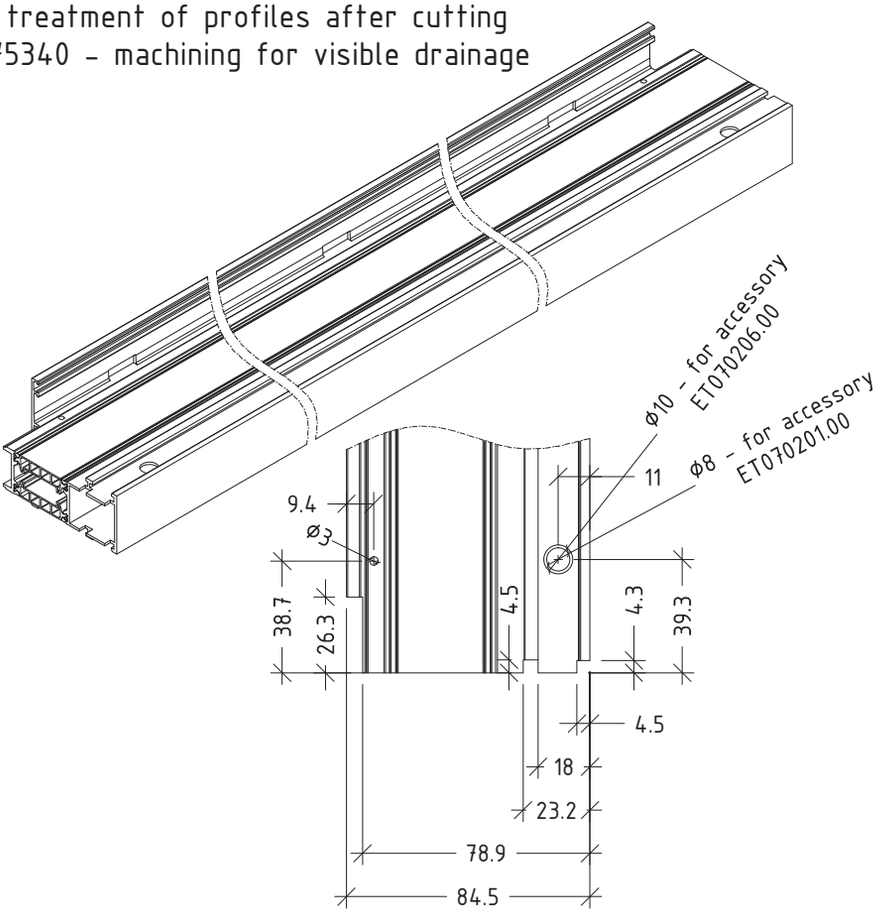
Note:
This machining is valid for all the sash profiles with Euro groove in the system

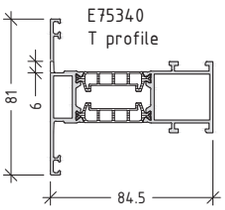
M75-6

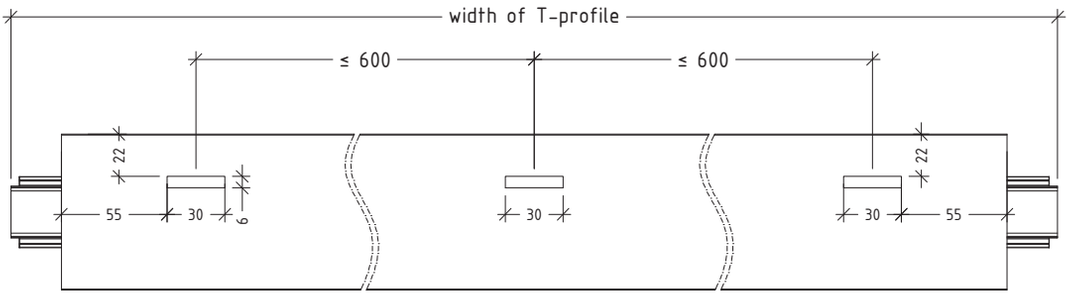
Additional treatment of profiles after cutting
T-profile E75340 - machining for visible drainage

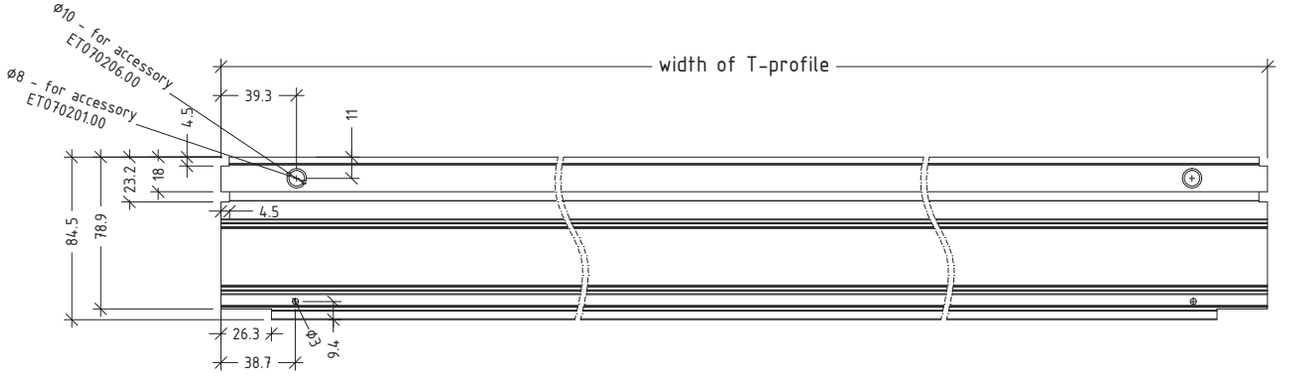
exterior view





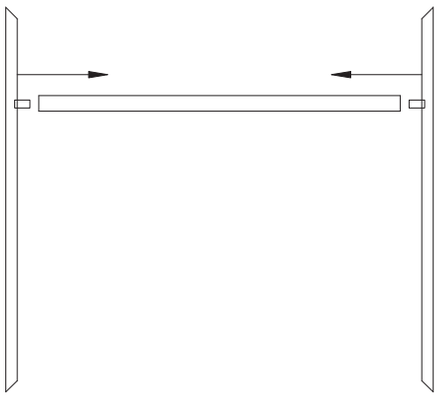


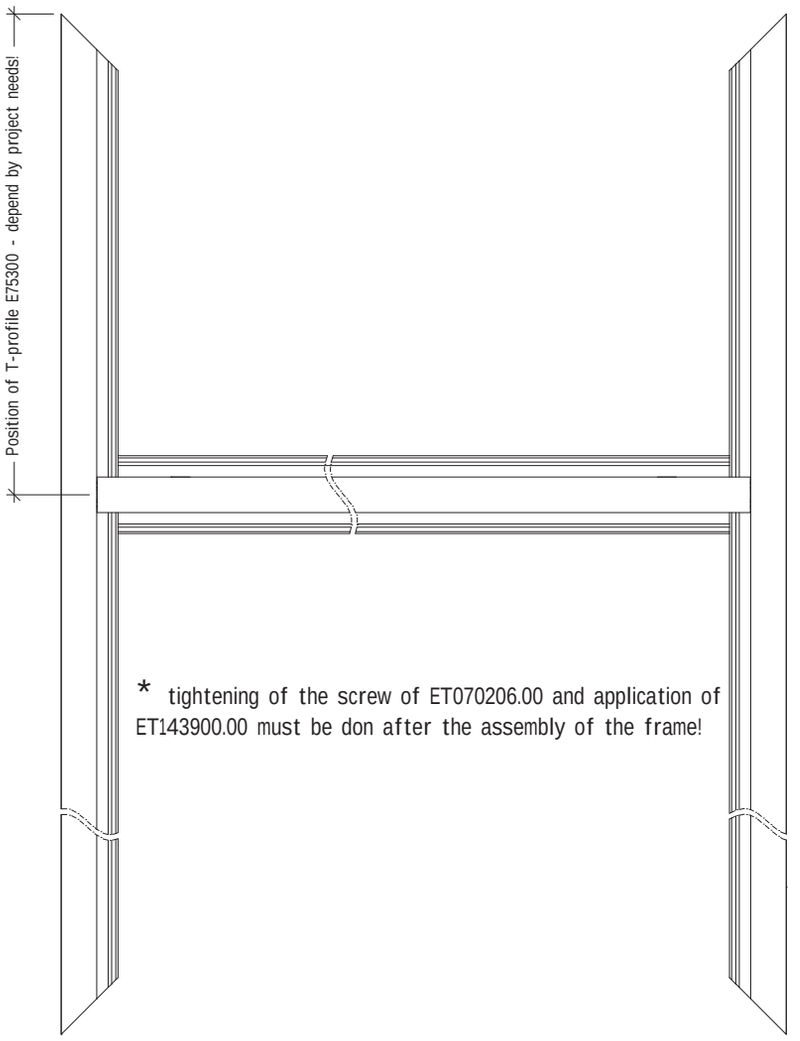




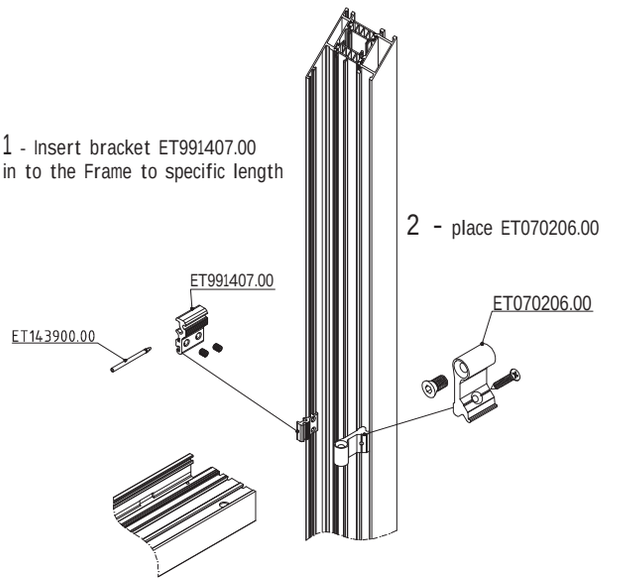
M75-7

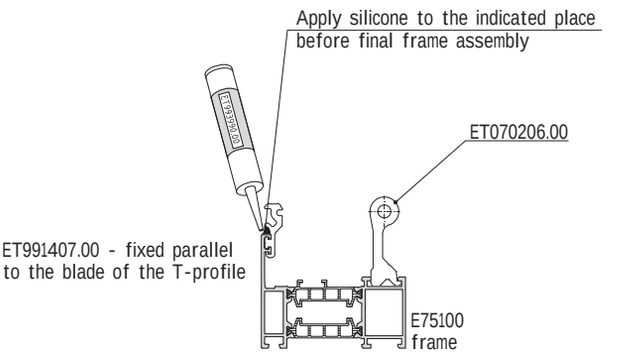
Sequence for mounting of T-profile E75300 to the frame E75100

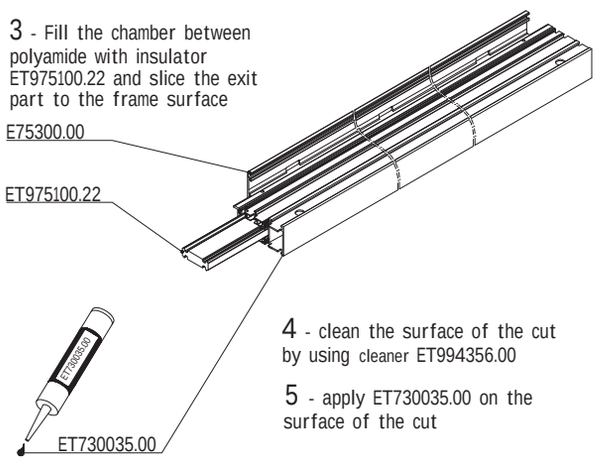




* tightening of the screw of ET070206.00 and application of ET143900.00 must be don after the assembly of the frame!



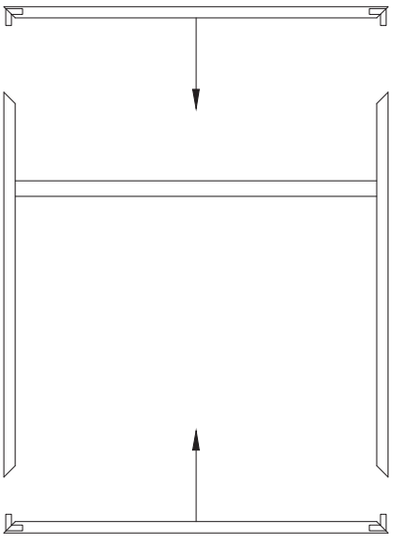




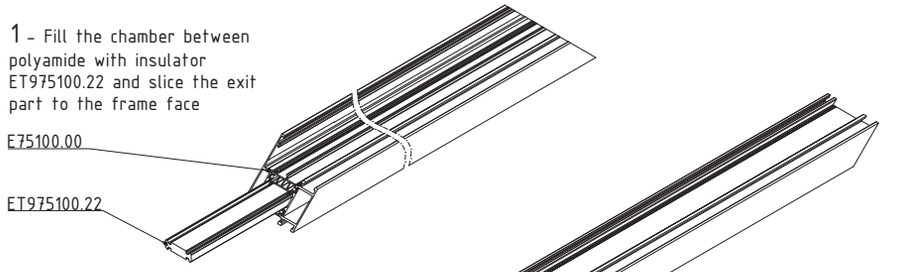
Note:
This mounting sequence is valid for all the frames in the system

M75-8

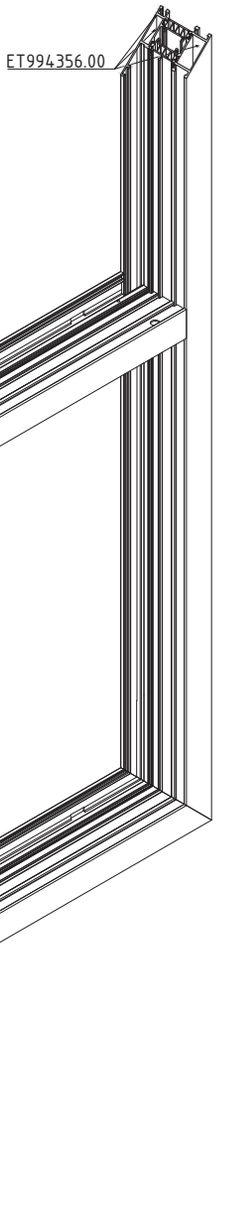
Sequence for assembly the frame E75100



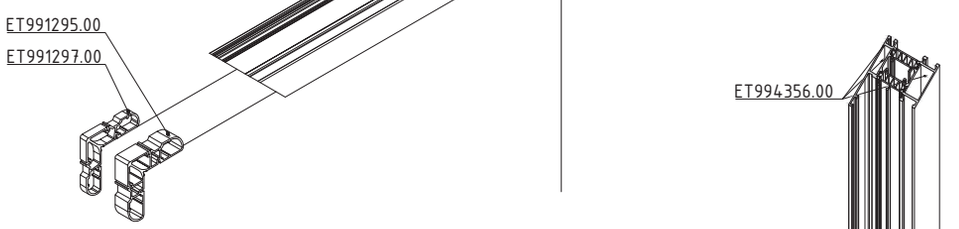
1 - Fill the chamber between polyamide with insulator ET975100.22 and slice the exit part to the frame face



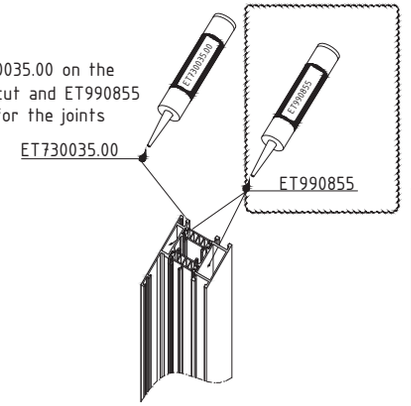
2 - clean the surface of the cut and the grooves for the joints by using cleaner ET994356.00



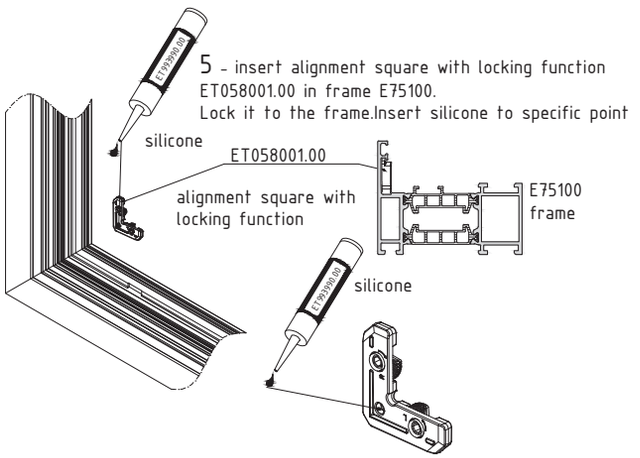
4 - put the joints in the chambers of frame E75100



3 - apply ET730035.00 on the surface of the cut and ET990855 in the grooves for the joints



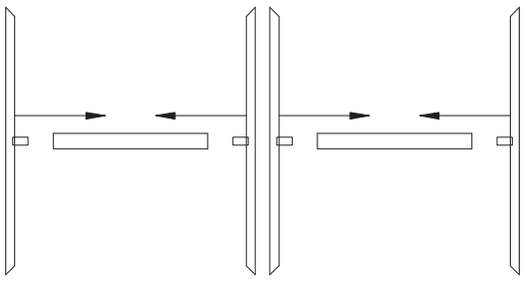
5 - insert alignment square with locking function ET058001.00 in frame E75100.
Lock it to the frame.Insert silicone to specific point



Note:
* This mounting sequence is valid for all the frame profiles in the system by using corresponding joint corners and insulators
* Clean the joints before application

M75-9

Sequence for mounting of T-profile E75340 to the sash E75200

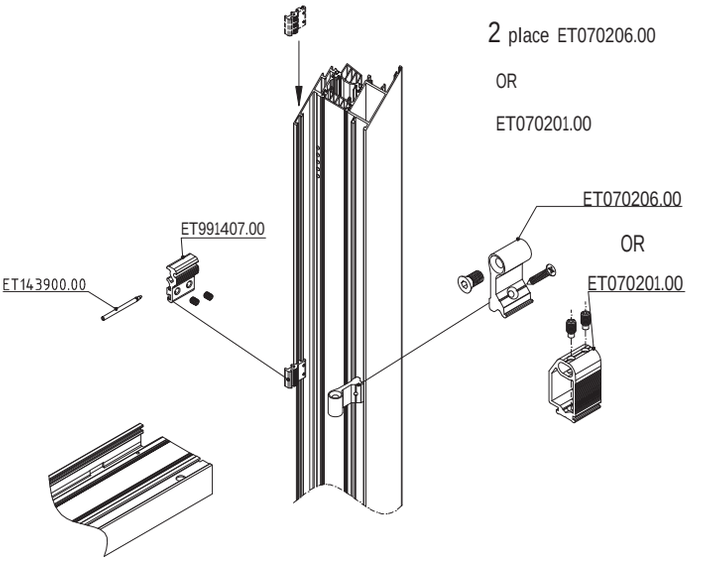


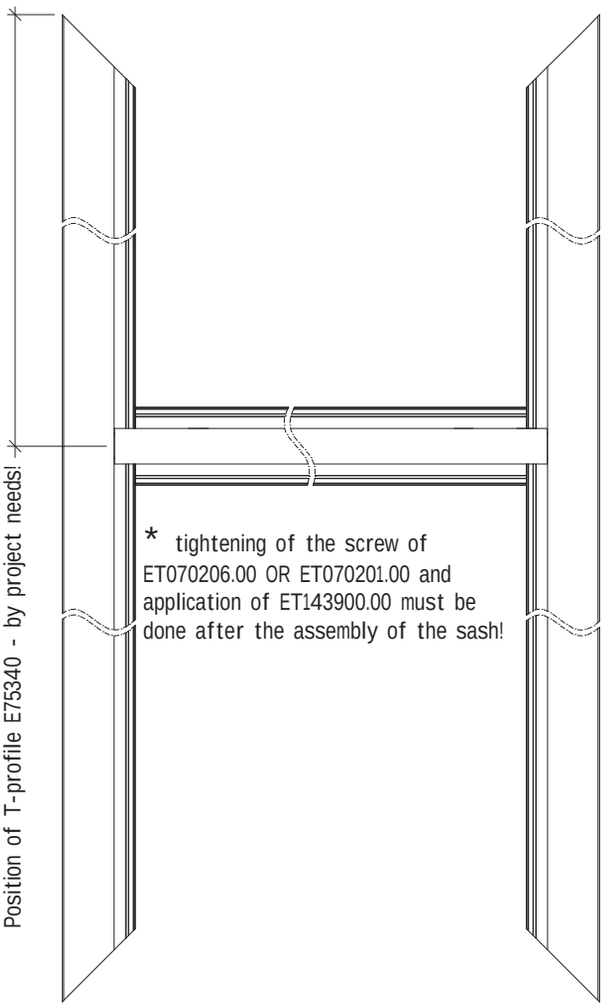
1 Insert bracket ET991407.00 in to the sash to specific length

2 place ET070206.00

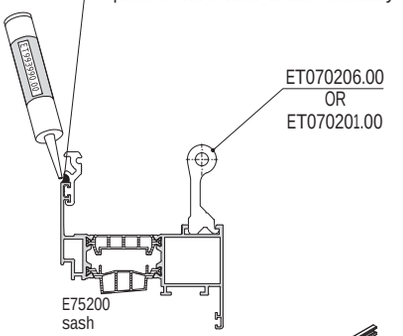
OR

ET070201.00

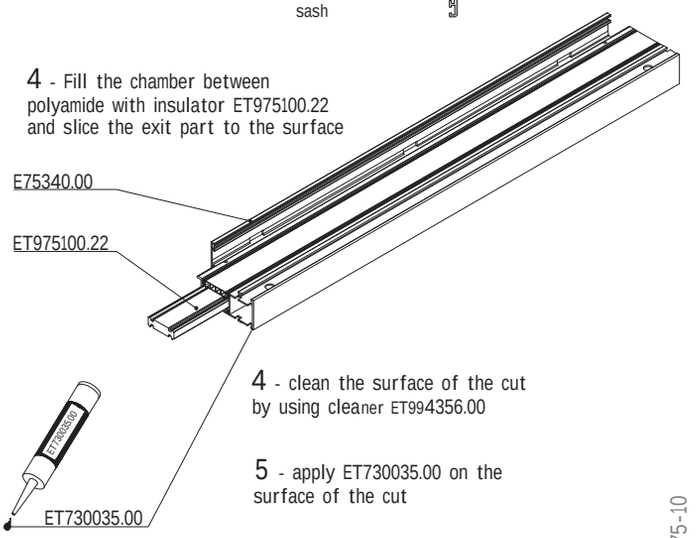




3 Apply silicone to the indicated place before final frame assembly



4 - Fill the chamber between polyamide with insulator ET975100.22 and slice the exit part to the surface



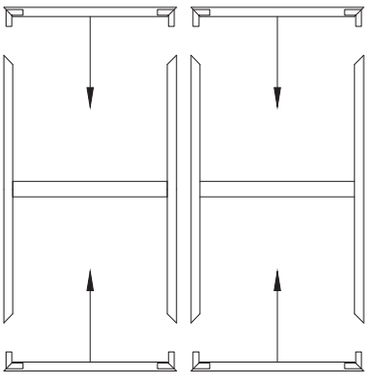
4 - clean the surface of the cut by using cleaner ET994356.00

5 - apply ET730035.00 on the surface of the cut

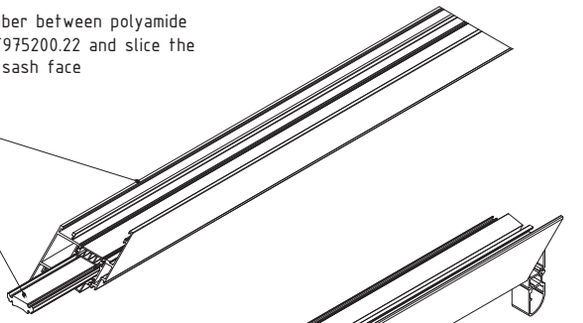
Note:
* This mounting sequence is valid for all sash profile with Euro groove in the system

M75-10

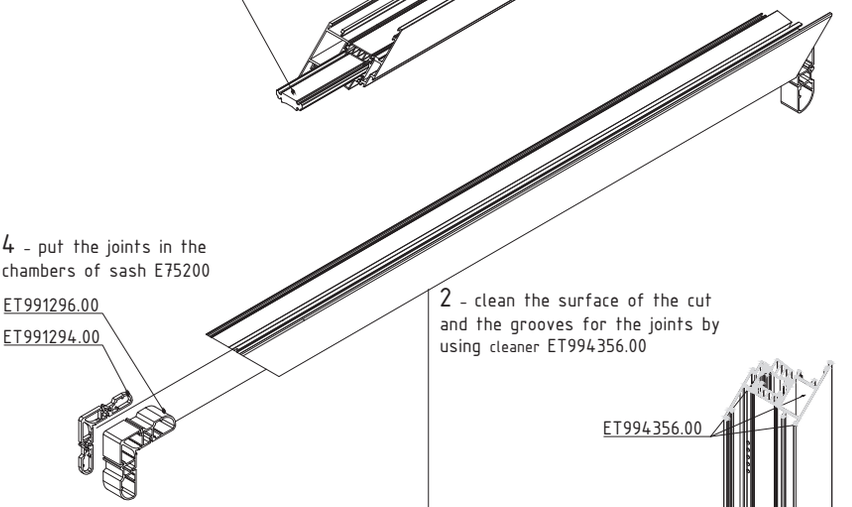
Sequence for assembly the sash E75200



1 - Fill the chamber between polyamide with insulator ET975200.22 and slice the exit part to the sash face

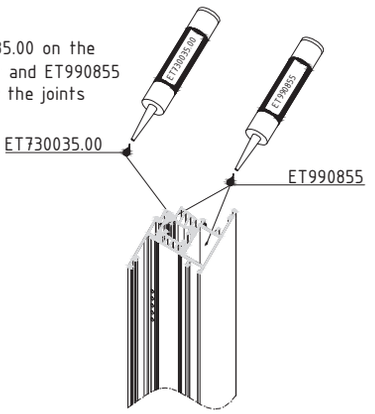


4 - put the joints in the chambers of sash E75200

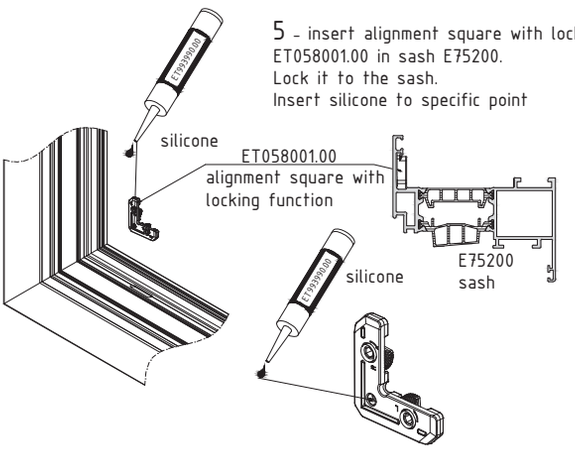


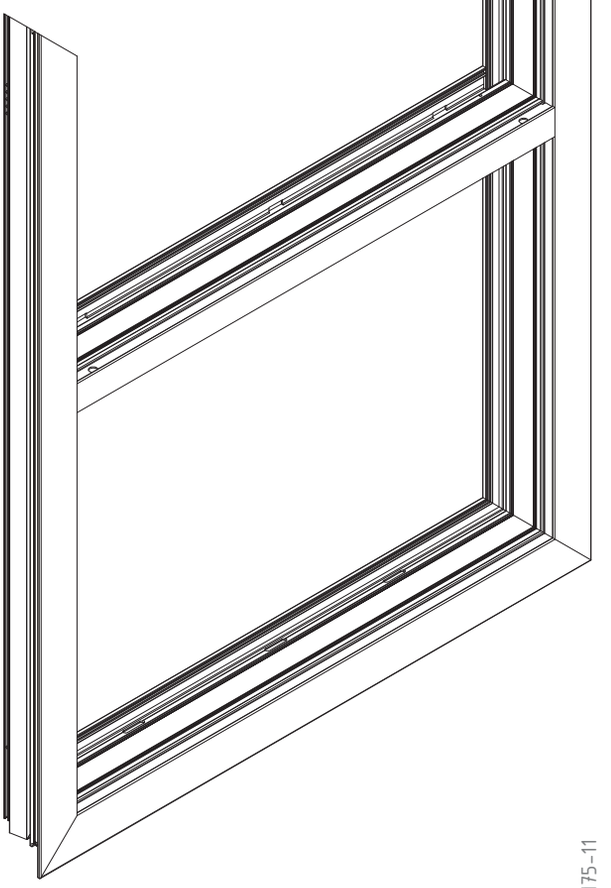
2 - clean the surface of the cut and the grooves for the joints by using cleaner ET994356.00

3 - apply ET730035.00 on the surface of the cut and ET990855 in the grooves for the joints



5 - insert alignment square with locking function ET058001.00 in sash E75200.
Lock it to the sash.
Insert silicone to specific point

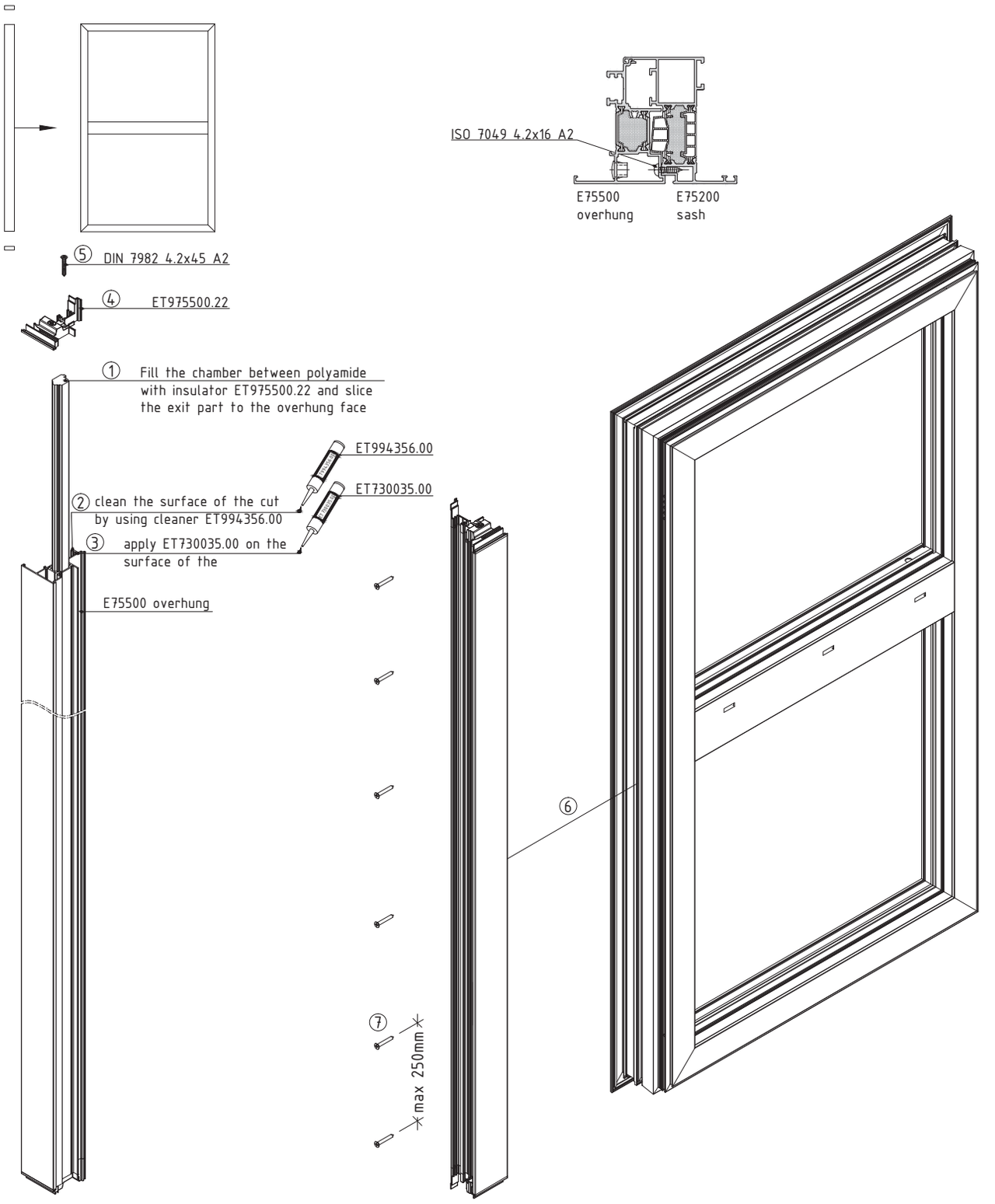




Note:
* This mounting sequence is valid for all the sash profiles in the system by using corresponding joint corners and insulators
* Clean the joints before application

M75-11

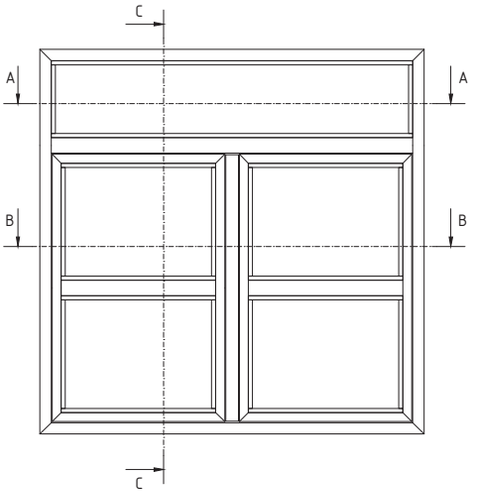
Sequence for assembly the E75500 overhung and mounting to the sash E75200



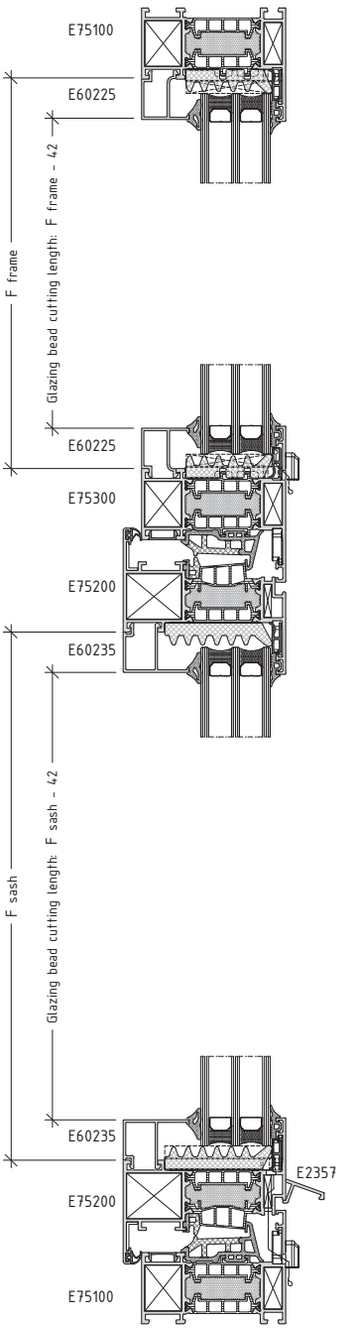
M75-12

Sequence for cutting of glazing bead

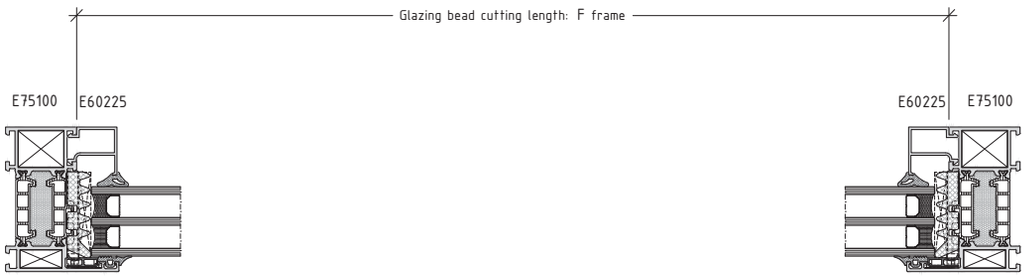
interior view



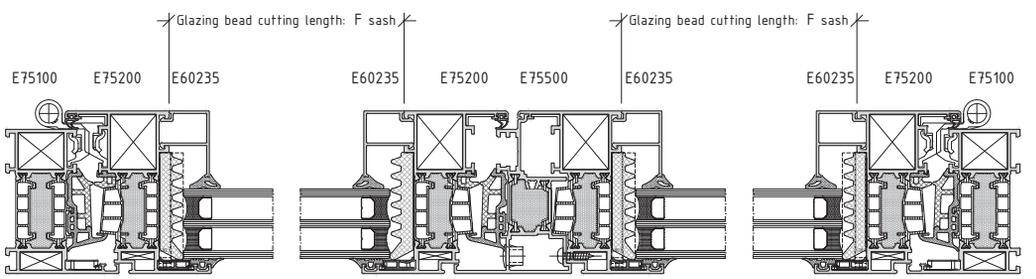
C - C



A - A

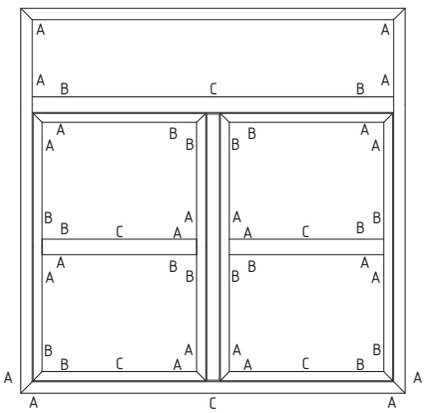


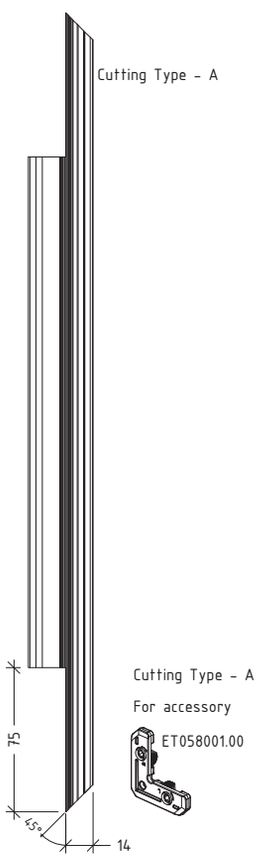
B - B

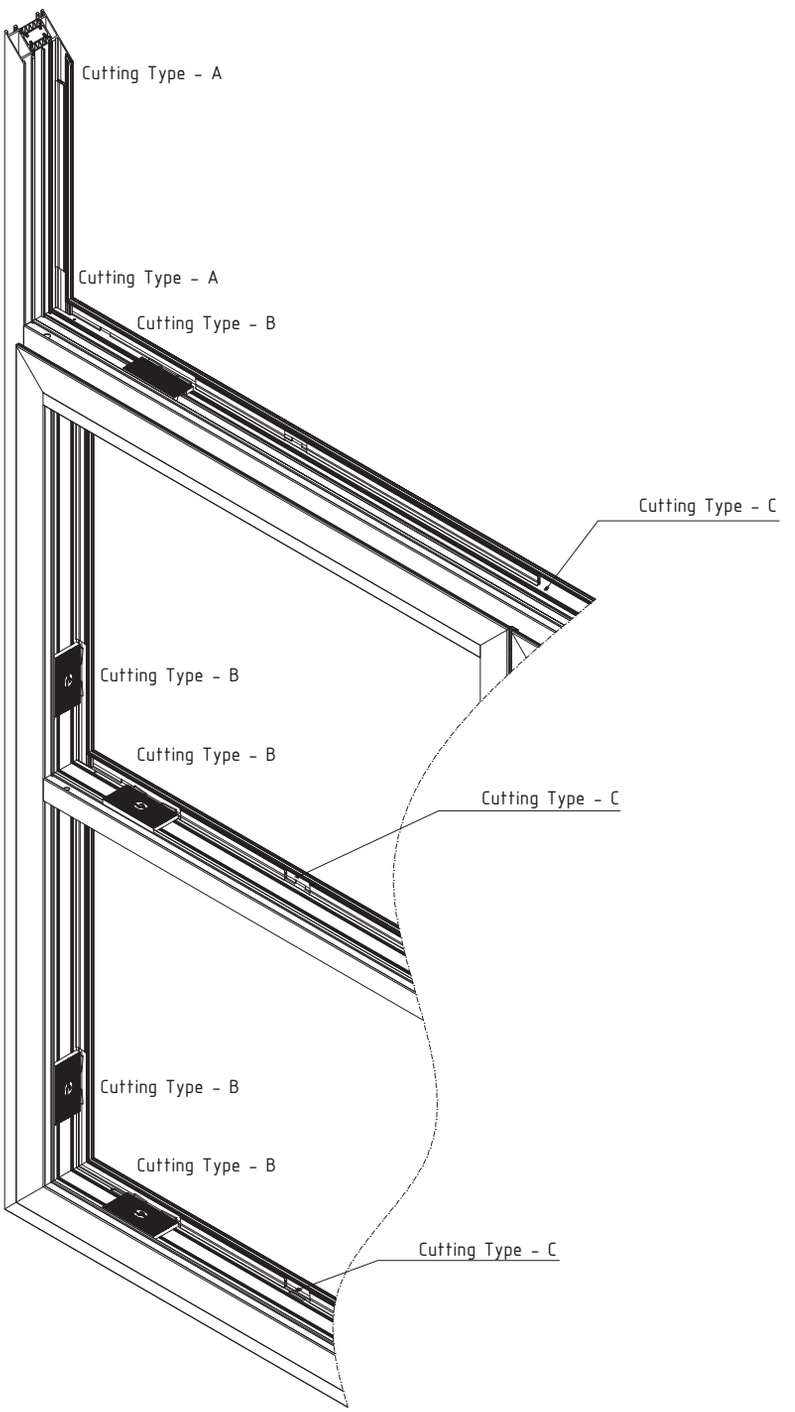


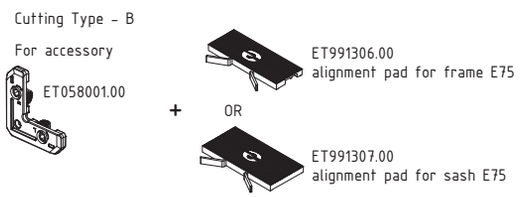
M75-13

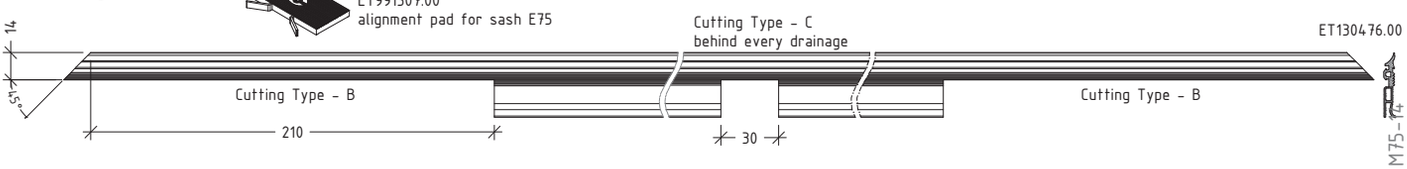
Sequence for cutting of gasket ET130476.00





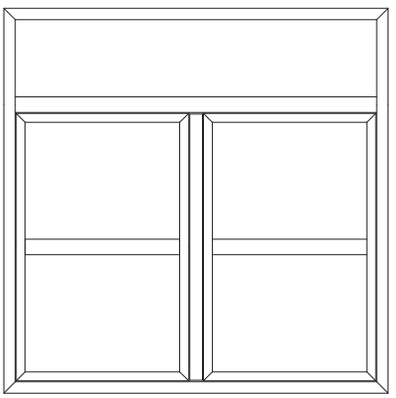






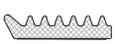
Sequence for cutting of additional insulators

exterior view



ET080751.00

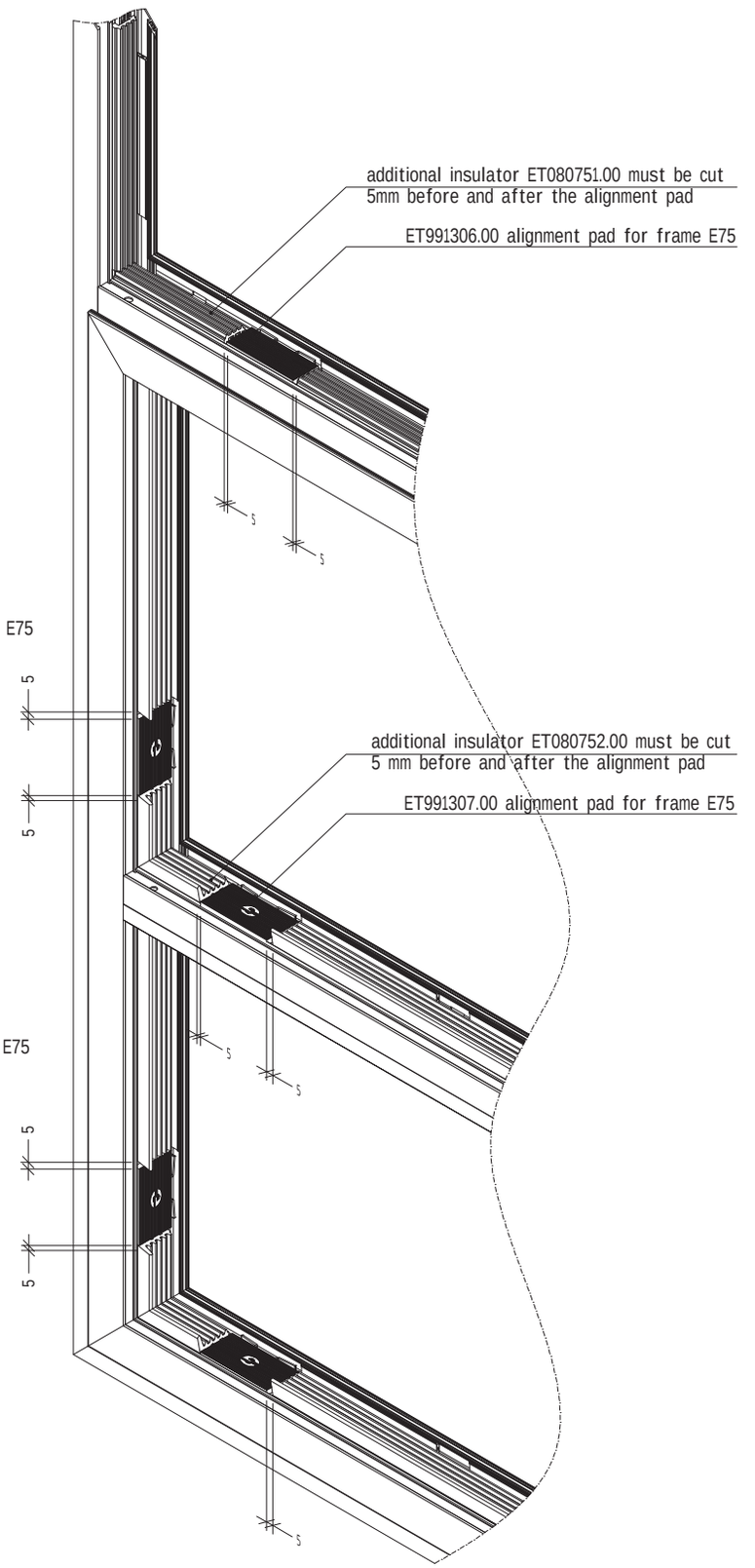
ET991306.00
alignment pad for frame E75



ET080752.00

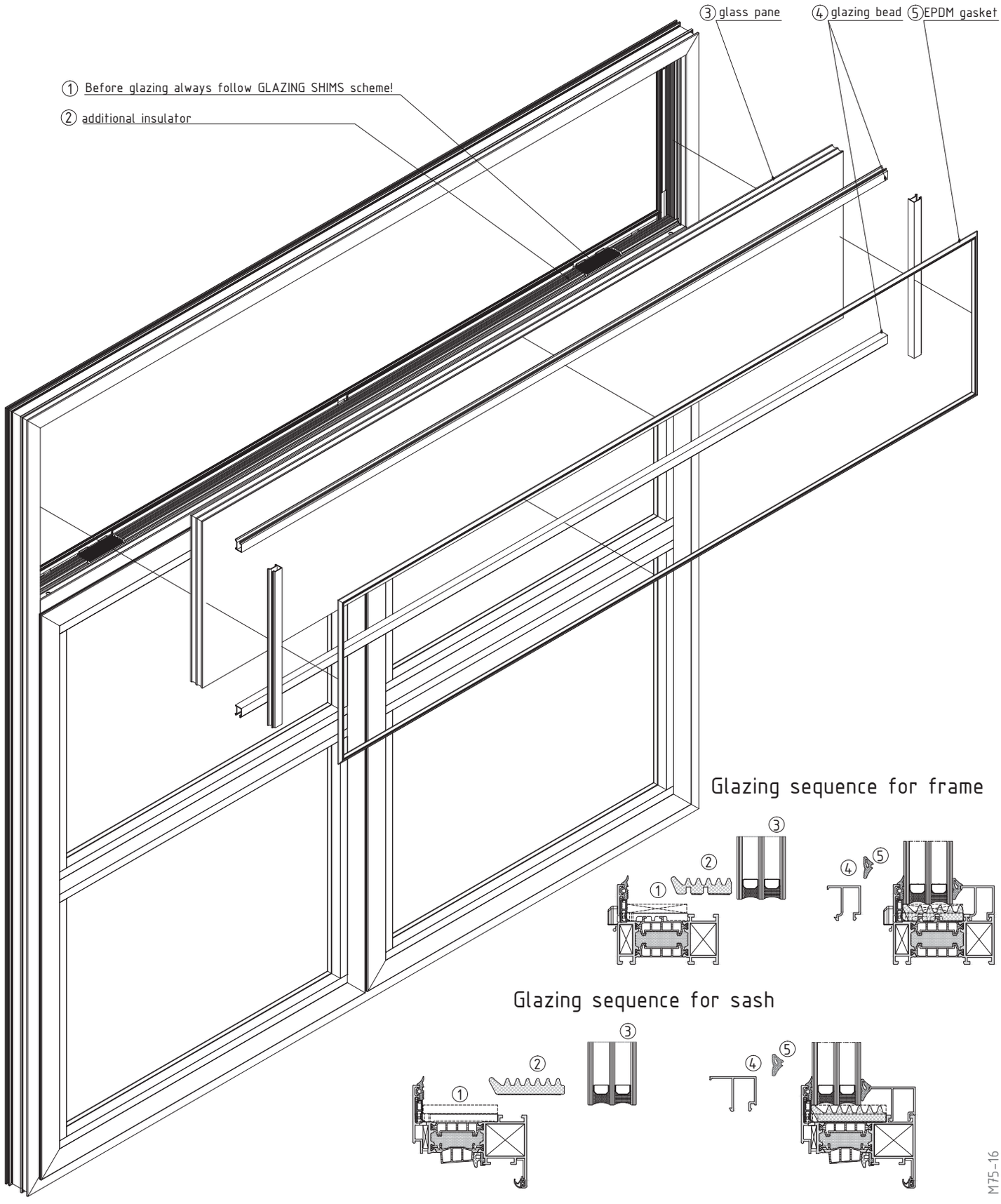
ET991307.00
alignment pad for sash E75

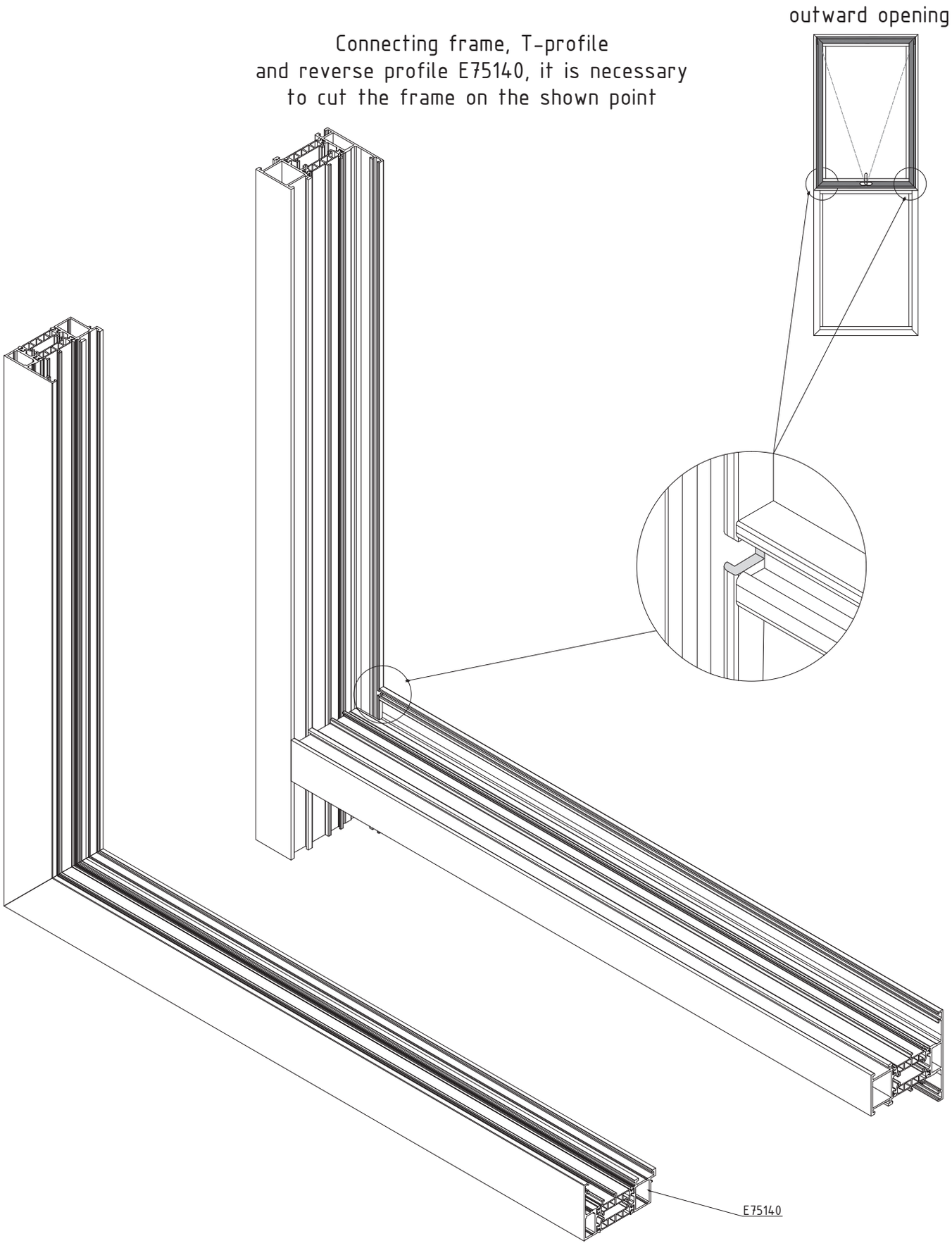
* ET080751.00/ET080752.00 is applied before the application of the glazing pane



M75-15

Sequence for mounting glass pane; glazing bead and gasket

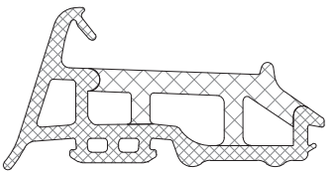



outward opening
Connecting frame, T-profile
and reverse profile E75140, it is necessary
to cut the frame on the shown point
E75140
M75-17

ACCESSORIES

code/description	package/pcs	colour
ET130430.00	15	●

EPDM central gasket
coextruded

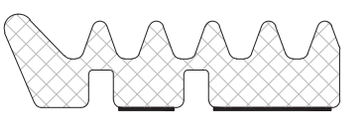


ET 130757.00	100	●

EPDM additional gasket
coextruded for
E75200 / E75201 / E75220

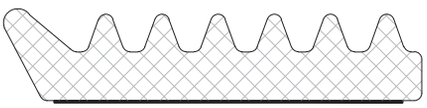
ET 080751.00	2	●

additional insulator for
frame E75



ET 080752.00	2	●

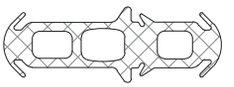
additional insulator for
sash E75



A75-1

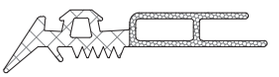
code/description	package/pcs	colour
ET 991275.00	50	●

EPDM gasket for expansion joint



ET 130476.00	60	●

EPDM gasket for glass elongated



ET 130153.00	150	●

glazing EPDM gasket 4 mm

ET 130176.00	80	●

glazing EPDM gasket press-in 5-6 mm

A75-2

code/description	package/pcs	colour
ET 130177.00	60	●

glazing EPDM gasket
press-in 7-8 mm

ET 990619.00	125	●

glazing EPDM gasket
press-in 5 mm

ET 990620.00	125	●

glazing EPDM gasket
press-in 6 mm

ET 130207.00	75	●

glazing EPDM gasket
press-in 7 mm

A75-3

code/description	package/pcs	colour
ET130208.00	40	●

glazing EPDM gasket
press-in 8 mm

ET130210.00	40	●

glazing EPDM gasket
press-in 10 mm

ET130758.00	300	●

interior EPDM gasket
TOPLINE

ET130505.00	100	●

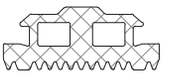
wall-joining epdm gasket
(external) for fixed frame

upon customer's request

A75-4

code/description	package/pcs	colour
ET130506.00	180	●

wall-joining epdm gasket (internal)



upon customer's request

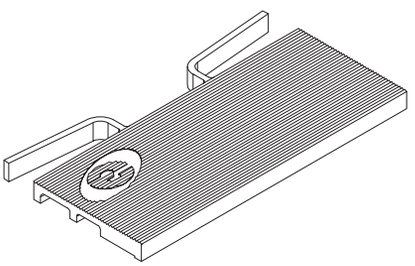
ET130507.00	220	●

wall-joining EPDM gasket perimetric(external) for fixed frame

upon customer's request

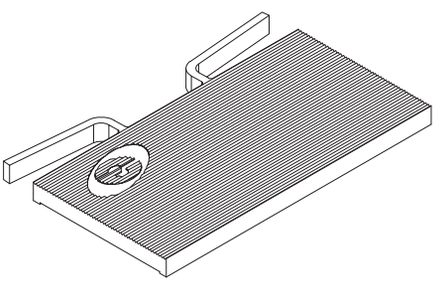
ET991306.00	200	●

equalizing shim for frame 6 mm



ET991307.00	200	●

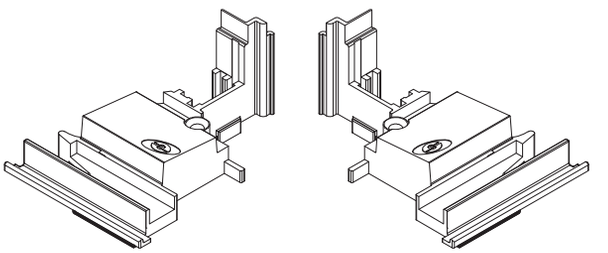
equalizing shim for sash 6 mm



A75-5

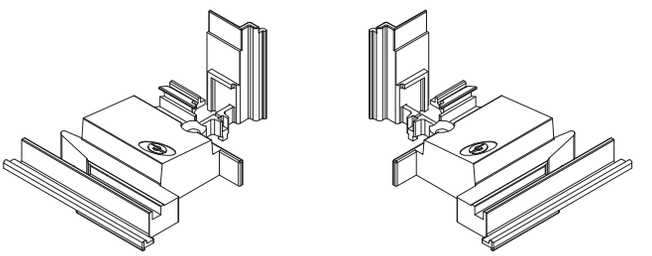
code/description	package/pcs	colour
ET 991299.00	5	●

pair of plastic plugs for secondary sash profile
E75500



ET 994617.00	5	●

pair of plastic plugs for streight secondary sash profile
E75540

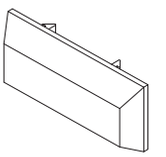


ET 080199.00	6	●
ET 991308.00	6	○

PVC plug for euro groove

ET 074605.00	100	●

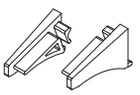
plastic drain cap 30x6mm



A75-6

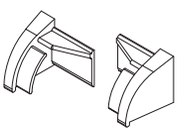
code/description	package/pcs	colour
ET 74629.00	200	●

plastic plug for drip profile
E2357



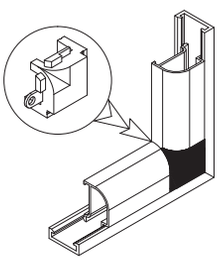
ET 074624.00	200	●

plastic plug for drip profile
E40820



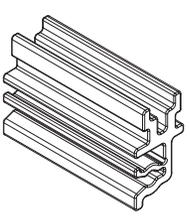
ET 059902.00	25	MF
ET 059902.02	25	●
ET 059902.01	25	○

corner for round bead



ET074908.00	100 pcs	●

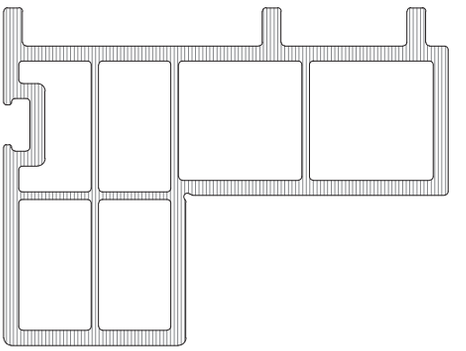
Clips for profile E75



A75-7

code/description	package/pcs	colour
ET080075.00	6m	●

mounting PVC profile for E75

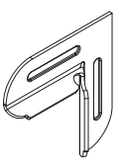


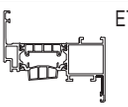
ET080575.00	6m	●

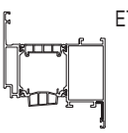
PVC mounting profile

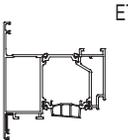
ET 991298.00	20	●

alignment square for
E75200 / E75201



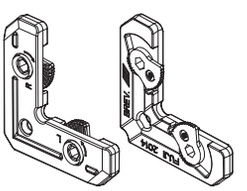


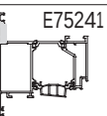


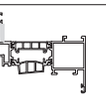


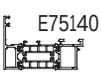
ET 058001.00	250	MF

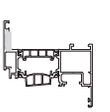
alignment square with
locking function







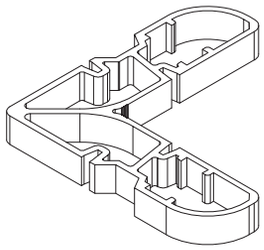


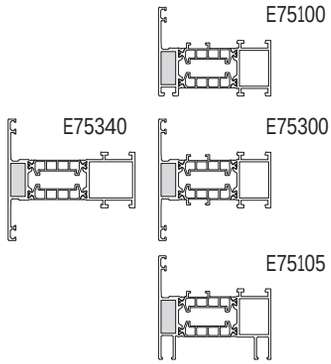


A75-6

code/description	package/pcs	colour
ET 991297.00	250	MF

extruded aluminium corner bracket 9.3 mm for
E75100 / E75300
E75105 / E75340

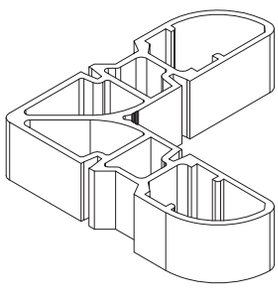


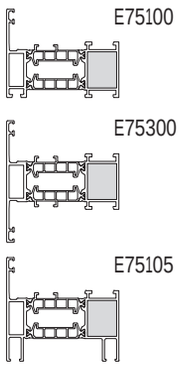


attention
always use epoxy resin
for long lasting joining

code/description	package/pcs	colour
ET 991295.00	100	MF

extruded aluminium corner bracket 18.9 mm for
E75100 / E75300 / E75105

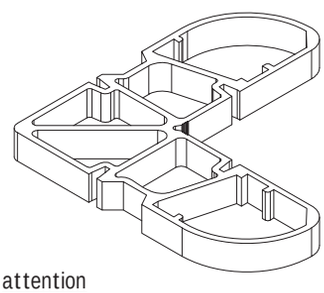


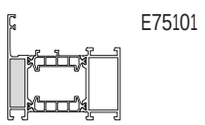


attention
always use epoxy resin
for long lasting joining

code/description	package/pcs	colour
ET 991124.00	200	MF

extruded aluminium corner bracket 9.3 mm for
E75101

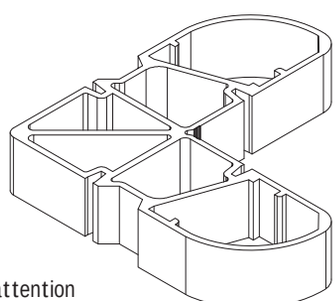


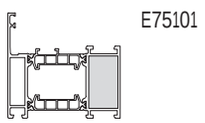


attention
always use epoxy resin
for long lasting joining

code/description	package/pcs	colour
ET 993066.00	100	MF

extruded aluminium corner bracket 18.9 mm for
E75101



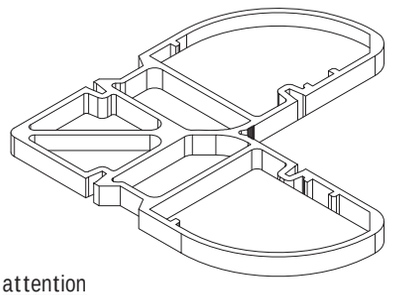


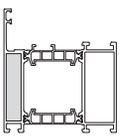
attention
always use epoxy resin
for long lasting joining

A75-9

code/description	package/pcs	colour
ET 054553.00	100	MF

extruded aluminium corner bracket 9.3 mm for E75102

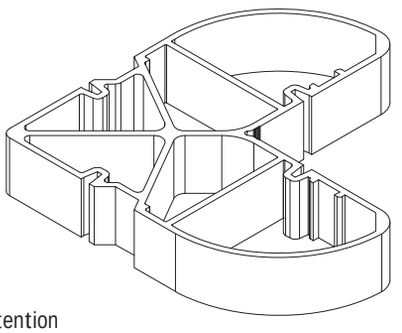


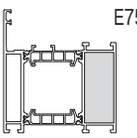


attention
always use epoxy resin for long lasting joining

ET 054311.00	100	MF

extruded aluminium corner bracket 18.9 mm for E75102

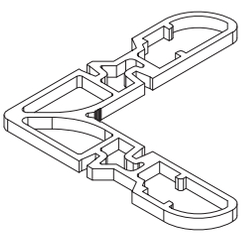


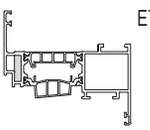


attention
always use epoxy resin for long lasting joining

ET 991294.00	300	MF

extruded aluminium corner bracket 3.8 mm for E75200

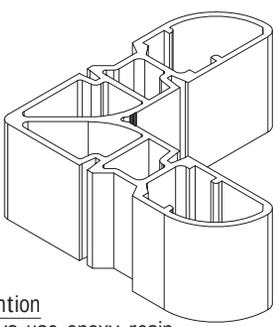


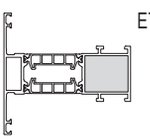


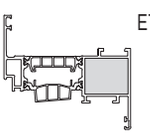
attention
always use epoxy resin for long lasting joining

ET 991296.00	100	MF

extruded aluminium corner bracket 28.4 mm for E75200 / E75340





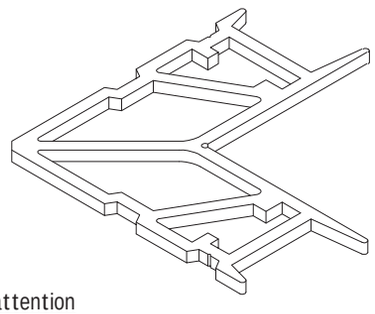


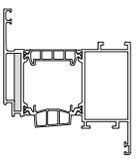
attention
always use epoxy resin for long lasting joining

A75-10

code/description	package/pcs	colour
ET 991125.00	300	MF

extruded aluminium corner bracket 3.8 mm for E75201

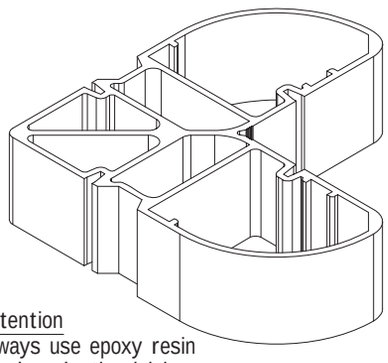


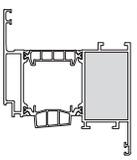


attention
always use epoxy resin for long lasting joining

ET 991123.00	50	MF

extruded aluminium corner bracket 28.4 mm for E75201



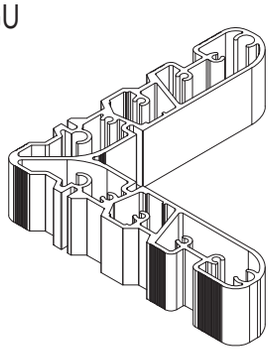


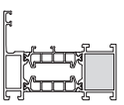
attention
always use epoxy resin for long lasting joining

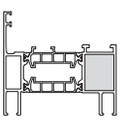
ET 054718.00	-	MF

GU

extruded aluminium corner bracket 18.9 mm for GU





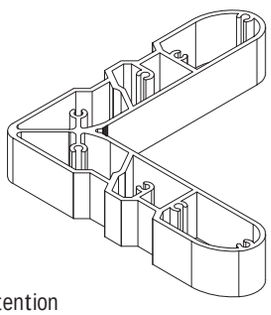


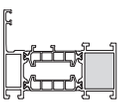
attention
always use epoxy resin for long lasting joining

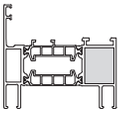
ET 994616.00	8	MF

ROTO

extruded aluminium corner bracket 18.9 mm for E75100 / E75105





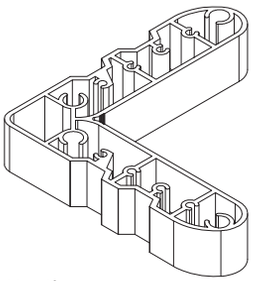


attention
always use epoxy resin for long lasting joining

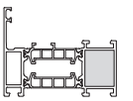
A75-11

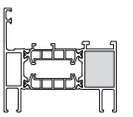
code/description	package/pcs	colour	
ET 994618.00	70	MF	MACO

extruded aluminium corner bracket 18.9 mm for E75100 / E75105



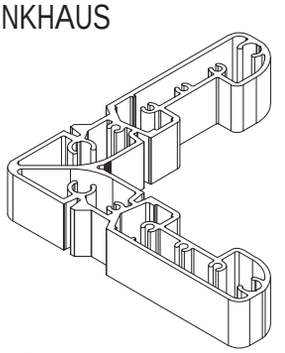
attention
always use epoxy resin for long lasting joining


E75100

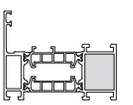

E75105

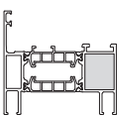
code/description	package/pcs	colour	
ET 054733.00	70	MF	WINKHAUS

extruded al. joint corner bracket for WINKHAUS



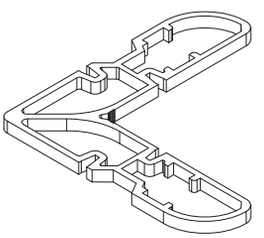
attention
always use epoxy resin for long lasting joining


E75100

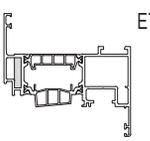

E75105

code/description	package/pcs	colour
ET 991329.00	300	MF

extruded aluminium corner bracket 3.9 mm for E75220

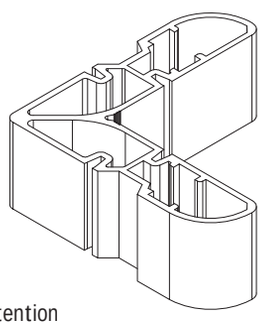


attention
always use epoxy resin for long lasting joining

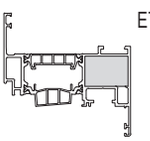

E75220

code/description	package/pcs	colour
ET 991331.00	100	MF

extruded aluminium corner bracket 28.3 mm for E75220



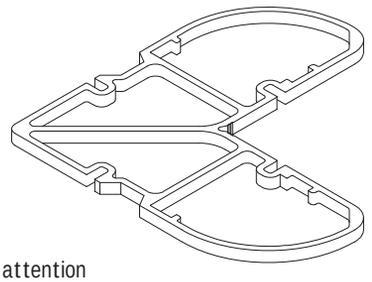
attention
always use epoxy resin for long lasting joining

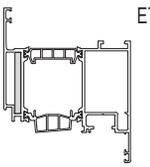

E75220

A75-12

code/description	package/pcs	colour
ET 054741.00	100	MF

extruded aluminium corner bracket 3.9 mm for E75221

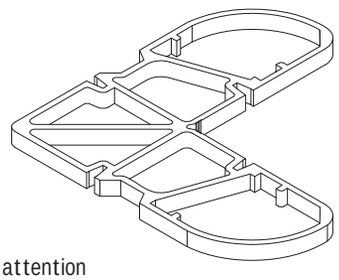


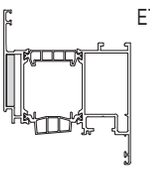


attention
always use epoxy resin for long lasting joining

code/description	package/pcs	colour
ET 054743.00	200	MF

extruded aluminium corner bracket 5.2 mm for E75221

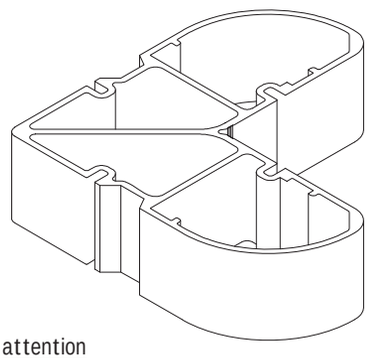


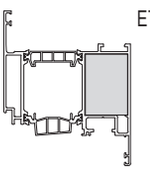


attention
always use epoxy resin for long lasting joining

code/description	package/pcs	colour
ET 054742.00	50	MF

extruded aluminium corner bracket 28.3 mm for E75221

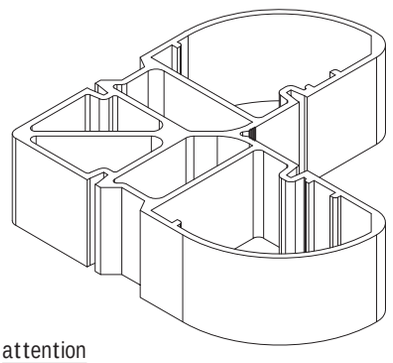


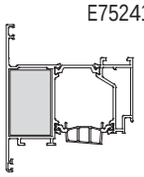


attention
always use epoxy resin for long lasting joining

code/description	package/pcs	colour
ET 054773.00	50	MF

extruded aluminium corner bracket for E75241



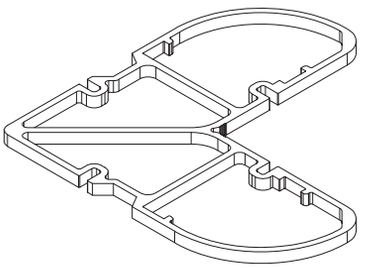


attention
always use epoxy resin for long lasting joining

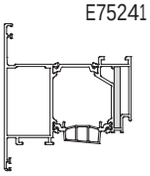
A75-13

code/description	package/pcs	colour
ET 054771.00	200	MF

extruded aluminium corner bracket for E75241



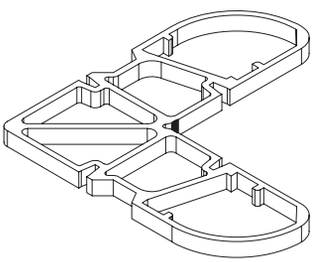
E75241



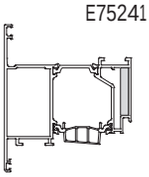
attention
always use epoxy resin
for long lasting joining

ET 054772.00	200	MF

extruded aluminium corner bracket for E75241



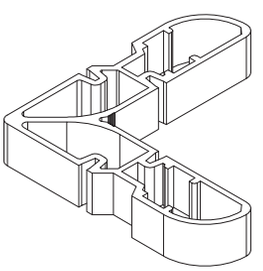
E75241



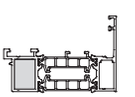
attention
always use epoxy resin
for long lasting joining

ET 054774.00	100	MF

extruded aluminium corner bracket for E75140



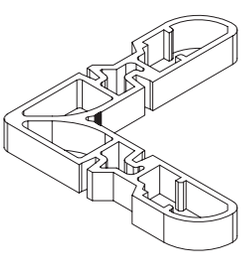
E75140
reverse
profile



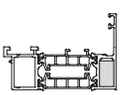
attention
always use epoxy resin
for long lasting joining

ET 054770.00	200	MF

extruded aluminium corner bracket for E75140



E75140
reverse
profile

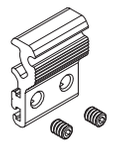


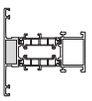
attention
always use epoxy resin
for long lasting joining

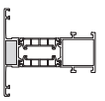
A75-14

code/description	package/pcs	colour
ET 991407.00	10	MF

T - bracket external side for
E75300 / E75340

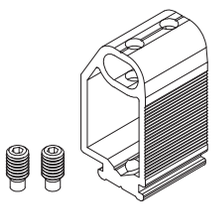


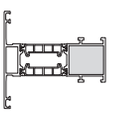




ET 070201.00	100	MF

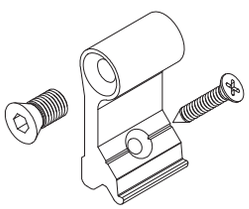
T - bracket internal side for
E75340

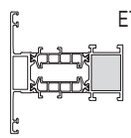


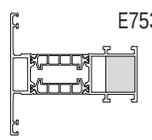


ET 070206.00	10	MF

T - bracket internal side for
E75300 / E75340

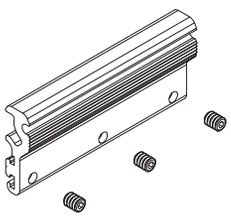


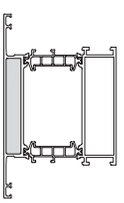




ET070309.00	10	MF

T - bracket external side

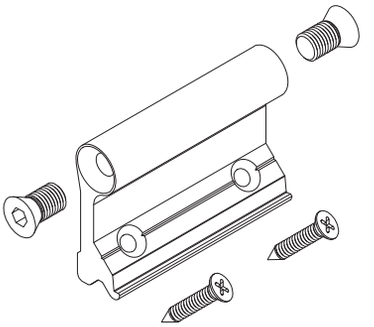


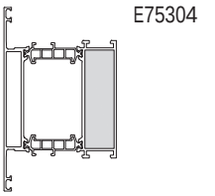


A75-15

code/description	package/pcs	colour
ET 070213.00	10	MF

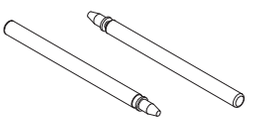
T - bracket internal side





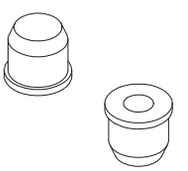
ET 143900.00	100	MF

roll pin 3 x 6 mm with andle



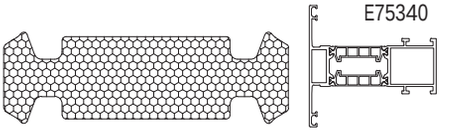
ET 143914.00	100	MF

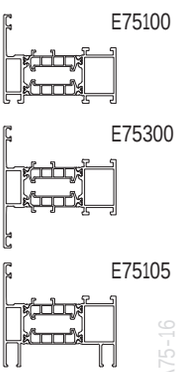
roll pin 4/8 x 6.5 mm - inox



ET 975100.22	6pcs x 1000mm	standard

additional insulator for
E75100 / E75105
E75300 / E75340

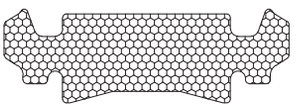




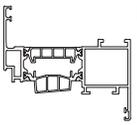
A75-16

code/description	package/pcs	colour
ET 975200.22	6pcs x 1000mm	standard

additional insulator for E75200

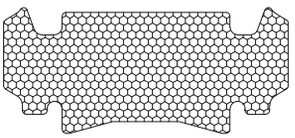


E75200

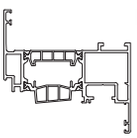


code/description	package/pcs	colour
ET 975220.22	6pcs x 1000mm	standard

additional insulator for E75220

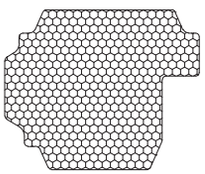


E75220

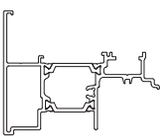


code/description	package/pcs	colour
ET 975540.22	6pcs x 1000mm	standard

additional insulator for E75540

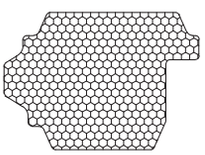


E75540

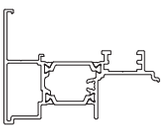


code/description	package/pcs	colour
ET 975500.22	6pcs x 1000mm	standard

additional insulator for E75500



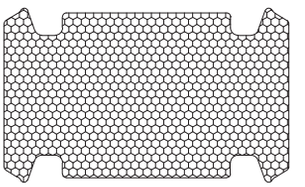
E75500



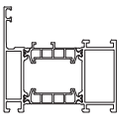
A75-17

code/description	package/pcs	colour
ET 975101.22	6pcs x 1000mm	standard

additional insulator for E75101

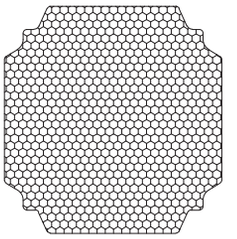


E75101

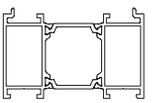


ET 975610.22	6pcs x 1000mm	standard

additional insulator for E75610

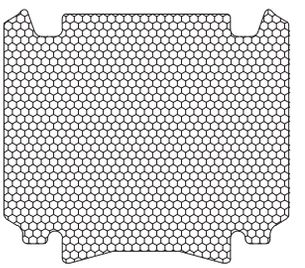


E75610

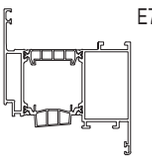


ET 975201.22	6pcs x 1000mm	standard

additional insulator for E75201

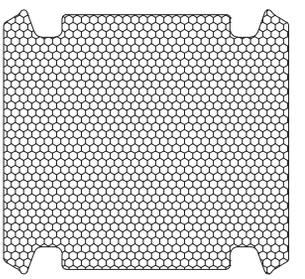


E75201

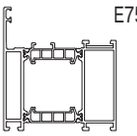


ET 975102.22	6pcs x 1000mm	standard

additional insulator for E75102



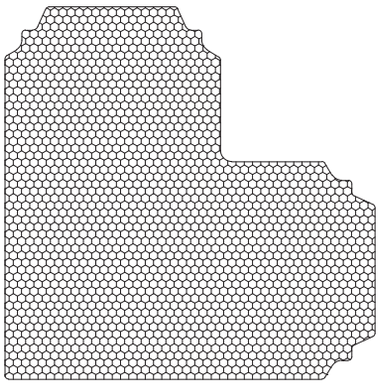
E75102



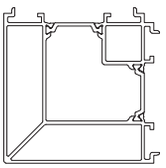
A75-18

code/description	package/pcs	colour
ET975600.22	6pcs x 1000mm	standard

additional insulator for E75600

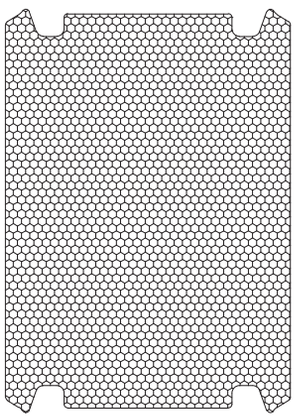


E75600

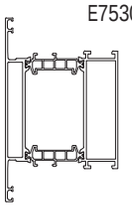


code/description	package/pcs	colour
ET975304.00	6pcs x 1000mm	standard

additional insulator for E75304

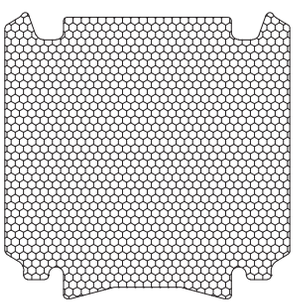


E75304

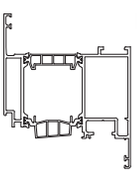


code/description	package/pcs	colour
ET975221.22	6pcs x 1000mm	standard

additional insulator for E75221

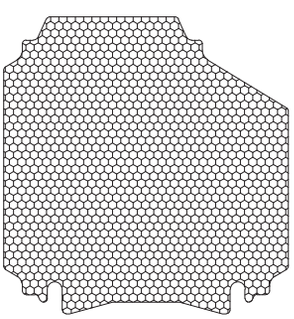


E75221

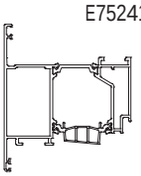


code/description	package/pcs	colour
ET975241.22	6pcs x 1000mm	standard

additional insulator 1000mm for E75241



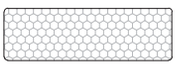
E75241



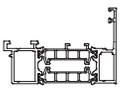
A75-19

code/description	package/pcs	colour
ET 975140.22	6pcs x 1000mm	standard

additional insulator 1000mm
for E75140



E75140
reverse
profile



ET 080539.00	40	●

insulator for
reverse profile E75140

ET 995645.00	1	●

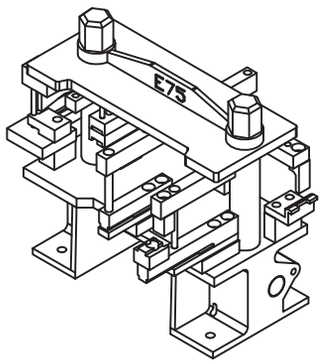
cutter for end milling
machine for
E75300

ET 995646.00	1	●

cutter for end milling
machine for
E75340

A75-20

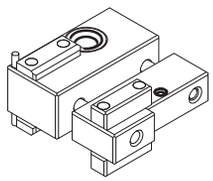
code/description	package/pcs	colour
ET 991908.00	1	-



punching machine ETEM

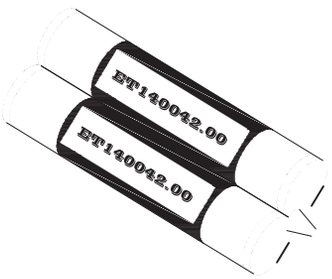
Please note that changes are possible.In case you start with E 75 please ask for the last modification of the punching machine

ET 162086.00	1	-



jig for T-profile

ET 140042.00	1	-



adhesive for corner brackets
ETEM 600ml

ET 140044.00	1	-

pistol

A75-21

code/description	package/pcs	colour
ET 140043.00	1	-

mixer

ET 140045.00	1	-

primer super bond 30ml

ET 730035.00	1	-

Vario protect

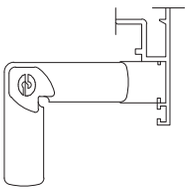
ET 750016.00	1	-

cleaner for Vario protect
1l

A75-22

code/description	package/pcs	colour
ET 057707.00	100	-

alignment square (plastic)
E75220, E75221



A75-23

II.

E75

FLAT DOOR SYSTEM WITH THERMAL BREAK

GENERAL INFORMATION

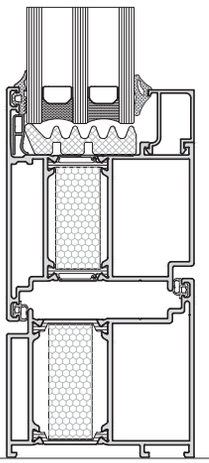
CONCEPT / ADVANTAGES / CERTIFICATES

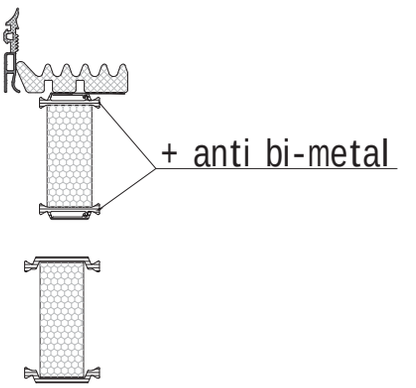
E75 FLAT DOOR SYSTEM CONCEPT

E75 FLAT DOOR SYSTEM IS A PREMIUM SOLUTION ENSURING EXCELLENT THERMAL INSULATION, COMFORT AND EXQUISITE APPEARANCE.

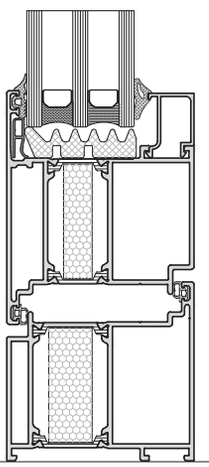
- Elegant straight design
- 75 mm system width allowing usage of triple glazing
- Flushing between opening parts and fixed positions
- Double sash flat doors
- Additional insulator in the thermo-break area
- Additional insulator under the glass
- Anti bi-metal polyamide
- Possibility for automatization
- Opportunity for manufacturing sashes with big dimensions
- Possibility for mounting anti-burglar hardware for good security performance
- Extruded corners for crimping machine with glue allowing greater connections

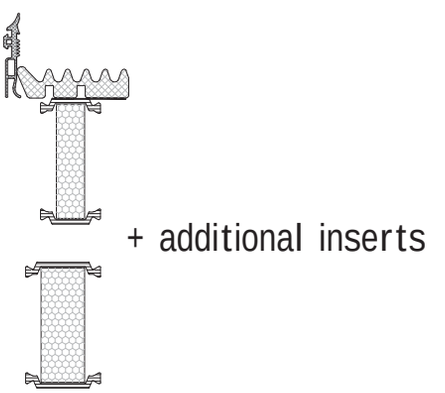
ADVANCED SYSTEM



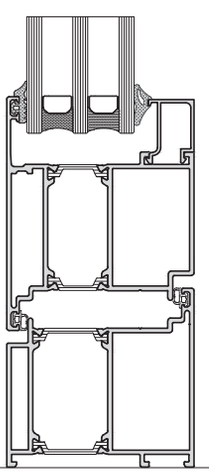


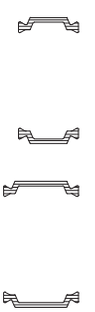
IMPROVED SYSTEM



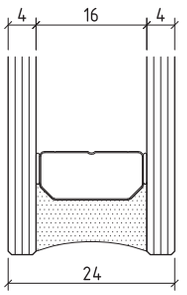
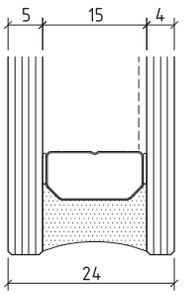
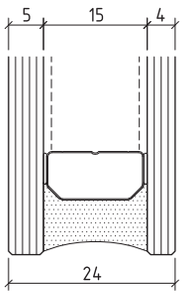
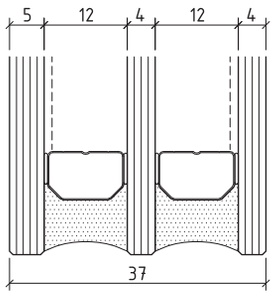


BASIC SYSTEM





ADVANTAGES AND COMBINATIONS

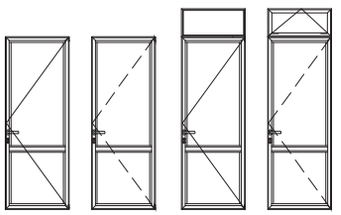
PERFORMANCE CHARACTERISTICS	Type ot glazing			
	Double Glazing	Double Glazing	Double Glazing	Triple Glazing
	4/16/4 Low Emission	5/15/4 Low Emission Argon	5 Sun Guard/15/4 Low Emission	5 Sun Guard/12/4/12/4 Low Emission
				
Uglass	1,4	1,1	1,0	0,6
Udoor[1]	1,5	1,3	1,2	0,9
g value[2]	0,6	0,6	0,5	0,46

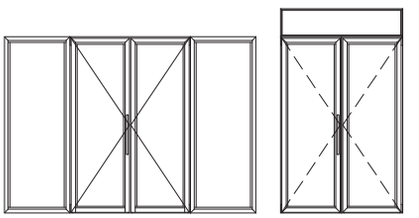
ADVANTAGES					
Energy Efficiency		*	**	***	****
Sound Insulation		*	**	***	****
Ventilation		□	□	□	□
Daylight		****	***	**	*
Sunshading	**E 66**	*	**	***	****
Automation		□	□	□	□
Safety and security		□	□	□	□

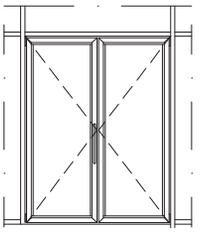
Notes:
1. Ud value is calculated by using warm edge spacer.
2. g value is calculated without external sunshading.
* good
** better
*** the best
**** excellent
□ compatible

TABLES

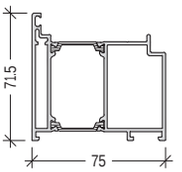
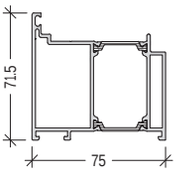
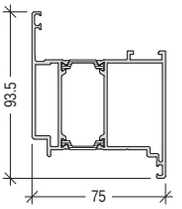
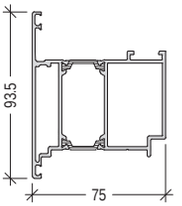
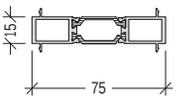
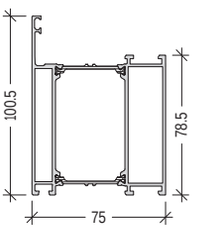
TYPOLOGIES / LIST OF PROFILES / CHARACTERISTICS

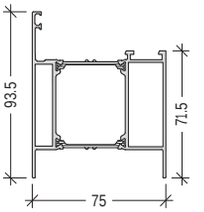
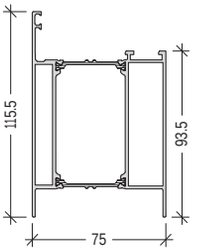
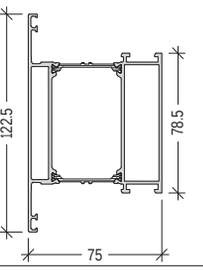
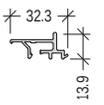
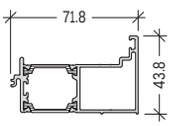
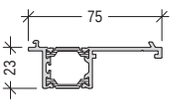




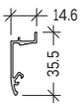
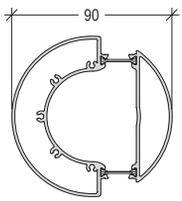
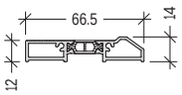
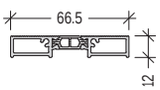


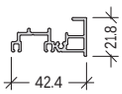
G75D-02

code	profile	weight length moment of inertia
E75110 frame-inward		L=6.01 m 1932 g/m Ix=27.25 cm^4 Iy=49.95 cm^4
E75111 frame-outward		L=6.01 m 1890.4 g/m Ix=26.58 cm^4 Iy=49.88 cm^4
E75210 sash-inward		L=6.01 m 2062.4 g/m Ix=36.18 cm^4 Iy=54.04 cm^4
E75211 sash-outward		L=6.01 m 2072.4 g/m Ix=36.3 cm^4 Iy=52.06 cm^4
E75655 connecting profile		L=6.01 m 940.4 g/m Ix=0.98 cm^4 Iy=19.48 cm^4
E75103		L=6.01 m 2223.4 g/m Ix=57.75 cm^4 Iy=62.95 cm^4

code	profile	weight length moment of inertia
E75120		L=6.01 m 1899.2 g/m Ix=32.42 cm^4 Iy=55.04 cm^4
E75121		L=6.01 m 2303.6 g/m Ix=68.11 cm^4 Iy=67.91 cm^4
E75303		L=6.01 m 2312.5 g/m Ix=68.64 cm^4 Iy=66.96 cm^4
E75605		L=6.01 m 274.3 g/m
E75112		L=6.01 m 1163,8 g/m Ix=5.14 cm^4 Iy=22.84 cm^4
E75601 adapter for facade		L=6.01 m 897.1 g/m Ix=1.52 cm^4 Iy=10.95 cm^4

L75D-01

code	profile	weight length moment of inertia
E75602		L=6.01 m 215.7 g/m
E75603		L=6.01 m 2231.5 g/m Ix=56.34 cm^4 Iy=55.75 cm^4
E75810		L=6.01 m 722.3 g/m
E75811		L=6.01 m 722.6 g/m

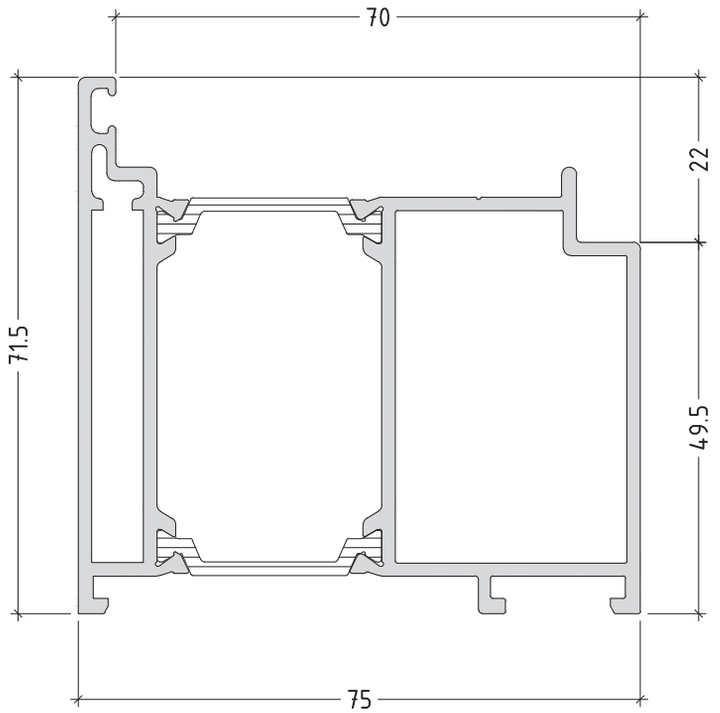
code	profile	weight length moment of inertia
E75800 brush-holder		L=6.01 m 496.5 g/m
E75802		L=6.01 m 84.5 g/m
E75801		L=6.01 m 84.5 g/m
E75805		L=6.01 m 210.3 g/m

L75D-02

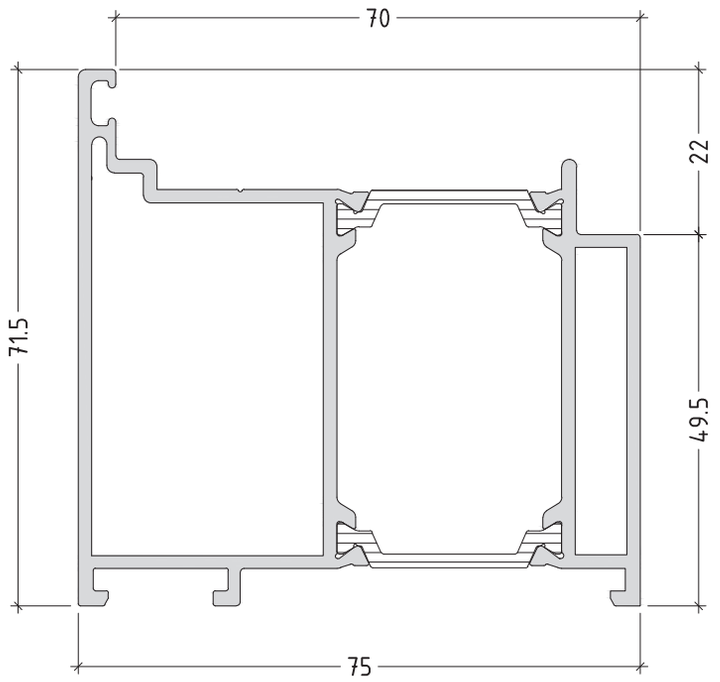
PROFILES

DRAWINGS

E75110
frame-inward
1932 g/m



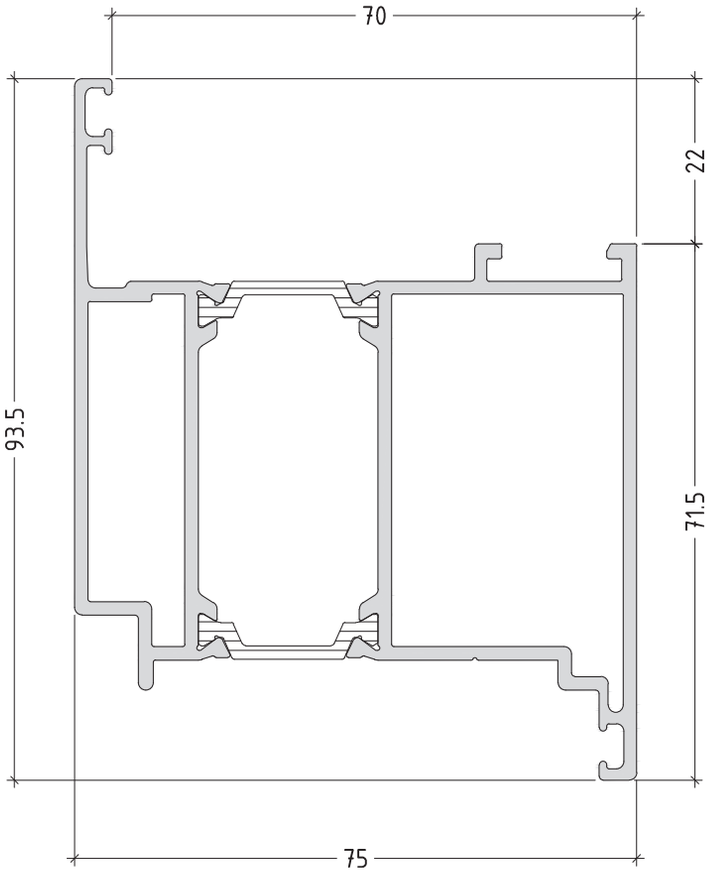
E75111
frame-outward
1890.4 g/m



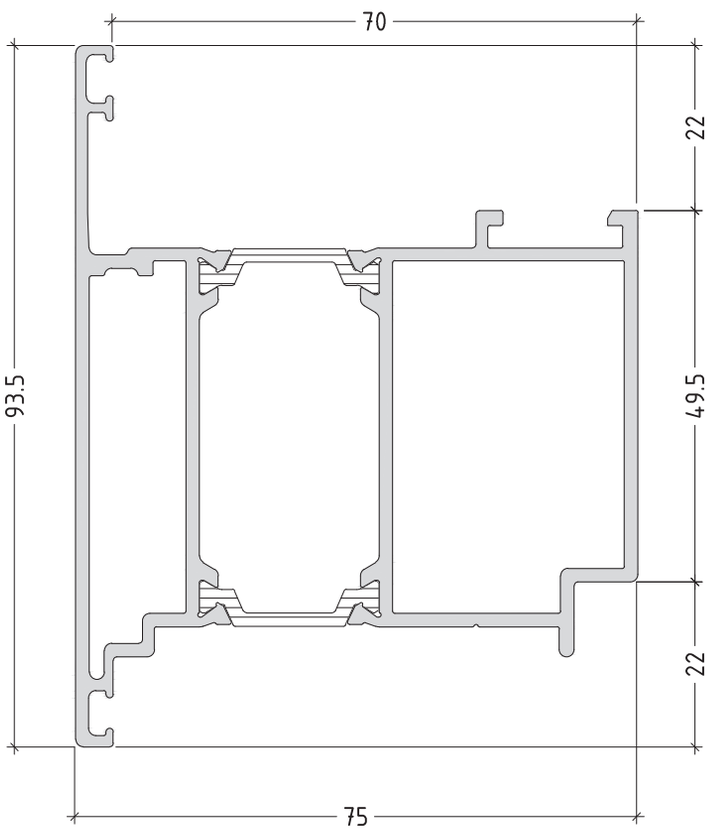
scale : 1:1

P75D-01

E75210
sash-inward
2062.4 g/m



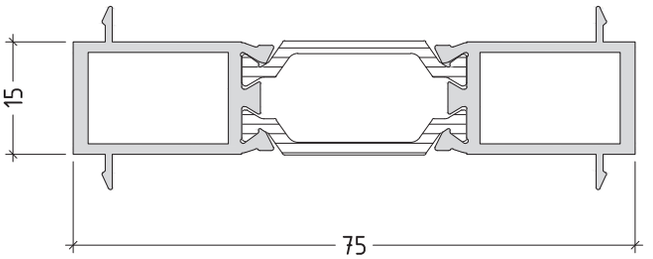
E75211
sash-outward
2072.4 g/m



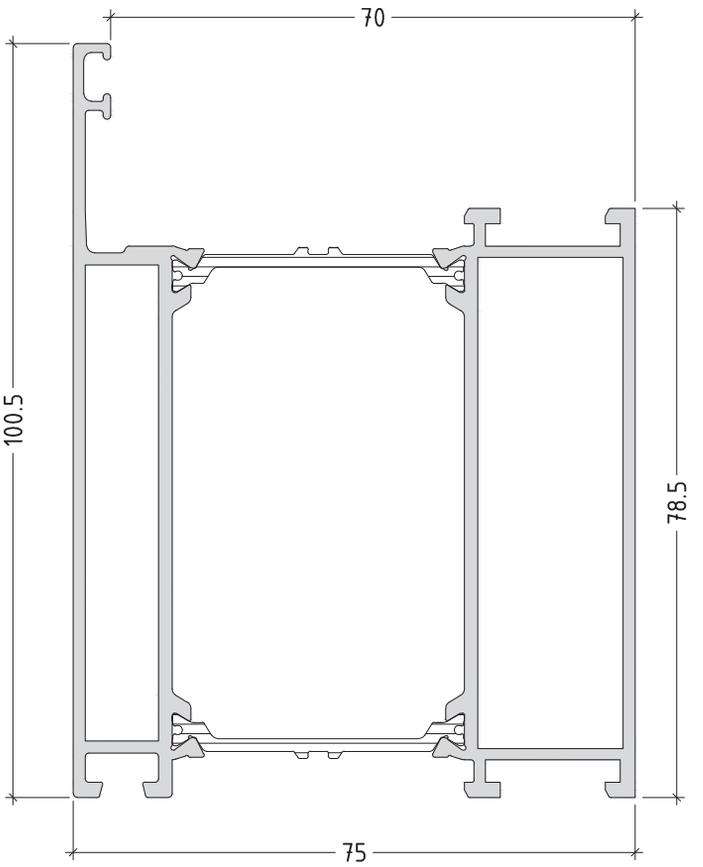
scale : 1:1

P75D-02

E75655
connecting
profile
940.4 g/m



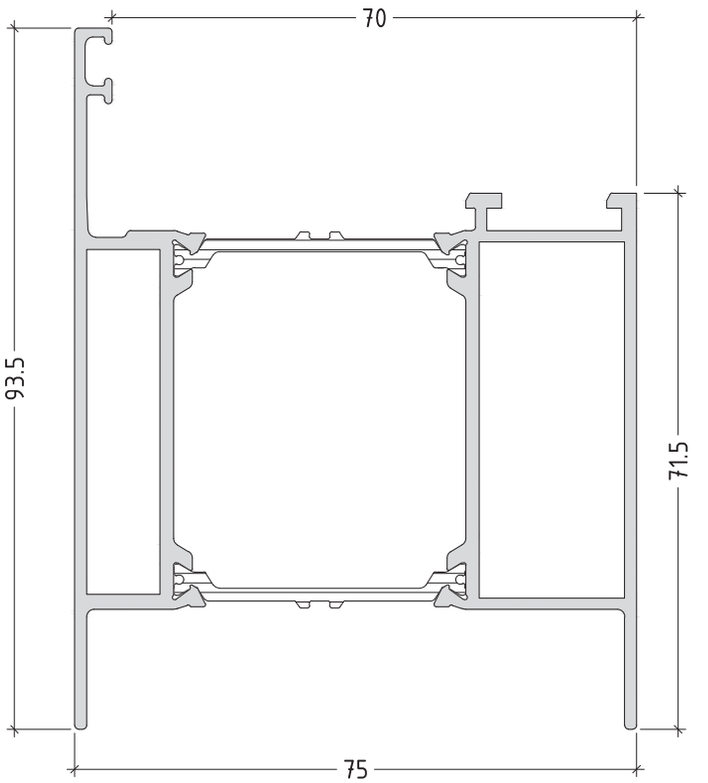
E75103
2223.4 g/m



scale : 1:1

P75D-03

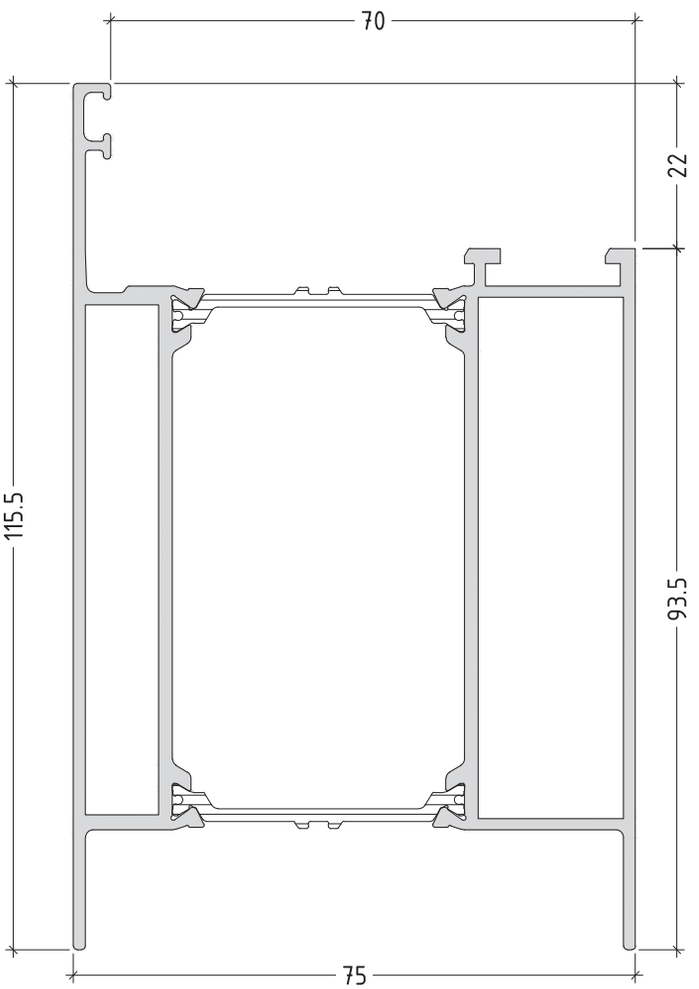
E75120
1899.2 g/m



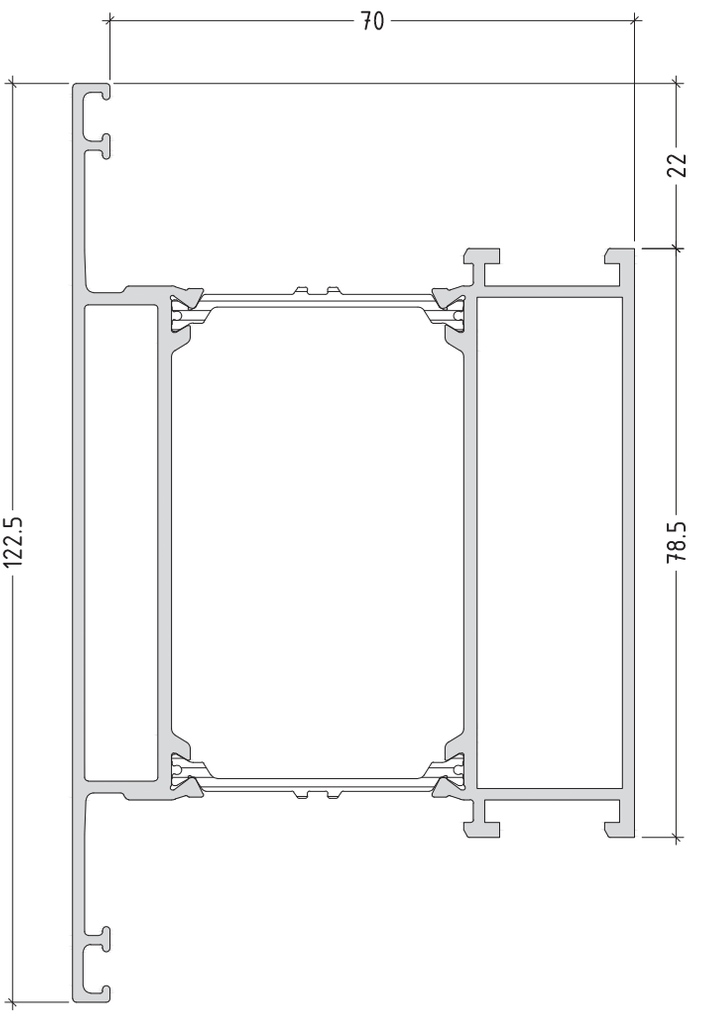
scale : 1:1

P75D-04

E75121
2303.6 g/m



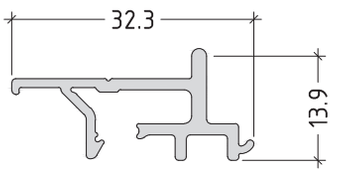
E75303
2312.5 g/m



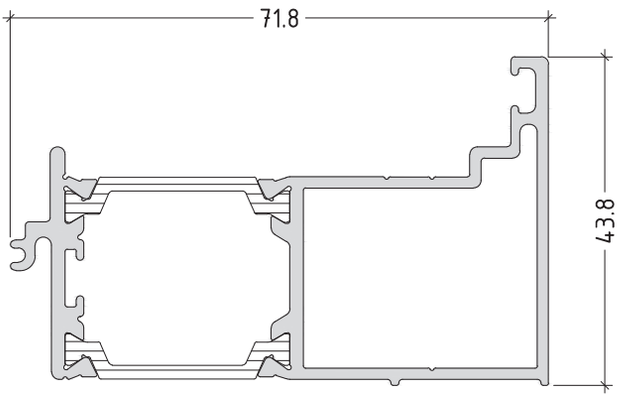
scale : 1:1

P75D-05

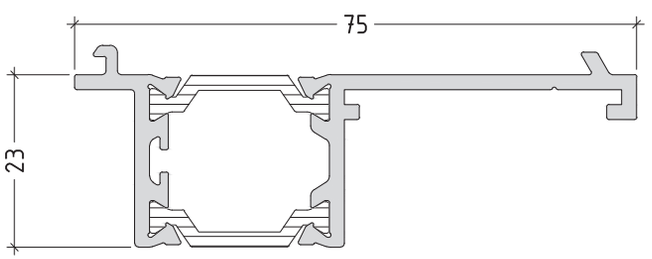
E75605
274.3 g/m



E75112
1163,8 g/m



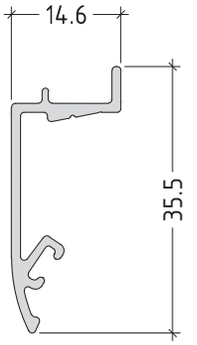
E75601
adapter for facade
897.1 g/m



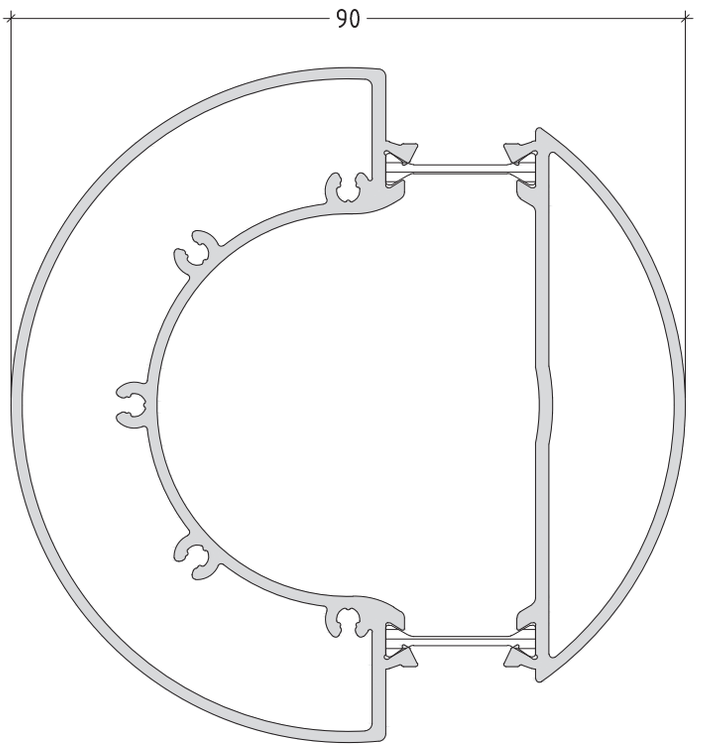
scale : 1:1

P75D-06

E75602
215.7 g/m



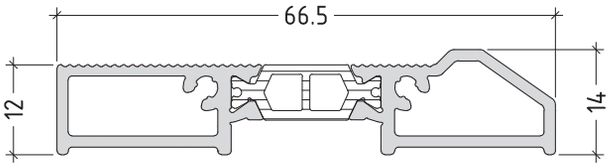
E75603
2231.5 g/m



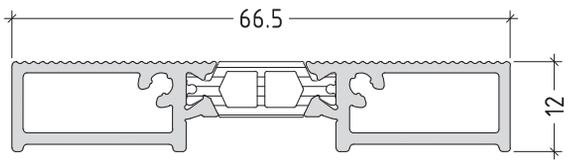
scale : 1:1

P75D-07

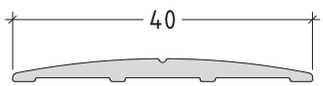
E75810
722.3 g/m



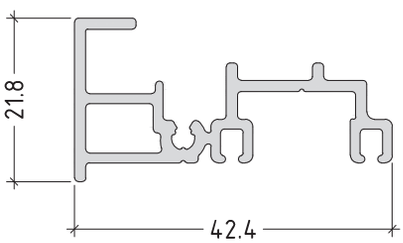
E75811
722.6 g/m



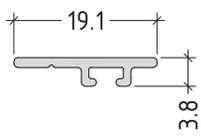
E75805
210.3 g/m



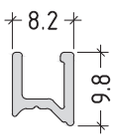
E75800
brush-holder
496.5 g/m



E75802
84.5 g/m



E75801
84.5 g/m



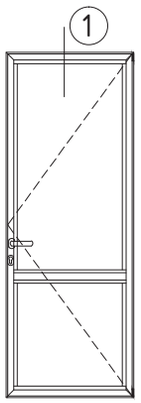
scale : 1:1

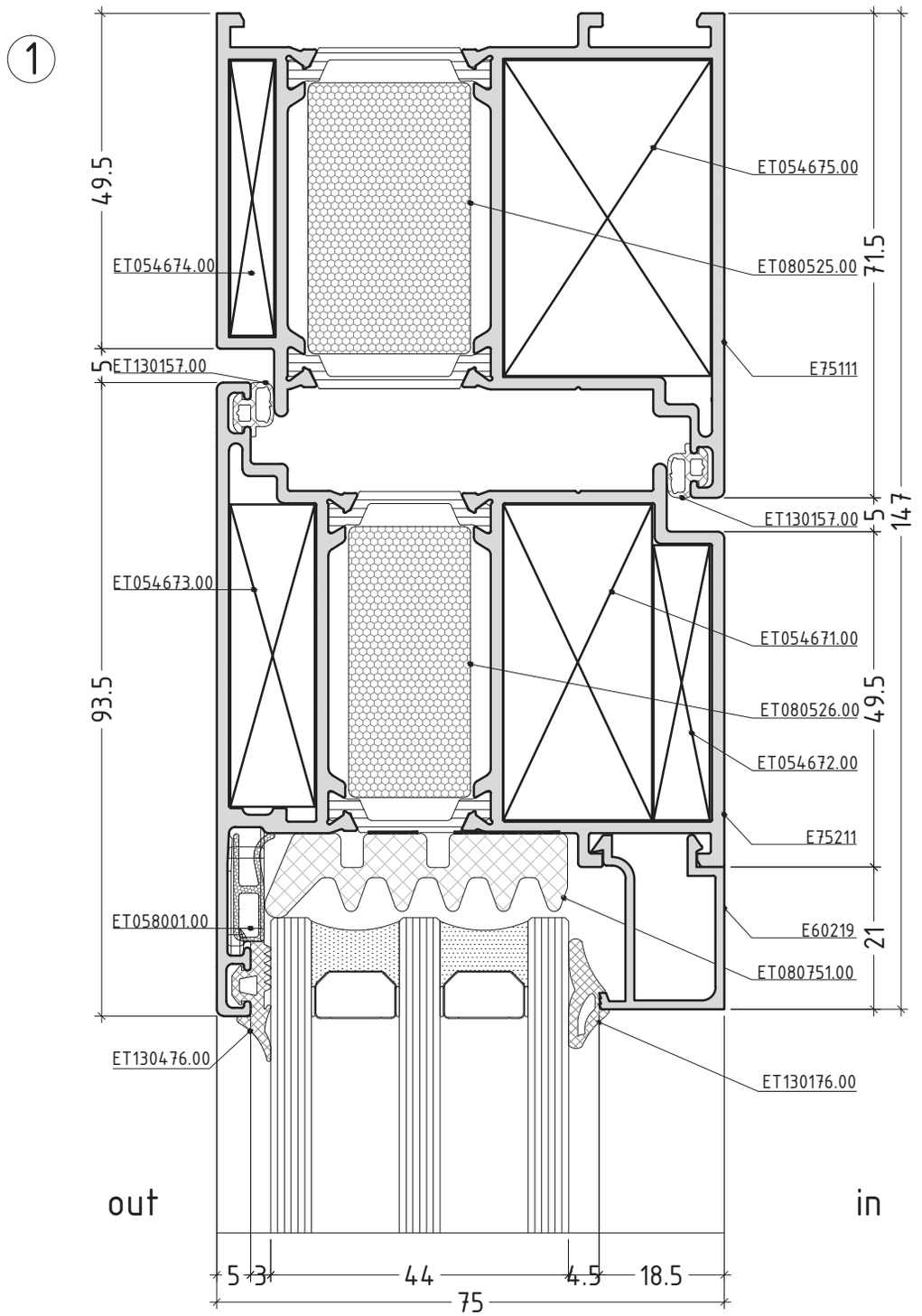
P75D-08

SECTIONS

SECTIONS / DETAILS

outward opening

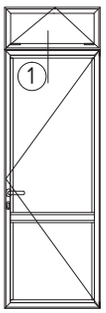


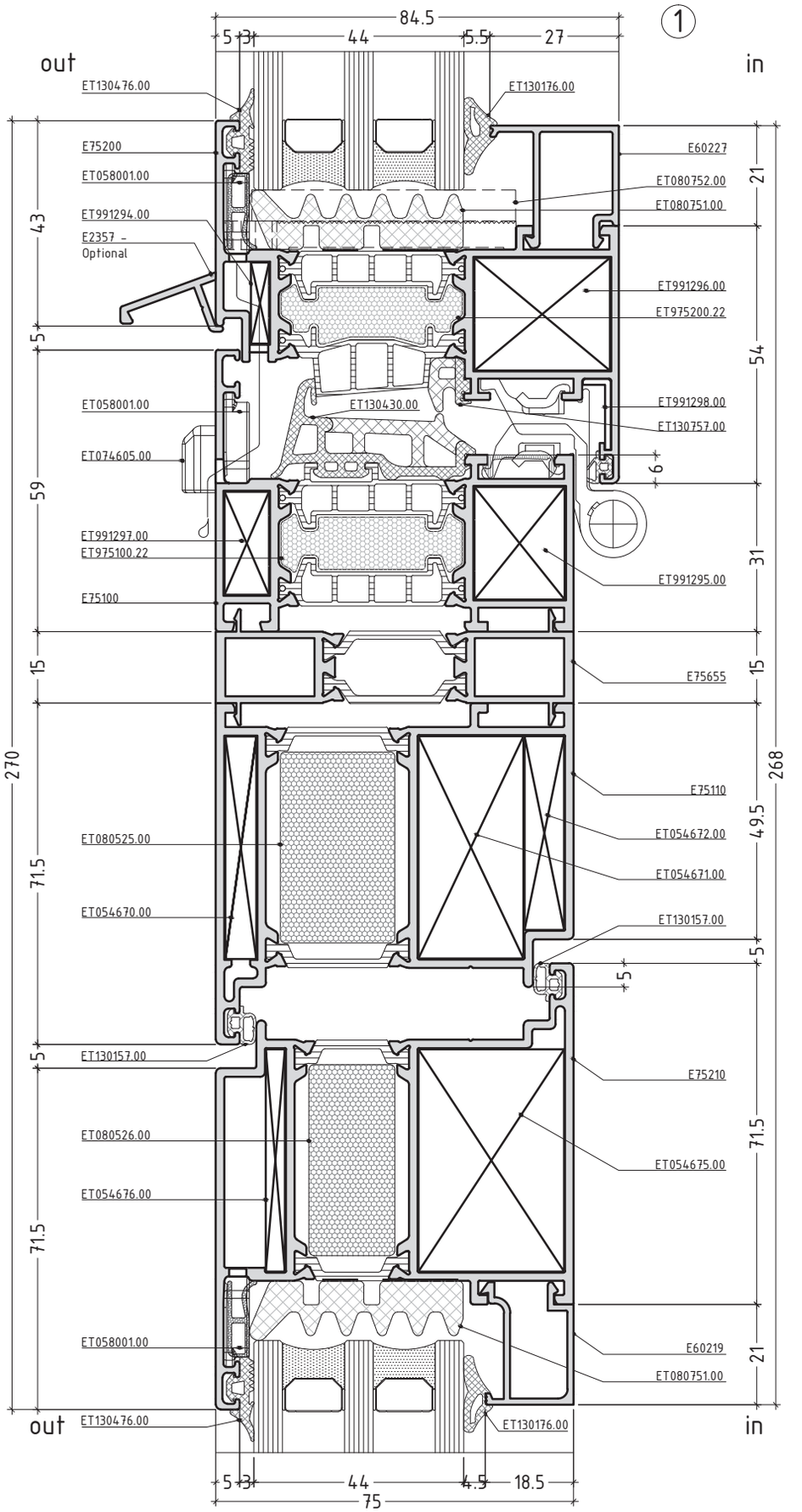


scale : 1:1

D75-1

inward opening

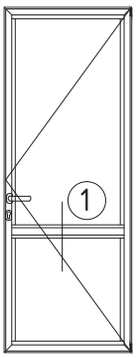


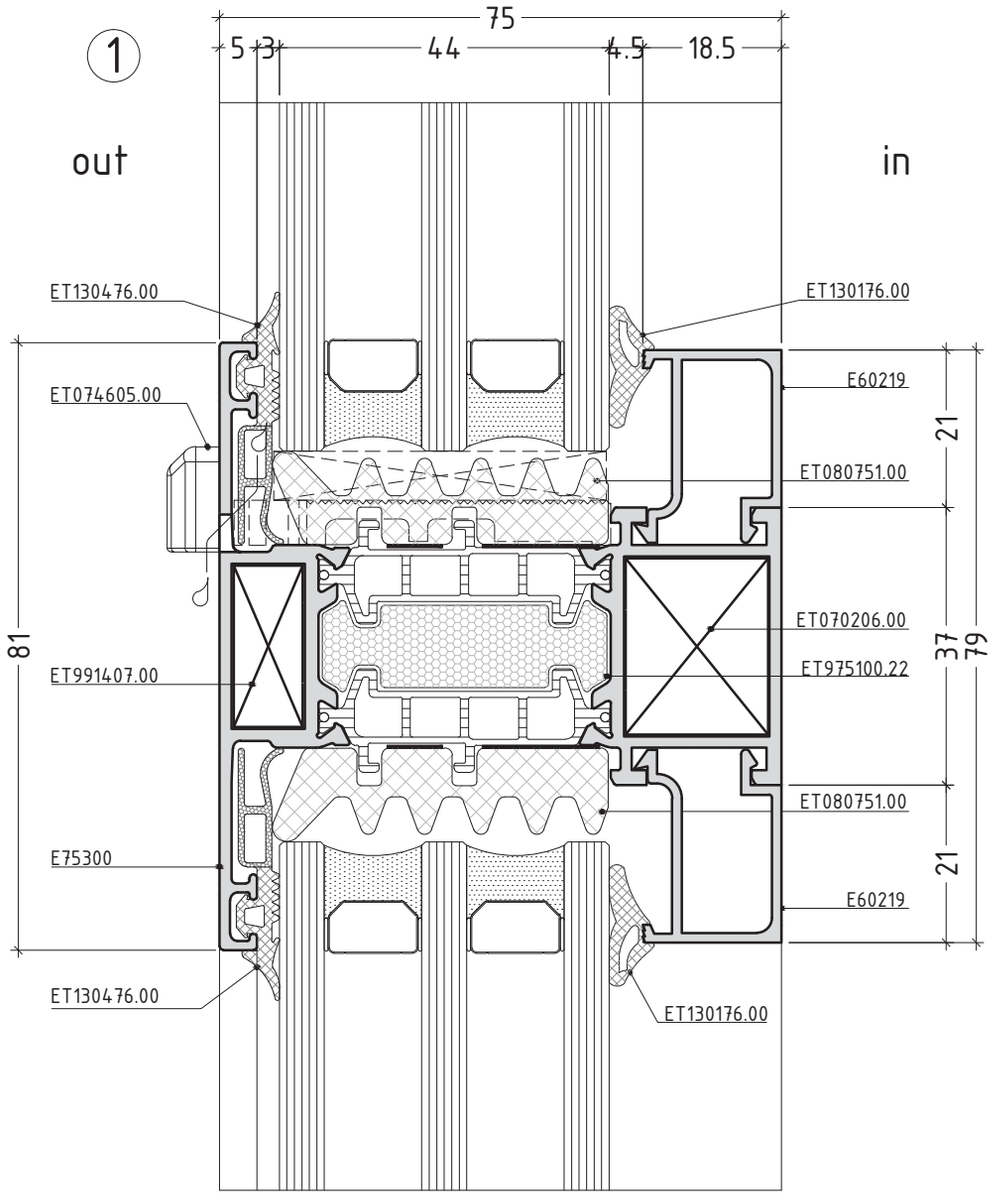


scale : 3/4

D75-2

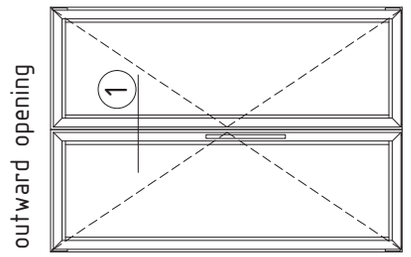
inward opening

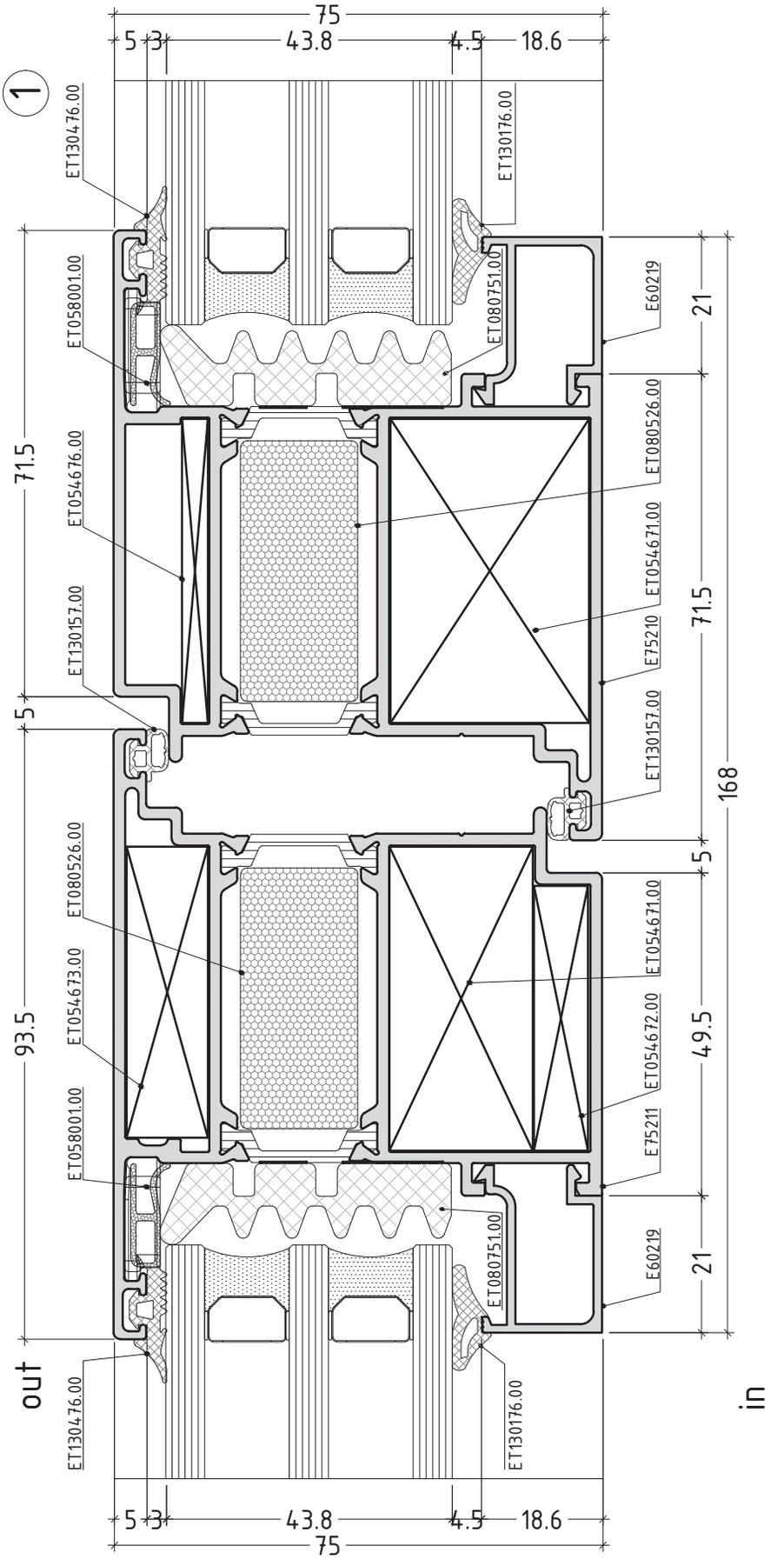




scale : 1:1

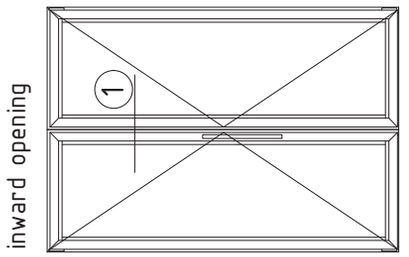
D75-3

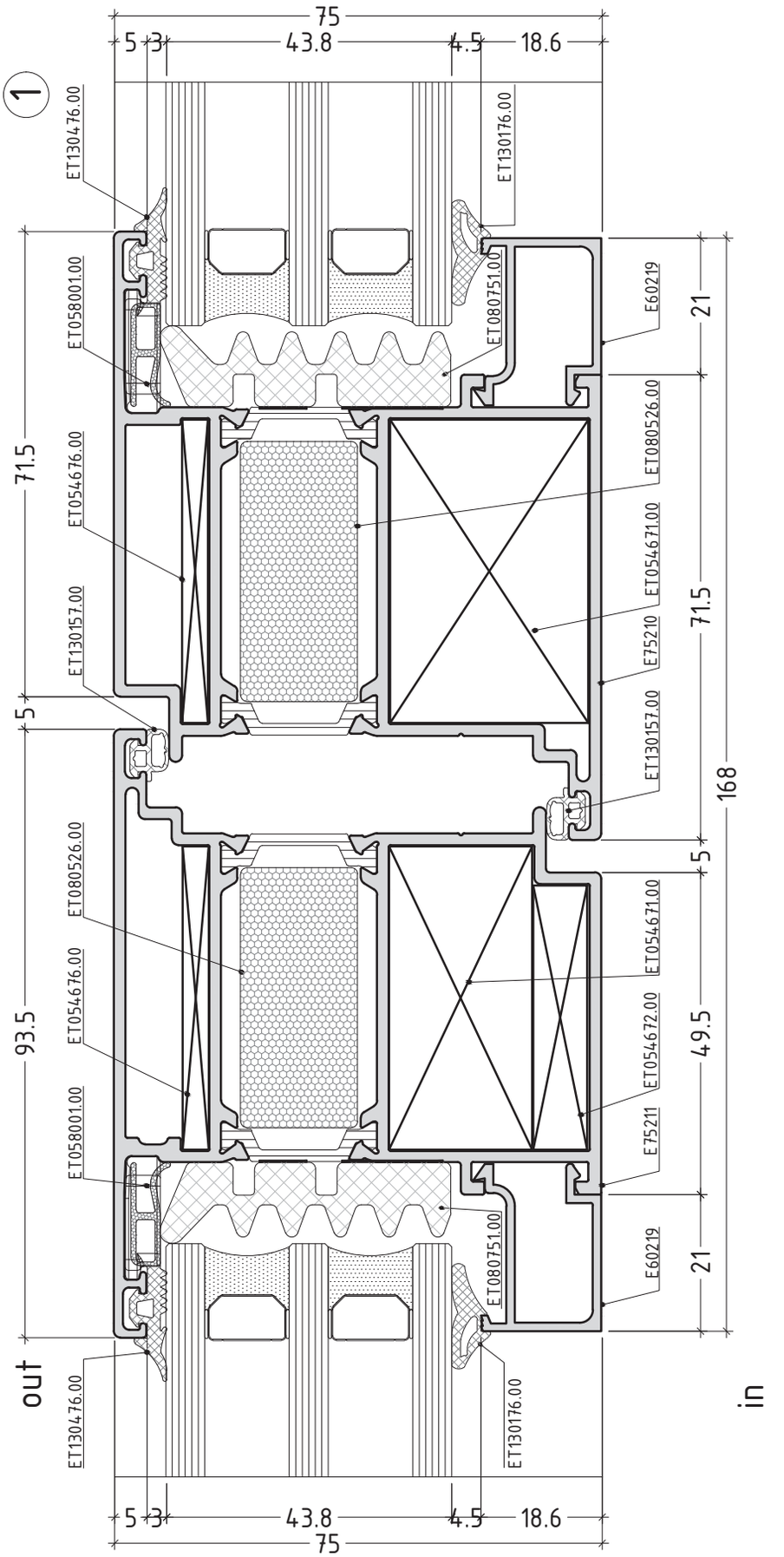




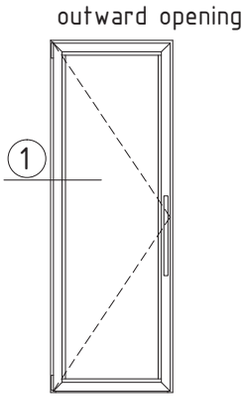
scale : 1:1

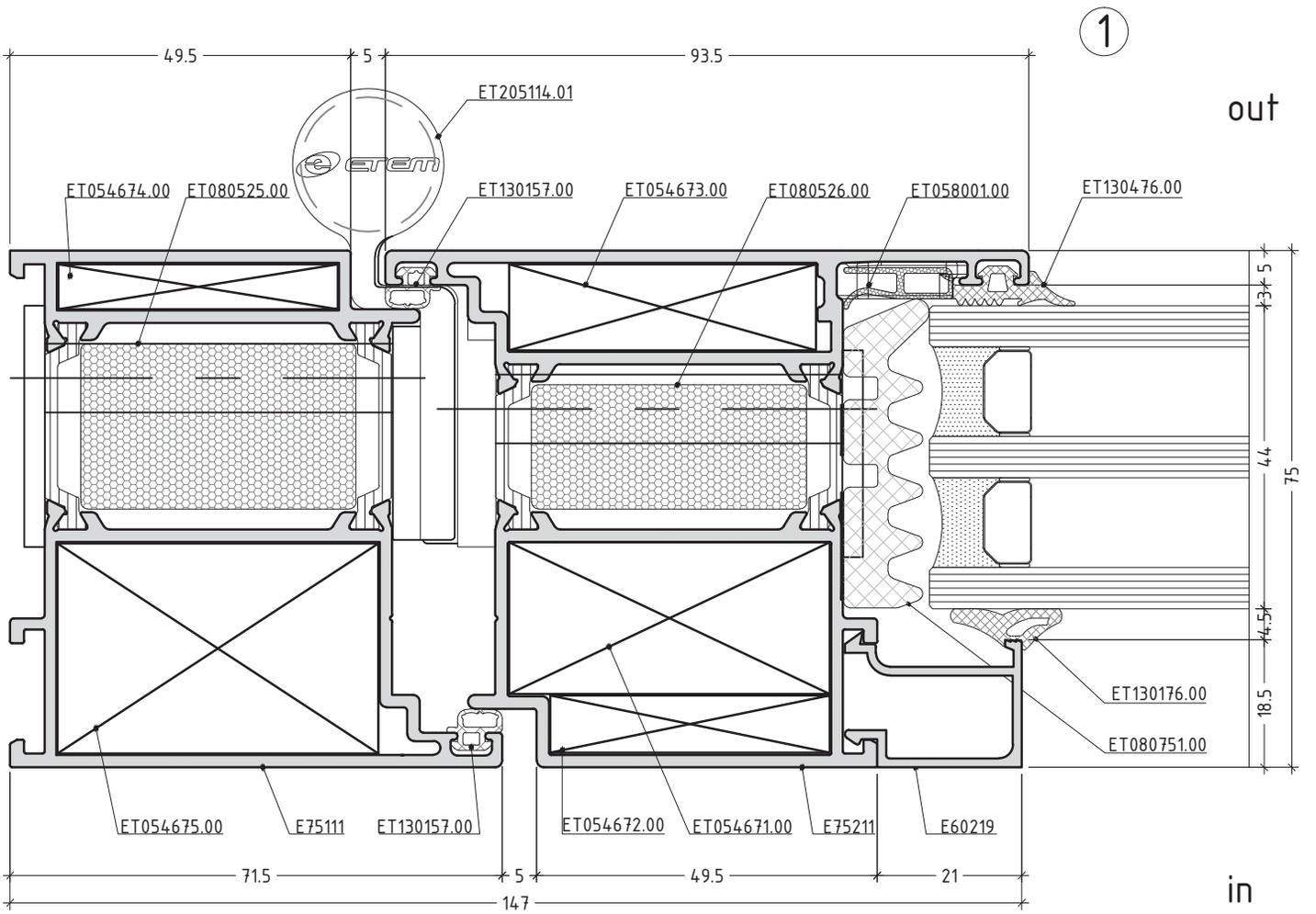
D75-4


inward opening
1


75
5
3
43.8
4.5
18.6
1
ET130476.00
ET130176.00
ET058001.00
ET080751.00
E60219
21
ET080526.00
ET054676.00
ET054671.00
71.5
ET130157.00
E75210
5
168
93.5
ET054672.00
E75211
49.5
out
in
D75-4.1

scale : 1:1

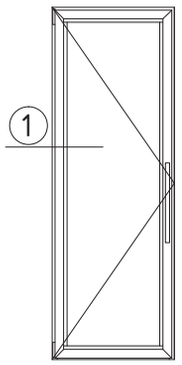




scale : 1:1

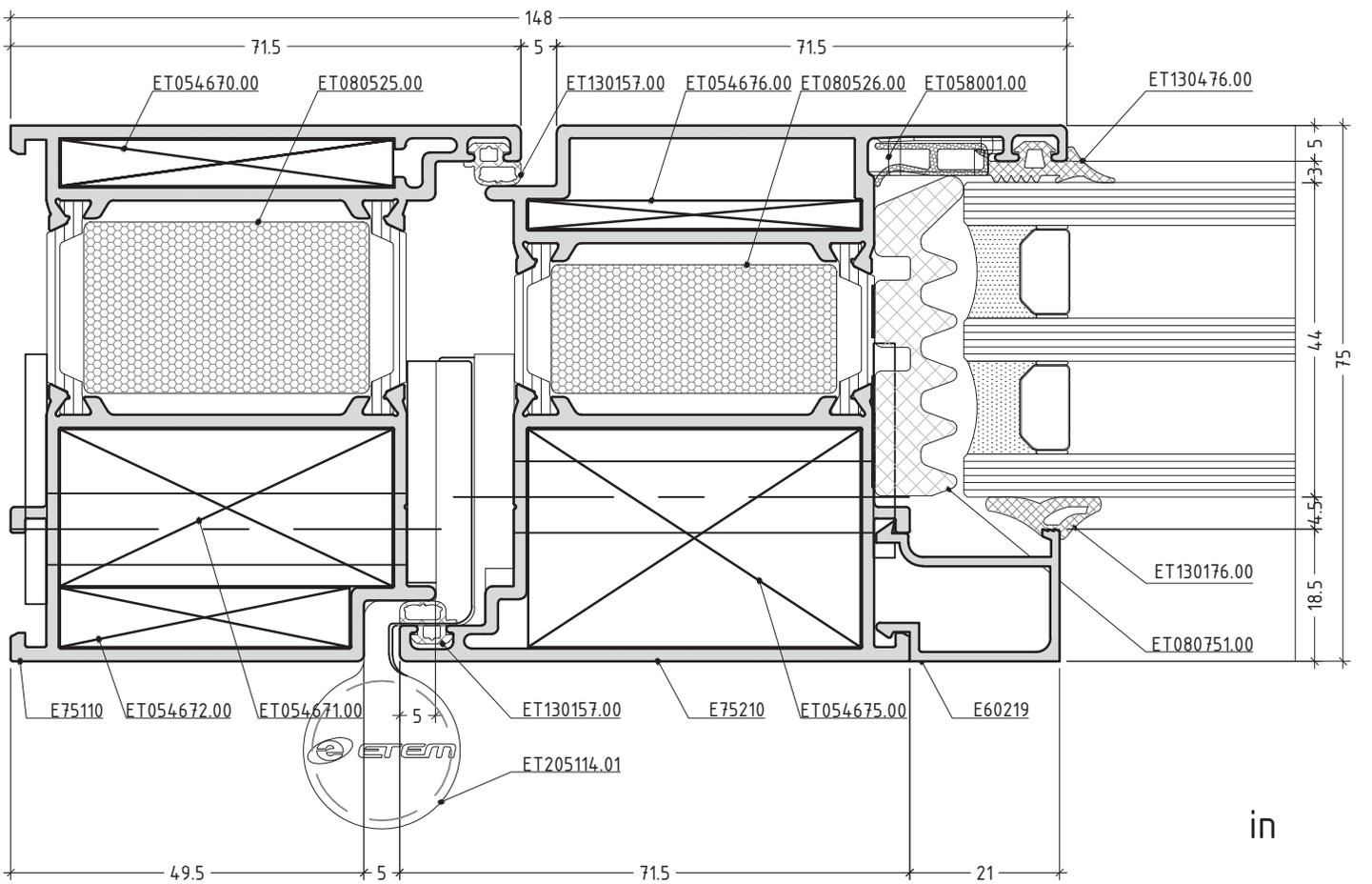
D75-5

inward opening



1

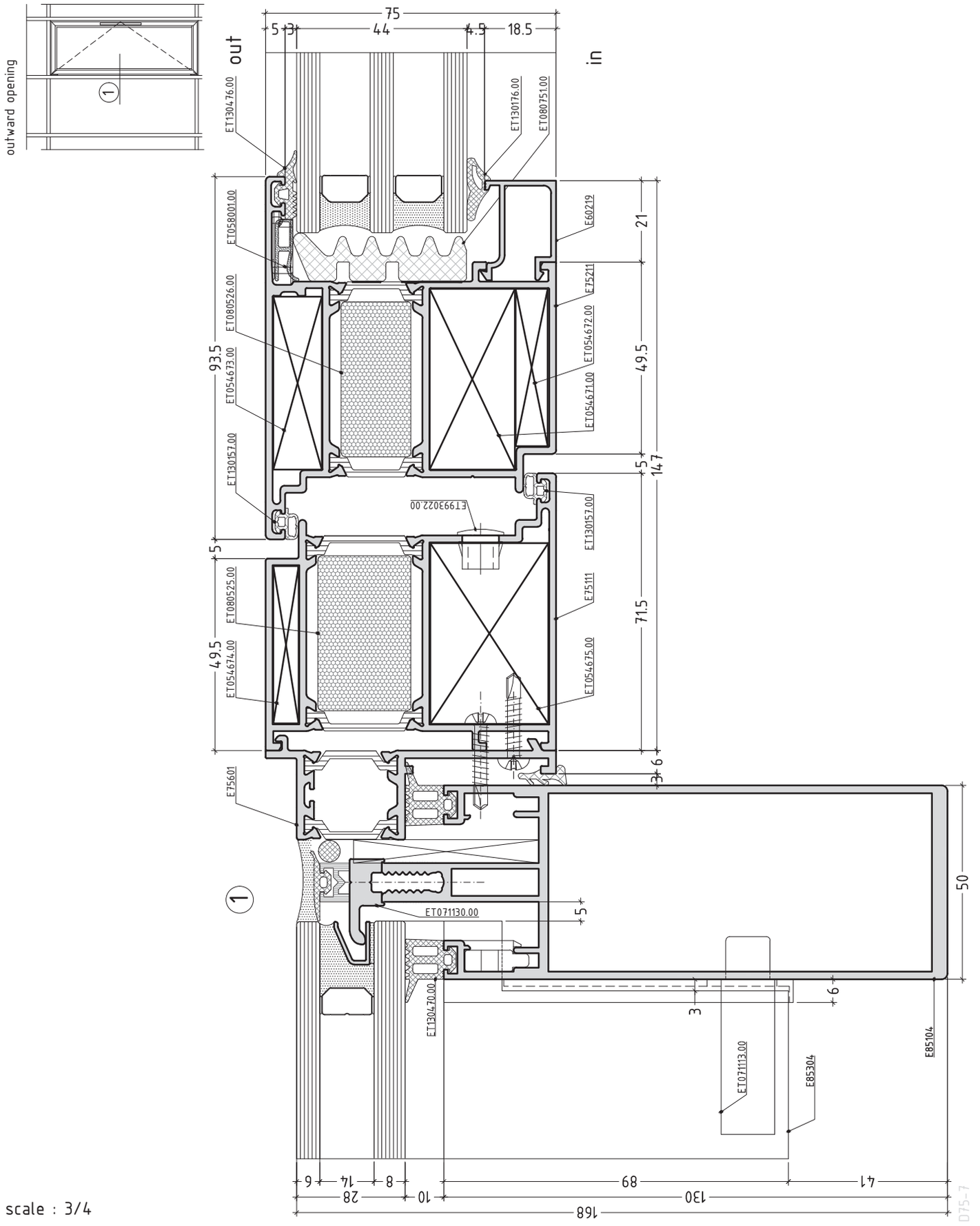
out



in

scale : 1:1

D68-6


outward opening
1
out
in
75
5
13
44
4.5
18.5
ET130476.00
ET130176.00
ET080751.00
ET058001.00
E60219
21
ET080526.00
E75211
ET054672.00
93.5
ET054673.00
49.5
ET054671.00
ET130157.00
5
14.7
ET993022.00
ET130157.00
5
ET080525.00
E75111
49.5
ET054674.00
71.5
ET054675.00
3
6
E75601
1
50
ET071130.00
5
ET130470.00
3
6
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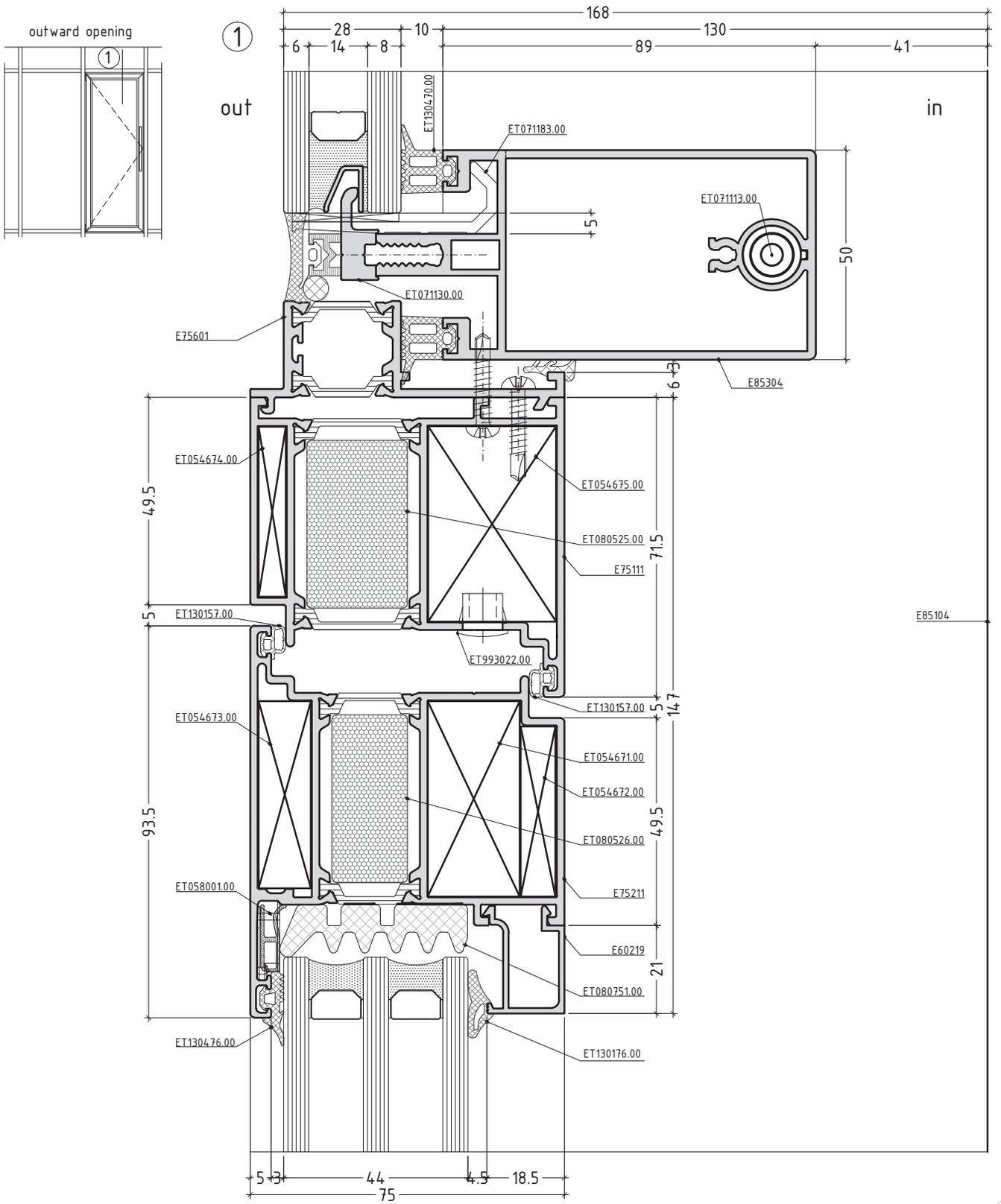
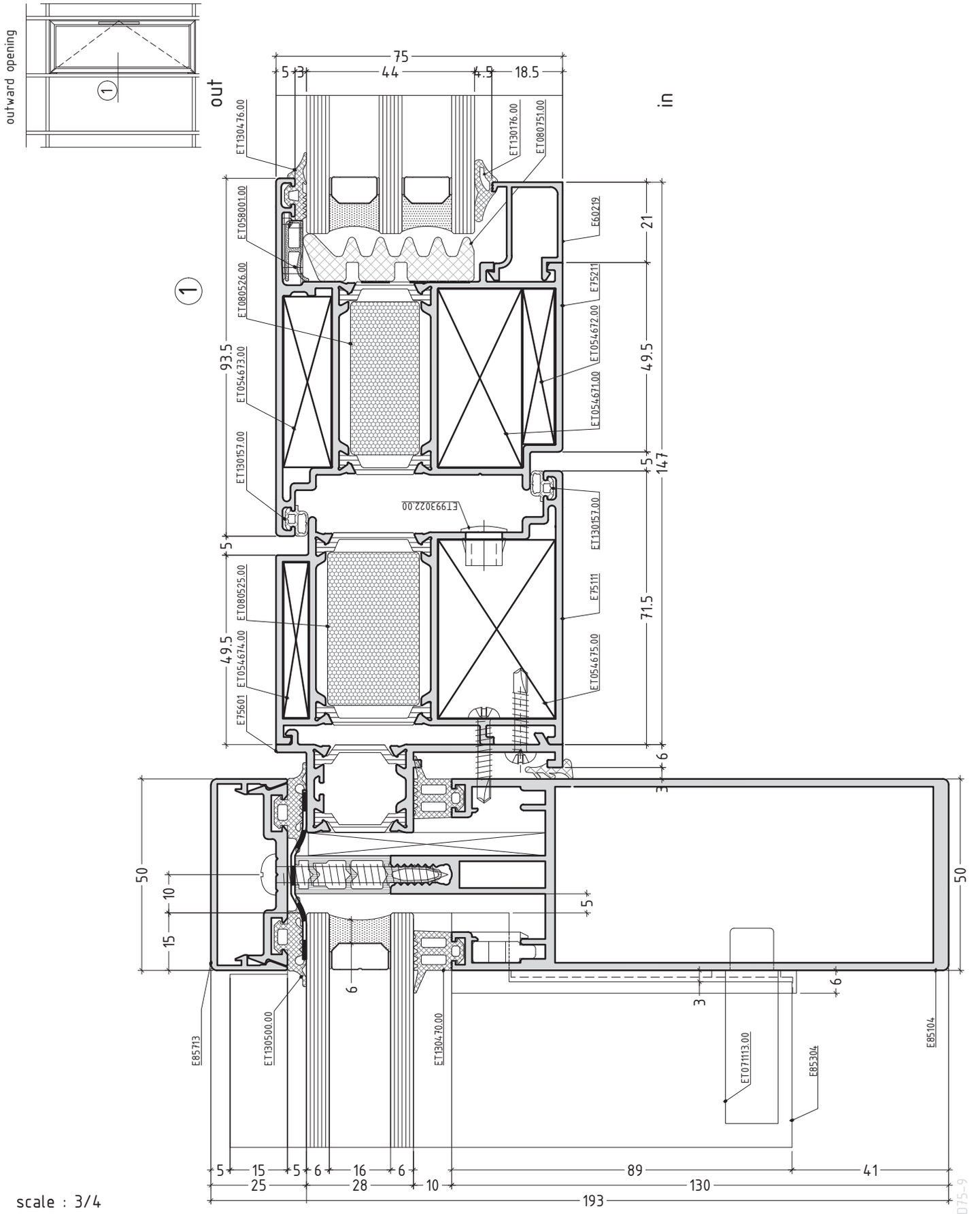
ET071113.00
E85304
6
14
8
89
41
28
10
130
168

scale : 3/4



scale : 3/4

D75-8


outward opening
1
out
in
75
5
44
4.5
18.5
ET130476.00
ET130176.00
ET080751.00
ET058001.00
ET080526.00
ET054673.00
ET130157.00
ET080525.00
ET054674.00
E75601
E60219
E75211
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ET130157.00
E75111
ET054675.00
E85713
ET130500.00
ET130470.00
ET071113.00
E85304
E85104
93.5
49.5
71.5
21
49.5
14.7
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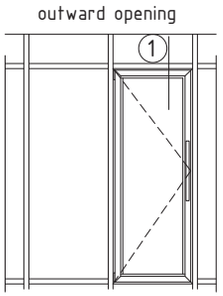
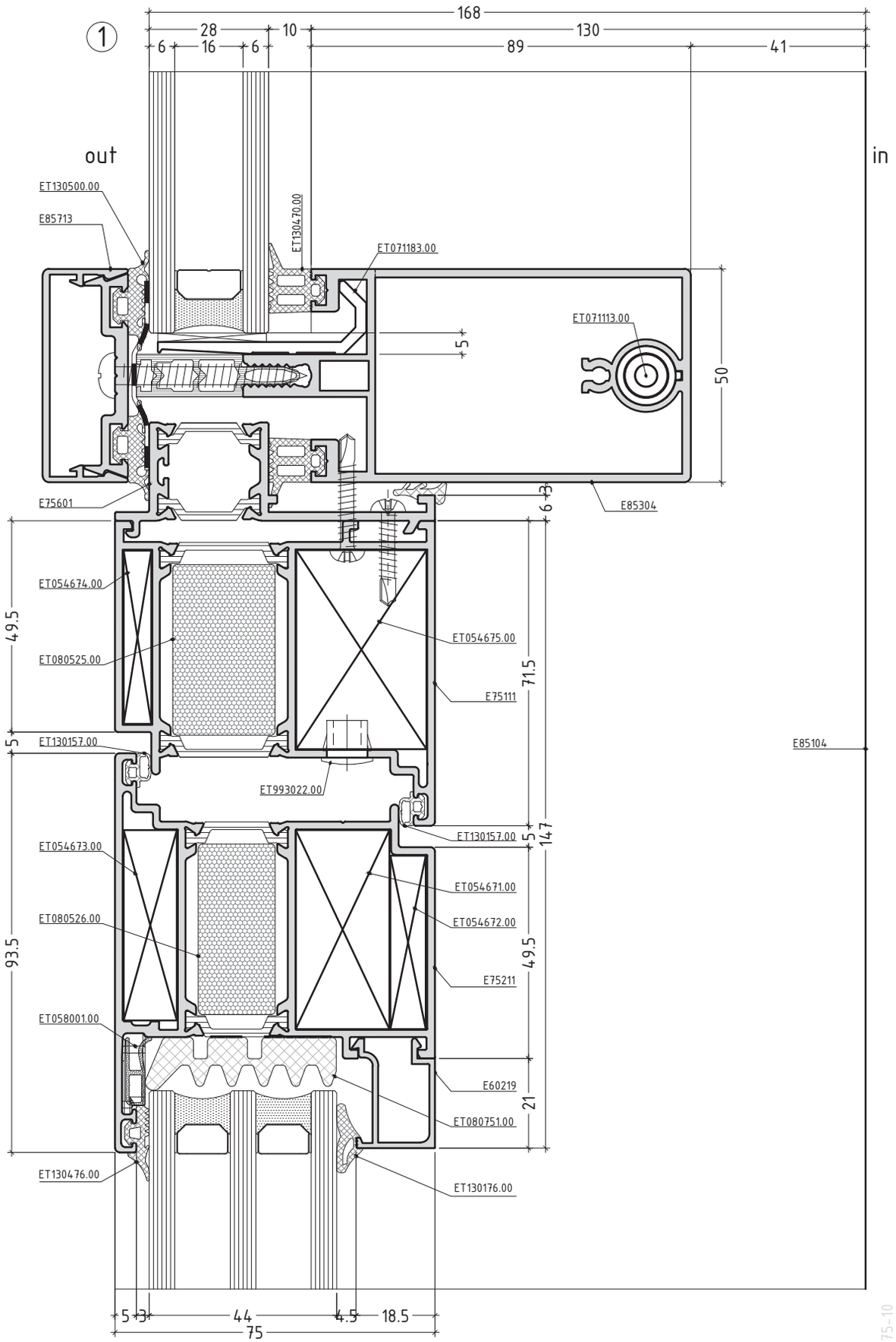
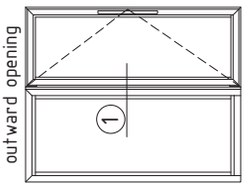
6
3
50
10
15
16
89
41
25
28
130
193
scale : 3/4
D75-9

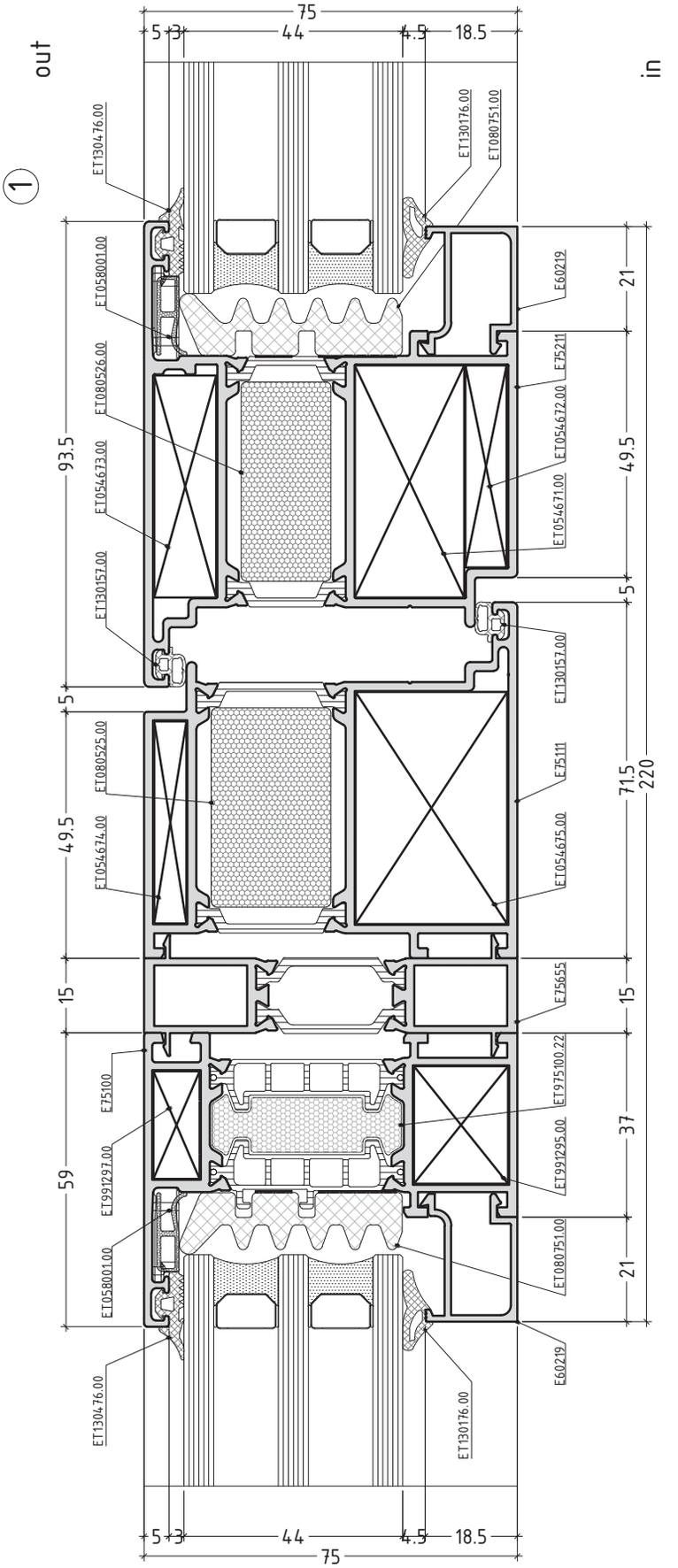




scale : 3/4

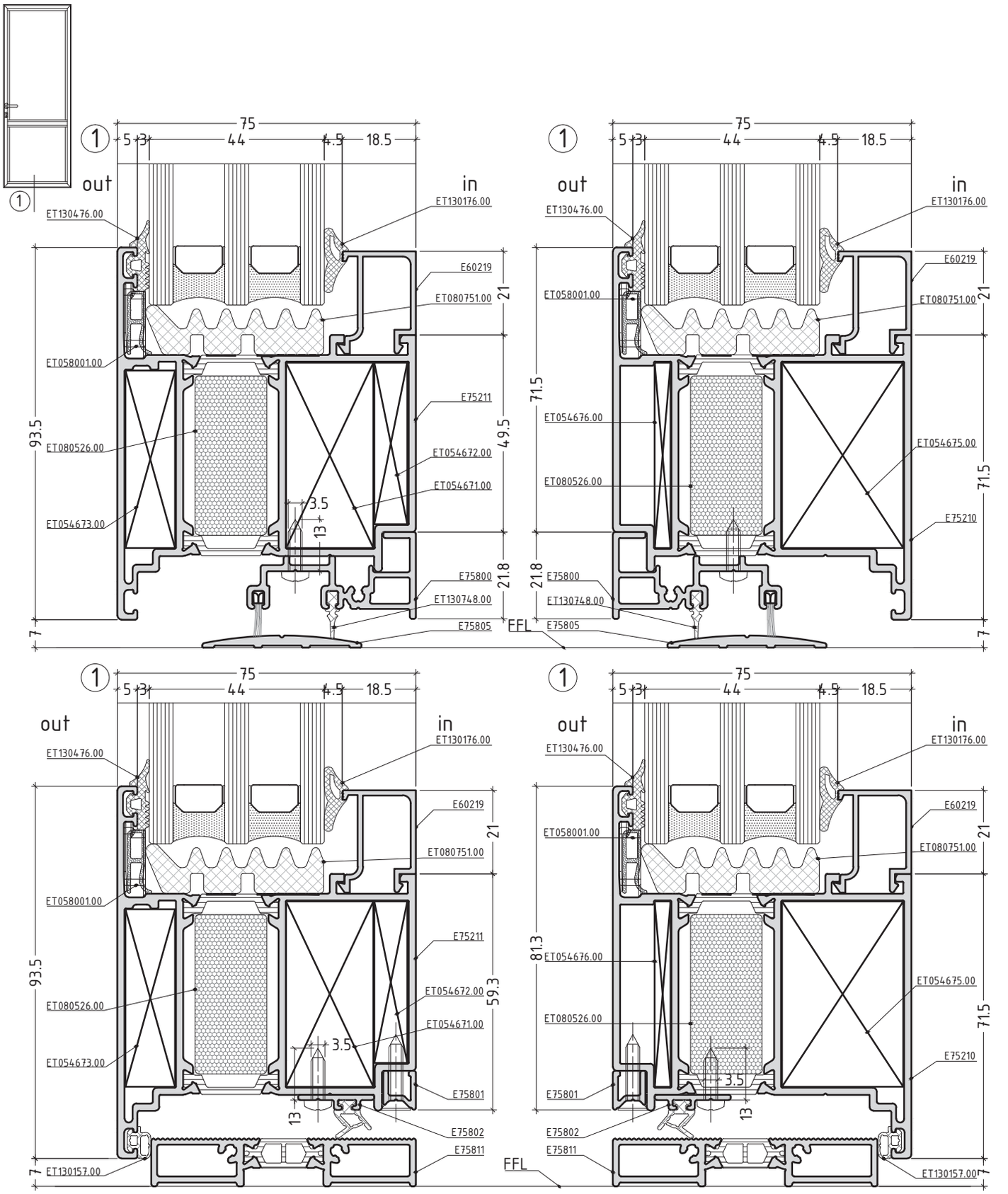
D75-10





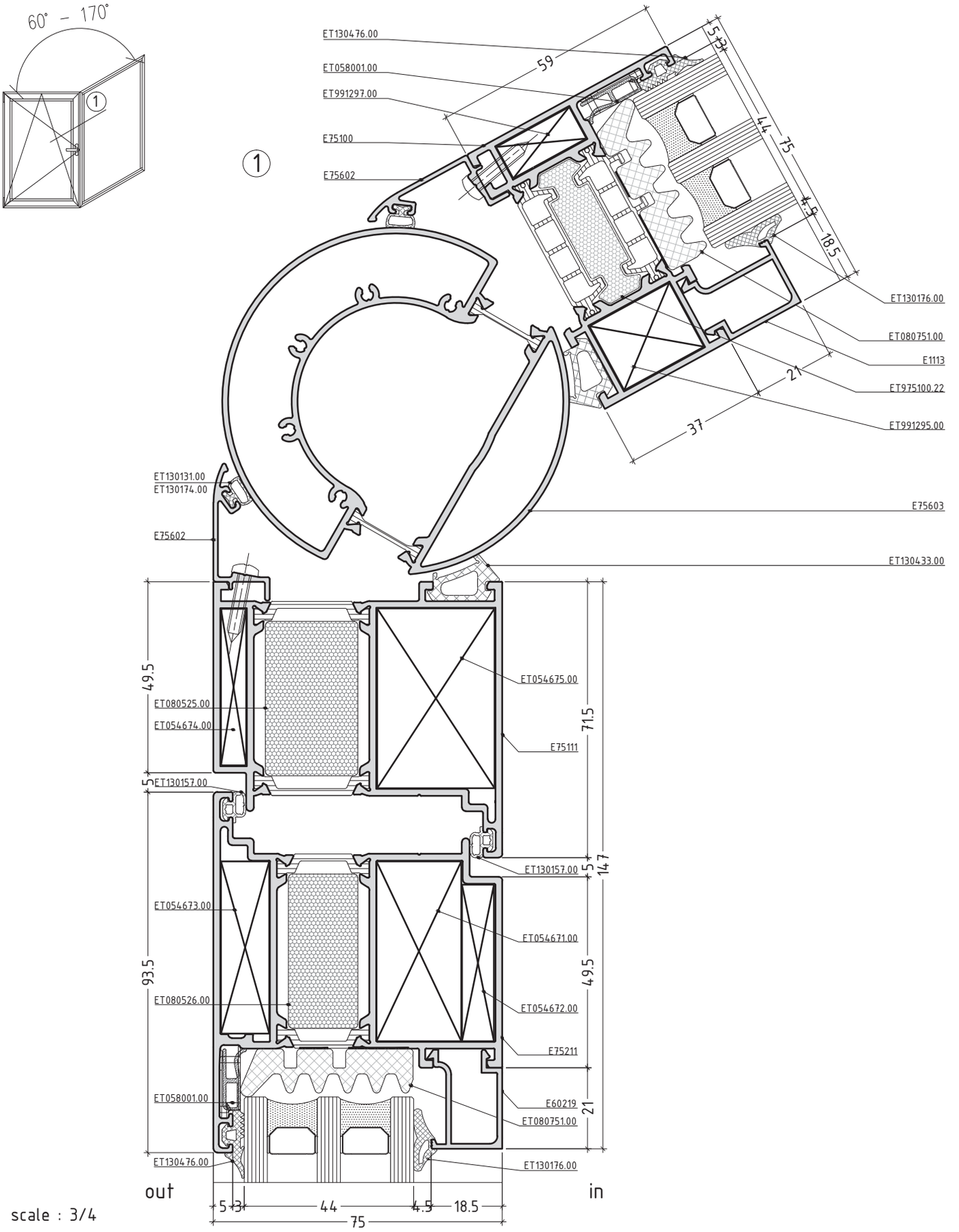
scale : 3/4

D75-11



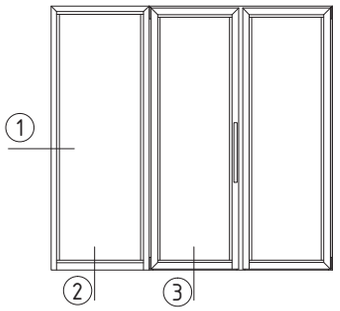
scale : 3/4

D75-12

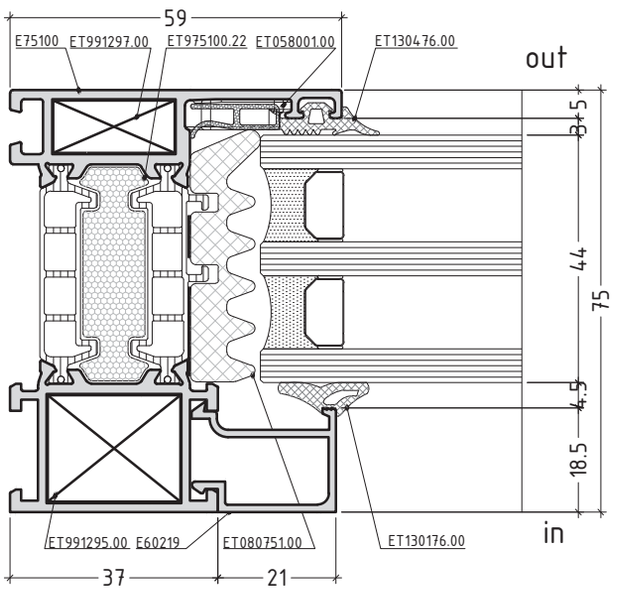


scale : 3/4

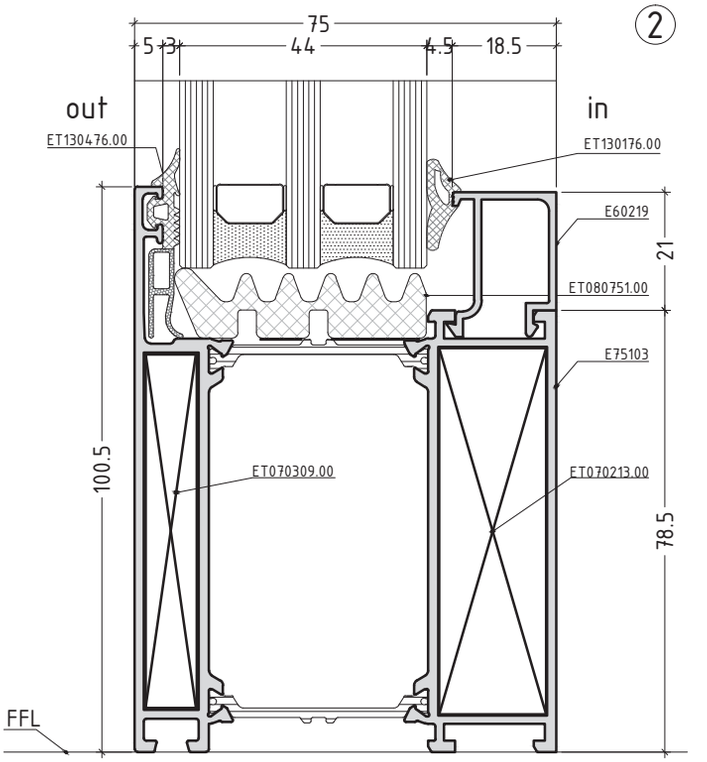
D75-13



1



2



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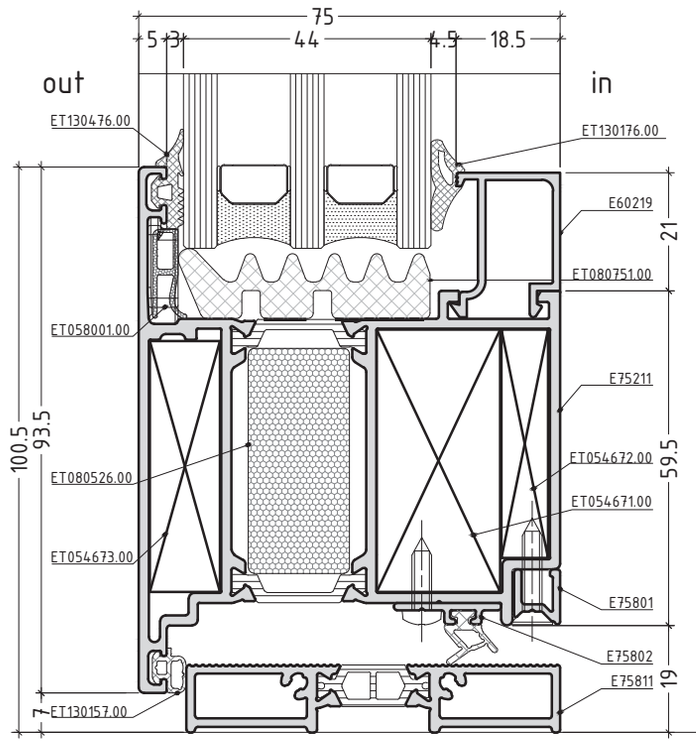
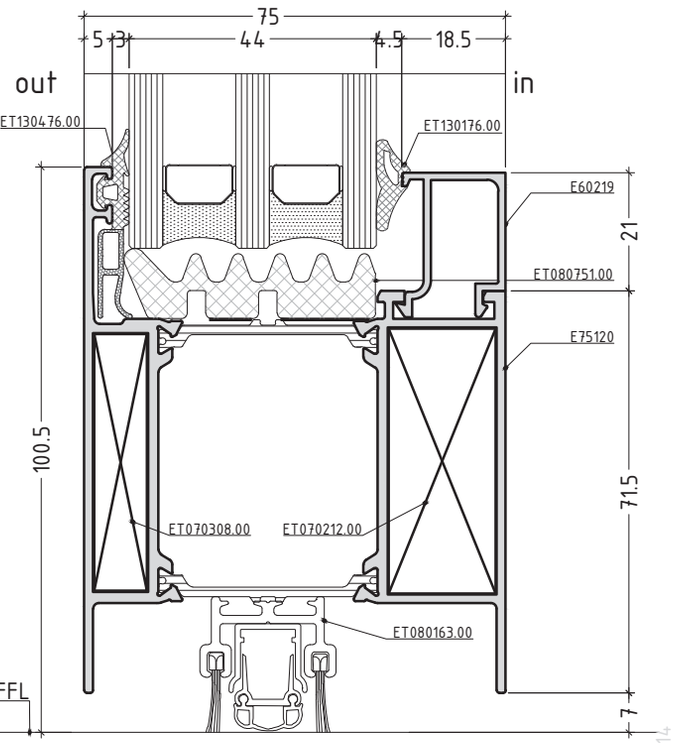
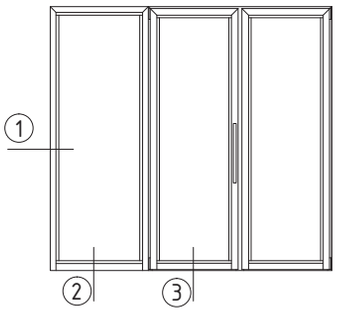


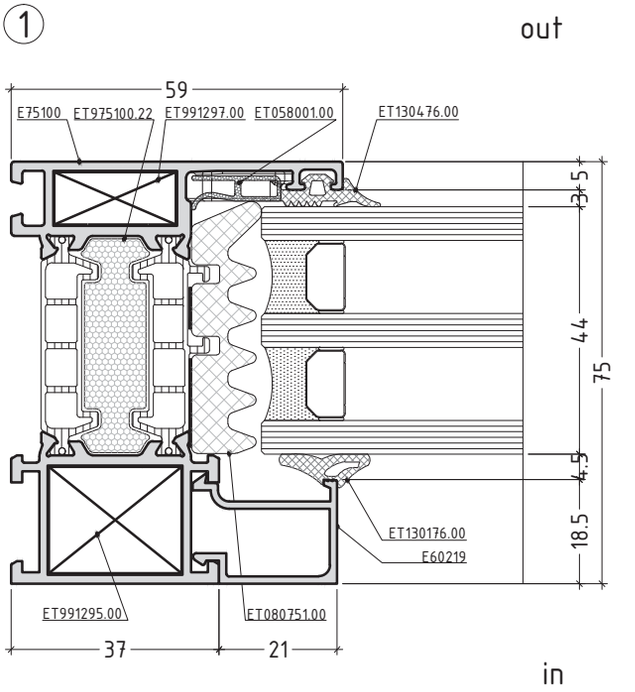
3 OPTIONAL

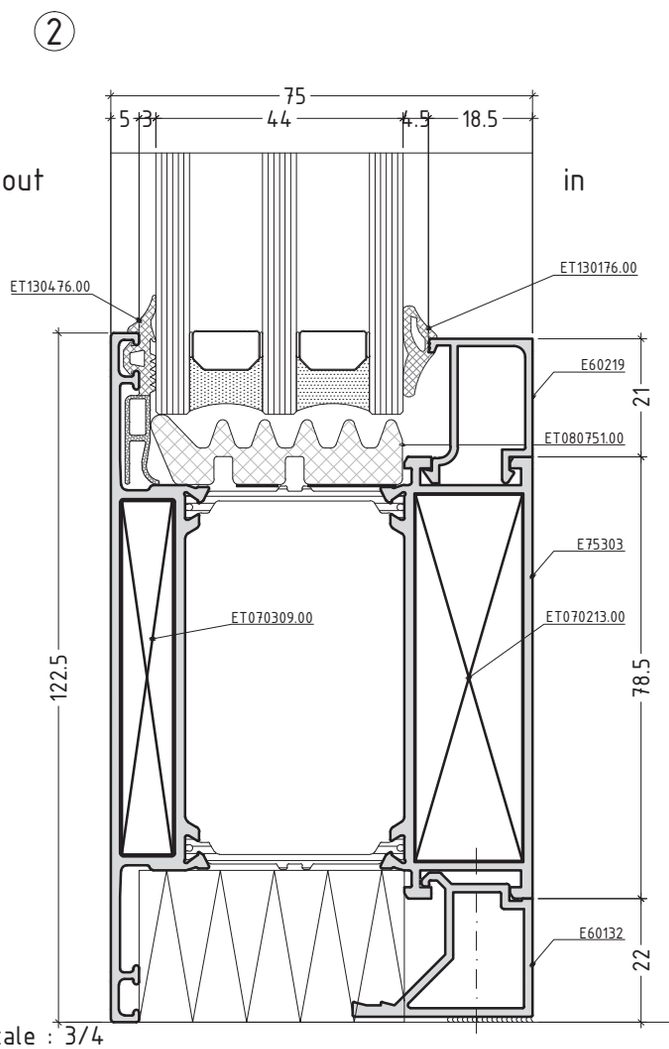


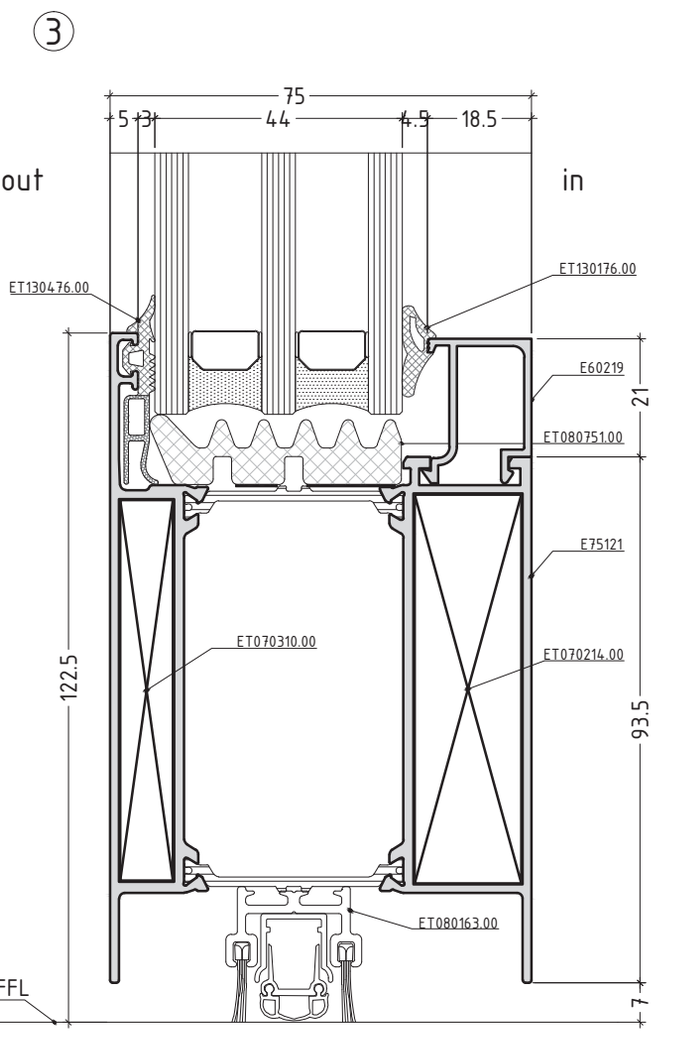
scale : 3/4

D75-14

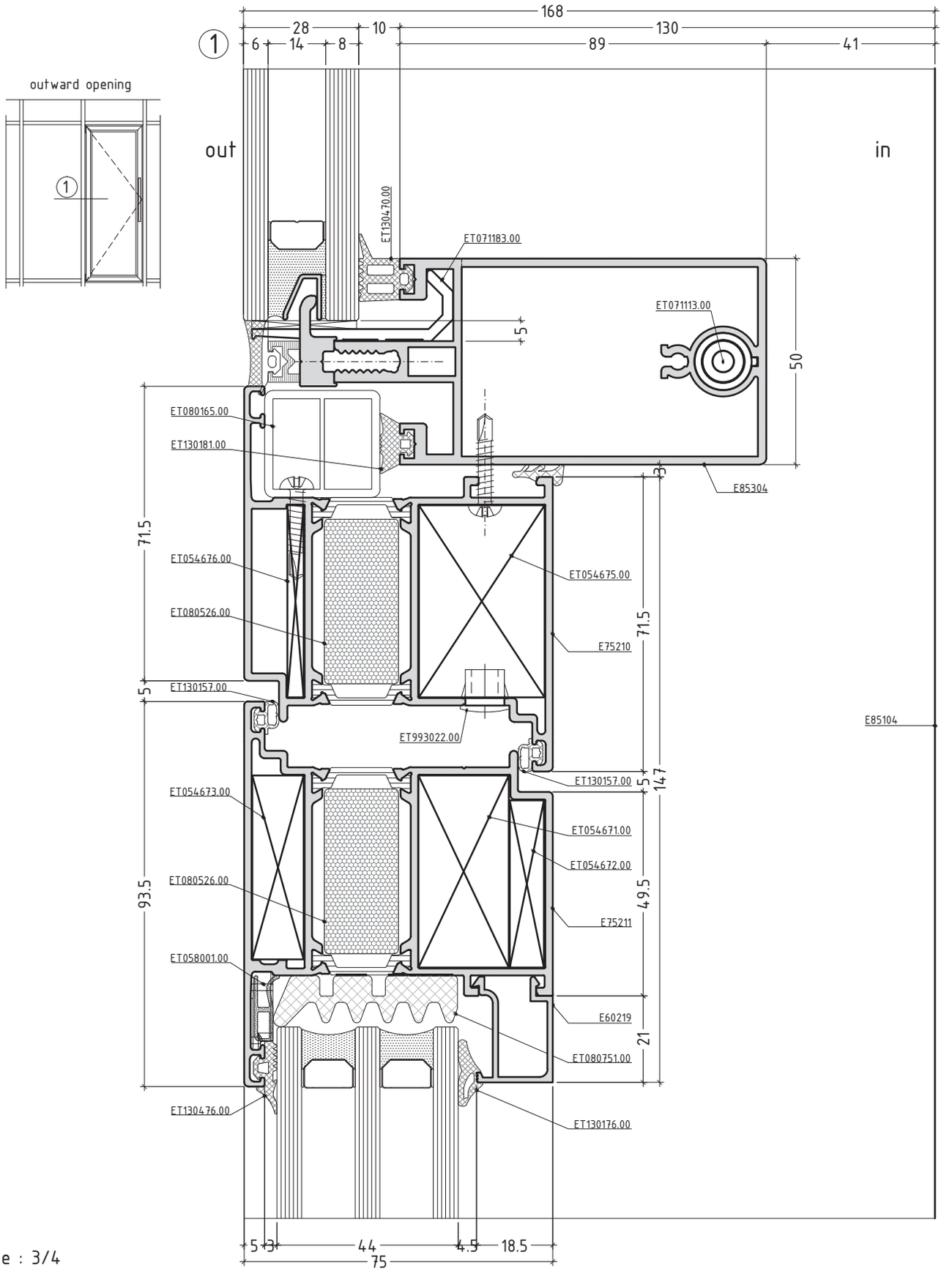

1
2
3

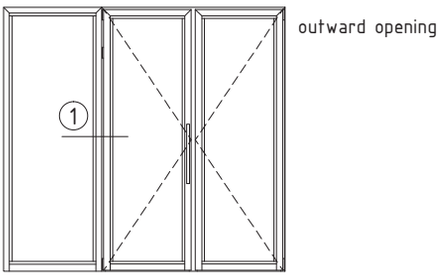

1
out
59
E75100
ET975100.22
ET991297.00
ET058001.00
ET130476.00
5
3
44
4.5
18.5
75
ET130176.00
E60219
ET991295.00
ET080751.00
37
21
in

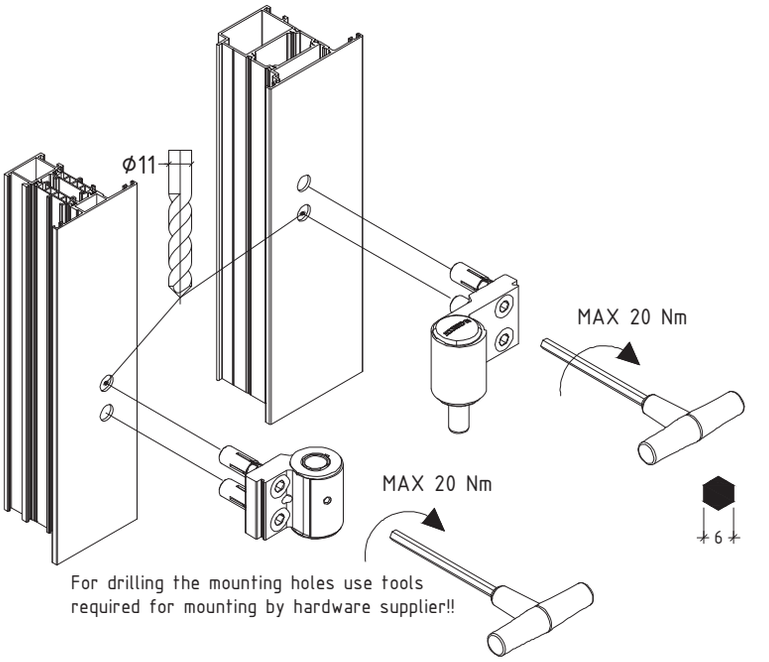

2
75
5
3
44
4.5
18.5
out
in
ET130476.00
ET130176.00
E60219
21
ET080751.00
E75303
ET070309.00
ET070213.00
122.5
78.5
E60132
22
scale : 3/4

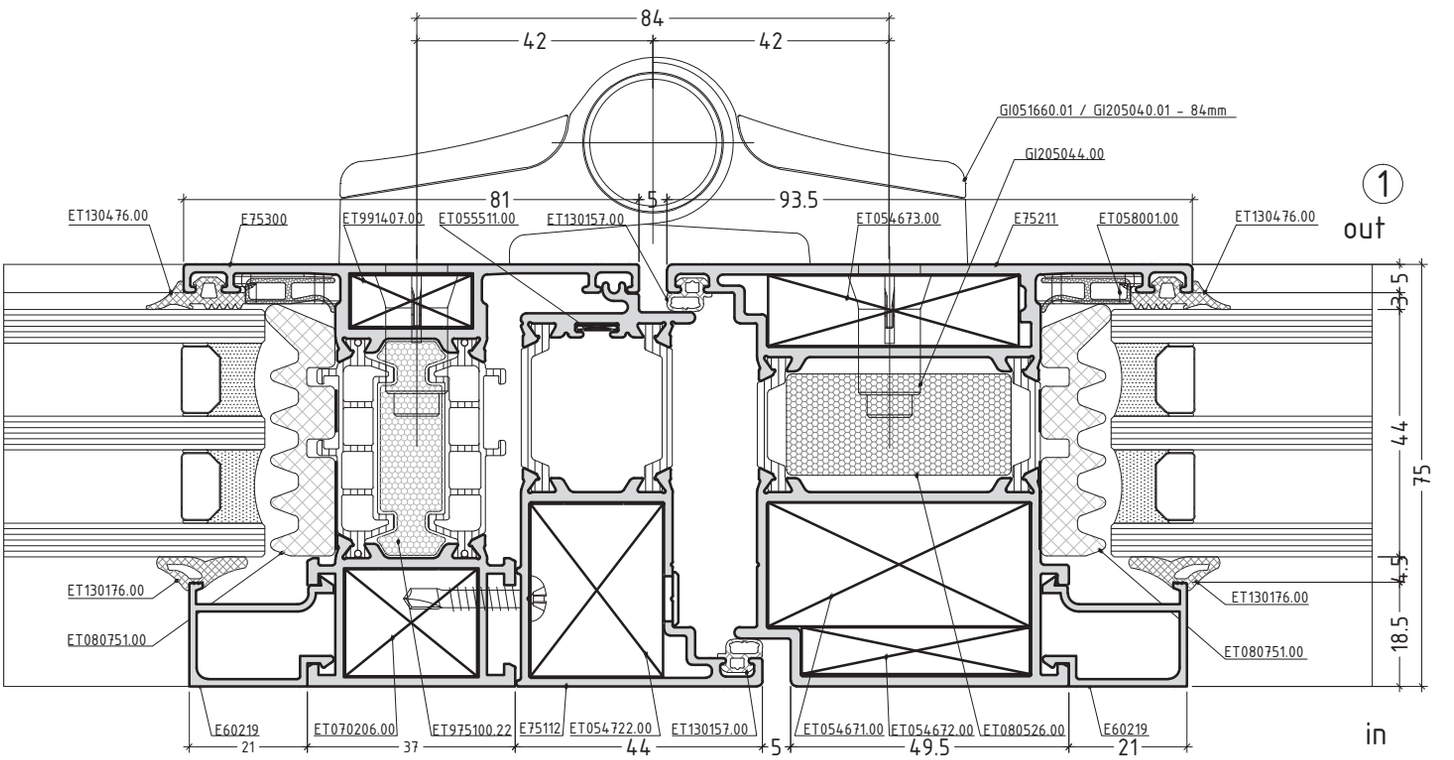

3
75
5
3
44
4.5
18.5
out
in
ET130476.00
ET130176.00
E60219
21
ET080751.00
E75121
ET070310.00
ET070214.00
122.5
93.5
ET080163.00
FFL
7

075-15


outward opening
1
out
in
168
28
10
130
6
14
8
89
41
ET130470.00
ET071183.00
ET071113.00
5
50
ET080165.00
ET130181.00
3
E85304
71.5
ET054676.00
ET054675.00
ET080526.00
71.5
E75210
5
ET130157.00
E85104
ET993022.00
ET130157.00
5
14.7
ET054673.00
ET054671.00
ET054672.00
93.5
ET080526.00
49.5
E75211
ET058001.00
E60219
21
ET080751.00
ET130476.00
ET130176.00
5
3
44
4.5
18.5
75
scale : 3/4
D75-16



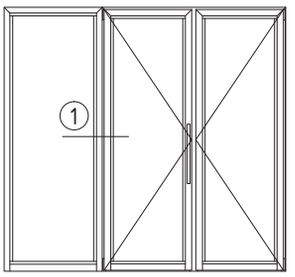




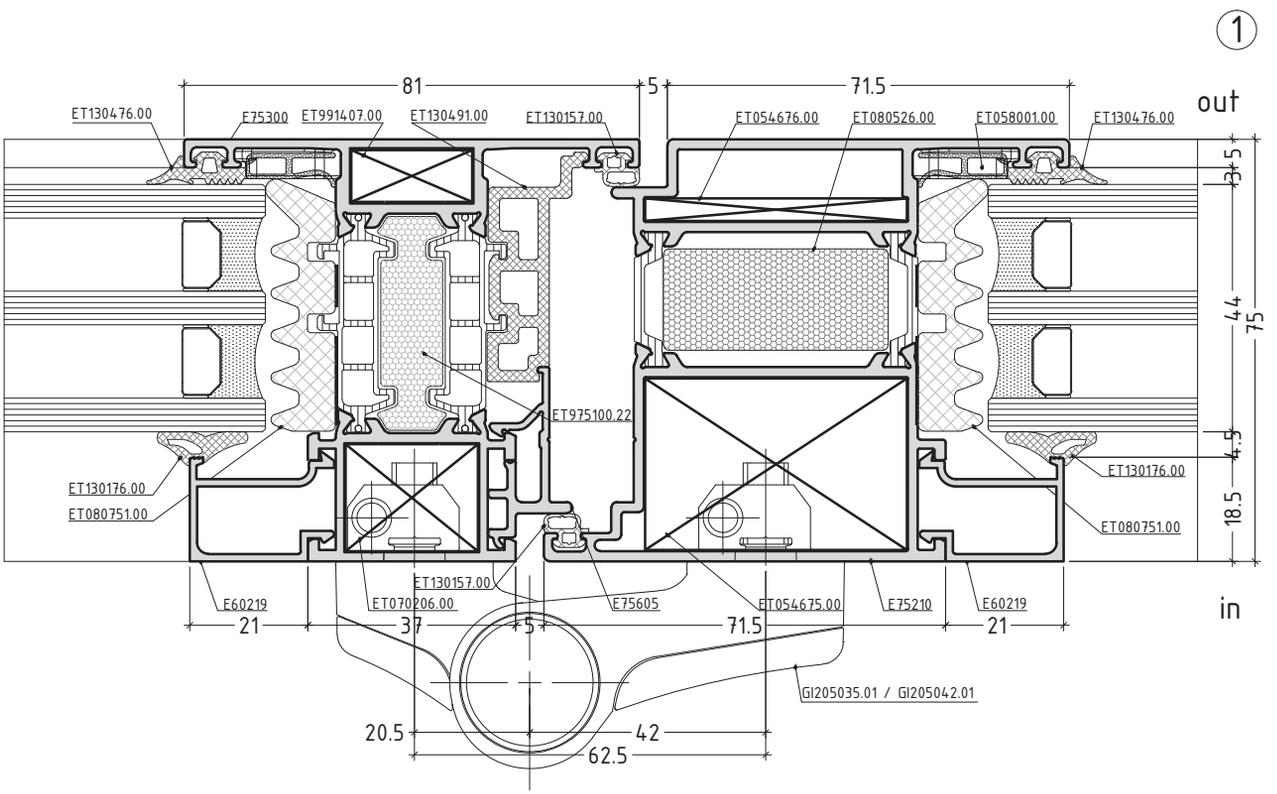
Attention:
In combination of profile E75300; E75112 and E75211 always use hinges GI051660.01 / GI205040.01 - 84mm with bolt GI205044.00

scale : 3/4

D75-17



inward opening

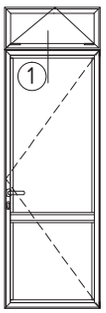


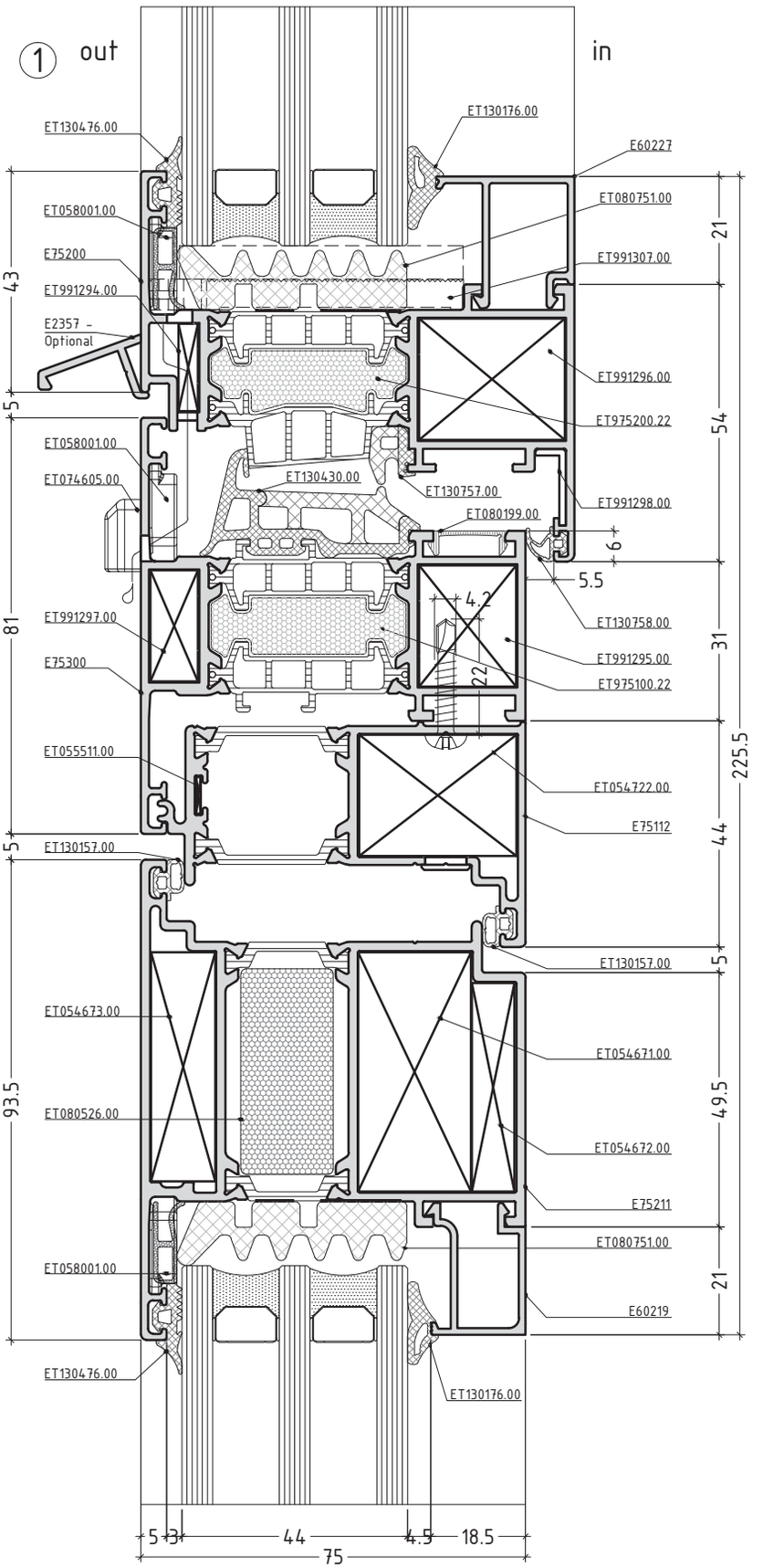
Attention:
In combination of profile E75300; E75605 and gasket ET130491.00 always use hinges GI205035.01 / GI205042.01

scale : 3/4

D75-18

outward opening

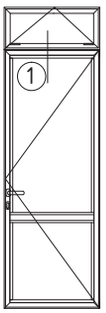


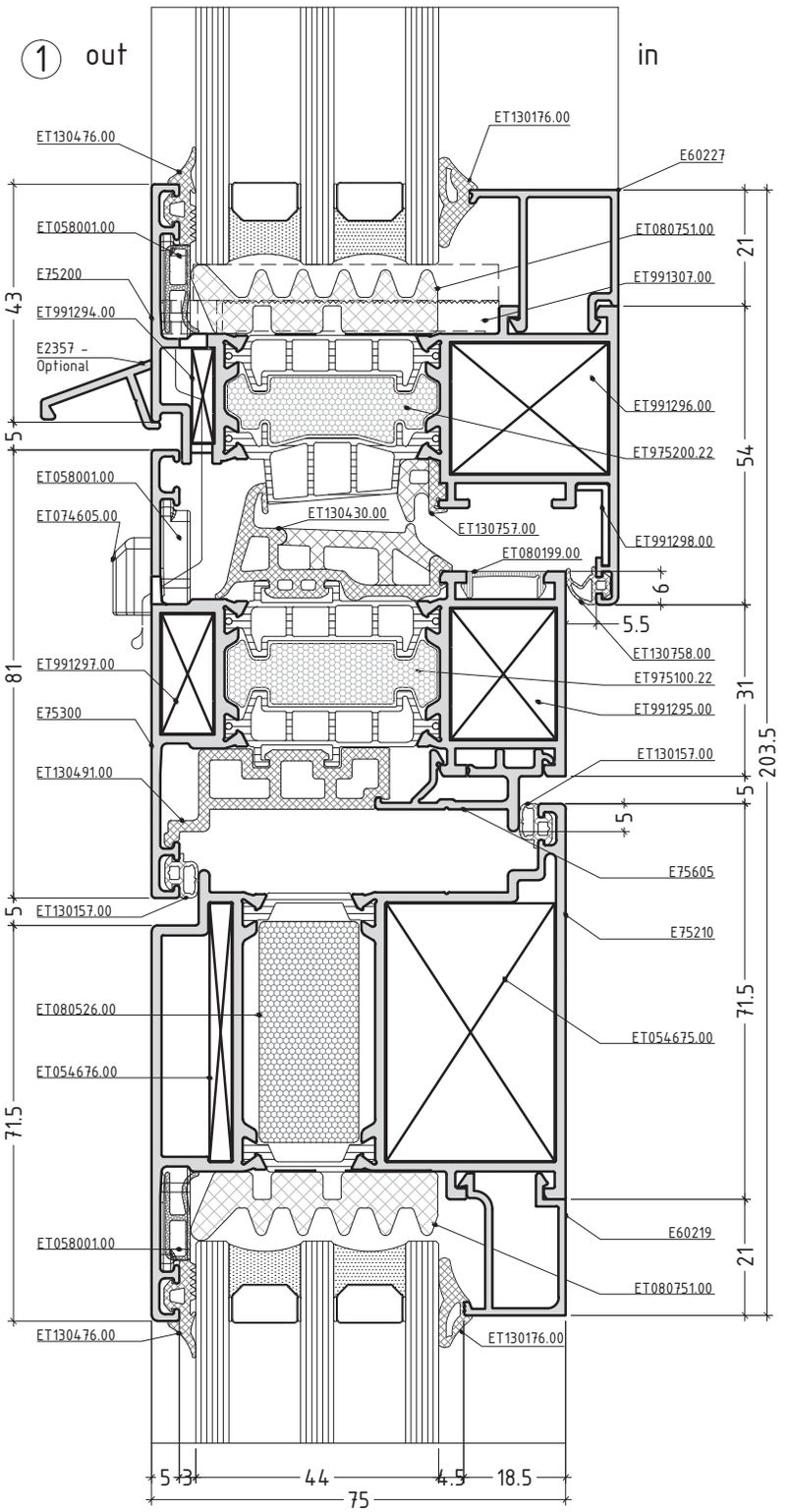


scale : 3/4

D75-19

inward opening

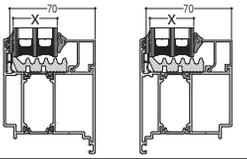
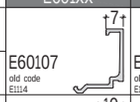
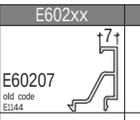
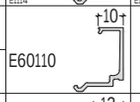
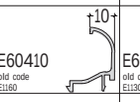
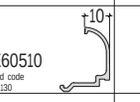
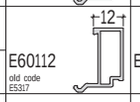
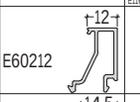
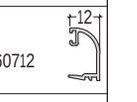
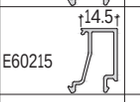
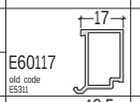
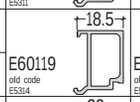
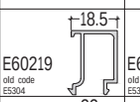
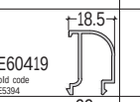
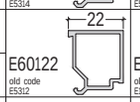
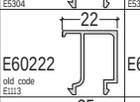
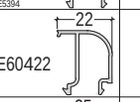
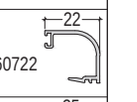
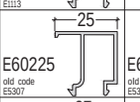
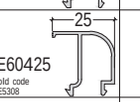
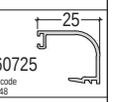
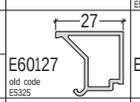
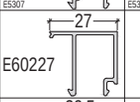
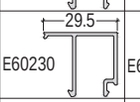
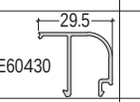
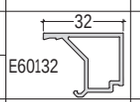
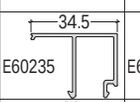
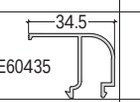
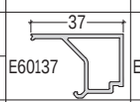
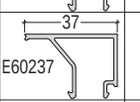
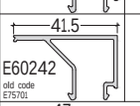
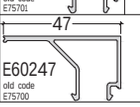




scale : 3/4

D75-20

GLAZING OPTIONS

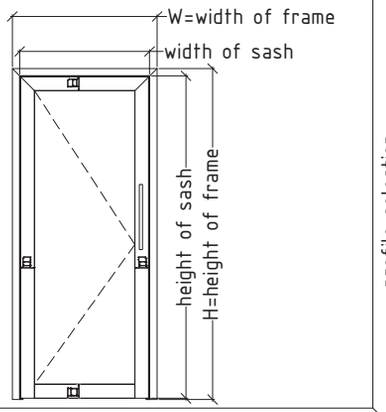
GLAZING OPTIONS										
external gaskets	INTERNAL GASKETS					GLAZING BEADS				
	5 - 6 mm 130176		7 - 8 mm 130177							
3 mm 130476	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	10 mm 130210					
4 mm 130153	X mm					E601xx	E602xx	E604xx	E605xx	E607xx
130476	55	54	53	52	50	 E60107 old code E1114	 E60207 old code E1144			
130153	54	53	52	51	49					
130476	52	51	50	49	47	 E60110		 E60410 old code E1160	 E60510 old code E1130	
130153	51	50	49	48	46					
130476	50	49	48	47	45	 E60112 old code E5317	 E60212			 E60712
130153	49	48	47	46	44					
130476	48	47	46	45	43		 E60215			
130153	47	46	45	44	42					
130476	45	44	43	42	40	 E60117 old code E5311				
130153	44	43	42	41	39					
130476	43	42	41	40	38	 E60119 old code E5314	 E60219 old code E5304	 E60419 old code E5394		
130153	42	41	40	39	37					
130476	40	39	38	37	35	 E60122 old code E5312	 E60222 old code E1113	 E60422		 E60722
130153	39	38	37	36	34					
130476	37	36	35	34	32		 E60225 old code E5307	 E60425 old code E5308		 E60725 old code E5348
130153	36	35	34	33	31					
130476	35	34	33	32	30	 E60127 old code E5325	 E60227			
130153	34	33	32	31	29					
130476	32	31	30	29	27		 E60230	 E60430		
130153	31	30	29	28	26					
130476	30	29	28	27	25	 E60132				
130153	29	28	27	26	24					
130476	27	26	25	24	22		 E60235	 E60435		
130153	26	25	24	23	21					
130476	25	24	23	22	20	 E60137	 E60237			
130153	24	23	22	21	19					
130476	20	19	18	17	15		 E60242 old code E75701			
130153	19	18	17	16	14					
130476	15	14	13	12	10		 E60247 old code E75700			
130153	14	13	12	11	9					

Note:
Tolerance in dimension chain ±0.5mm

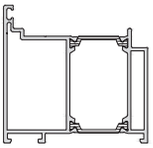
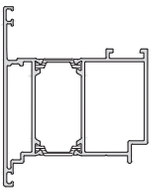
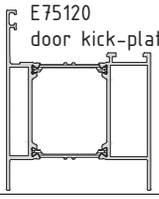
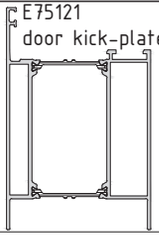
T75D-01

CUTTING LISTS & MACHINING

outward opening - single sash door



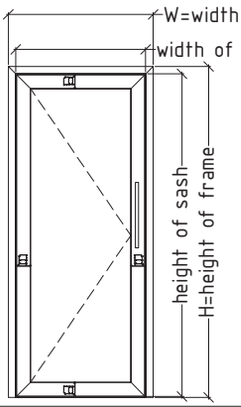
profile selection

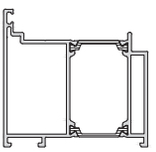
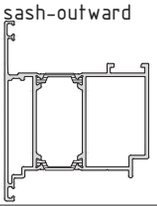
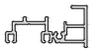
profile selection		calculation of cutting lenght for one sash door		
		pieces	cutting formula	cutting angles
E75111 frame-outward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75211 sash-outward 	width of sash-outward	1	W - 109	2x45°
	height of sash-outward left	1	H - 61.5	1x45° + 1x90° up down
	height of sash-outward right	1	H - 61.5	1x45° + 1x90° up down
option 1				
E75120 door kick-plate 	width of door kick-plate	1	width of sash-134,5	2x90°
option 2				
E75121 door kick-plate 	width of door kick-plate	1	width of sash-134,5	2x90°

not to scale

M75D-1

outward opening – single sash door

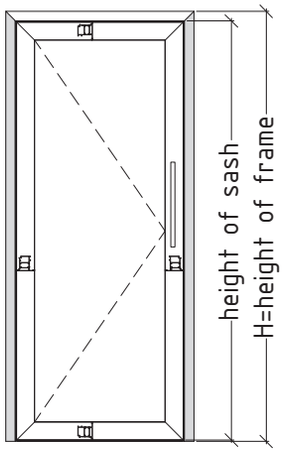


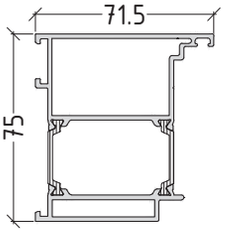
profile selection		calculation of cutting lenght for one sash door		
		pieces	cutting formula	cutting angles
E75111 frame-outward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75211 sash-outward 	width of sash-outward	2	W – 109	2x45°
	height of sash-outward	2	H – 61.5	2x45°
option 1				
E75810 or E75811 	width of door threshold	1	W – 143	2x90°
E75802 bottom rail	width of bottom rail	1	width of sash-32	2x90°
E75801 	width of addition	1	width of sash-47	2x90°
option 2				
E75800 bottom rail – optional finish 	width of bottom rail	1	width of sash-48	2x90°
E75805 – optional finish	width of door threshold	1	W – 125	2x90°

not to scale

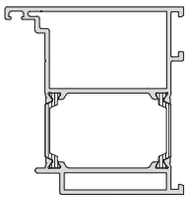
M750-2

outward opening – single sash door

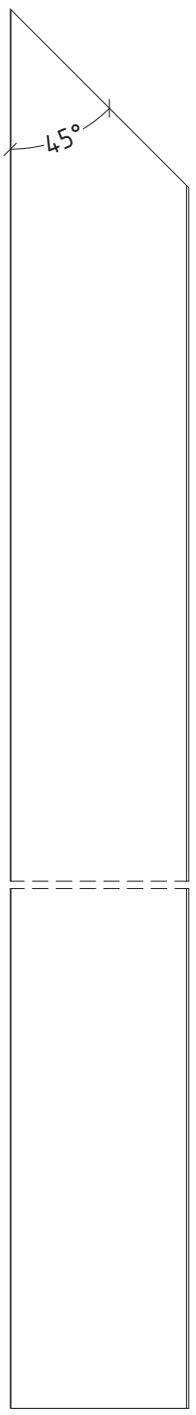


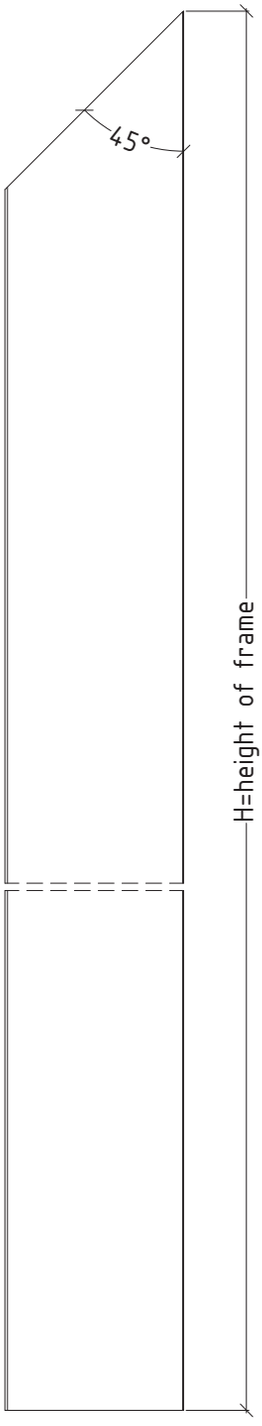


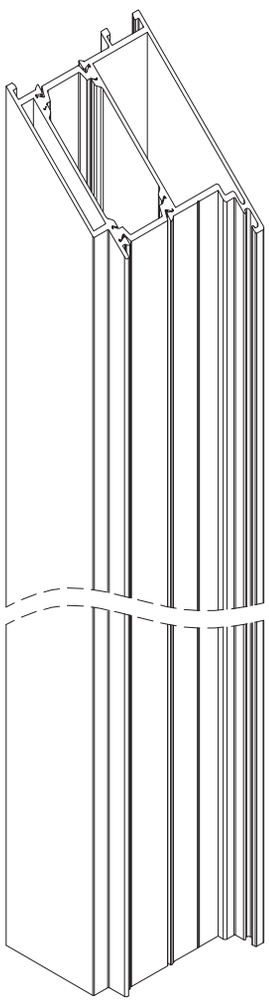
E75111
frame-outward

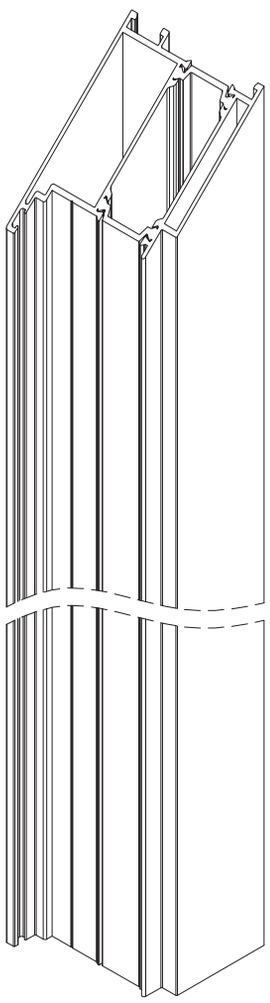


E75111
frame-outward





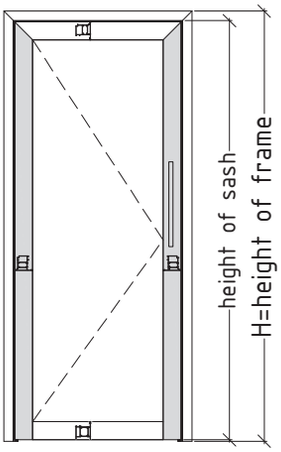


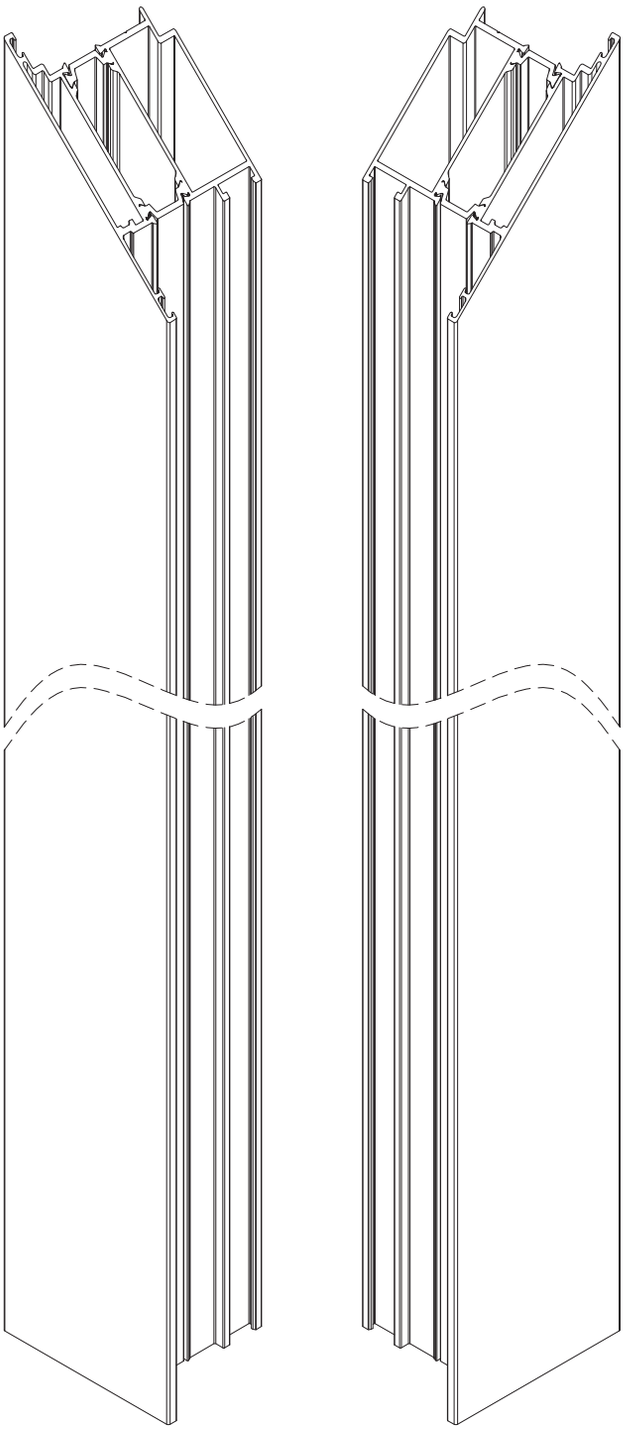


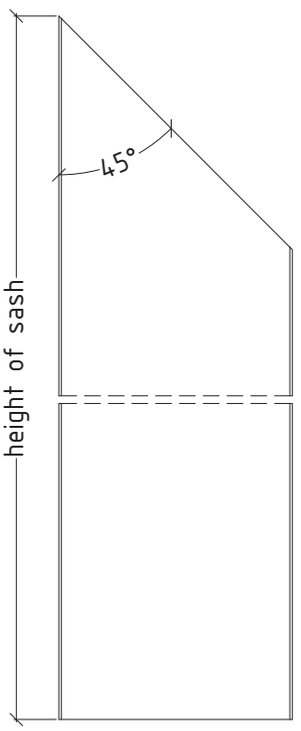
not to scale

M75D-3

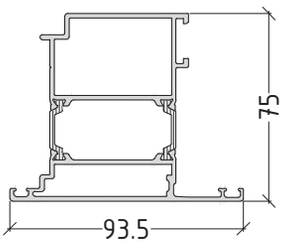
outward opening – single sash door

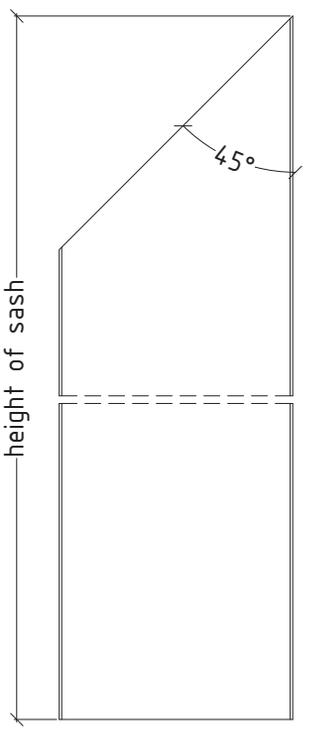




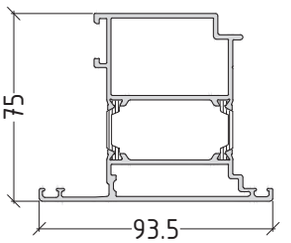


E75211
sash-outward





E75211
sash-outward

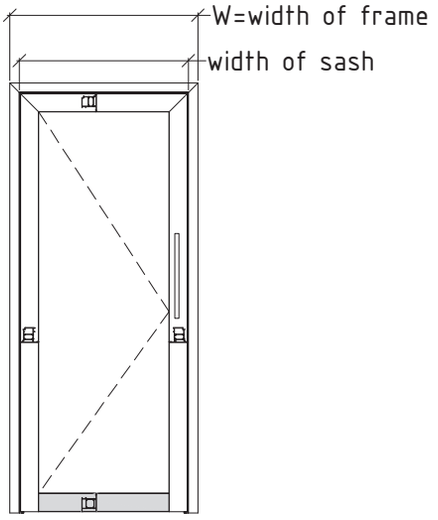


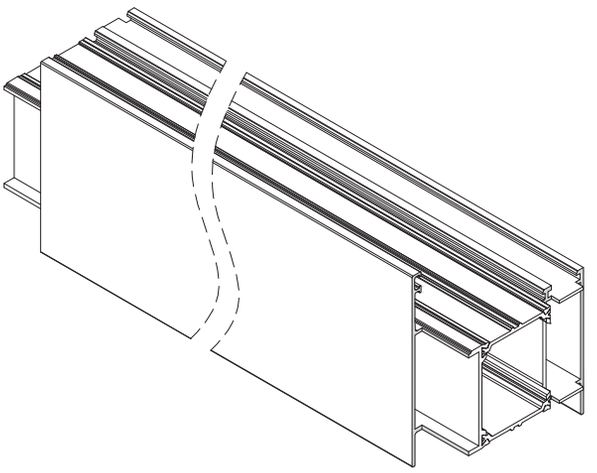
not to scale

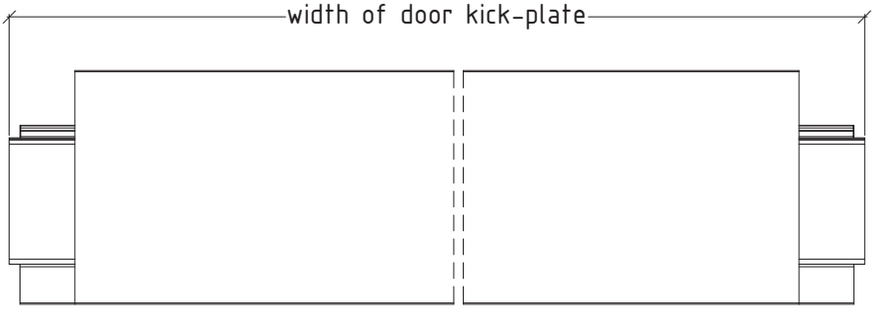
height of sash = H–61.5

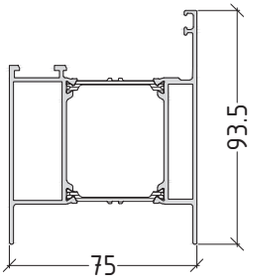
M750-4

outward / inward opening - single sash door

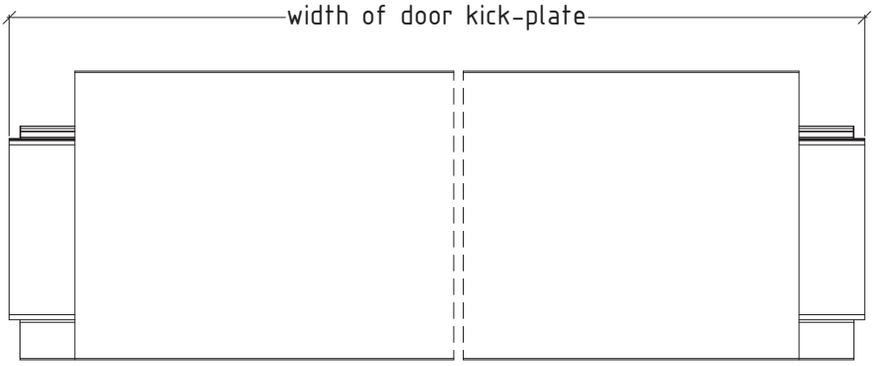


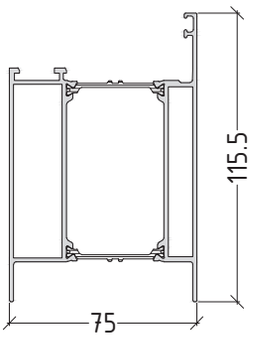


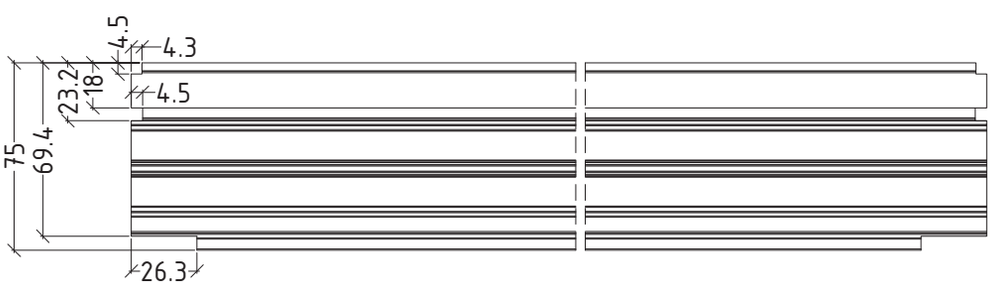




E75120 or E75121
door kick-plate



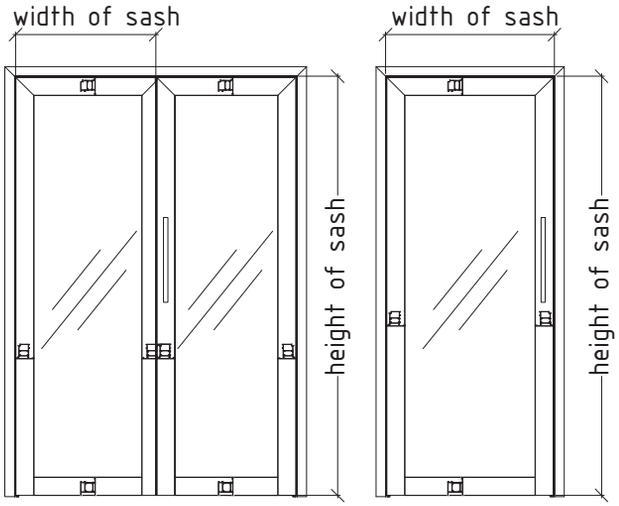


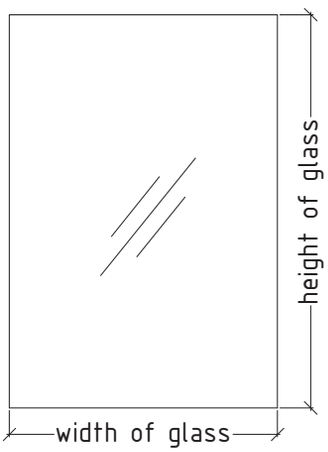
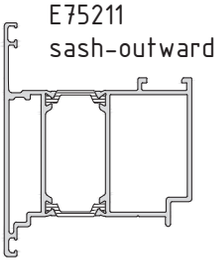
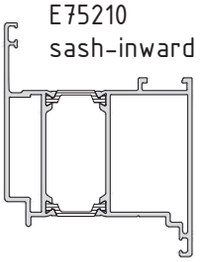
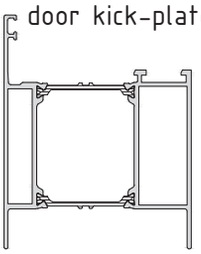
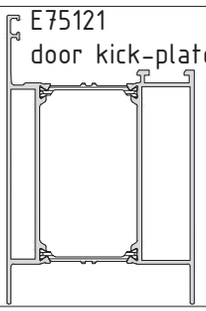


not to scale

width of door kick-plate= width of sash-134,5

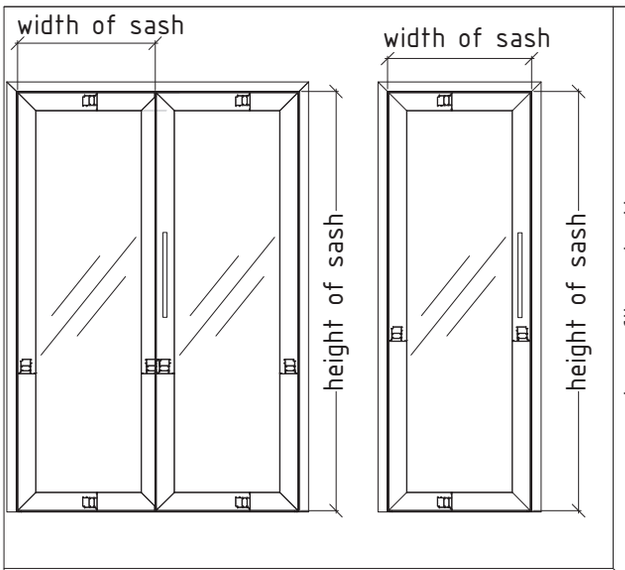
M75D-5

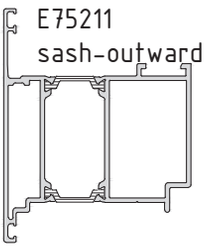
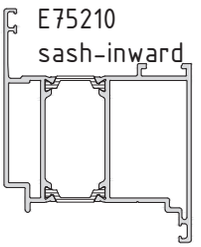
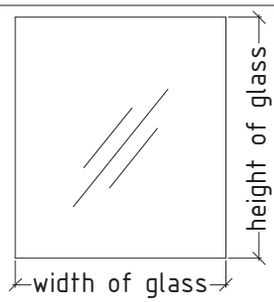


bottom rail profile selection	sash profile selection	calculation of cutting length for glass unit	
		 E75211 sash-outward	 E75210 sash-inward
		cutting formula	cutting formula
 E75120 door kick-plate	width of glass	width of sash-157	width of sash-157
	height of glass	height of sash-157	height of sash-157
 E75121 door kick-plate	width of glass	width of sash-157	width of sash-157
	height of glass	height of sash-179	height of sash-179

not to scale

M75D-6

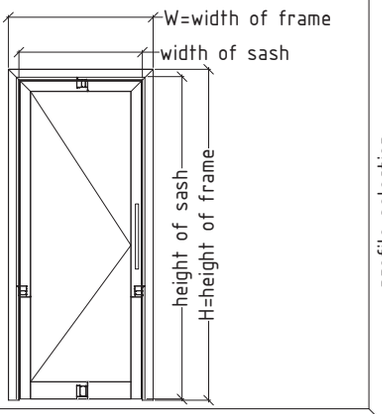


sash profile selection / dimension of glass unit		calculation of cutting length for glass unit	
		 E75211 sash-outward	 E75210 sash-inward
		cutting formula	cutting formula
 height of glass, width of glass	width of glass	width of sash-157	width of sash-157
	height of glass	height of sash-157	height of sash-157

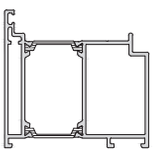
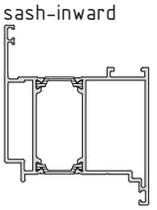
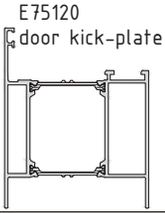
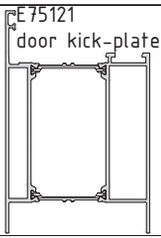
not to scale

M75D-7

inward opening – single sash door



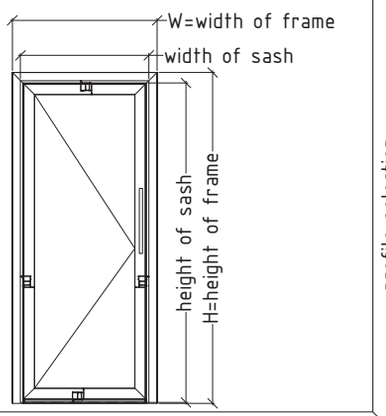
profile selection

profile selection		pieces	cutting formula	cutting angles
E75110 frame-inward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75210 sash-inward 	width of sash-inward	1	W - 109	2x45°
	height of sash-inward left	1	H - 61.5	1x45° + 1x90° up down
	height of sash-inward right	1	H - 61.5	1x45° + 1x90° up down
option 1				
E75120 door kick-plate 	width of door kick-plate	1	width of sash-134,5	2x90°
option 2				
E75121 door kick-plate 	width of door kick-plate	1	width of sash-134,5	2x90°

not to scale

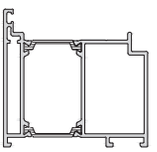
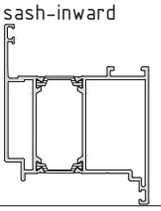
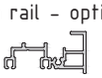
M750-8

inward opening – single sash door



profile selection

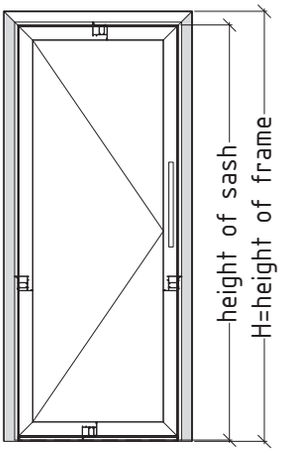
calculation of cutting lenght for one sash door

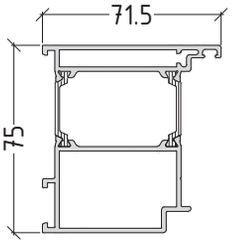
profile selection		pieces	cutting formula	cutting angles
E75110 frame-inward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75210 sash-inward 	width of sash-inward	2	W – 109	2x45°
	height of sash-inward	2	H – 61.5	2x45°
option 1				
E75810 or E75811 	width of door threshold	1	W – 143	2x90°
E75802 bottom rail	width of bottom rail	1	width of sash-32	2x90°
E75801 	width of addition	1	width of sash-47	2x90°
option 2				
E75800 bottom rail – optional finish 	width of bottom rail	1	width of sash-48	2x90°
E75805 – optional finish 	width of door threshold	1	W – 125	2x90°

not to scale

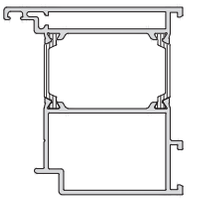
M75D-9

inward opening – single sash door

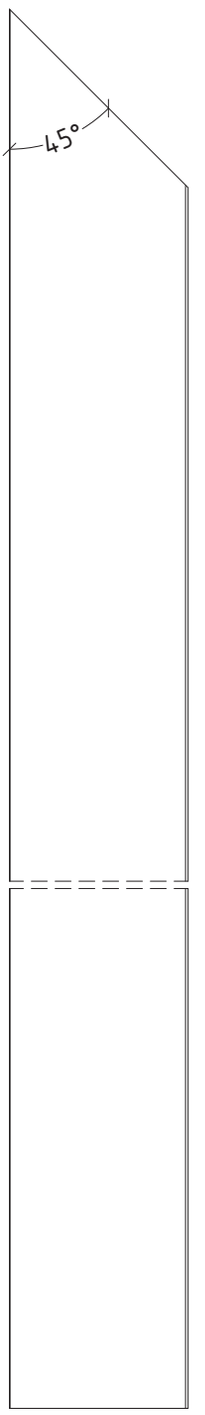


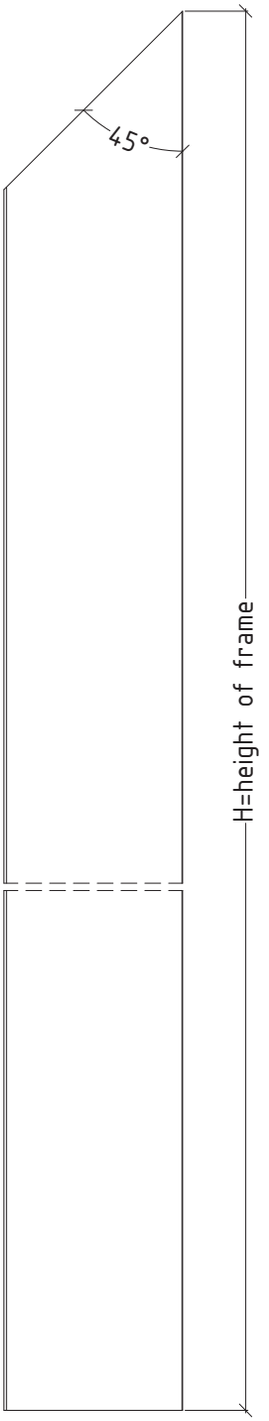


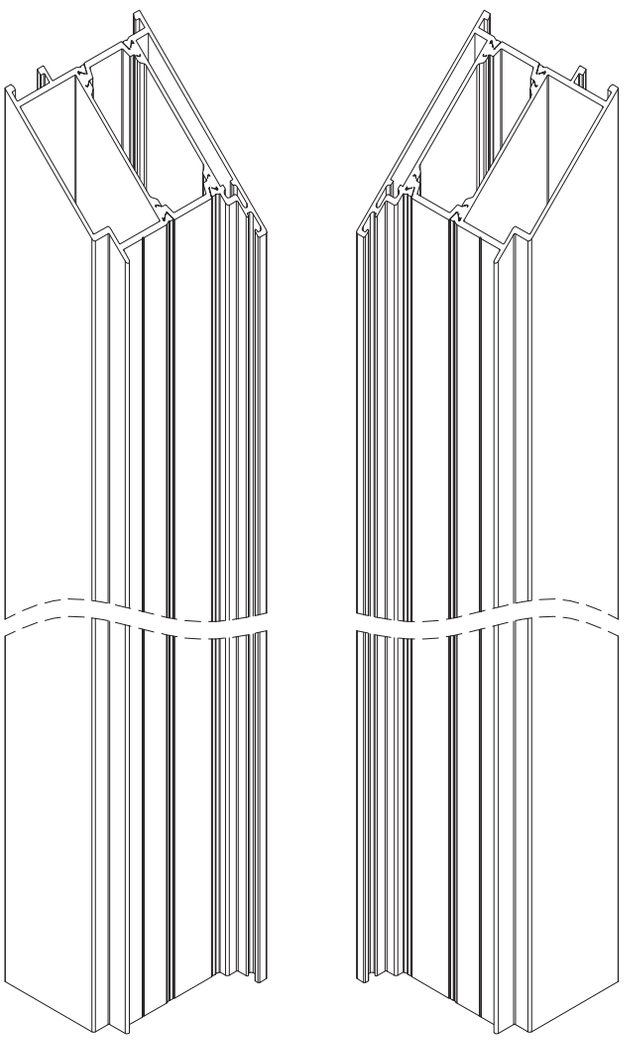
E75110
frame-inward



E75110
frame-inward



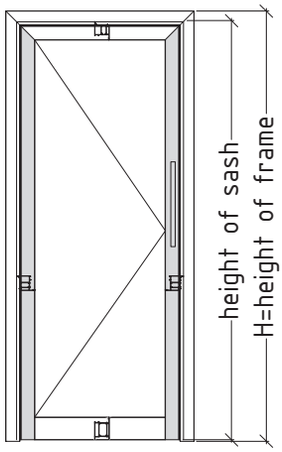


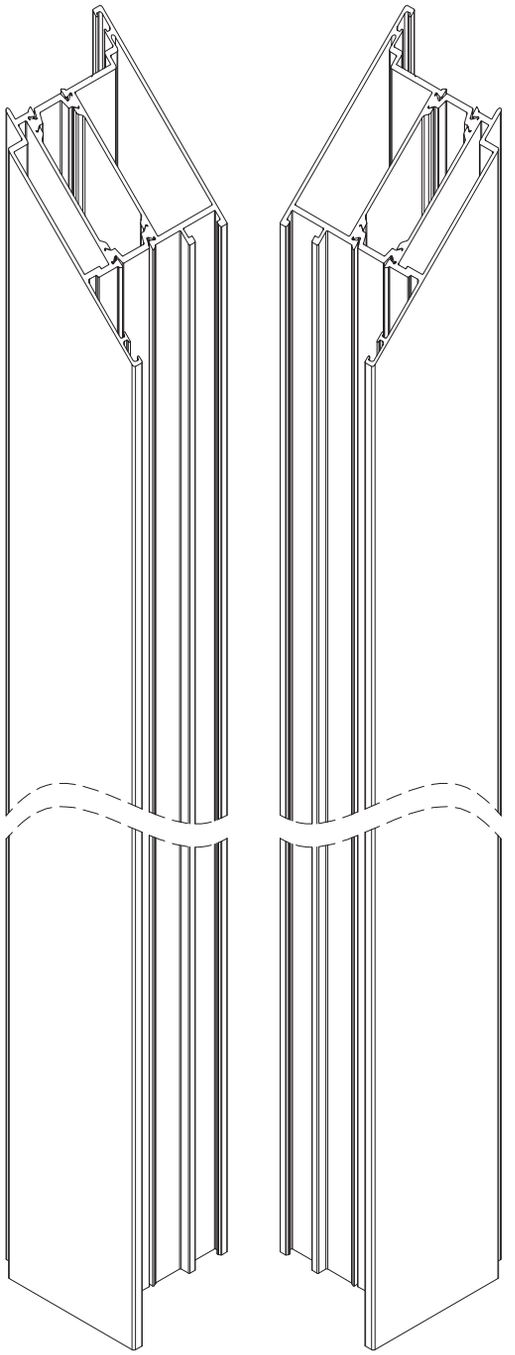


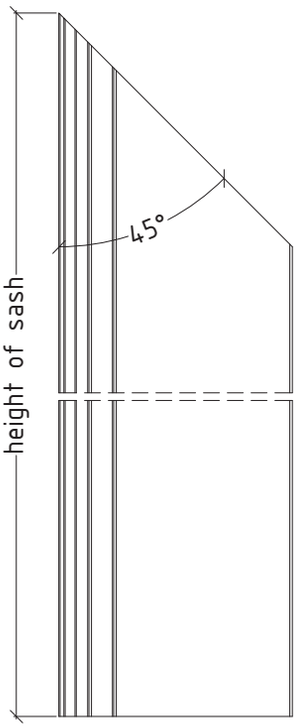
not to scale

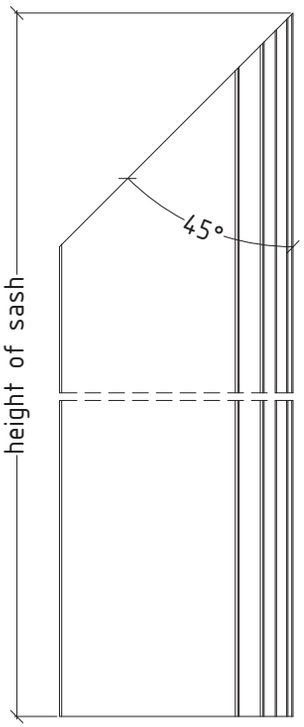
M75D-10

inward opening – single sash door

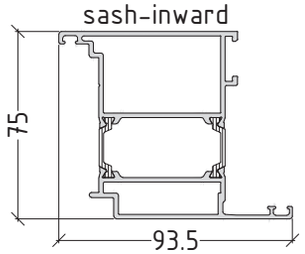




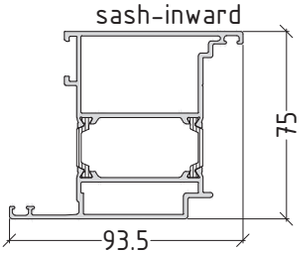




E75210
sash-inward



E75210
sash-inward

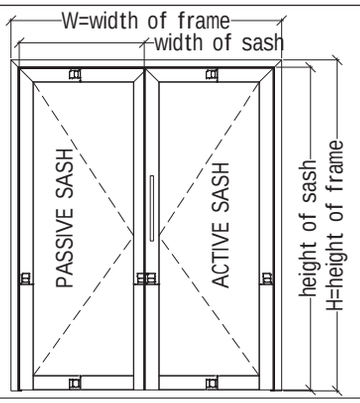


height of sash = H-61.5

not to scale

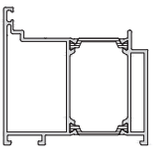
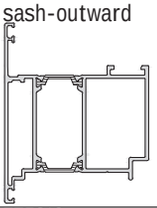
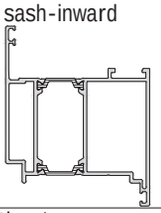
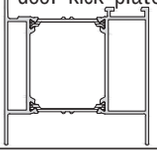
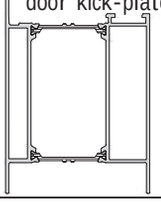
M75D-11

outward opening - double sash door



profile selection

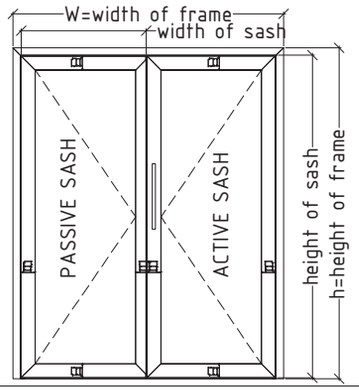
calculation of cutting lenght for two sash door

profile selection		pieces	cutting formula	cutting angles
E75111 frame-outward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75211 sash-outward 	width of sash-outward	2	$\frac{W - 94}{2}$	2x45°
	height of sash-outward	2 + 1	H - 61.5	1x45° + 1x90° up down
E75210 sash-inward 	height of sash-inward	1	H - 61.5	1x45° + 1x90° up down
option 1				
E75120 door kick-plate 	width of door kick-plate	2	width of sash-134,5	2x90°
option 2				
E75121 door kick-plate 	width of door kick-plate	2	width of sash-134,5	2x90°

not to scale

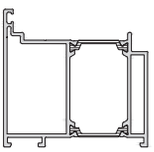
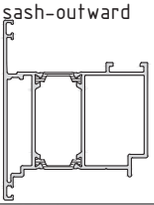
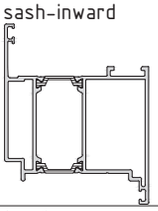
M75D-12

outward opening - double sash door



profile selection

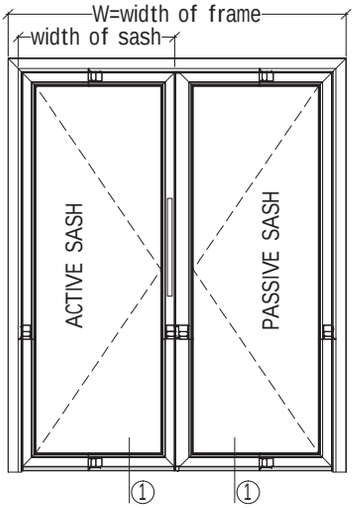
calculation of cutting lenght for two sash door

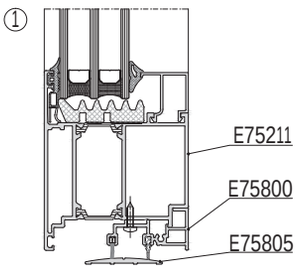
profile selection		pieces	cutting formula	cutting angles
E75111 frame-outward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75211 sash-outward 	width of sash-outward	4	$\frac{W - 94}{2}$	2x45°
	height of sash-outward	2 + 1	H - 61.5	2x45°
E75210 sash-inward 	height of sash-inward	1	H - 61.5	2x45°
option 1				
E75810 or E75811 	width of door threshold	1	W - 143	2x90°
E75802 bottom rail	width of bottom rail	2	width of sash-32	2x90°
E75801 	width of addition	1	width of sash-47 for active sash	2x90°
	width of addition	1	width of sash-25 for passive sash	2x90°

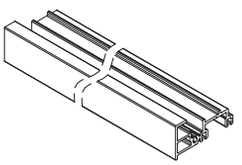
not to scale

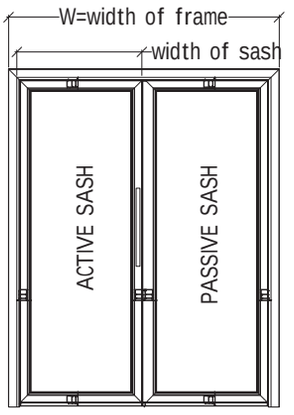
M75D-13

outward opening - double sash door







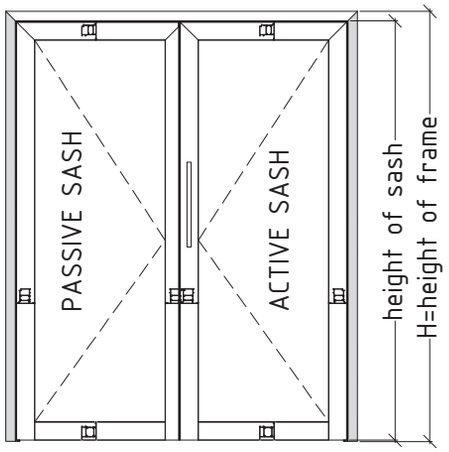


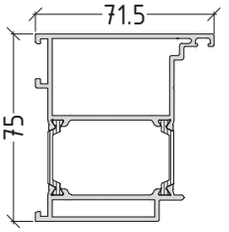
profile selection		calculation of cutting lenght for two sash door		
		pieces	cutting formula	cutting angles
option 2				
E75800 bottom rail 	width of bottom rail	1	width of sash-48 for active sash	2x90°
	width of bottom rail	1	width of sash-42 for passive sash	2x90°
E75805	width of door threshold	1	W - 125	2x90°

not to scale

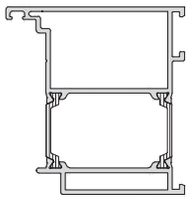
M75D-14

outward opening - double sash door

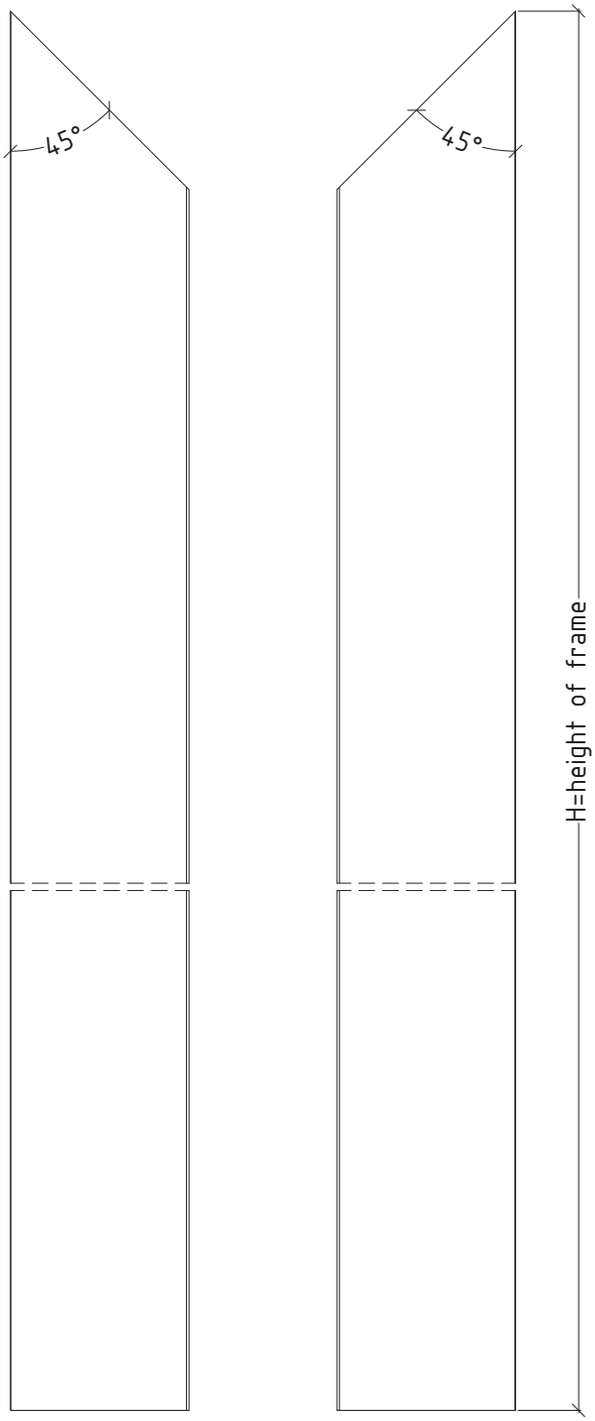


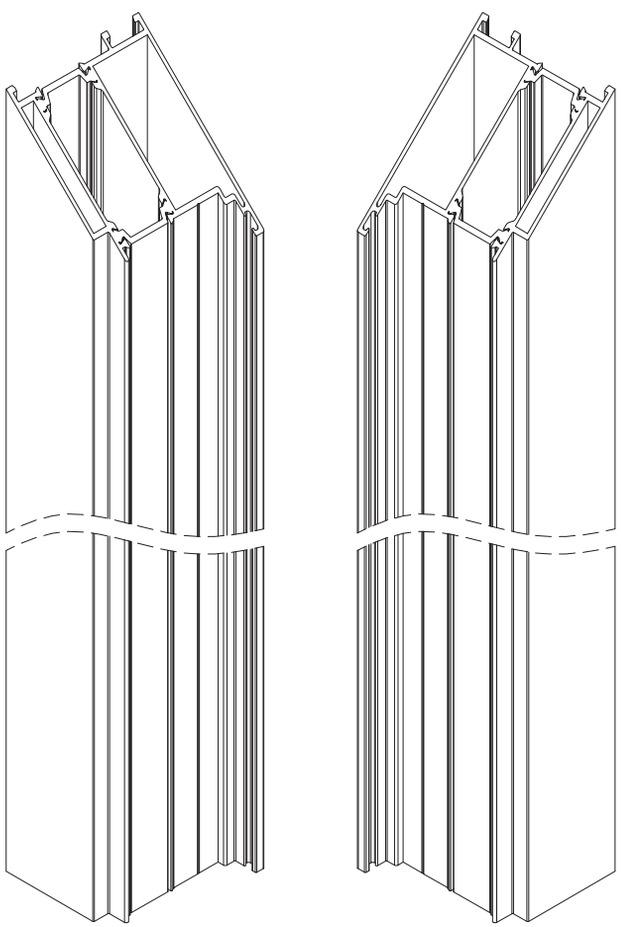


E75111
frame-outward



E75111
frame-outward

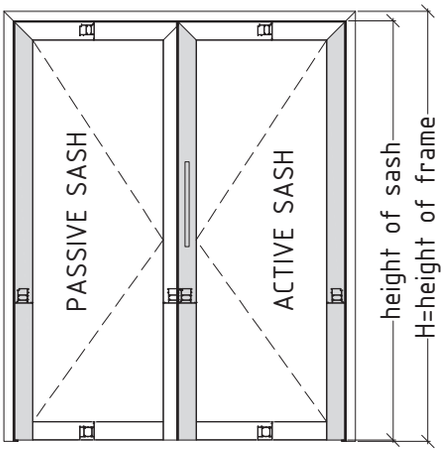


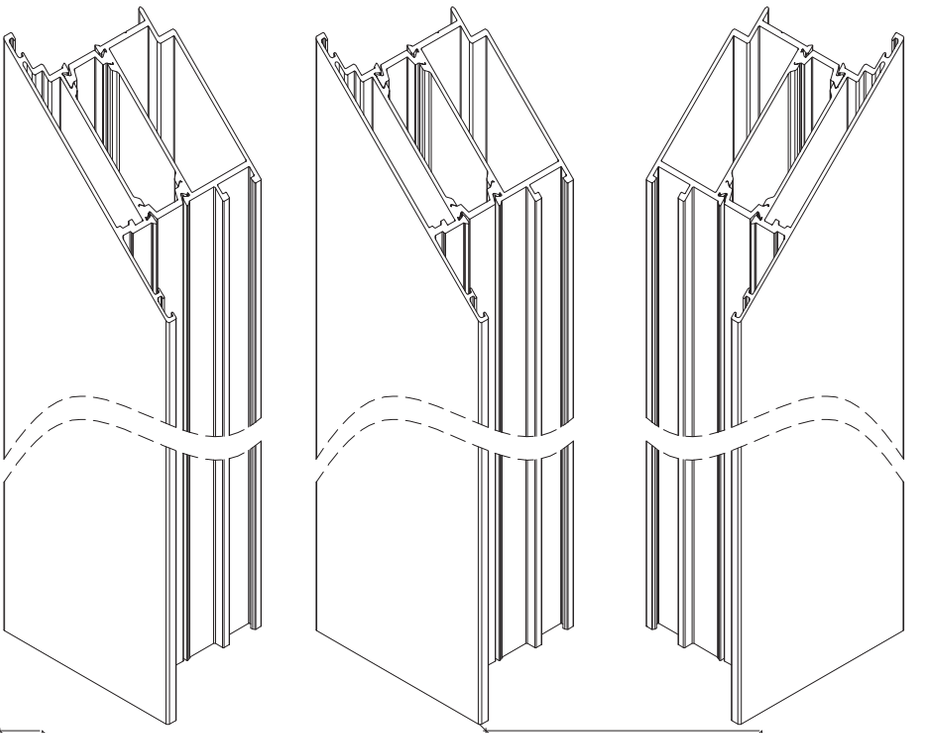


not to scale

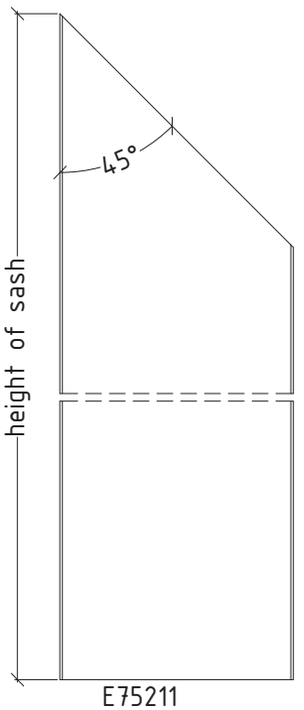
M75D-15

outward opening - double sash door

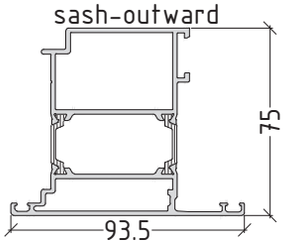


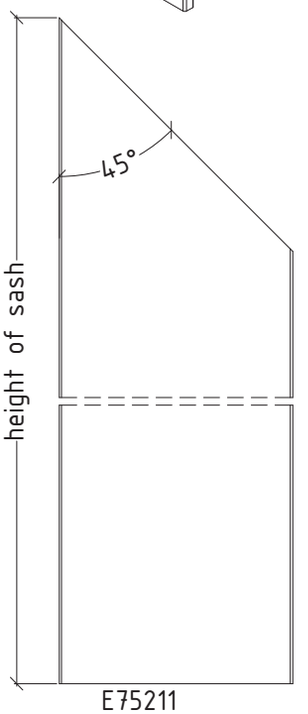


height of sash = H - 61.5

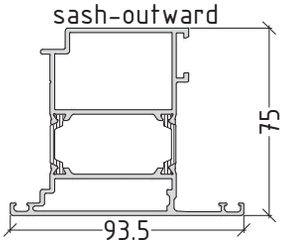


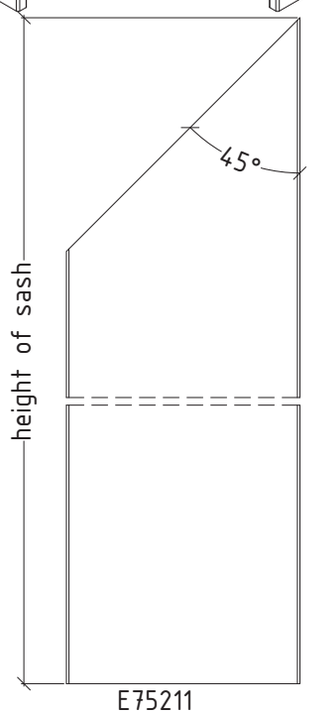
E75211
sash-outward



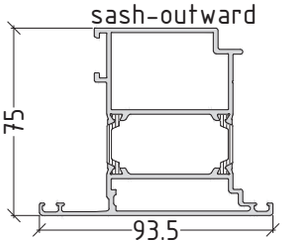


E75211
sash-outward





E75211
sash-outward

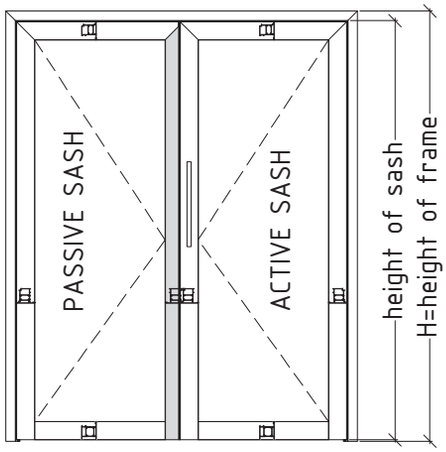


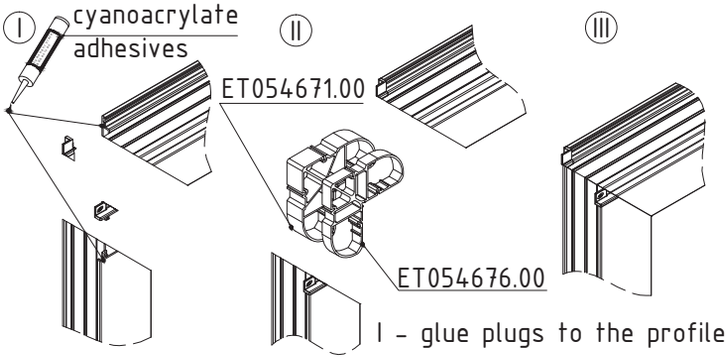
not to scale

height of sash = H-61.5

M75D-16

outward opening - double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I - glue plugs to the profile

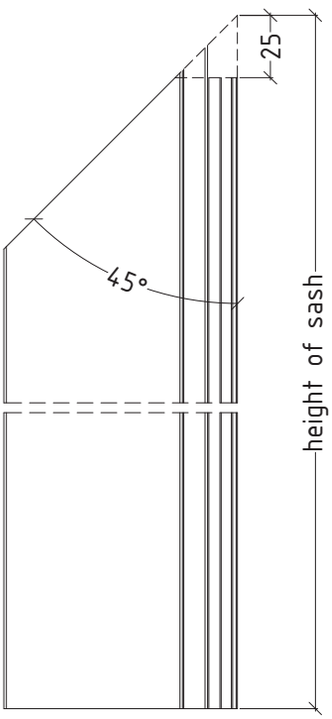
II - insert corner brackets in combination

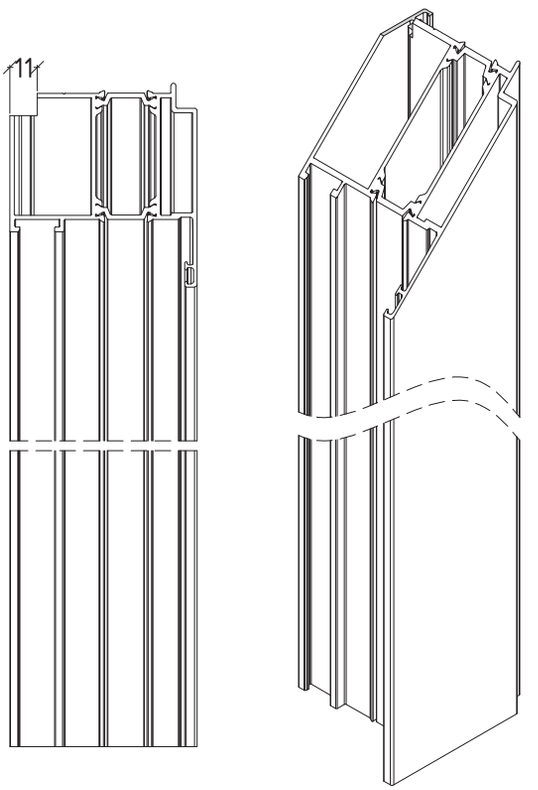
ET054671.00 + ET054676.00

for sash

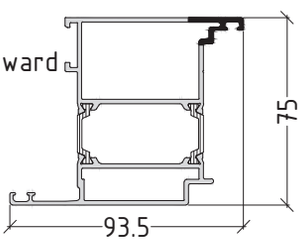
E75210 sash-inward + E75211 sash-outward

III - crimp profiles





E75210
sash-inward

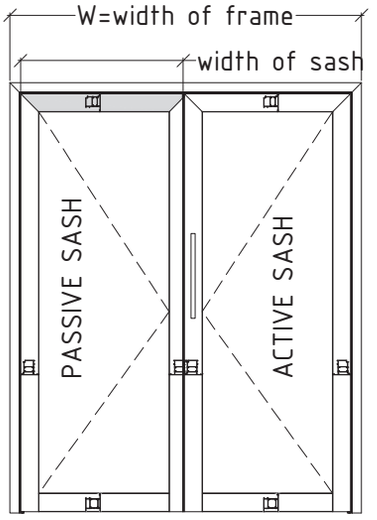


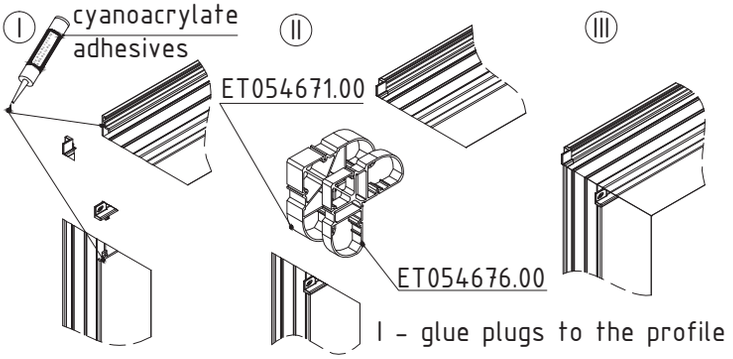
not to scale

height of sash = H-61.5

M75D-17

outward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

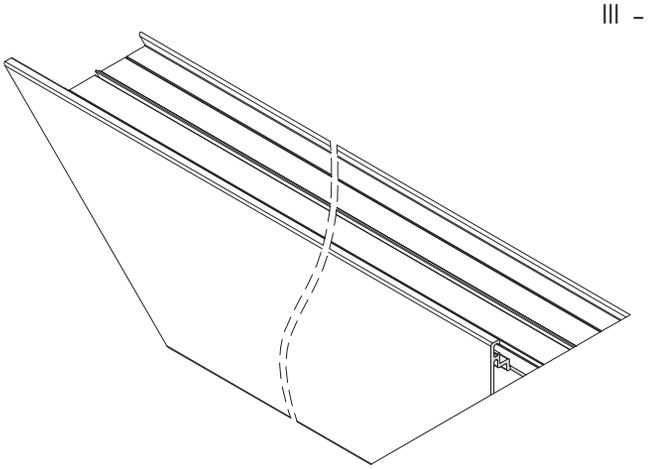
II – insert corner brackets in combination

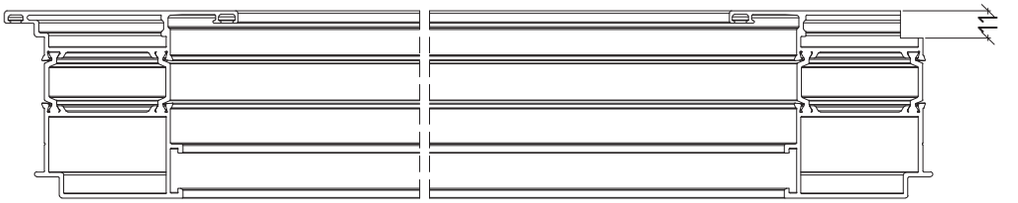
ET054671.00 + ET054676.00

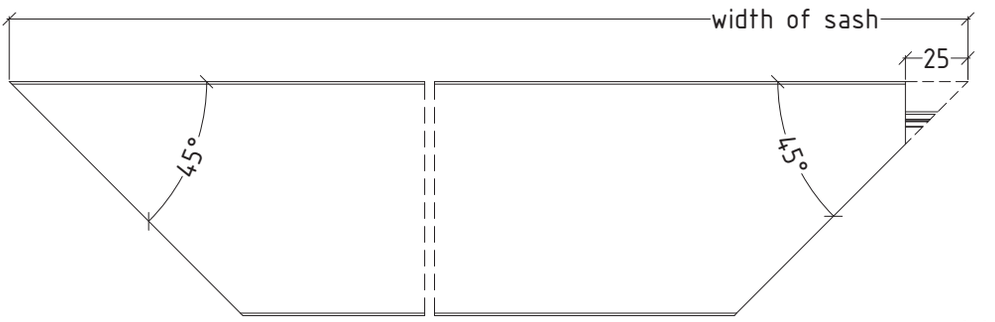
for sash

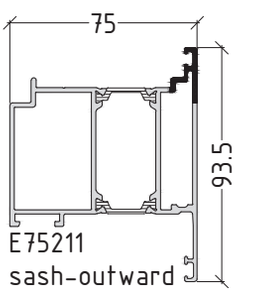
E75210 sash-inward + E75211 sash-outward

III – crimp profiles







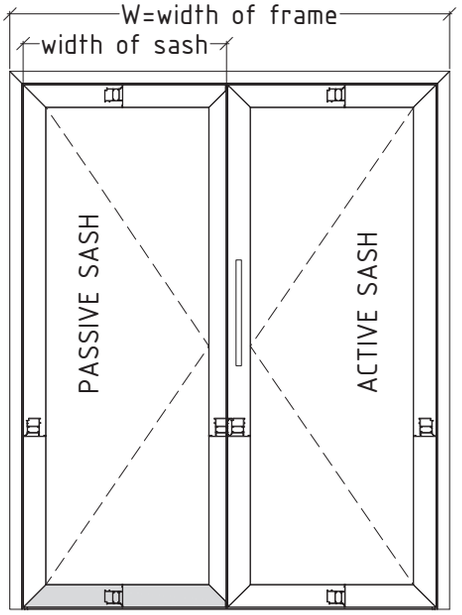


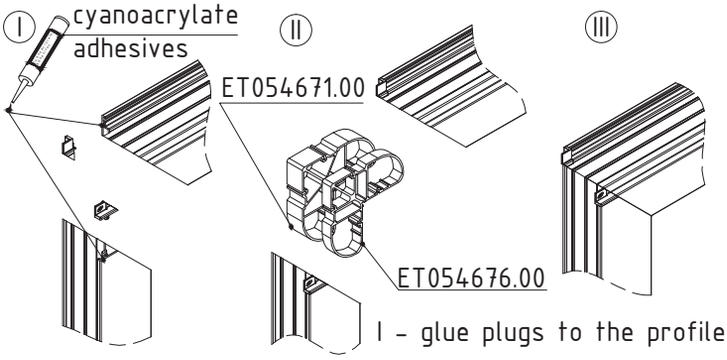
$$\text{width of sash} = \frac{W - 94}{2}$$

not to scale

M75D-18

outward opening - double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I - glue plugs to the profile

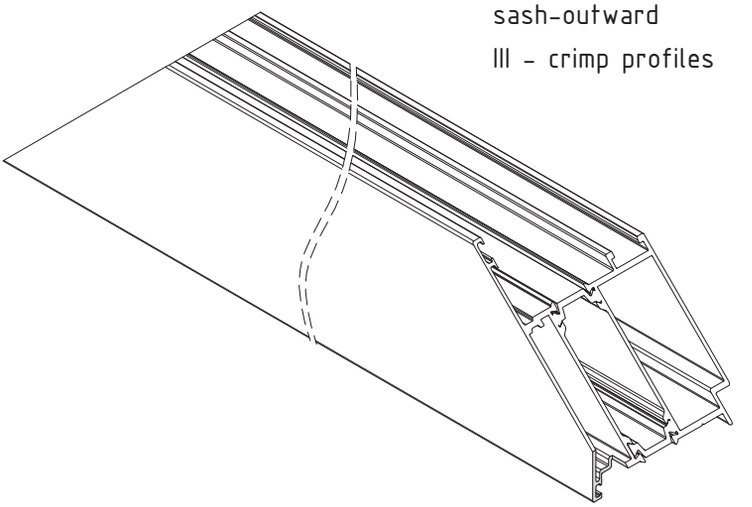
II - insert corner brackets in combination

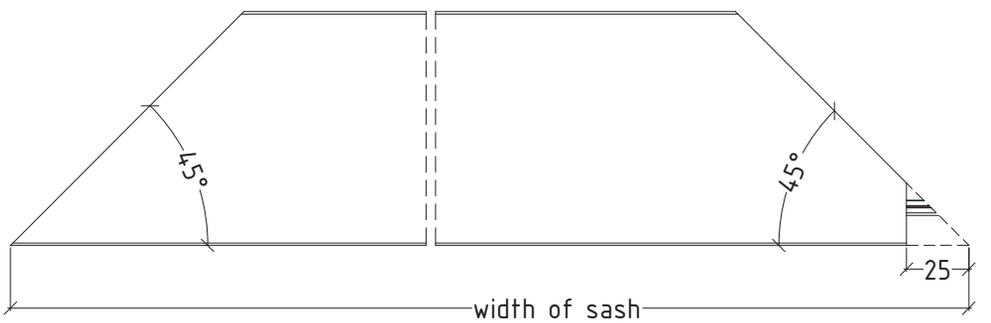
ET054671.00 + ET054676.00

for sash

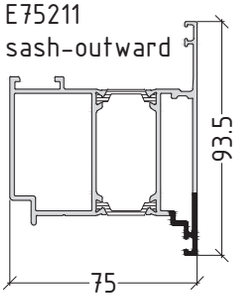
E75210 sash-inward + E75211 sash-outward

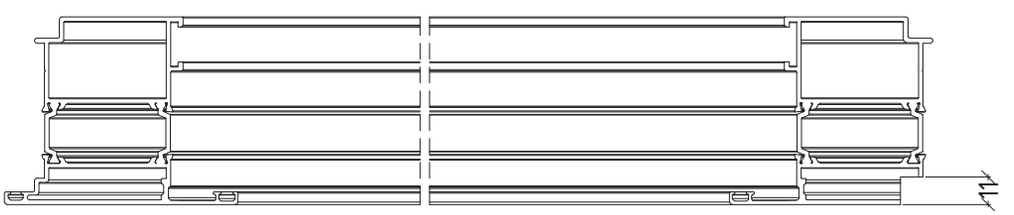
III - crimp profiles





E75211
sash-outward



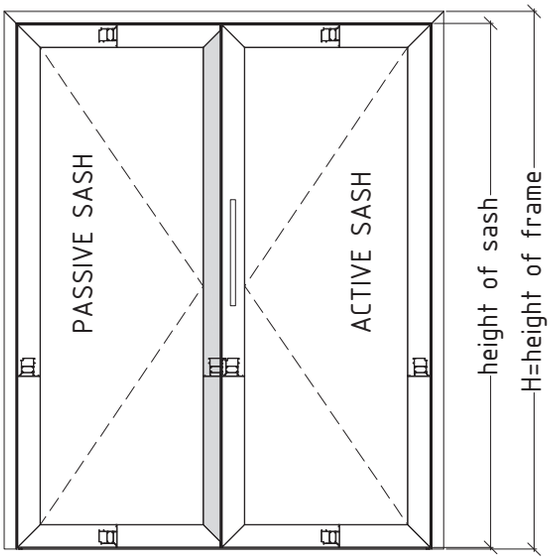


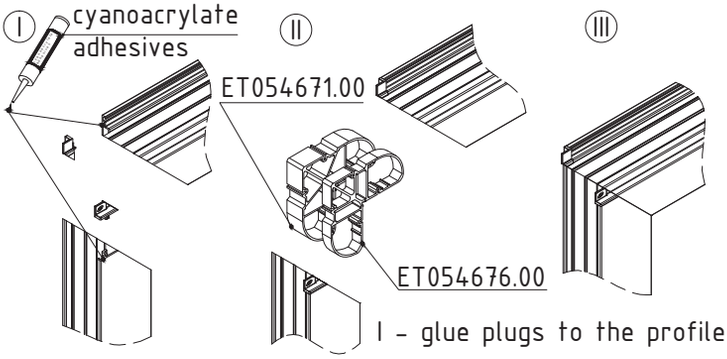
not to scale

$$\text{width of sash} = \frac{W - 94}{2}$$

M75D-19

outward opening - double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I - glue plugs to the profile

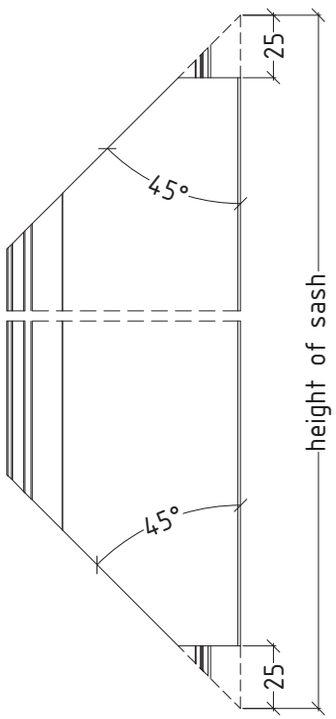
II - insert corner brackets in combination

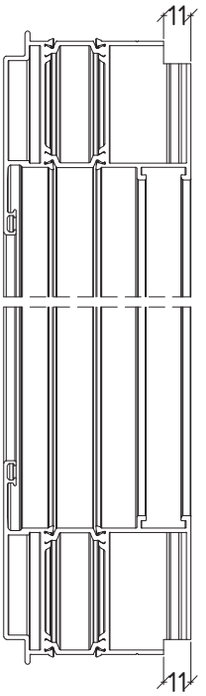
ET054671.00 + ET054676.00

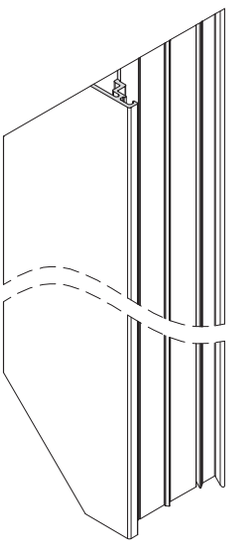
for sash

E75210 sash-inward + E75211 sash-outward

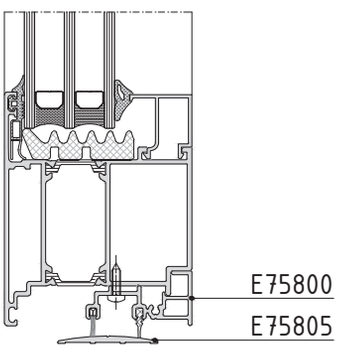
III - crimp profiles

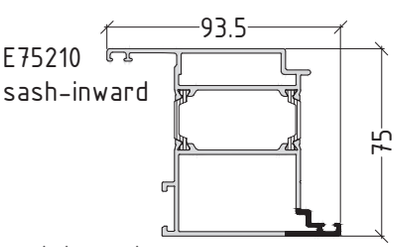






These machinings are for door with brush holder E75800 and E75805 threshold



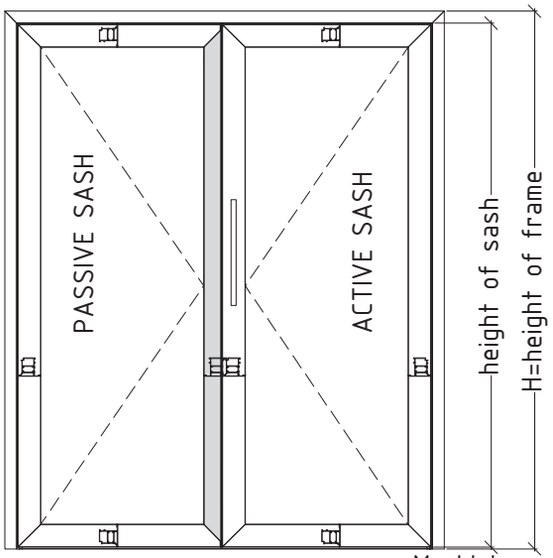


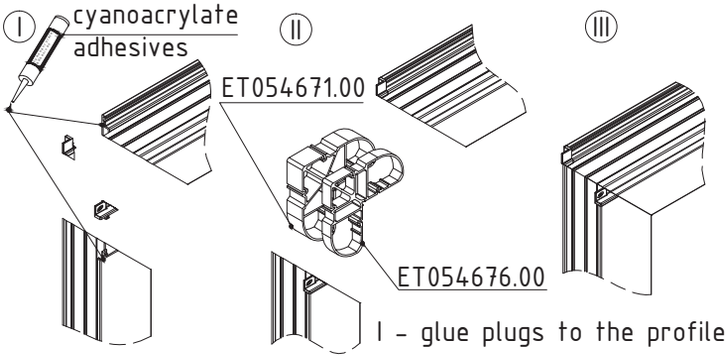
not to scale

height of sash = H-61.5

M75D-20

outward opening - double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I - glue plugs to the profile

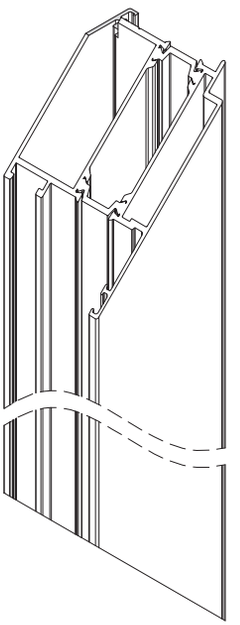
II - insert corner brackets in combination

ET054671.00 + ET054676.00

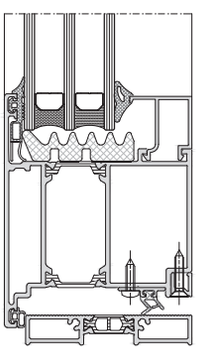
for sash

E75210 sash-inward + E75211 sash-outward

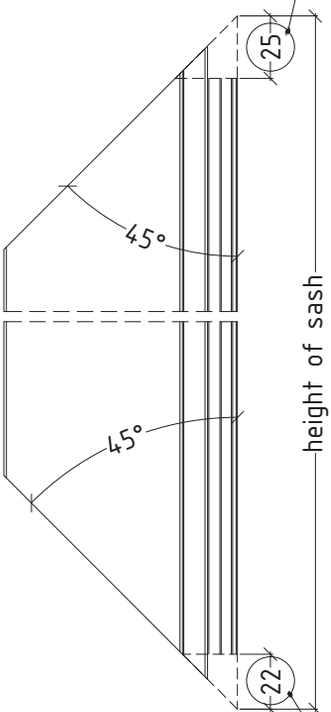
III - crimp profiles

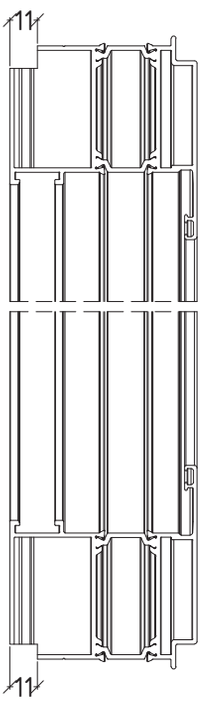


These machinings are for door with threshold E75810 or E75811

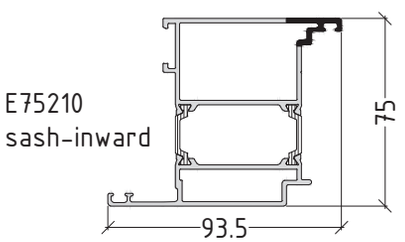


Machinings on the bottom and upper side are different





Machinings on the bottom and upper side are different

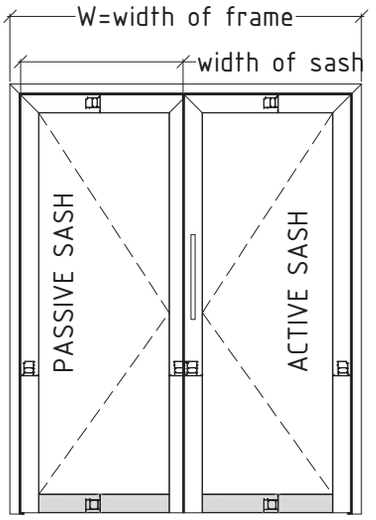


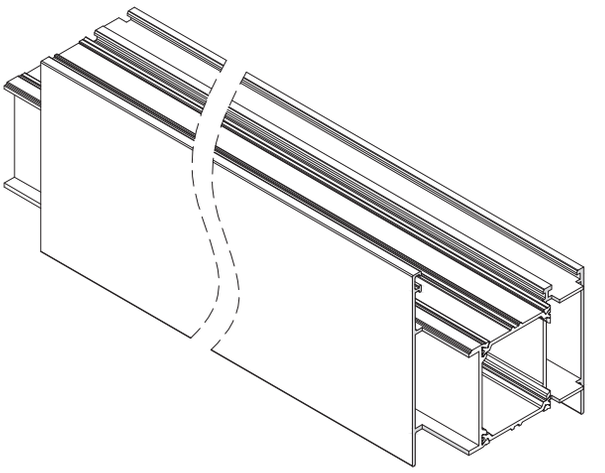
not to scale

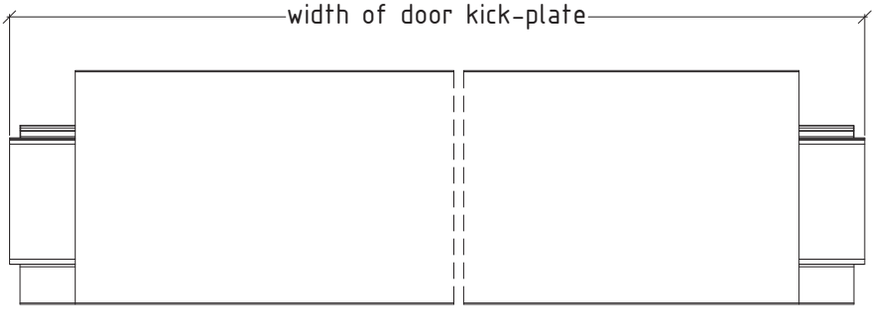
height of sash = H-61.5

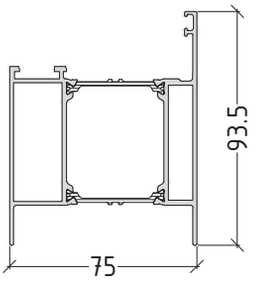
M75D-21

outward opening - double sash door

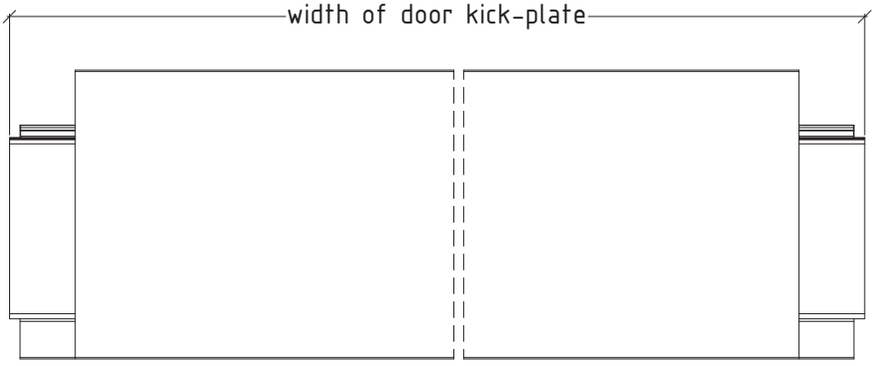


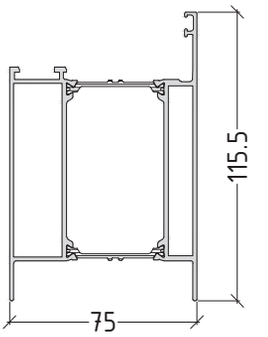


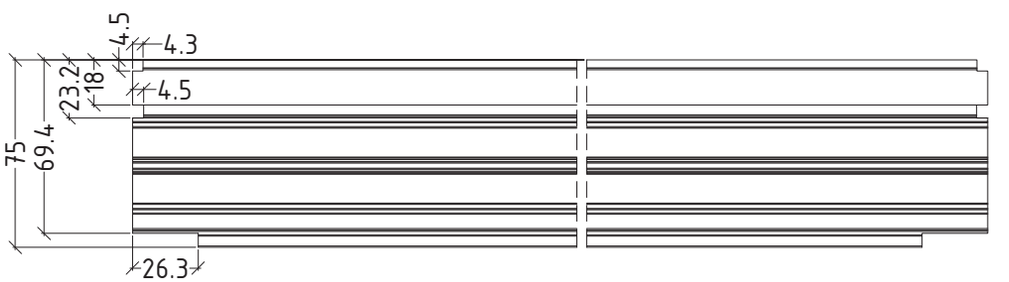




E75120 OR E75121
door kick-plate





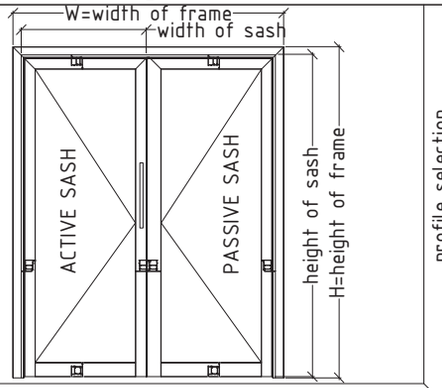


not to scale

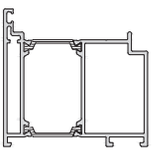
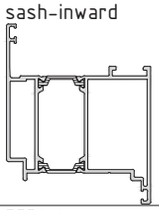
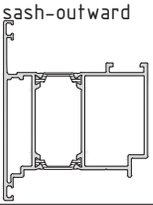
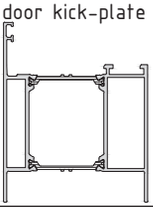
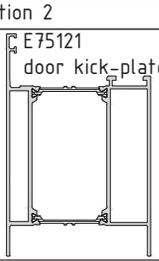
width of door kick-plate = width of sash-134,5

M75D-22

inward opening – double sash door



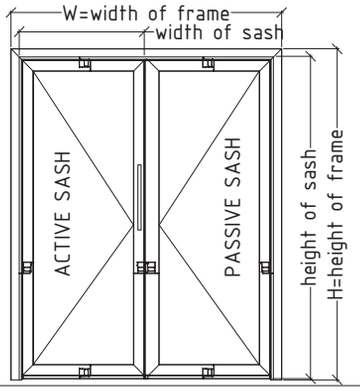
profile selection

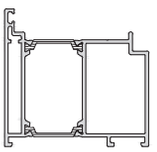
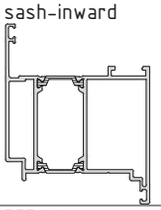
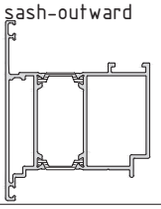
profile selection		calculation of cutting lenght for two sash door		
		pieces	cutting formula	cutting angles
E75110 frame-inward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75210 sash-inward 	width of sash-inward	2	$\frac{W - 94}{2}$	2x45°
	height of sash-inward	2 + 1	H - 61.5	1x45° + 1x90° up down
E75211 sash-outward 	height of sash-outward	1	H - 61.5	1x45° + 1x90° up down
option 1				
E75120 door kick-plate 	width of door kick-plate	2	width of sash-134,5	2x90°
option 2				
E75121 door kick-plate 	width of door kick-plate	2	width of sash-134,5	2x90°

not to scale

M75D-23

inward opening – double sash door

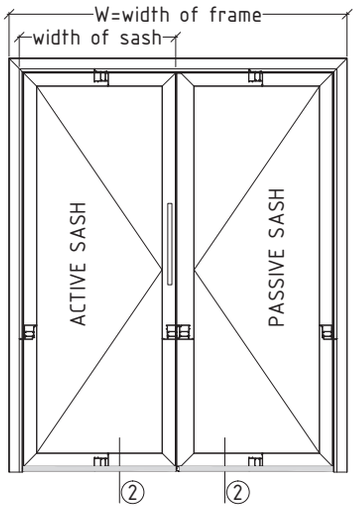


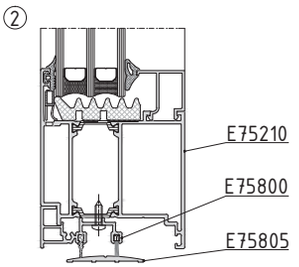
profile selection		calculation of cutting lenght for two sash door		
		pieces	cutting formula	cutting angles
E75110 frame-inward 	width of frame	1	W	2x45°
	height of frame-left	1	H	1x45° + 1x90° up down
	height of frame-right	1	H	1x45° + 1x90° up down
E75210 sash-inward 	width of sash-inward	4	$\frac{W - 94}{2}$	2x45°
	height of sash-inward	2 + 1	H - 61.5	2x45°
E75211 sash-outward 	height of sash-outward	1	H - 61.5	2x45°
option 1				
E75810 or E75811 	width of door threshold	1	W - 143	2x90°
E75802 bottom rail	width of bottom rail	2	width of sash-32	2x90°
E75801 	width of addition	1	width of sash-47 for active sash	2x90°
	width of addition	1	width of sash-25 for passive sash	2x90°

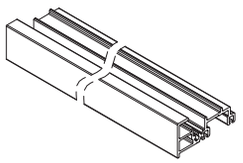
not to scale

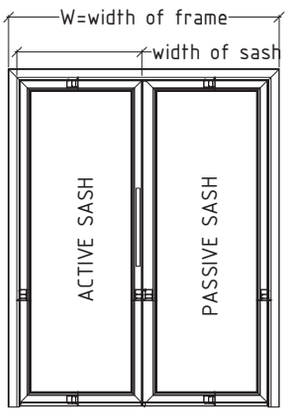
M750-24

inward opening - double sash door







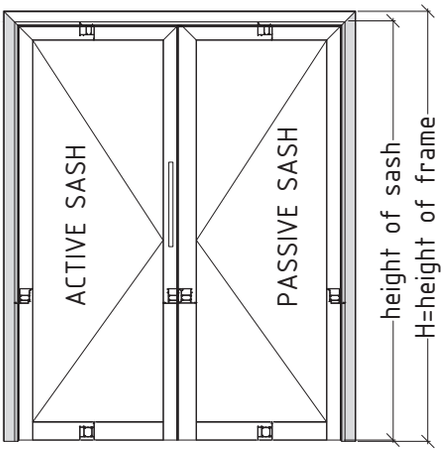


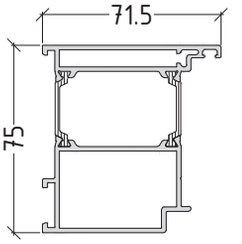
profile selection		calculation of cutting lenght for two sash door		
		pieces	cutting formula	cutting angles
option 2				
E75800 bottom rail 	width of bottom rail	1	width of sash-48 for active sash	2x90°
	width of bottom rail	1	width of sash-42 for passive sash	2x90°
E75805 - optional finish	width of door threshold	1	W - 125	2x90°

not to scale

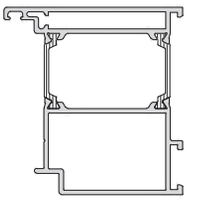
M75D-25

inward opening – double sash door

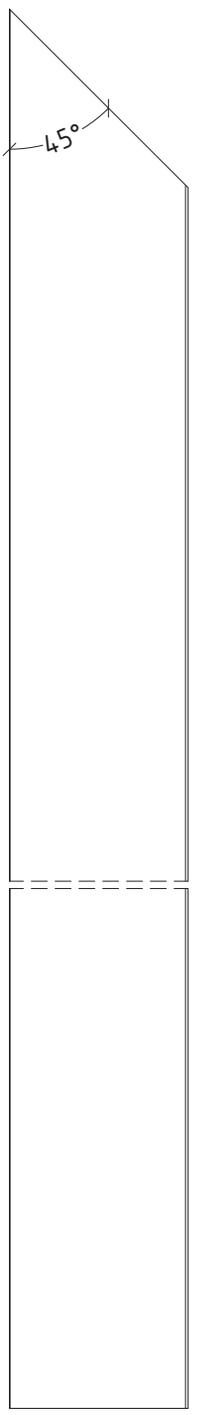


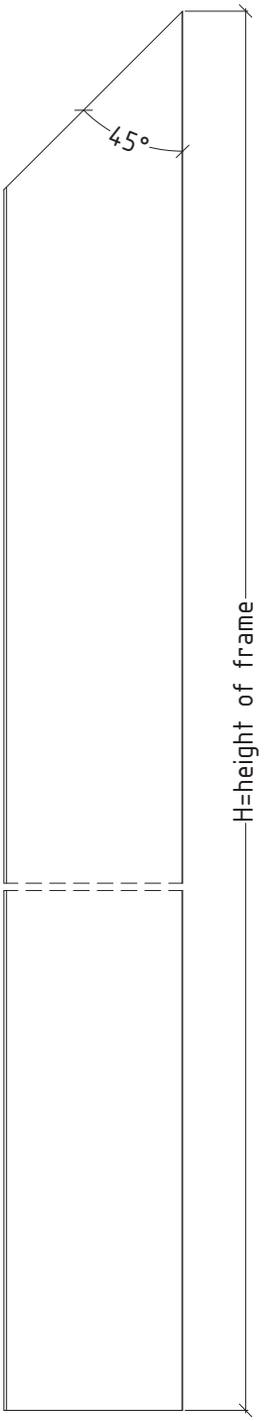


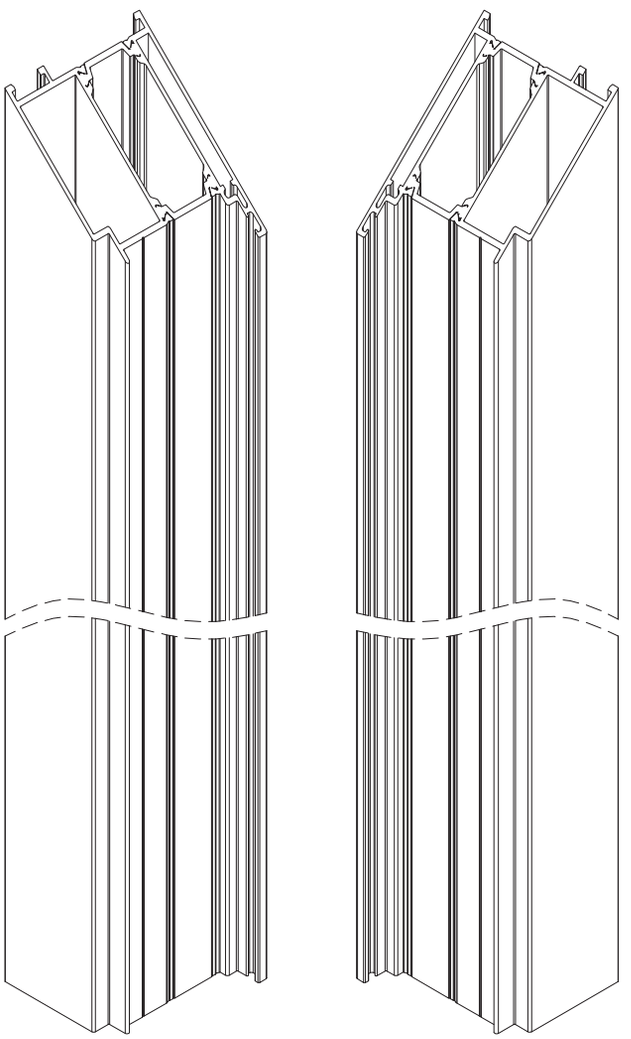
E75110
frame-inward



E75110
frame-inward



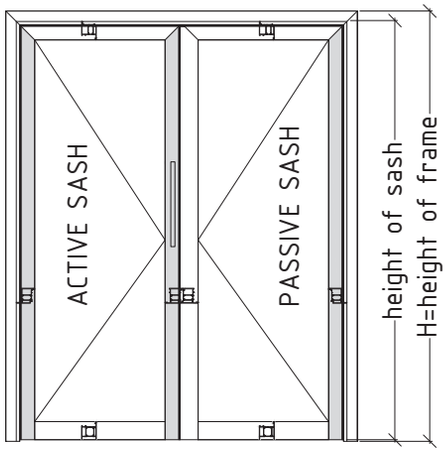


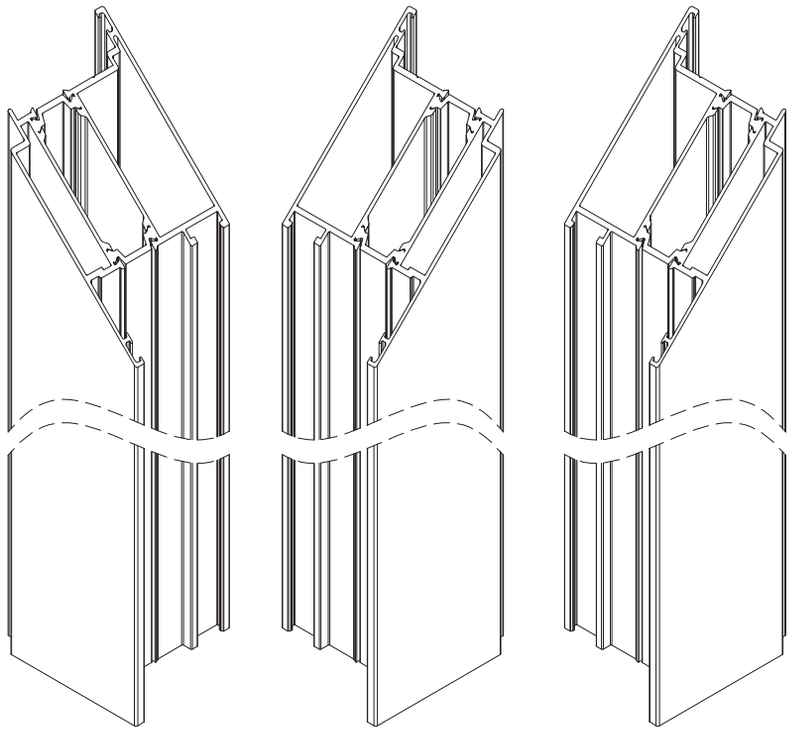


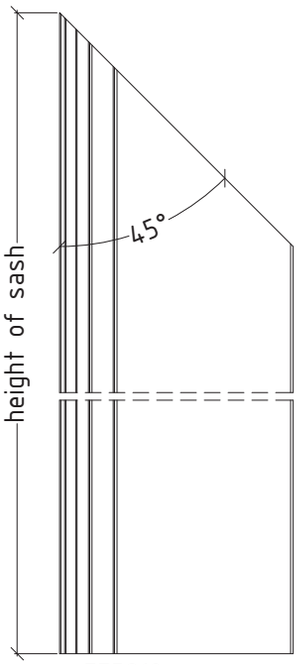
not to scale

M75D-26

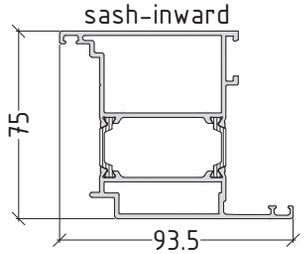
inward opening – double sash door

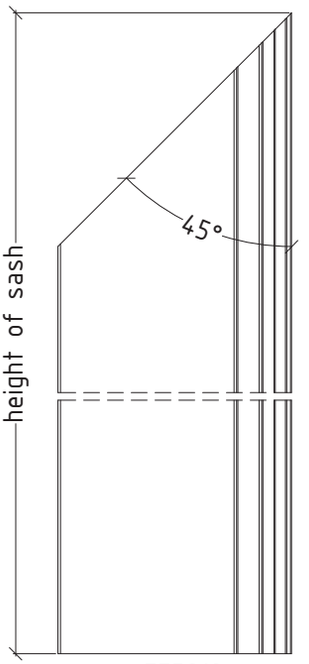




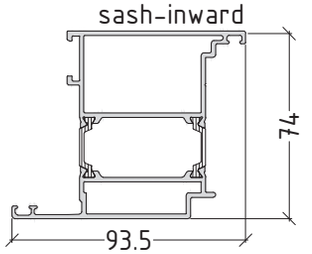


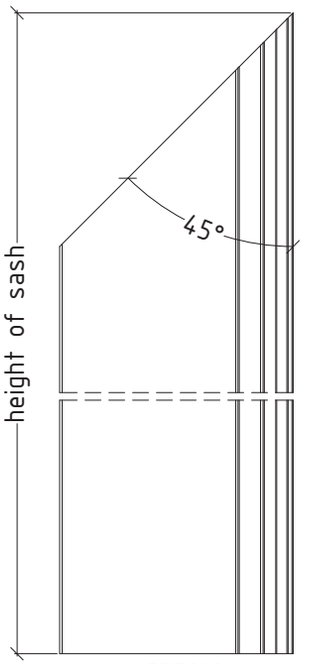
E75210
sash-inward



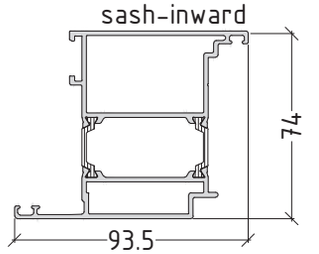


E75210
sash-inward





E75210
sash-inward

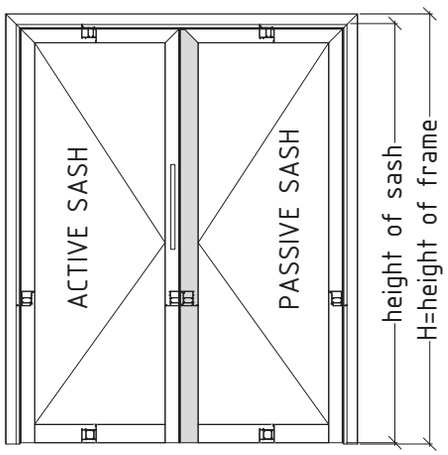


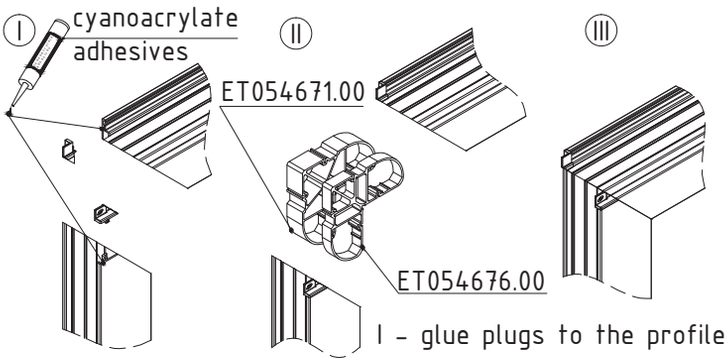
not to scale

height of sash = H-61.5

M75D-27

inward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

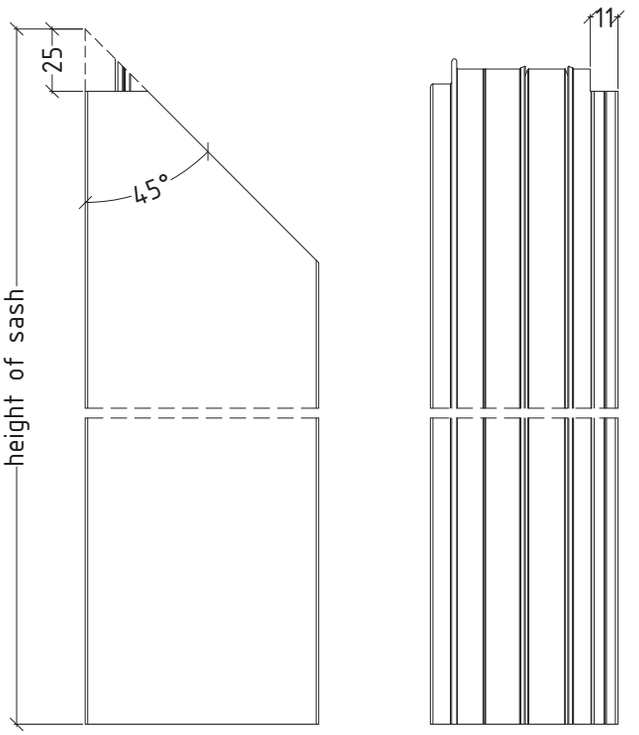
II – insert corner brackets in combination

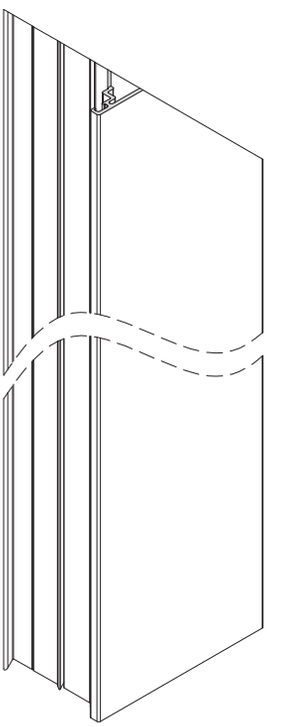
ET054671.00 + ET054676.00

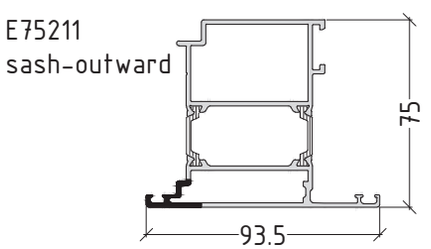
for sash

E75210 sash-inward + E75211 sash-outward

III – crimp profiles





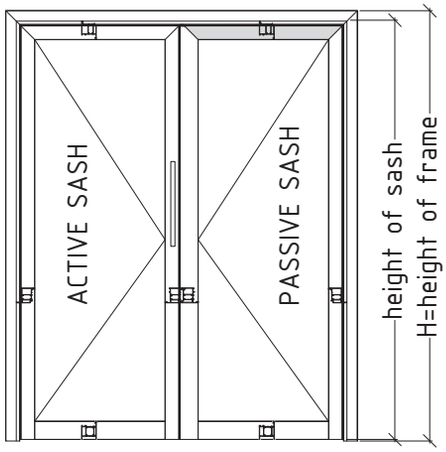


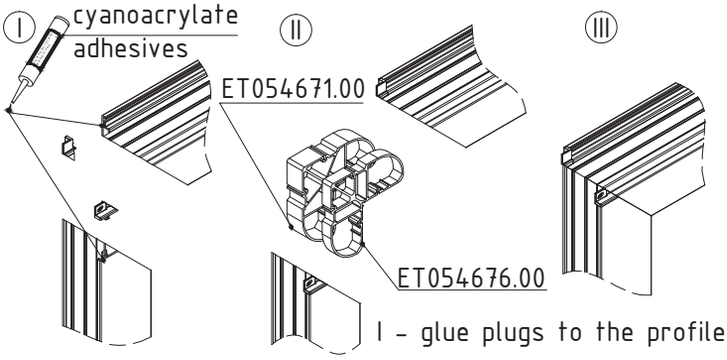
not to scale

height of sash = H–61.5

M75D–28

inward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

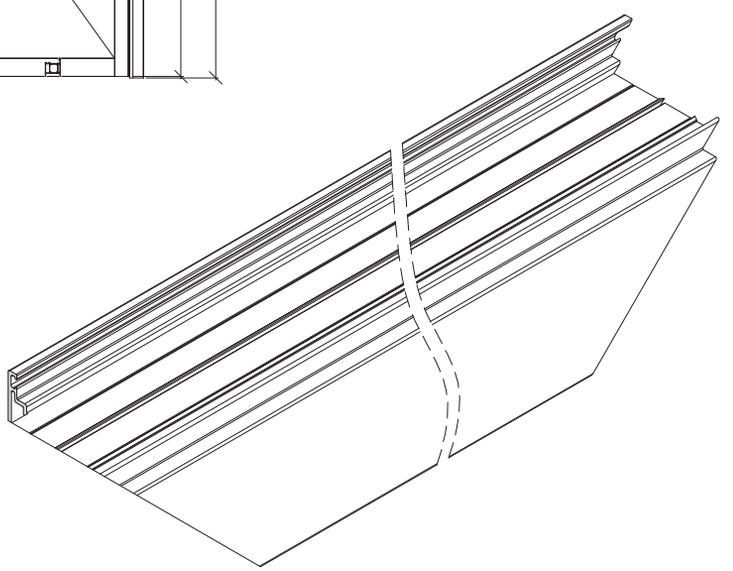
II – insert corner brackets in combination

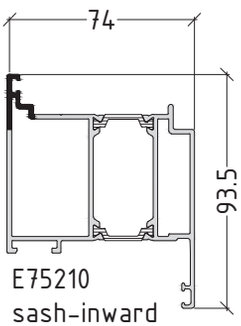
ET054671.00 + ET054676.00

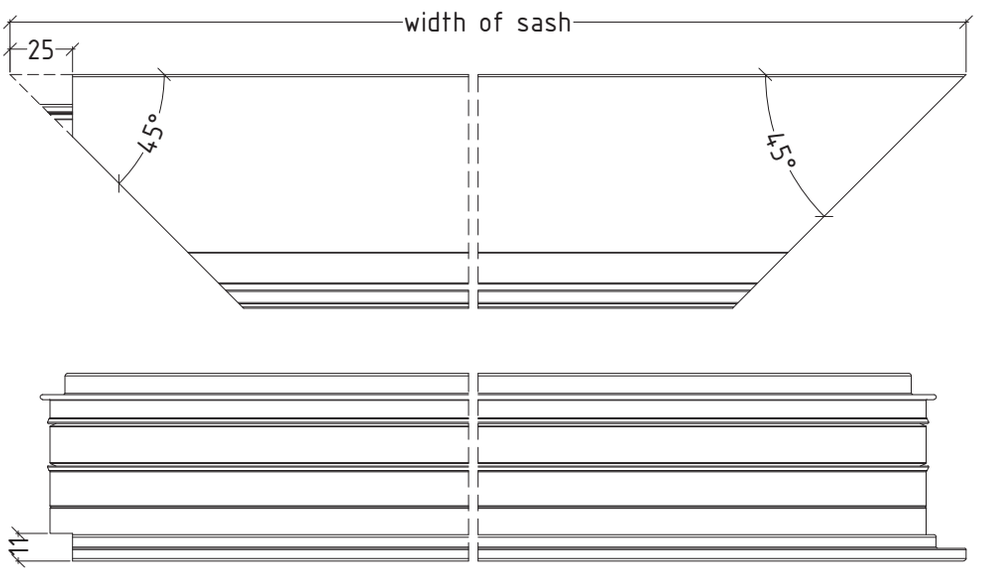
for sash

E75210 sash-inward + E75211 sash-outward

III – crimp profiles





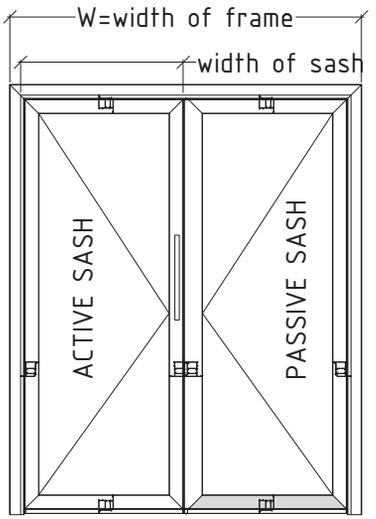


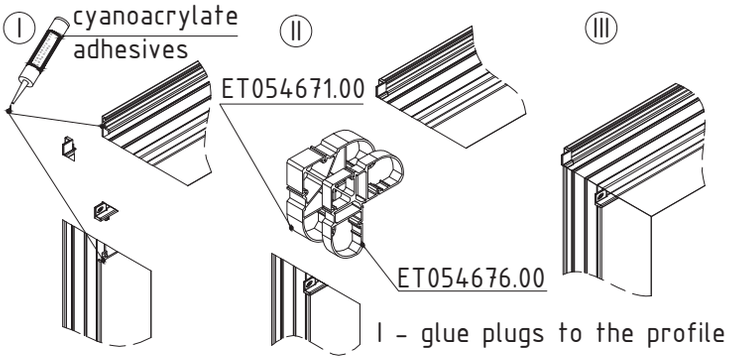
not to scale

$$\text{width of sash} = \frac{W - 94}{2}$$

M75D-29

inward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

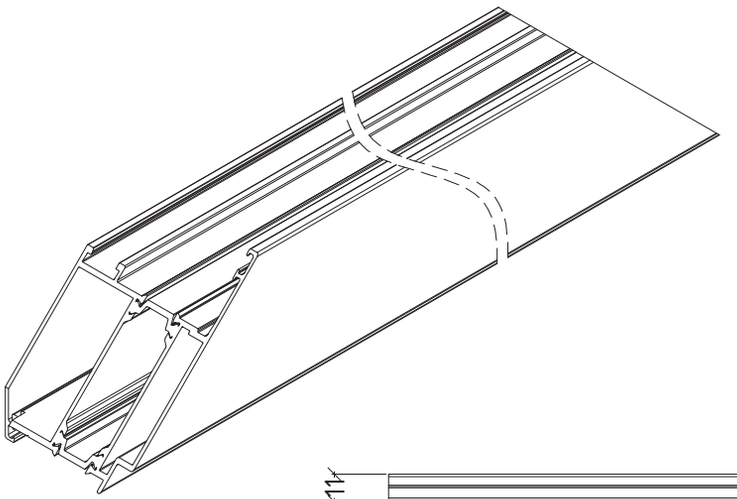
II – insert corner brackets in combination

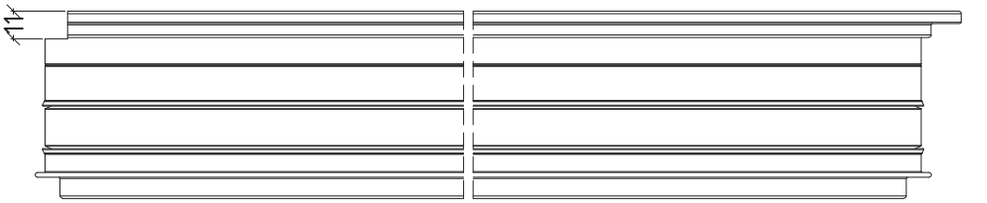
ET054671.00 + ET054676.00

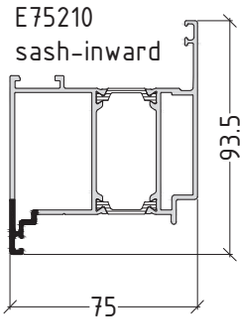
for sash

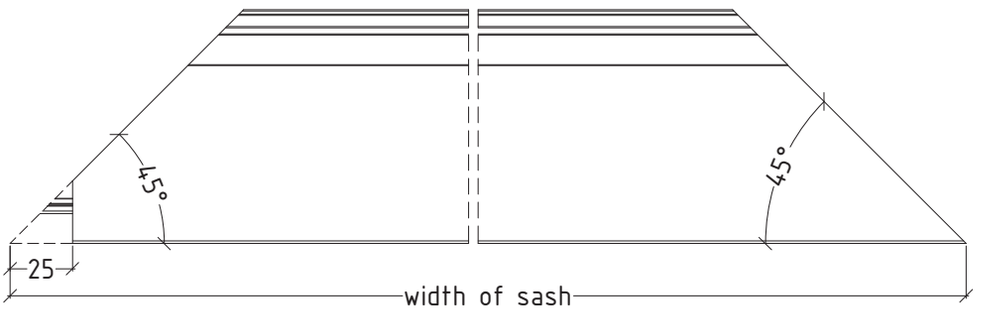
E75210 sash-inward + E75211 sash-outward

III – crimp profiles







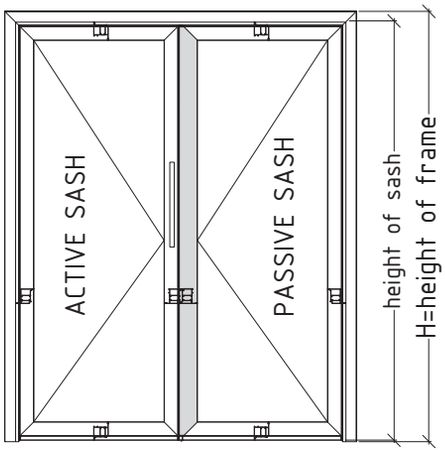


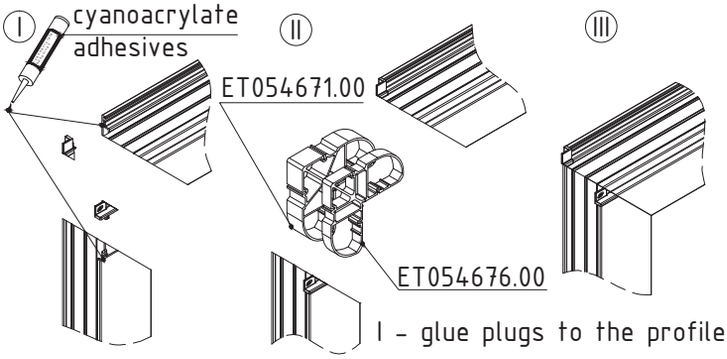
not to scale

$$\text{width of sash} = \frac{W - 94}{2}$$

M750-30

inward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

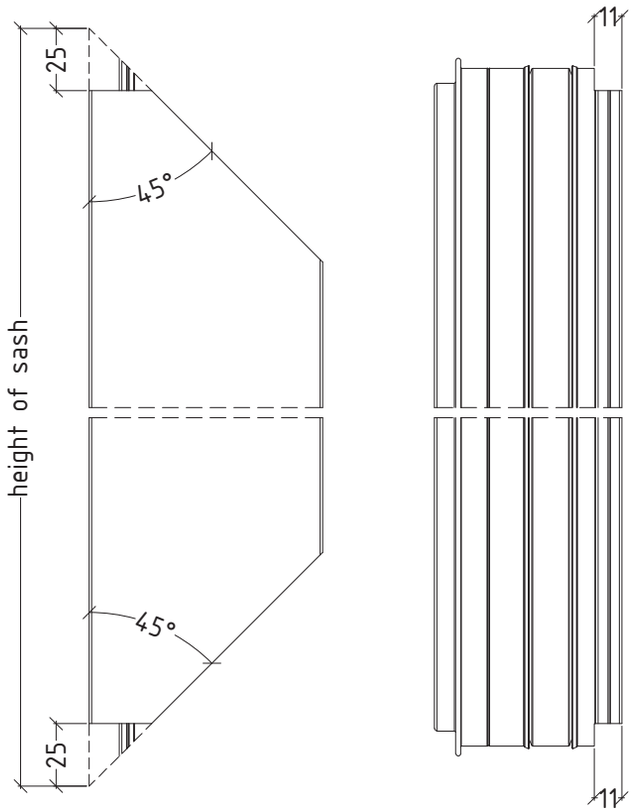
II – insert corner brackets in combination

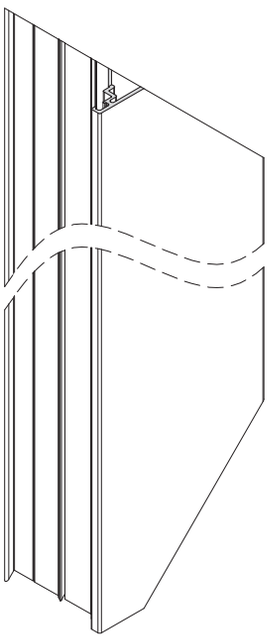
ET054671.00 + ET054676.00

for sash

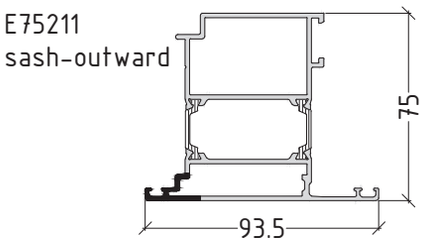
E75210 sash-inward + E75211 sash-outward

III – crimp profiles

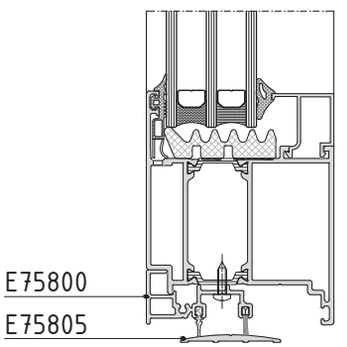




These machinings are for door with brush holder E75800 and E75805 threshold



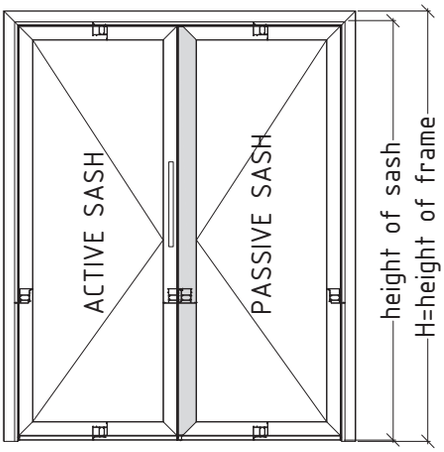
not to scale

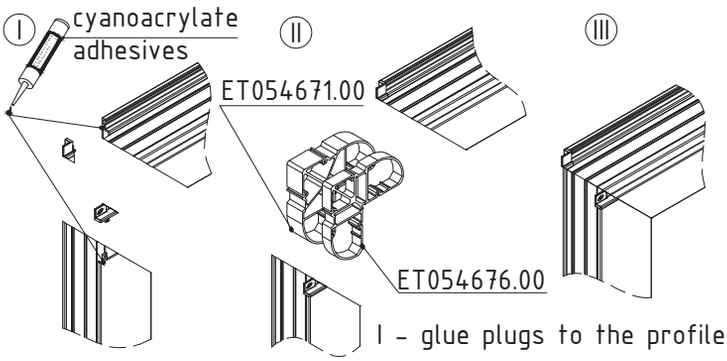


height of sash = H–61.5

M75D-31

inward opening – double sash door





Sequence of assembly between sash-inward and sash-outward and specific joint corners usage

I – glue plugs to the profile

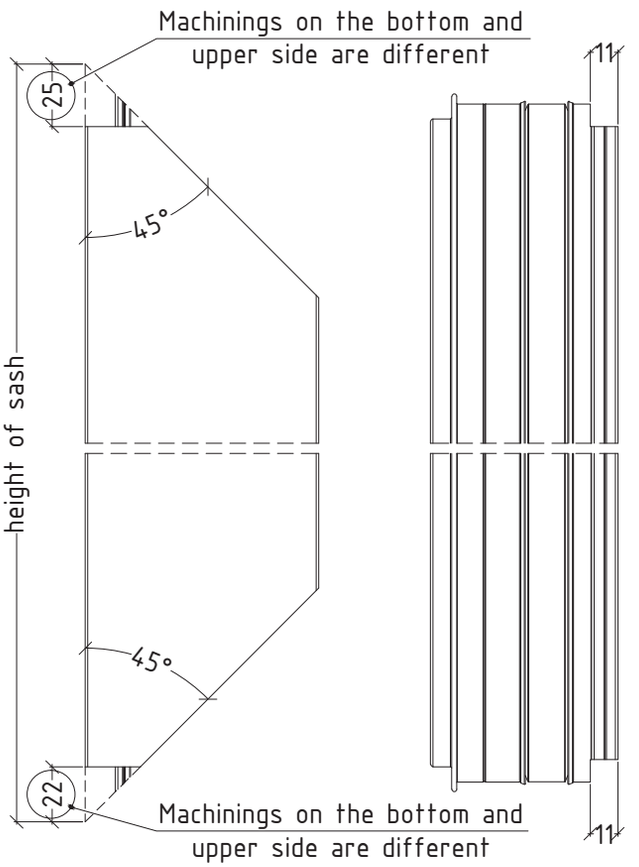
II – insert corner brackets in combination

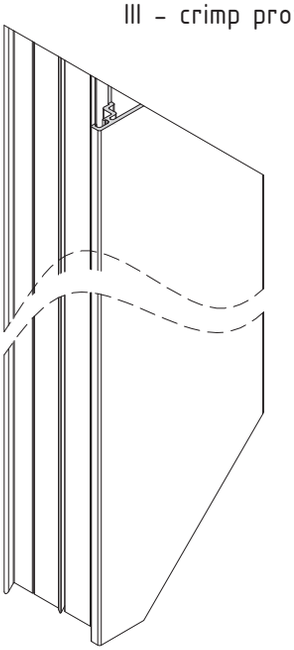
ET054671.00 + ET054676.00

for sash

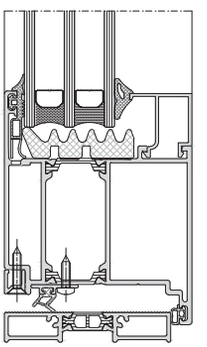
E75210 sash-inward + E75211 sash-outward

III – crimp profiles

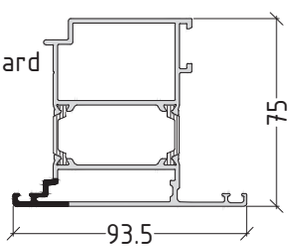




These machinings are for door with threshold E75810 or E75811



E75211
sash-outward

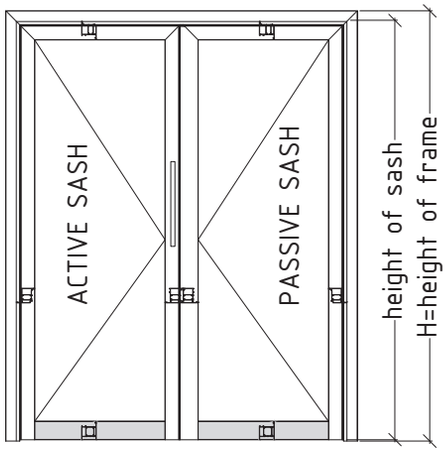


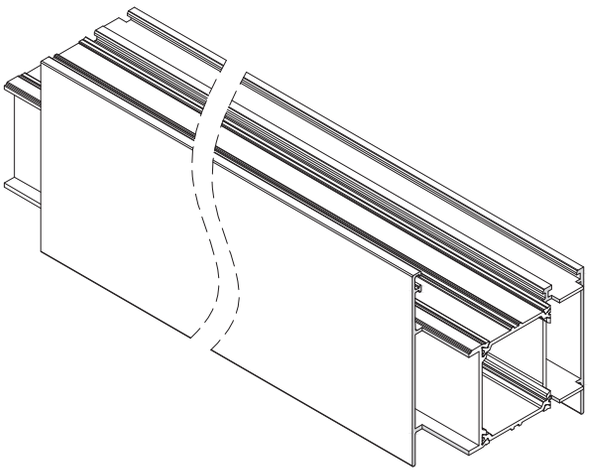
not to scale

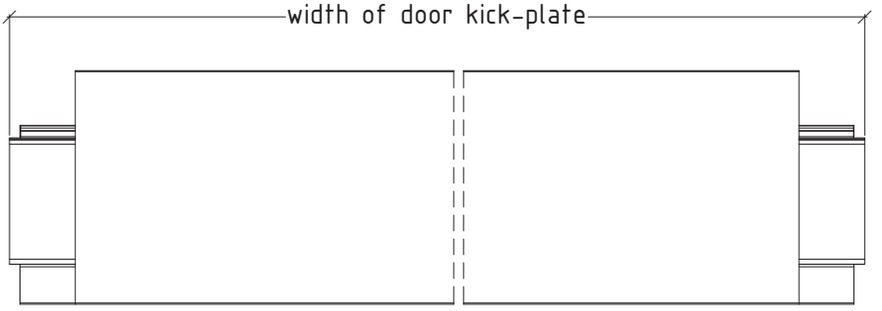
height of sash = H–61.5

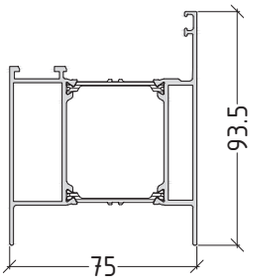
M75D–32

inward opening - double sash door

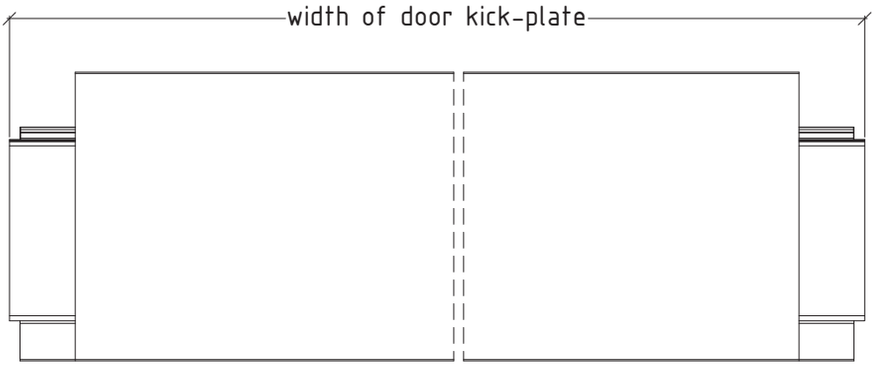


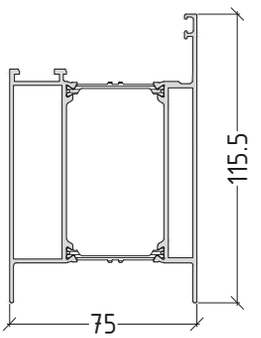


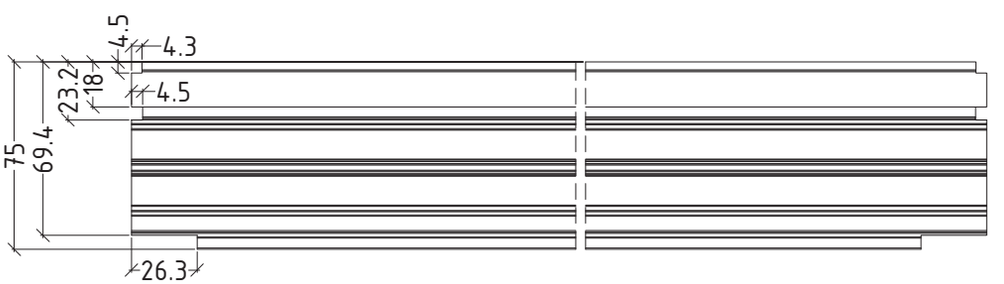




E75120 or E75121
door kick-plate





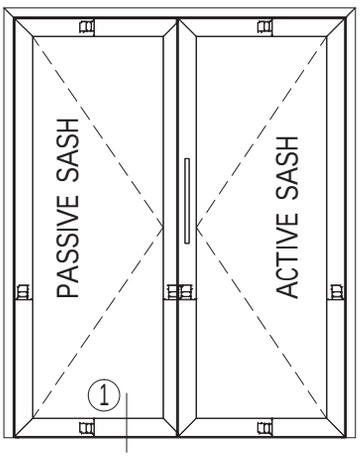


not to scale

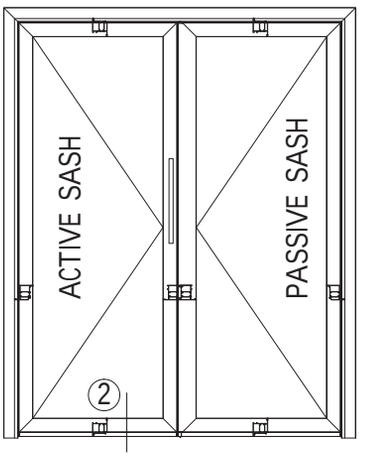
width of door kick-plate= width of sash-134,5

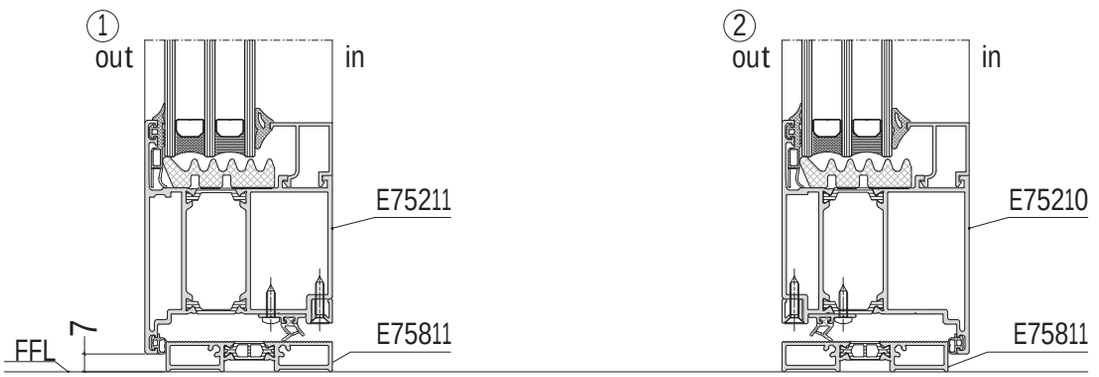
M75D-33

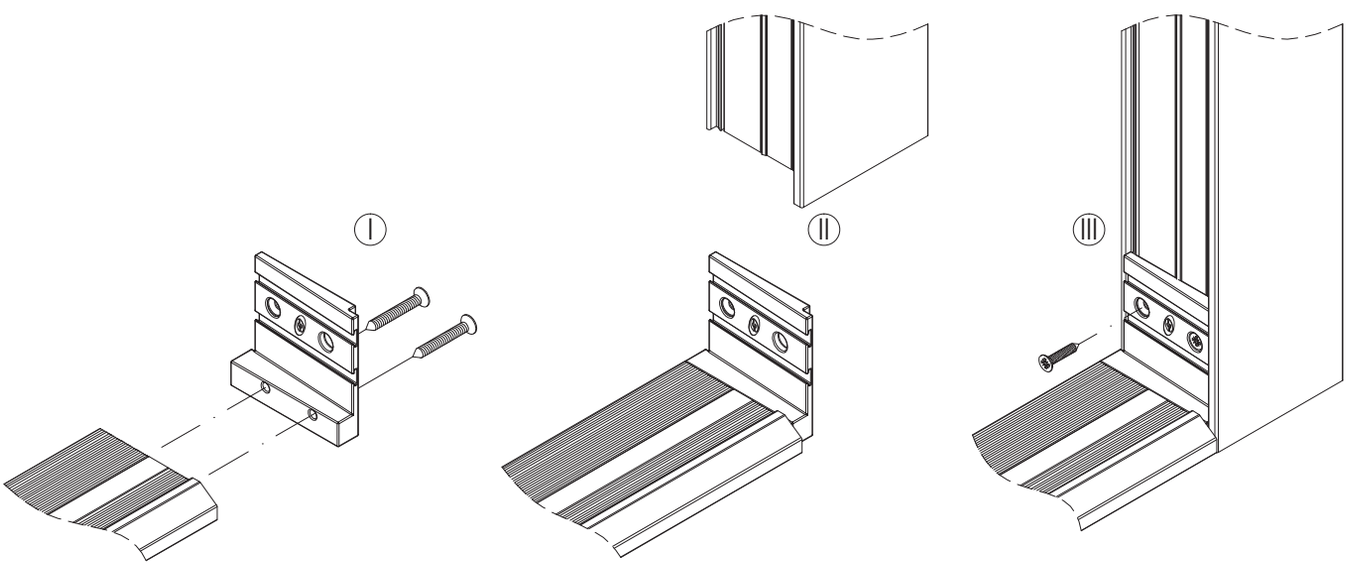
outward opening
double sash door



inward opening
double sash door

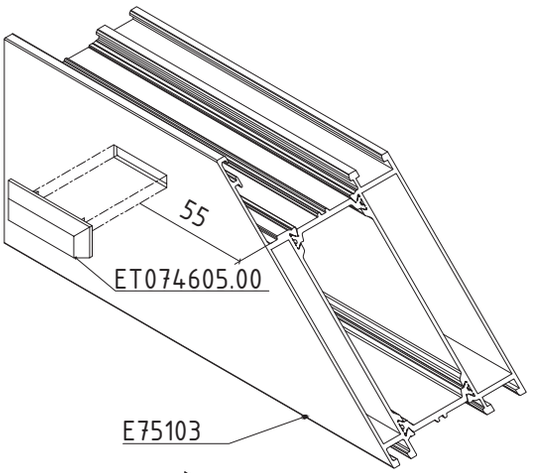


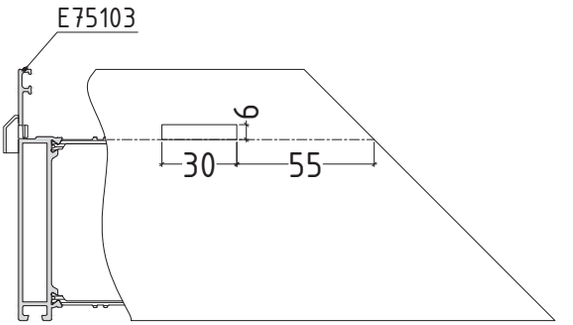


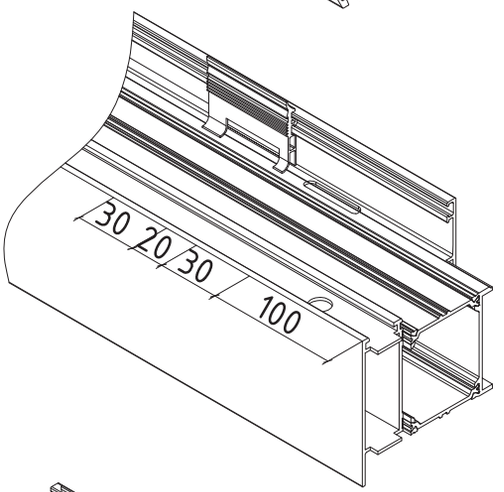


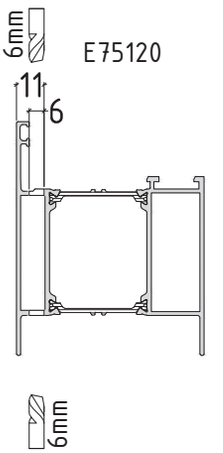
not to scale

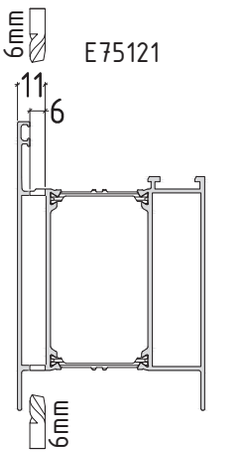
M75D-34

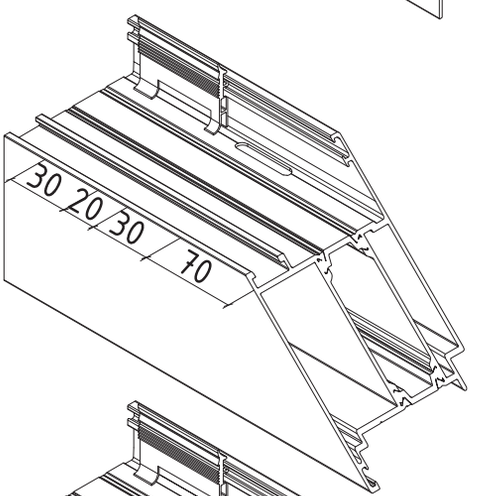


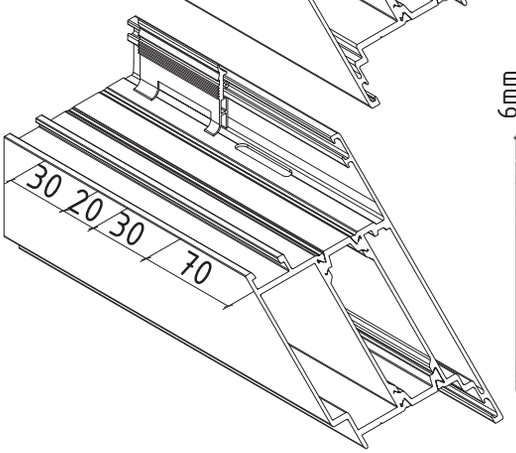


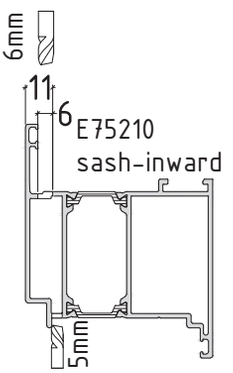


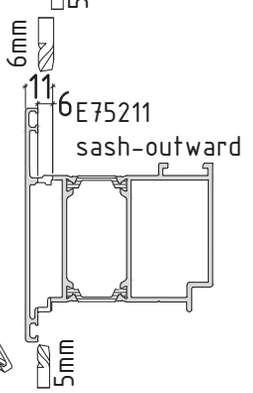


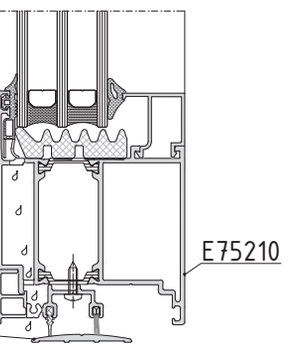


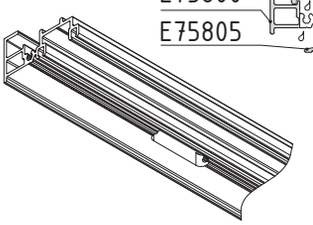


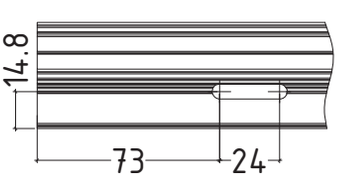


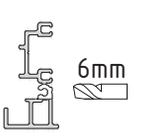






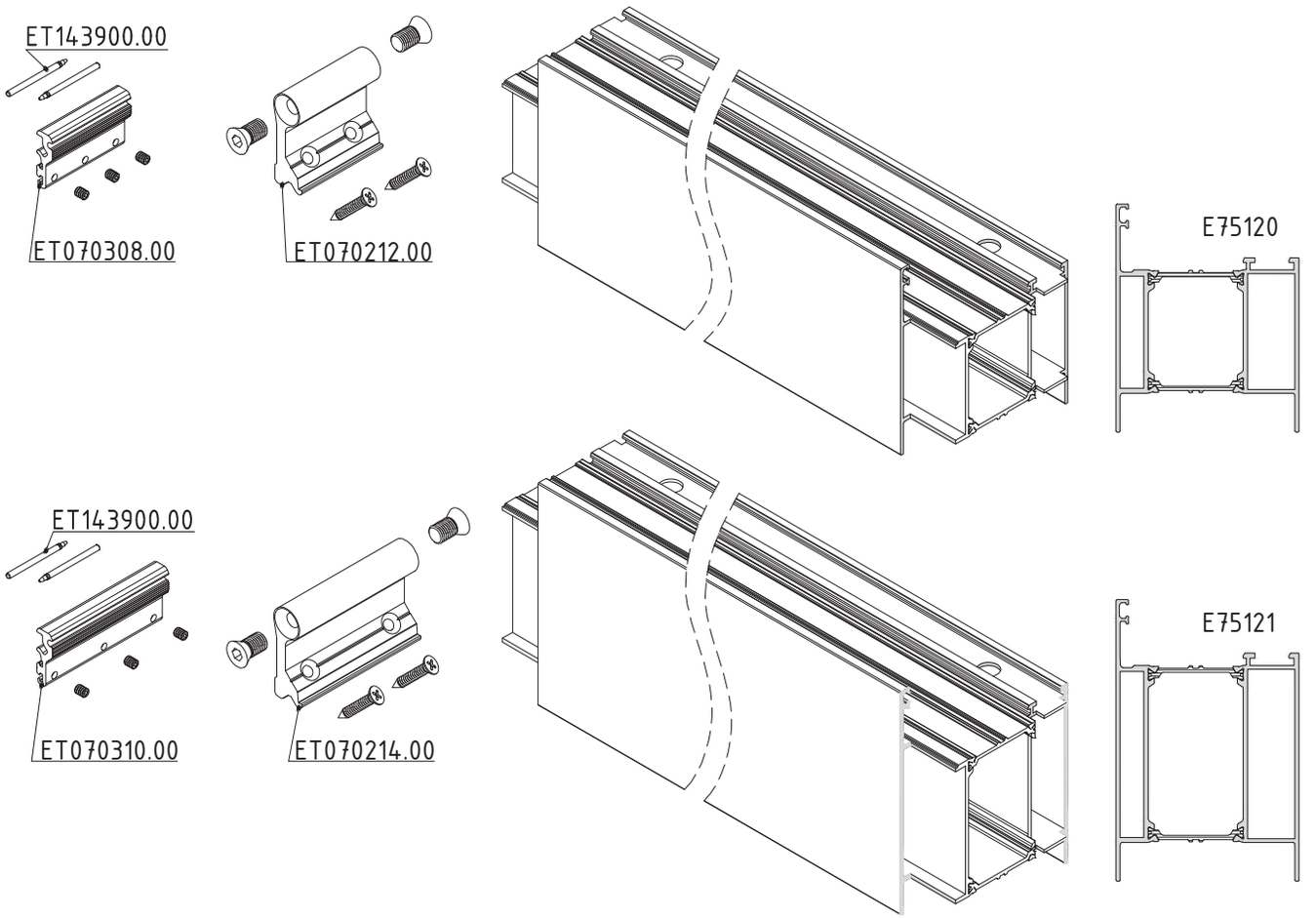


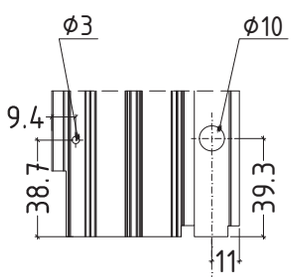




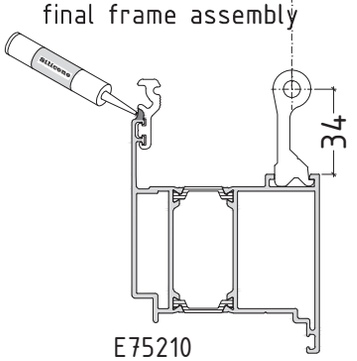
not to scale

M75D-35

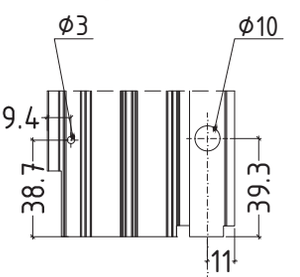




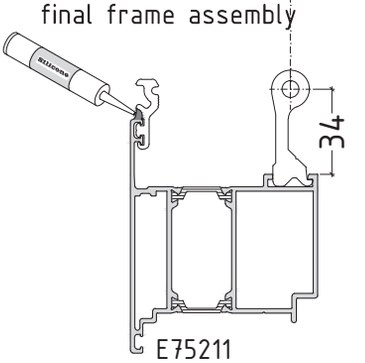
Apply silicone to the indicated place before final frame assembly



E75210
sash-inward



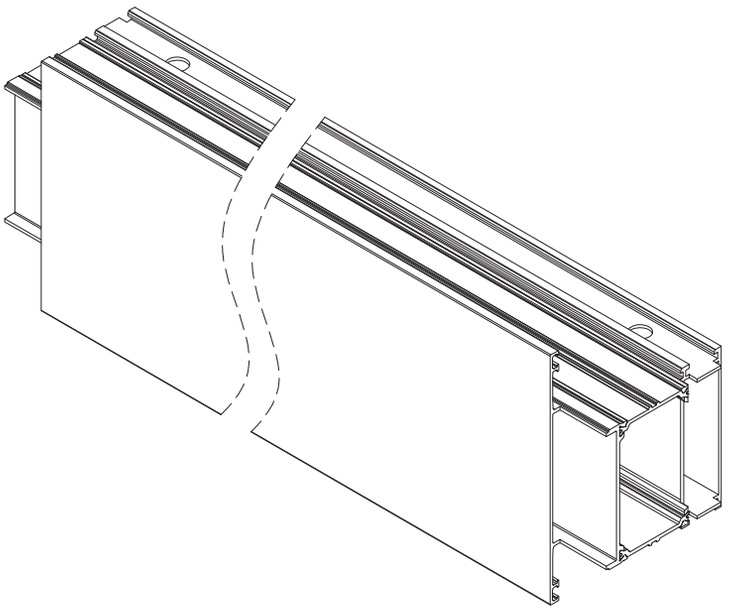
Apply silicone to the indicated place before final frame assembly

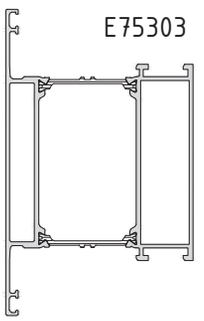


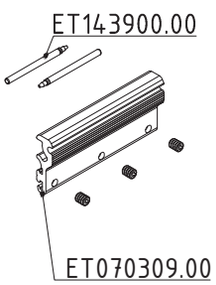
E75211
sash-outward

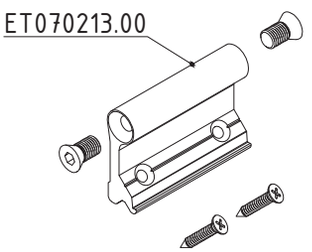
not to scale

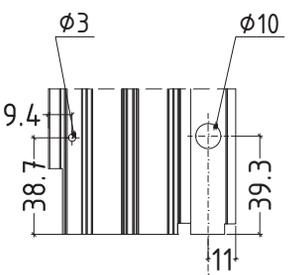
M75D-36



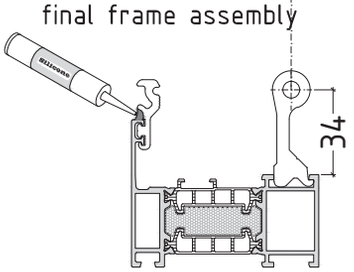








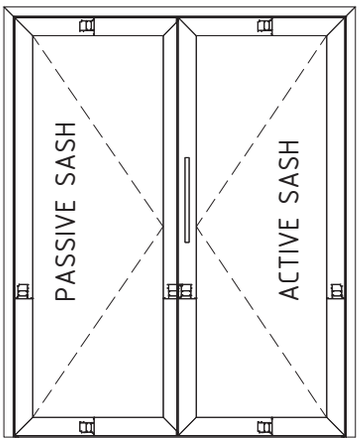
Apply silicone to the indicated place before final frame assembly

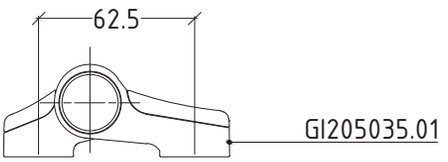


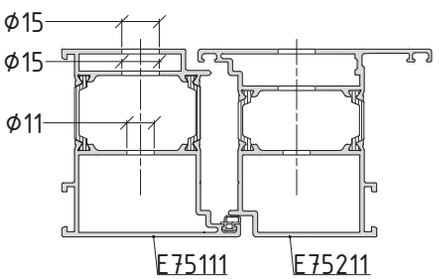
not to scale

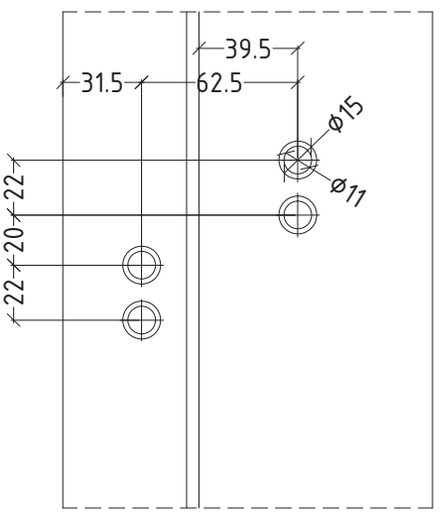
M75D-37

outward opening double sash door

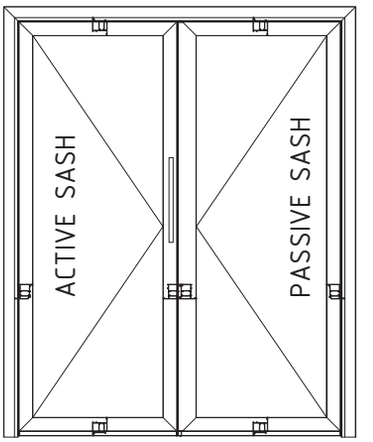


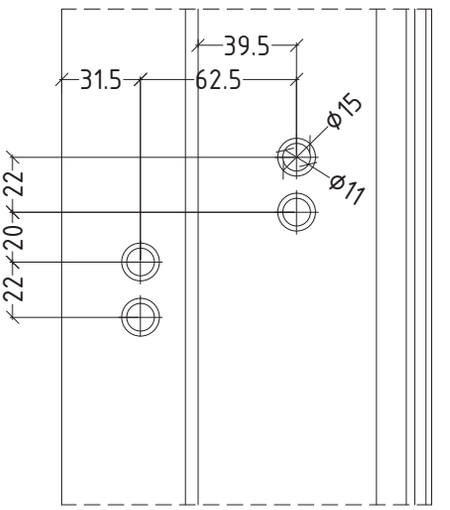


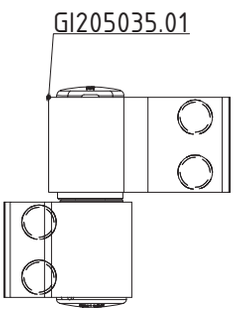


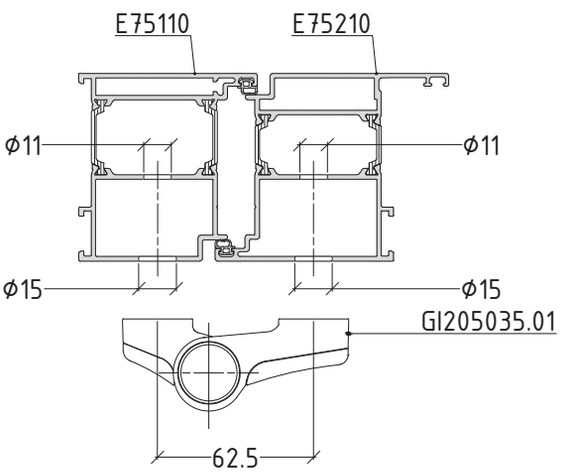


inward opening double sash door









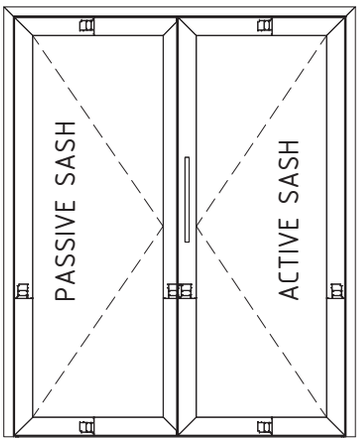
* The dimensions refer to anodized and mill-finished profiles!

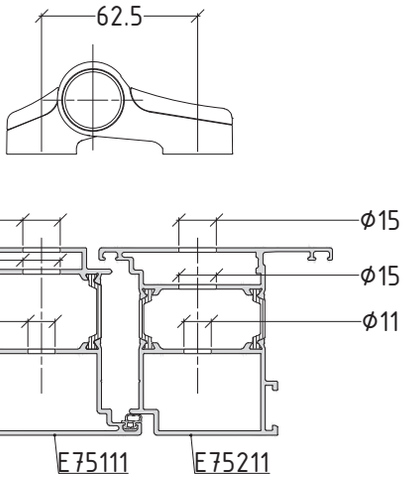
For powder coated profiles, the thickness of the coating must be taken into account!

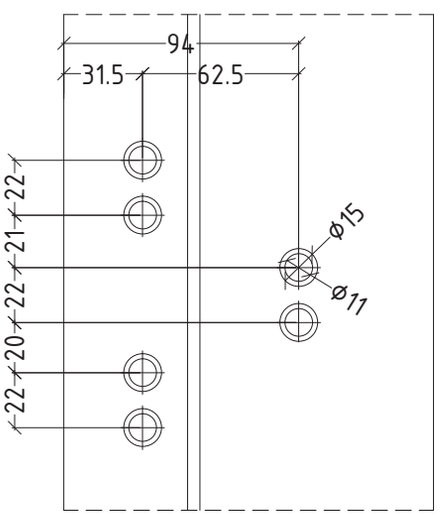
not to scale

M75D-38

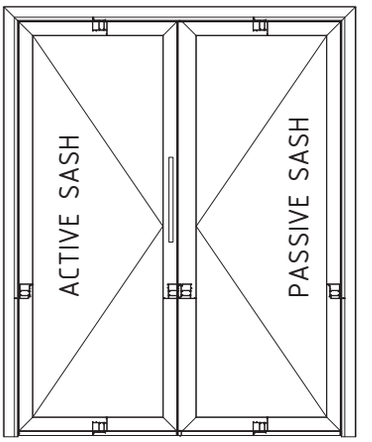
outward opening
double sash door

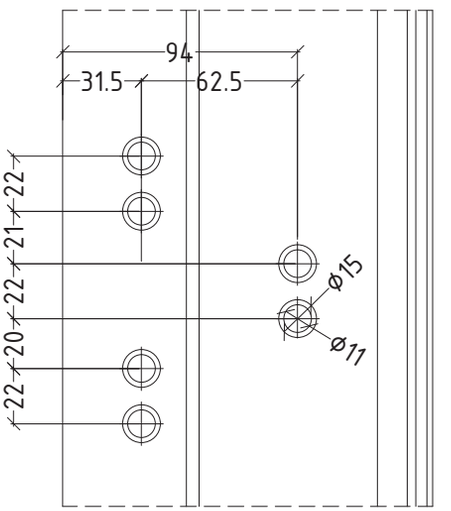


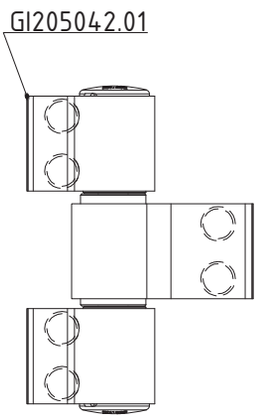


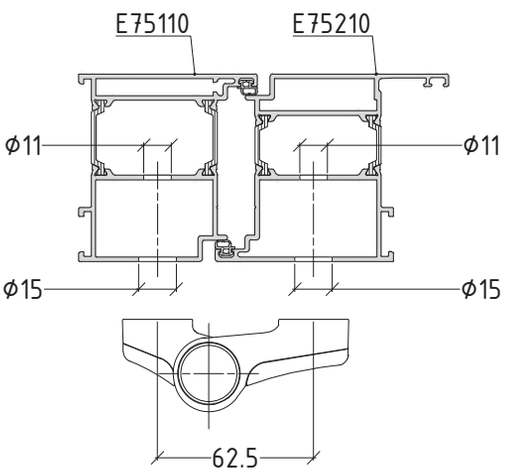


inward opening
double sash door







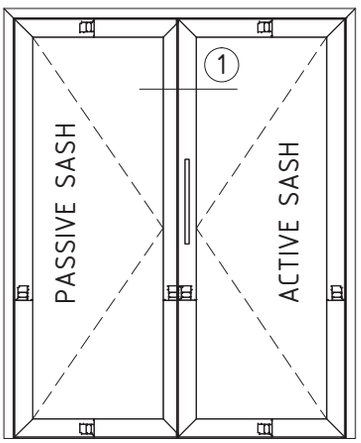


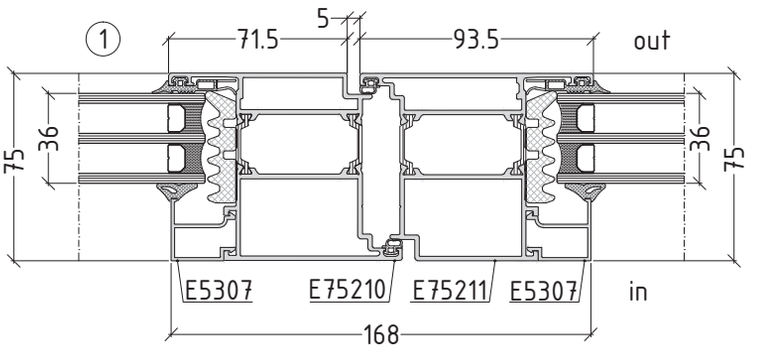
* The dimensions refer to anodized and mill-finished profiles!

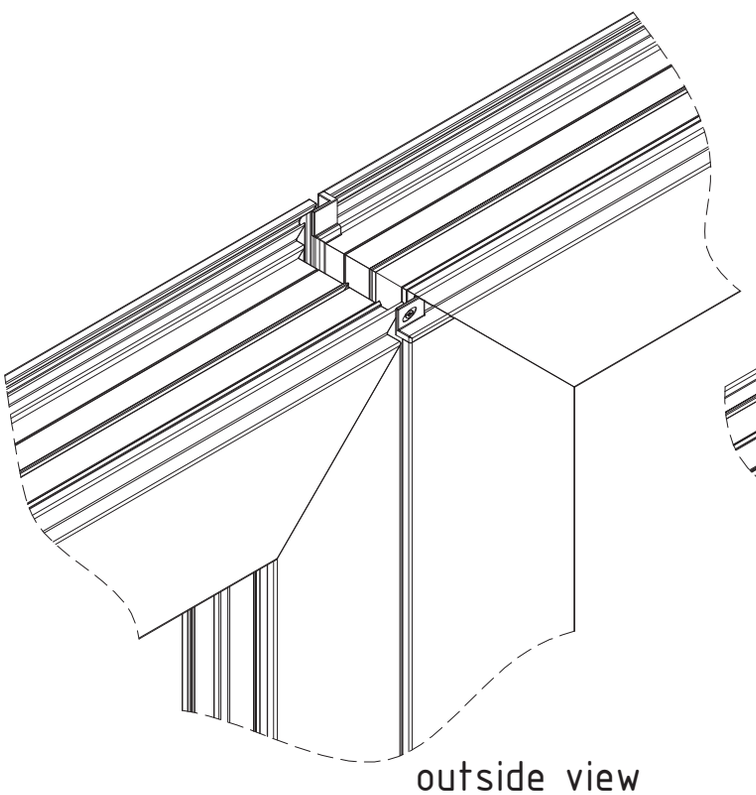
For powder coated profiles, the thickness of the coating must be taken into account!
not to scale

M75D-39

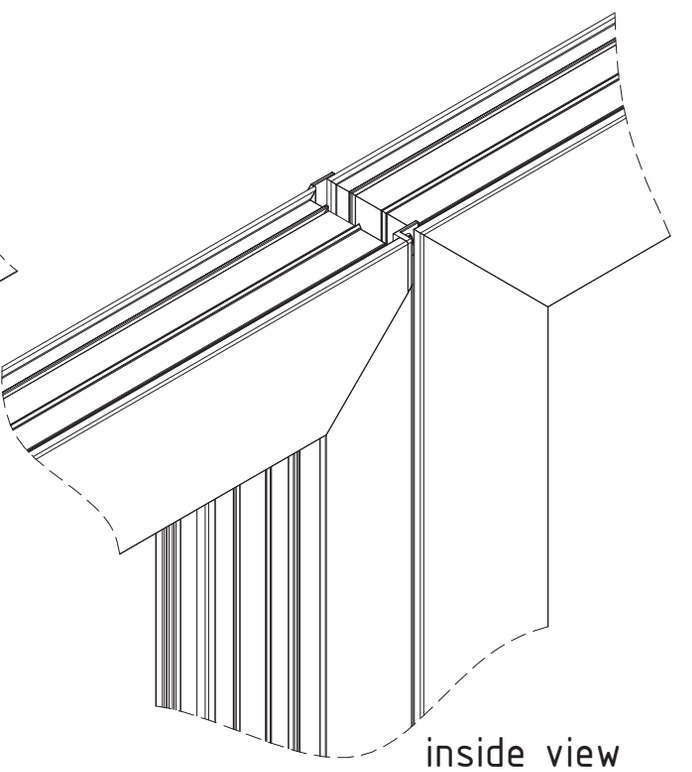
outward opening
double sash door







outside view



inside view

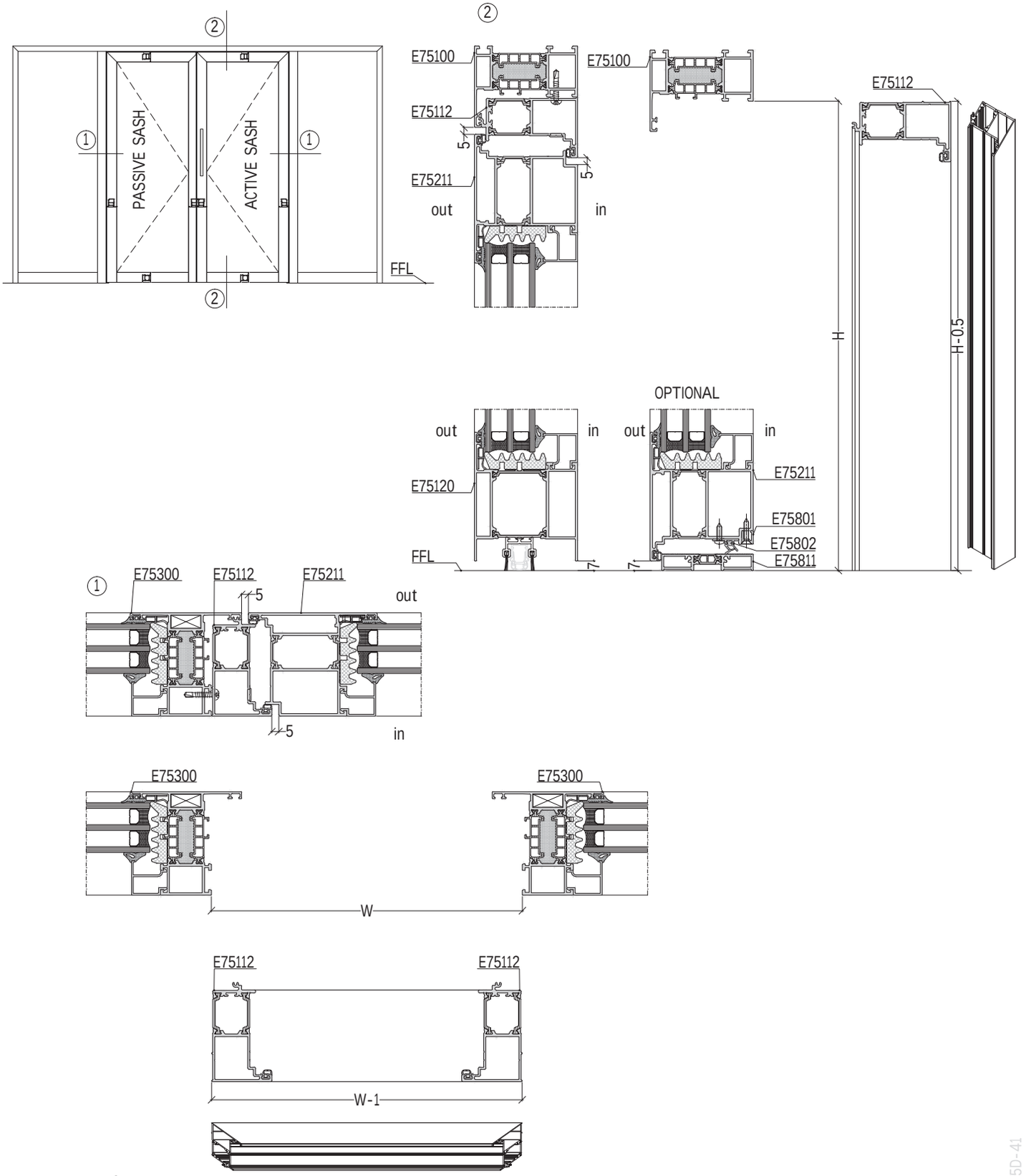
Note:

This central section of double sash door is equal for outward opening and inward opening.

not to scale

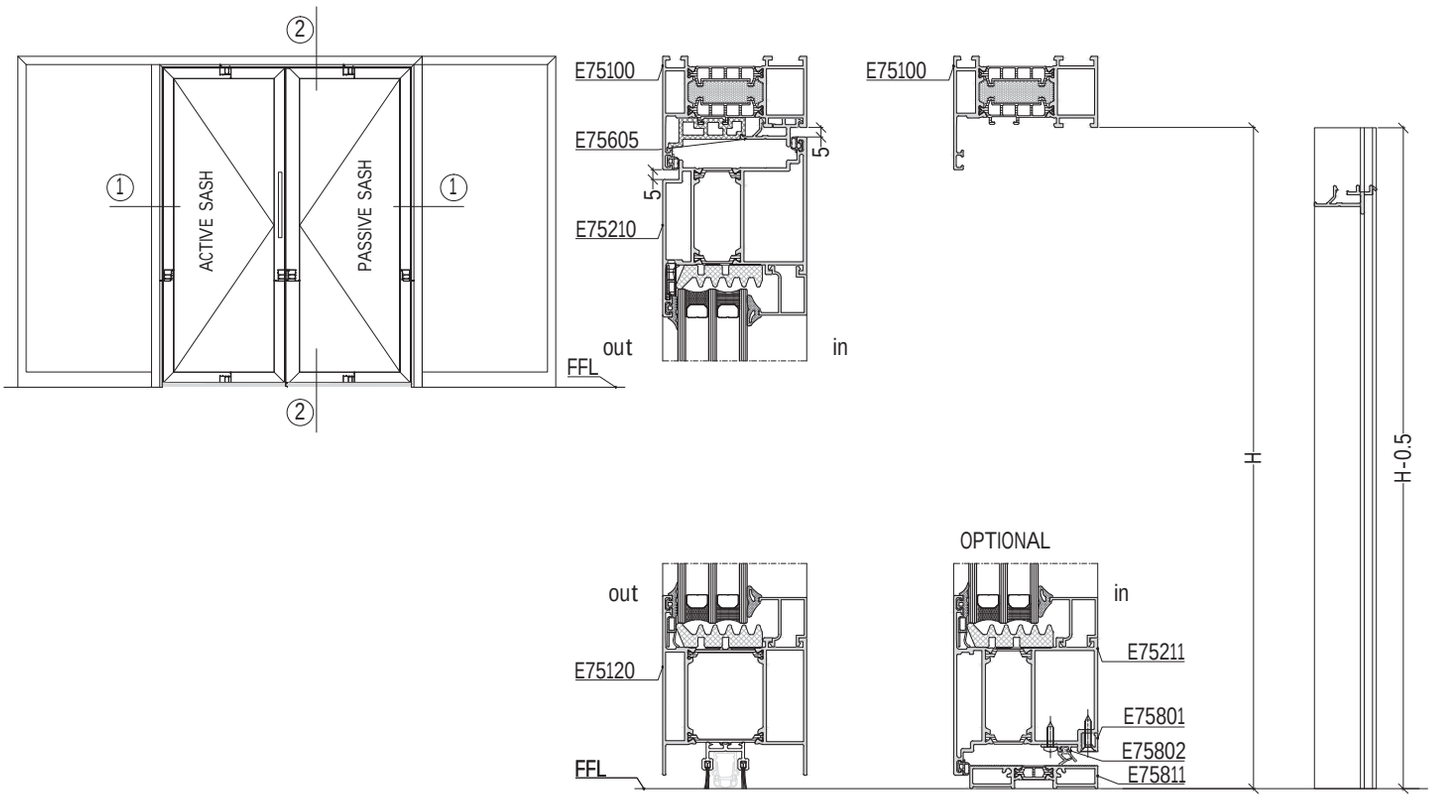
M750-40

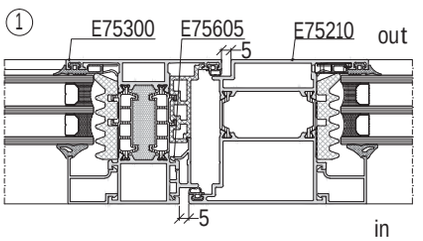
outward opening - double sash door
combination - E75 flat door + E75

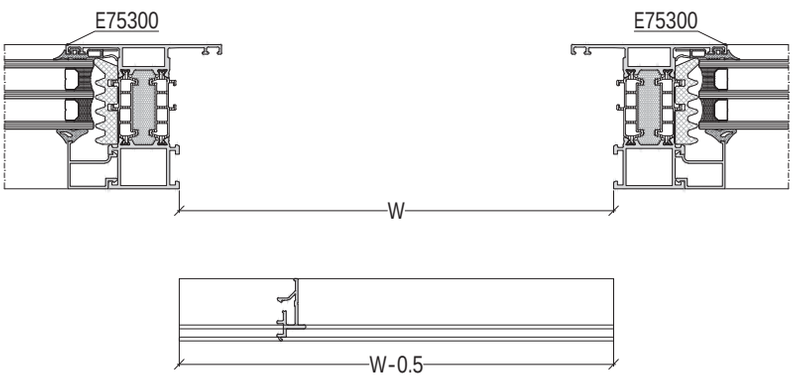


not to scale

inward opening - double sash door
combination - E75 flat door + E75



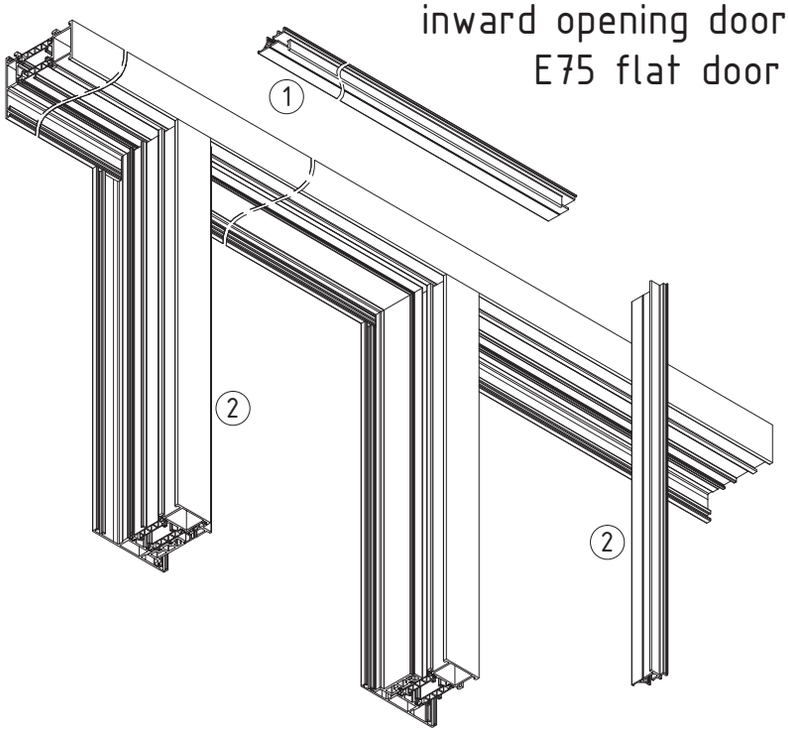


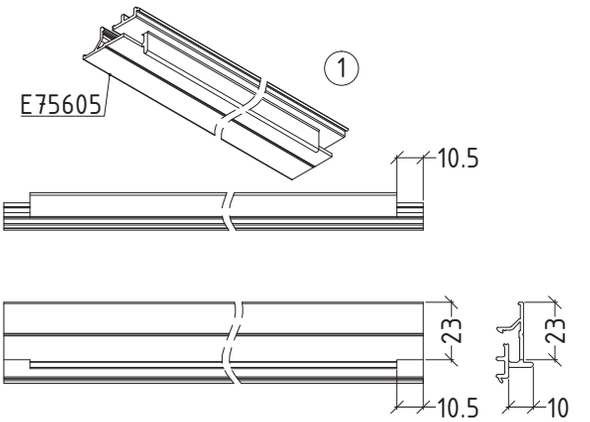


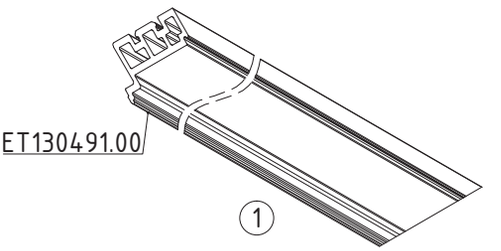
not to scale

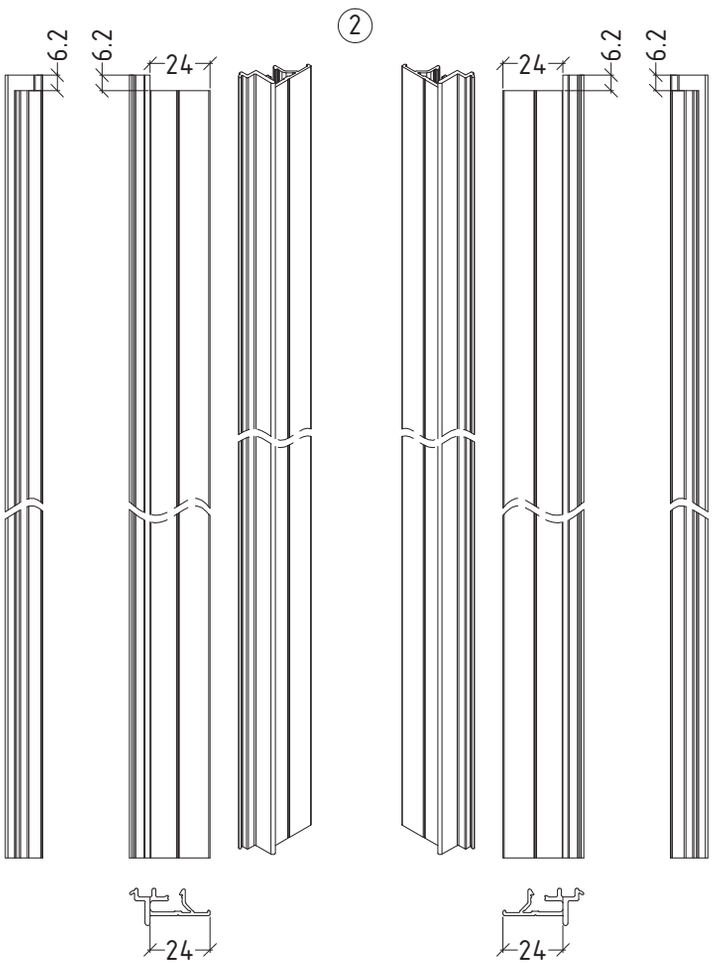
M75D-42

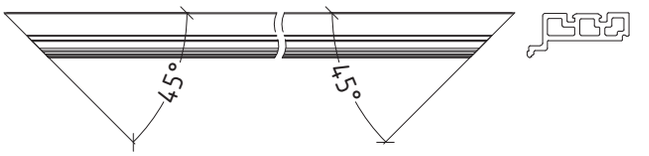
inward opening door combination
E75 flat door + E75

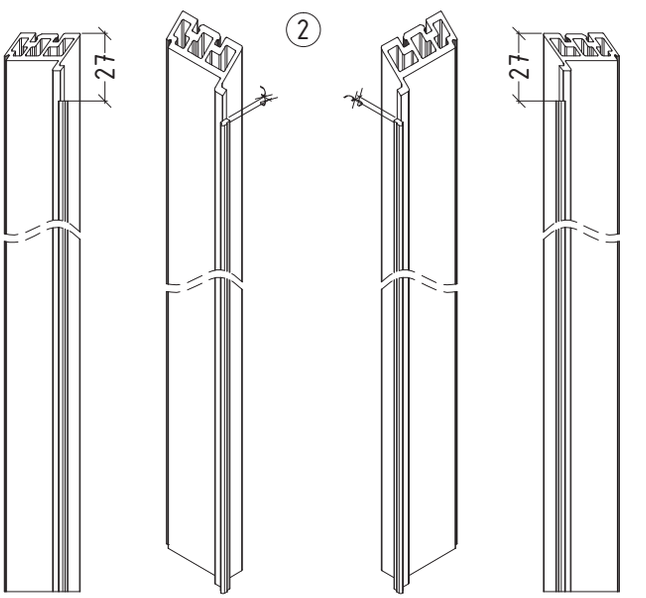








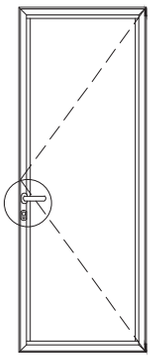


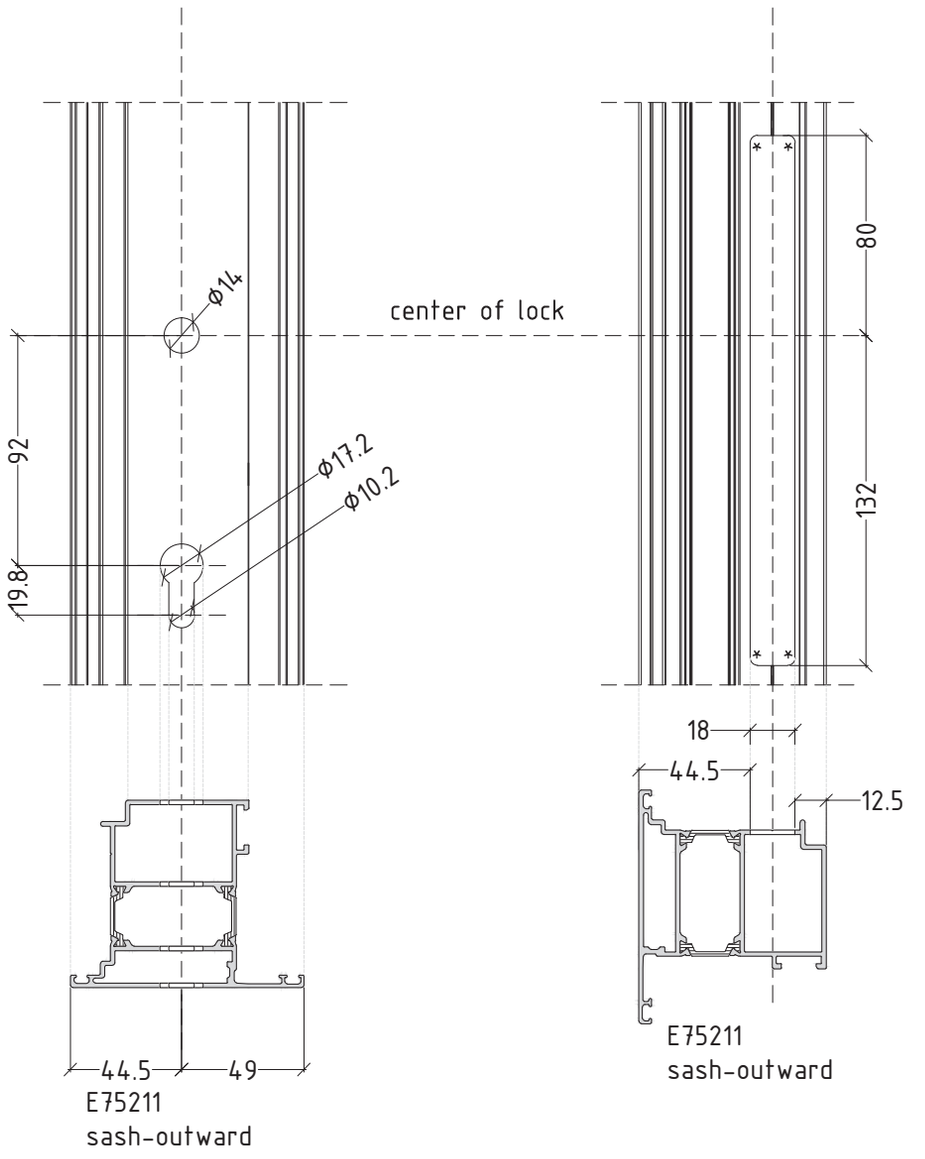


not to scale

M750-43

machining required on E75211 for lock





* The dimensions refer to anodized and mill-finished profiles!

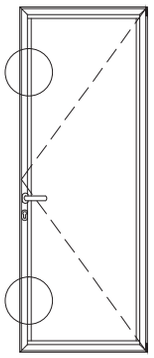
For powder coated profiles, the thickness of the coating must be taken into account!

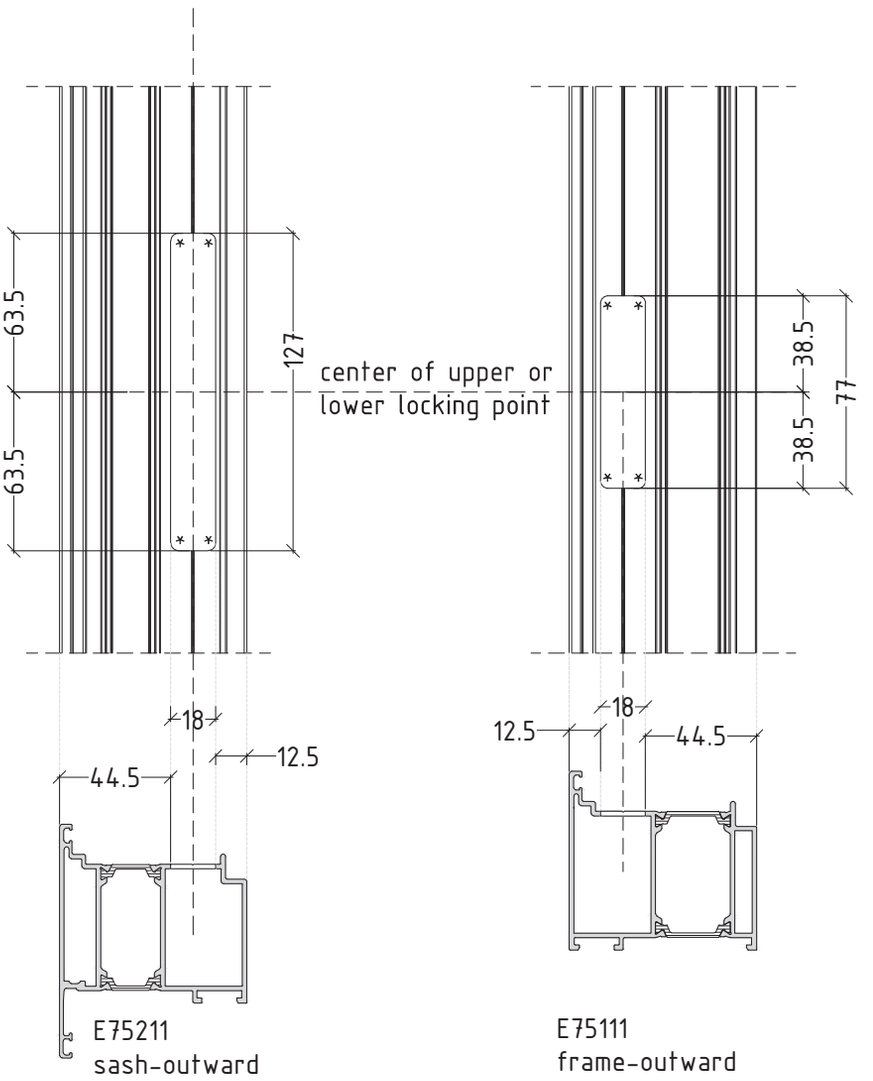
not to scale

* R=3mm

M750-44

machining required on E75111 & E75211 for lock





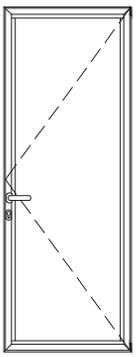
* The dimensions refer to anodized and mill-finished profiles!

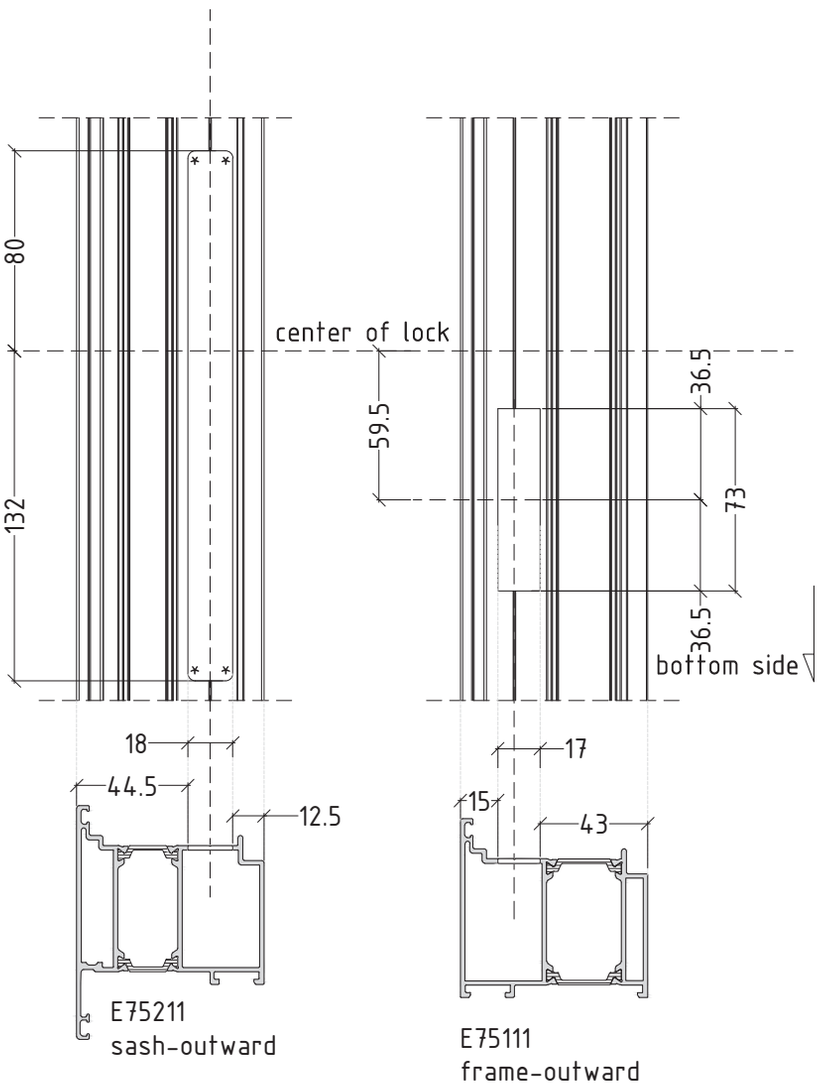
For powder coated profiles, the thickness of the coating must be taken into account!

not to scale

* R=3mm

M75D-45





* The dimensions refer to anodized and mill-finished profiles!

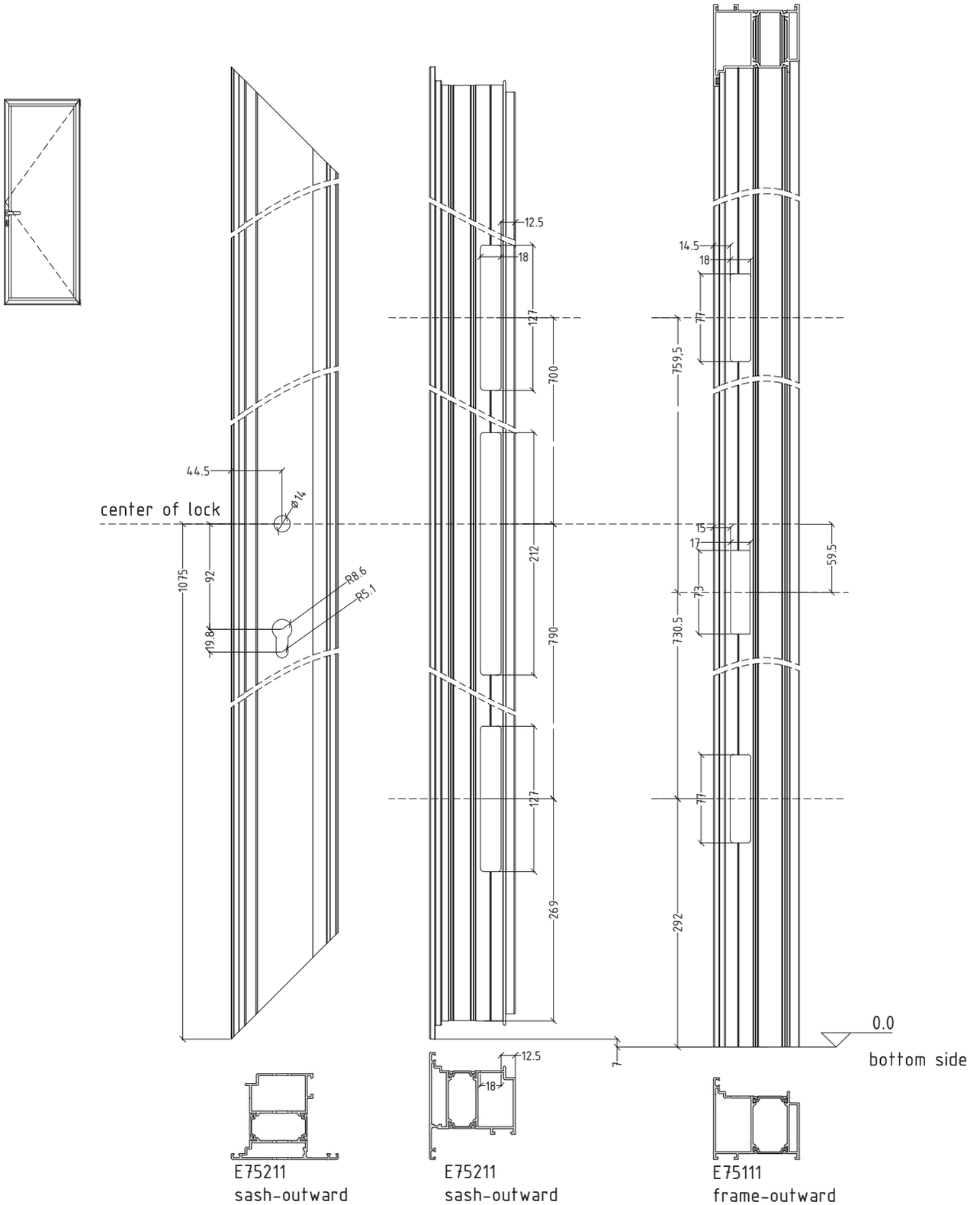
For powder coated profiles, the thickness of the coating must be taken into account!

not to scale

*
R=3mm

M750-46

machining required on E75111 & E75211 for lock

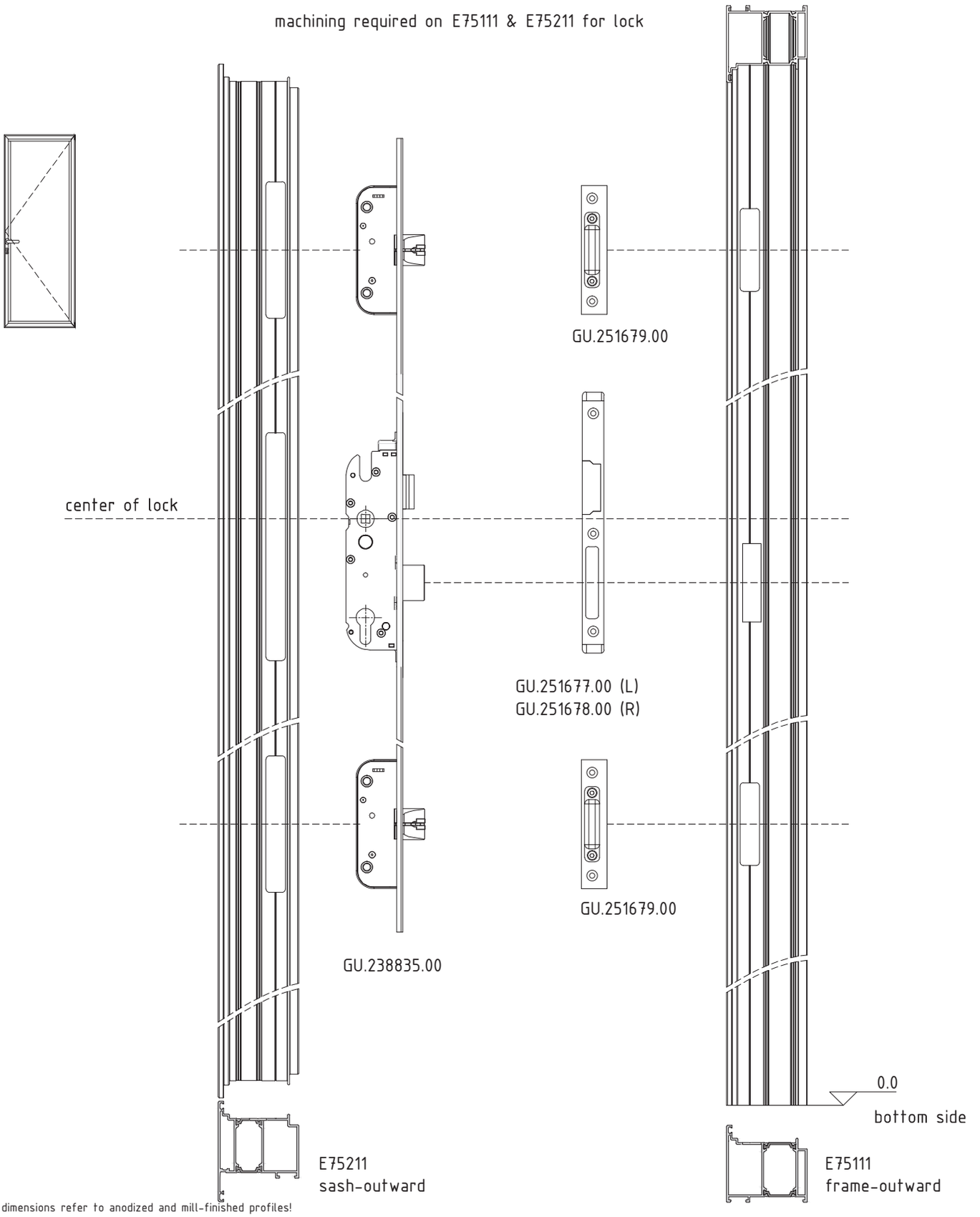


* The dimensions refer to anodized and mill-finished profiles!

For powder coated profiles, the thickness of the coating must be taken into account!

not to scale

M75D-47



* The dimensions refer to anodized and mill-finished profiles!

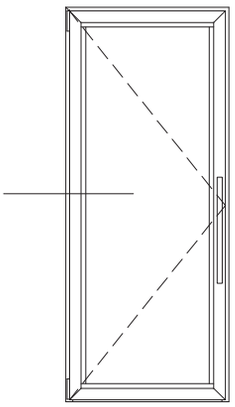
For powder coated profiles, the thickness of the coating must be taken into account!

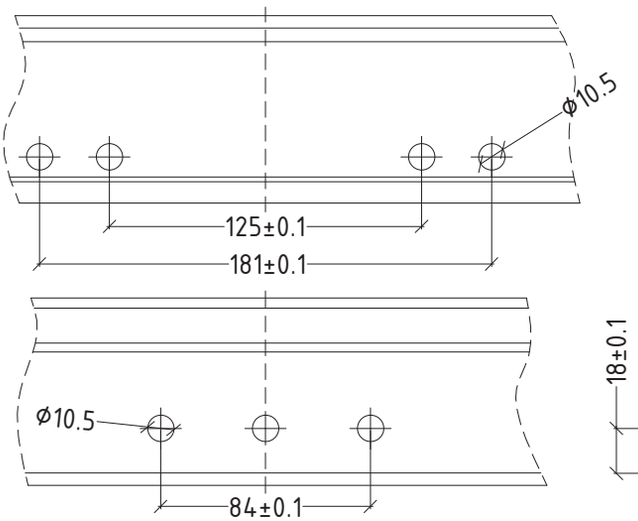
not to scale

M750-48

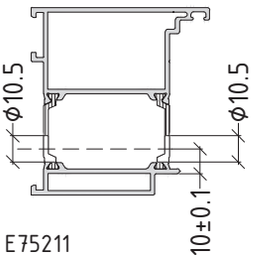
machining required on E75111 & E75211 for hinge ETEM Alpro

outward
opening

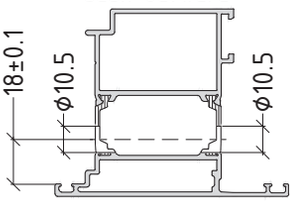




E75111
frame-outward

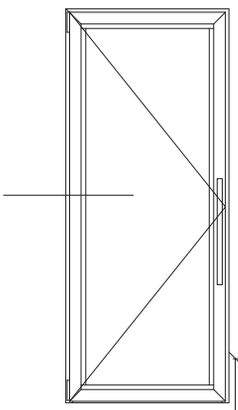


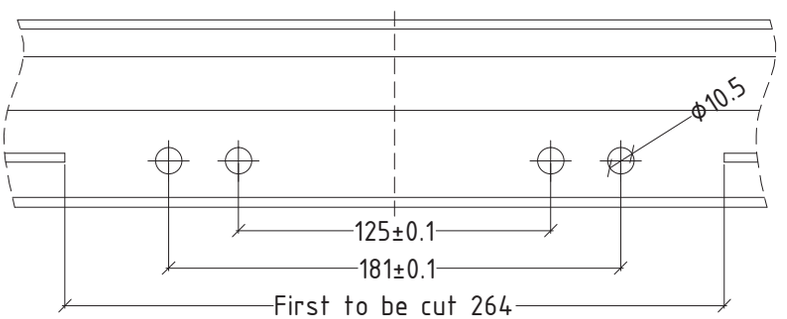
E75211
sash-outward



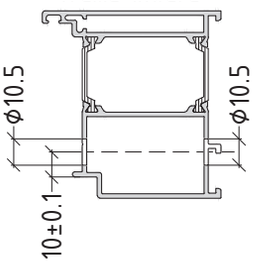
machining required on E75110 & E75210 for Simonswerk hinges

inward
opening

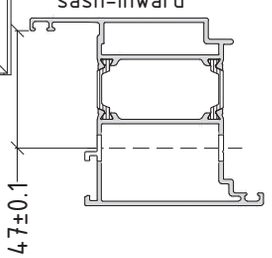


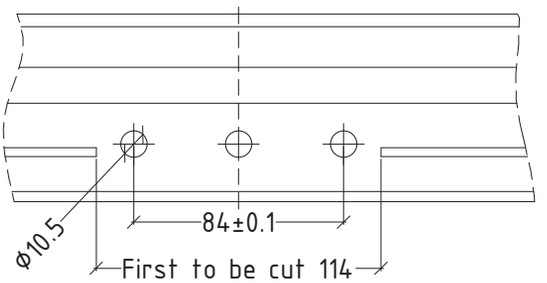


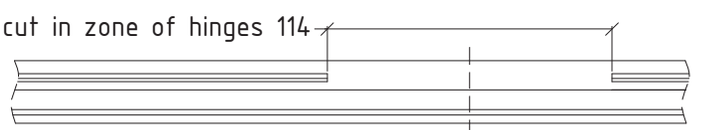
E75110
frame-inward

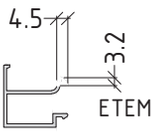


E75210
sash-inward









ETEM Glazing bead

* The dimensions refer to anodized and mill-finished profiles!

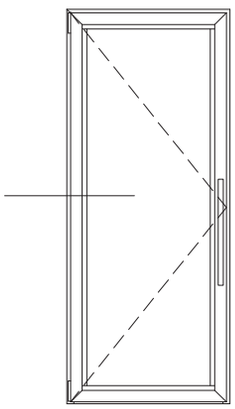
For powder coated profiles, the thickness of the coating must be taken into account!

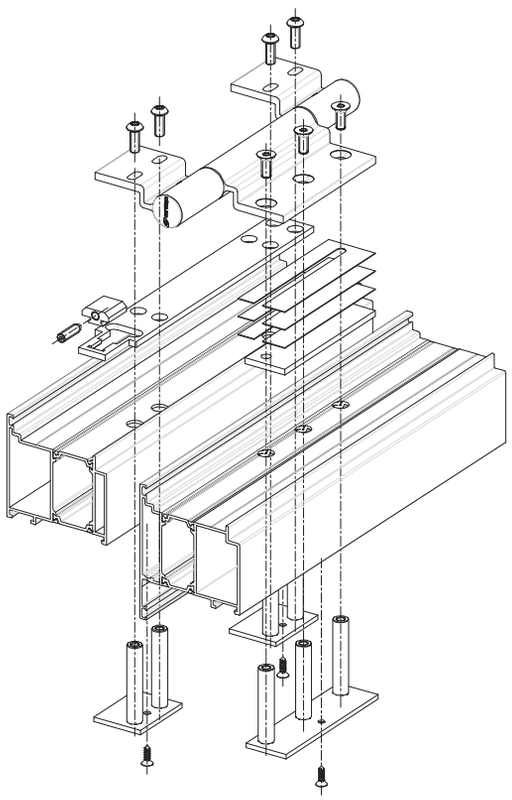
not to scale

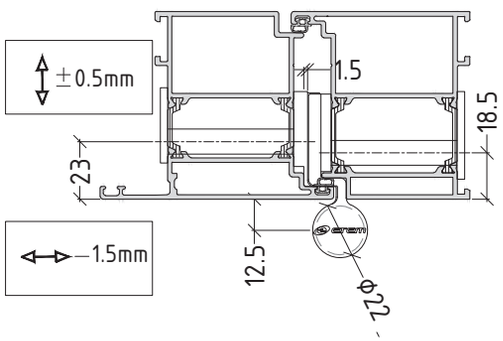
M75D-49

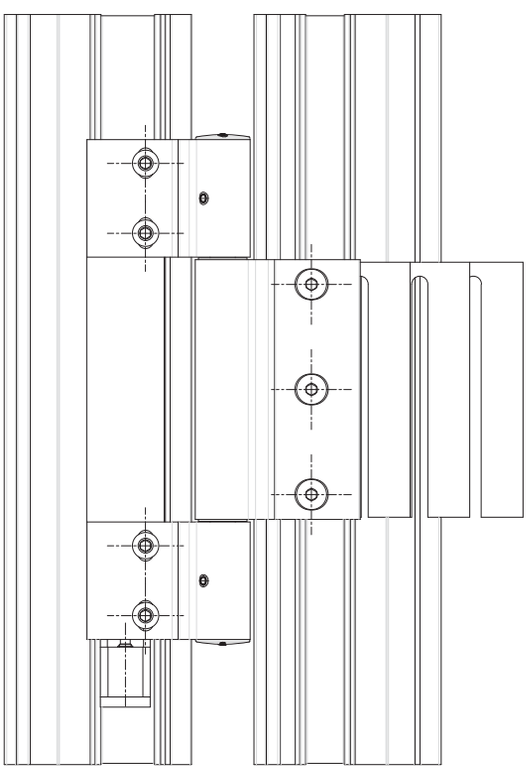
sequence of assembly and adjustment for hinge ETEM Alpro

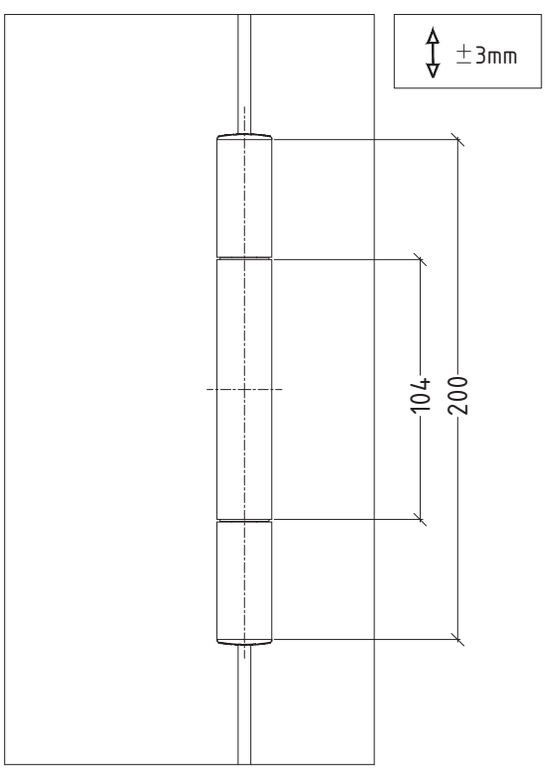
outward
opening











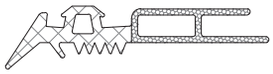
not to scale

M750-50

ACCESSORIES

code/description	package/pcs	colour
ET 130476.00	60	●

EPDM gasket for glass
elongated



ET 130153.00	150	●

glazing EPDM gasket 4 mm

ET 990619.00	125	●

glazing EPDM gasket
press-in 5 mm

ET 990620.00	125	●

glazing EPDM gasket
press-in 6 mm

A75D-1

code/description	package/pcs	colour
ET 130207.00	75	●

glazing EPDM gasket
press-in 7 mm

ET 130208.00	40	●

glazing EPDM gasket
press-in 8 mm

ET 130210.00	40	●

glazing EPDM gasket
press-in 10 mm

ET 130176.00	80	●

glazing EPDM gasket
press-in 5-6 mm

A75D-2

code/description	package/pcs	colour
ET 130177.00	60	●

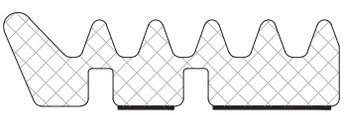
glazing EPDM gasket
press-in 7-8 mm

ET 130157.00	200	●

EPDM gasket

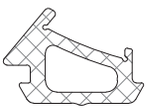
ET 080751.00	2	●

additional insulator for E75



ET 130433.00	70	●

gasket for variable angle
E75



A75D-3

code/description	package/pcs	colour
ET 130468.00	100	●

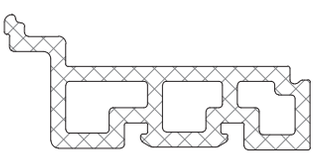
outside silicone gasket

ET 130748.00	100	●

EPDM gasket

ET 130491.00	40	●

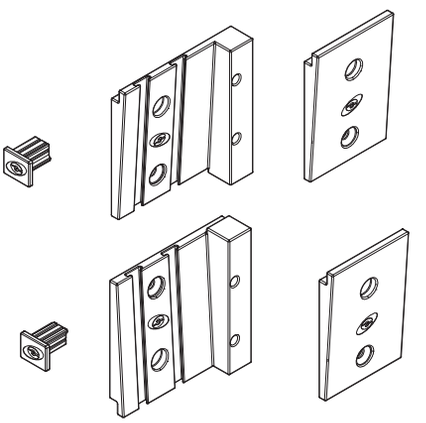
EPDM gasket



ET 995563.00	1	●

SET 1.1KSTP

set pl. plugs for
single-sash flat door with
thermal threshold

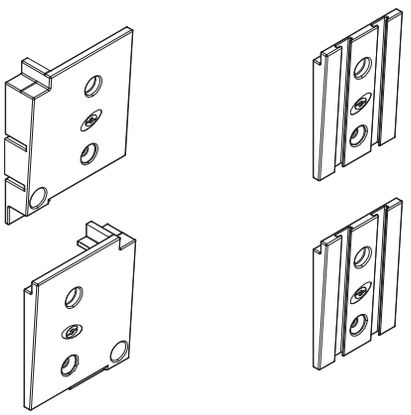


A75D-4

code/description	package/pcs	colour
ET 995564.00	1	●

SET 2.1KCCH

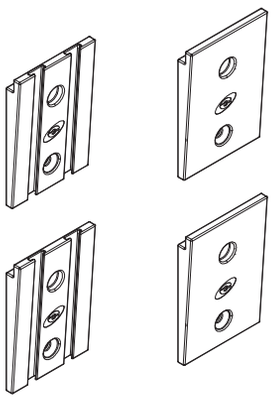
set pl. plugs for
single-sash flat door with
brush holder



ET 995565.00	1	●

SET 3.1KSP

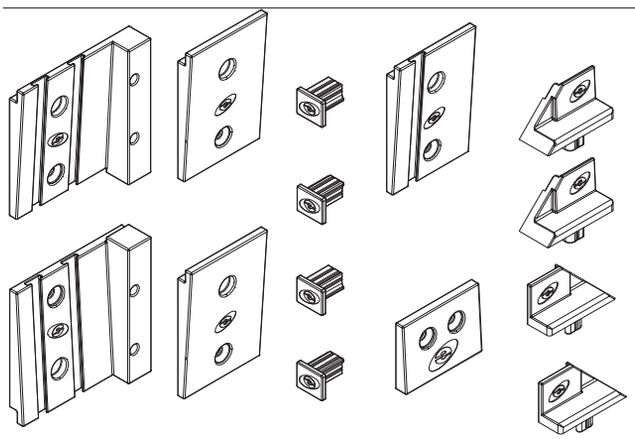
set pl. plugs for
single-sash flat door with
kick-plate



ET 995566.00	1	●

SET 4.2KSTP

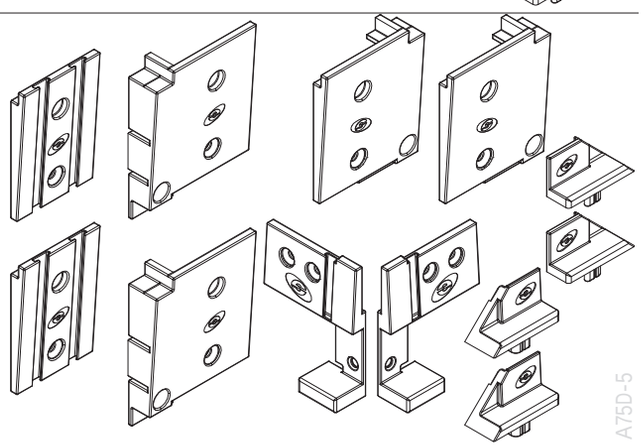
set pl. plugs for
double-sash flat door with
thermal threshold



ET 995567.00	1	●

SET 5.2KSCH

set pl. plugs for
double-sash flat door with
brush holder

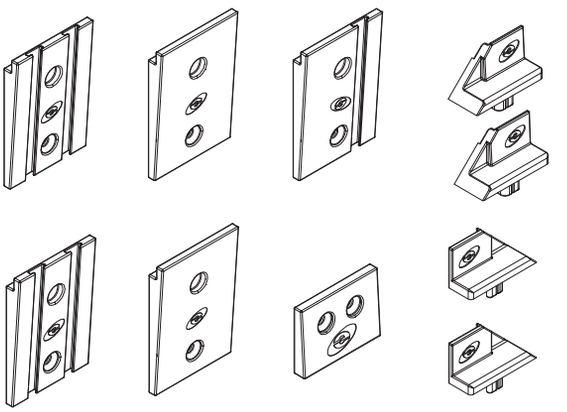


A75D-5

code/description	package/pcs	colour
ET 995568.00	1	●

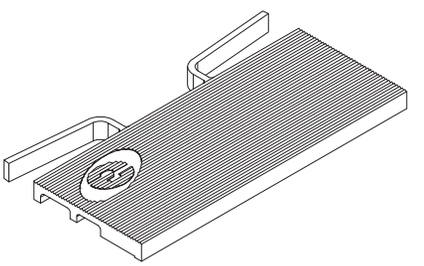
SET 6.2KSP

set pl. plugs for
double-sash flat door with
kick-plate



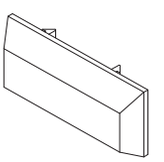
ET 991306.00	200	●

equalizing shim 6 mm



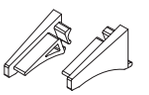
ET 074605.00	100	●

plastic drain cap 30 x 6 mm



ET 074629.00	200	●

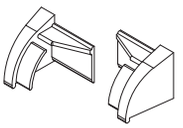
plastic plug for drip profile
E2357



A75D-6

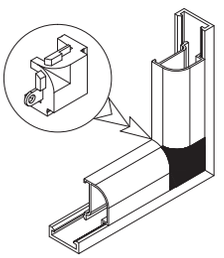
code/description	package/pcs	colour
ET074624.00	200	●

plastic plug for drip profile
E40820

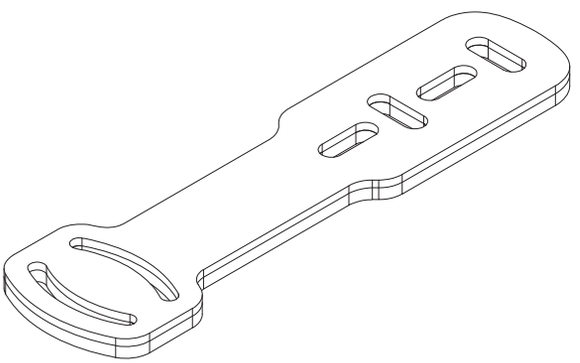


ET059902.00	25	MF
ET059902.02	25	●
ET059902.01	25	○

corner for round bead

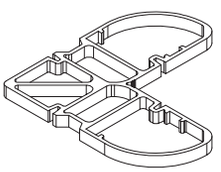


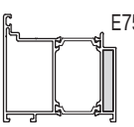
ET055516.00	1	-



ET054674.00	200	MF

extruded aluminium corner
bracket 6.4 mm for
E75111



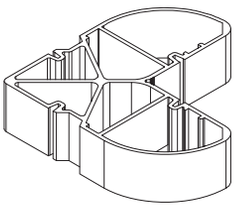


attention
always use epoxy resin
for long lasting joining

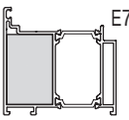
A75D-7

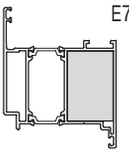
code/description	package/pcs	colour
ET054675.00	50	MF

extruded aluminium corner bracket 30.4 mm for E75111/E75210



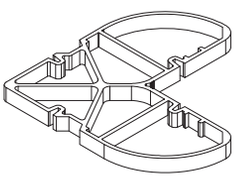
attention
always use epoxy resin for long lasting joining



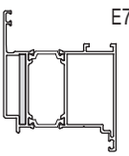


ET054676.00	200	MF

extruded aluminium corner bracket 3.9 mm for E75210

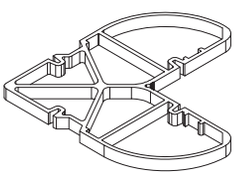


attention
always use epoxy resin for long lasting joining

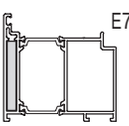


ET054670.00	150	MF

extruded aluminium corner bracket 6.4 mm for E75110

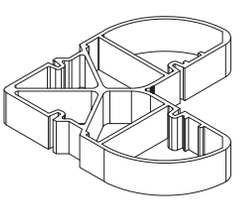


attention
always use epoxy resin for long lasting joining

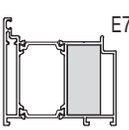


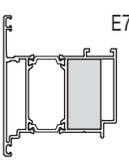
ET054671.00	100	MF

extruded aluminium corner bracket 21.9 mm for E75110/E75211



attention
always use epoxy resin for long lasting joining

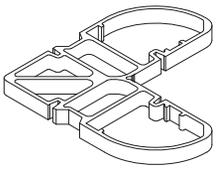


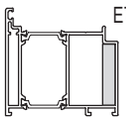


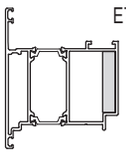
A75D-8

code/description	package/pcs	colour
ET 054672.00	100	MF

extruded aluminium corner bracket 8.2 mm for E75110/E75211



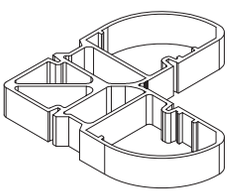


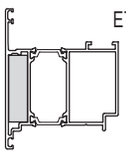


attention
always use epoxy resin
for long lasting joining

ET 054673.00	100	MF

extruded aluminium corner bracket 12.4 mm for E75211

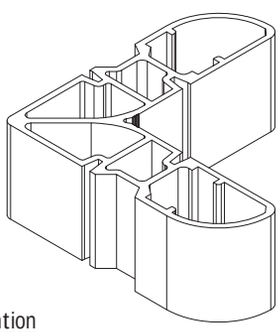


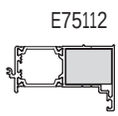


attention
always use epoxy resin
for long lasting joining

ET 054722.00	75	MF

extruded aluminium corner bracket 30.7 mm for E75112

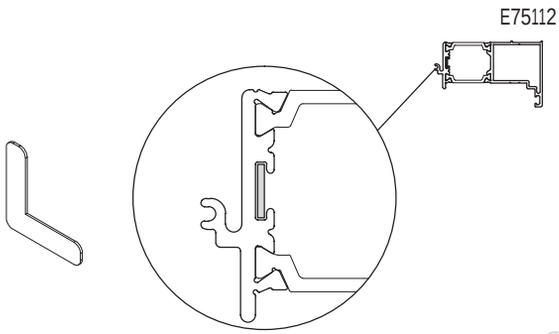




attention
always use epoxy resin
for long lasting joining

ET 055511.00	100	MF

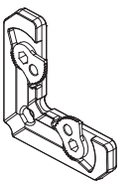
alignment square - inox for E75112

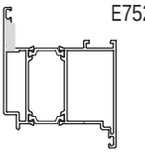


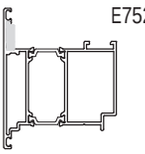
A75D-9

code/description	package/pcs	colour
ET 058001.00	250	MF

alignment square with
locking function

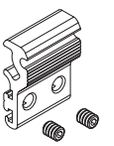


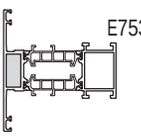


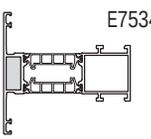


ET 991407.00	10	MF

T - bracket external sidefor
E75300/E75340

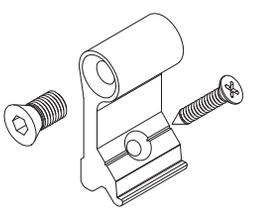


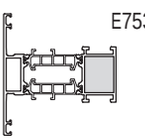


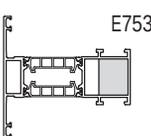


ET 070206.00	10	MF

T - bracket internal side for
E75300/E75340

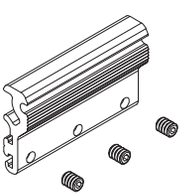


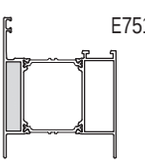




ET 070308.00	10	MF

T - bracket external side

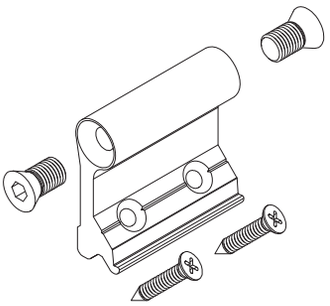


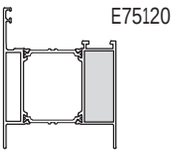


A75D-10

code/description	package/pcs	colour
ET 070212.00	10	MF

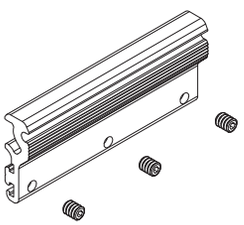
T - bracket internal side

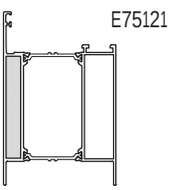




ET 070310.00	10	MF

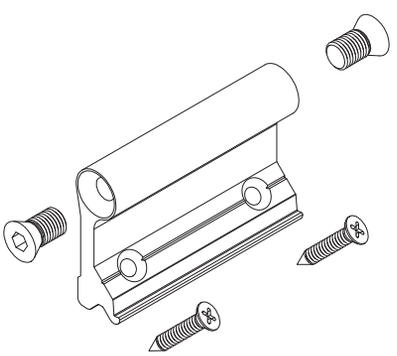
T - bracket external side

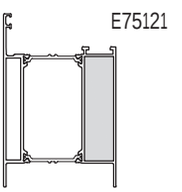




ET 070214.00	10	MF

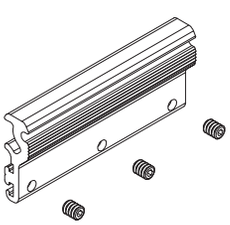
T - bracket internal side

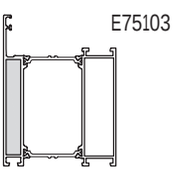


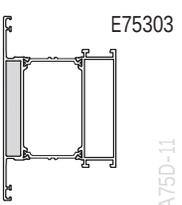


ET 070309.00	10	MF

T - bracket external side



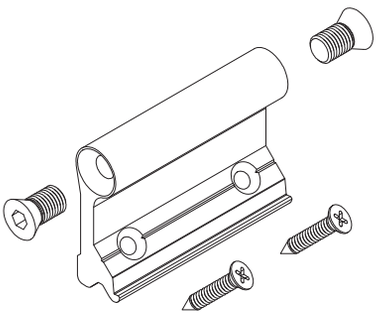


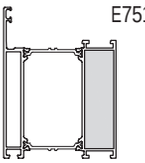


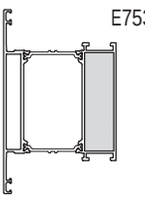
A75D-11

code/description	package/pcs	colour
ET 070213.00	10	MF

T - bracket internal side

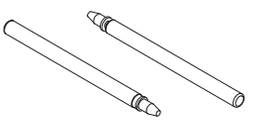






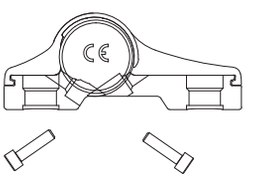
ET 143900.00	100	MF

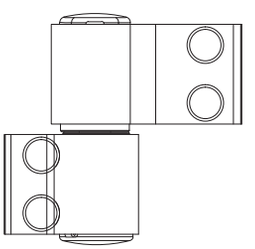
roll pin 3 x 6 mm with andle



GI205035.01	10	●
GI205035.04	10	●
GI205035.02	10	●

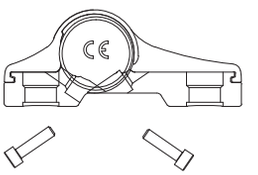
double hinge for flat door
Domina

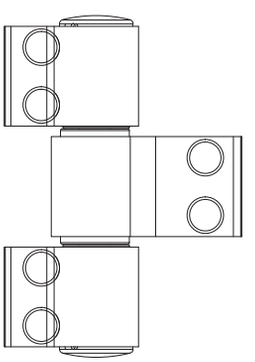




ET GI205042.01	5	●
ET GI205042.02	5	
ET GI205042.11	5	

triple hinge for flat door
Domina





A75D-12

code/description	package/pcs	colour
GI205039.00	24	MF

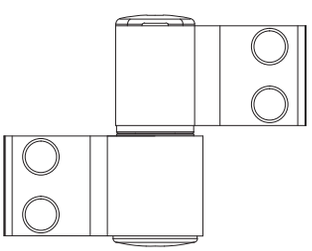
bolt adjustable spacer 48mm
for hinge Domina

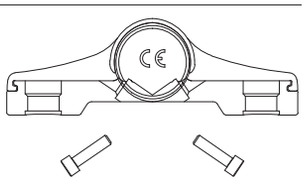
GI255616.00	24	MF

conter plate kit for hinge
Domina

GI051660.01	-	●
GI051660.02	-	●
GI051660.11	-	EV1

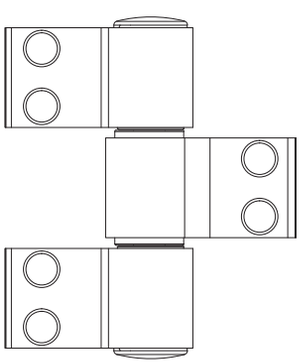
double hinge for flat door
Domina - 84mm

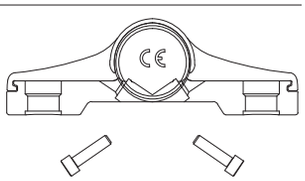




GI205040.01	-	●
GI205040.02	-	●
GI205040.11	-	EV1

triple hinge for flat door
Domina - 84mm

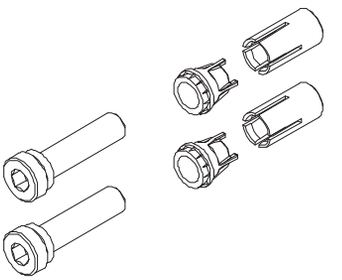




A75D-13

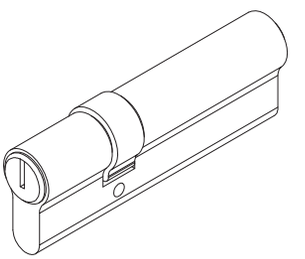
code/description	package/pcs	colour
GI205044.00	24	MF

expansion plugs Domina



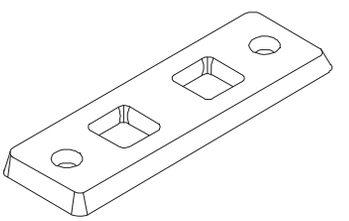
ET 990989.00	10	nickel

cilinder 30/60mm nickel



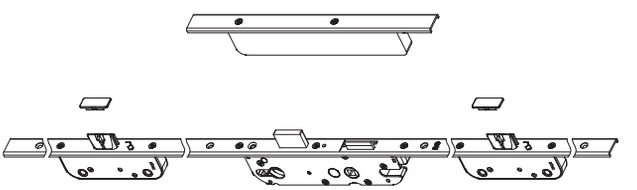
GI206699.00	100	nickel

striker for treshold giesse



GU 238835.00	1	nickel

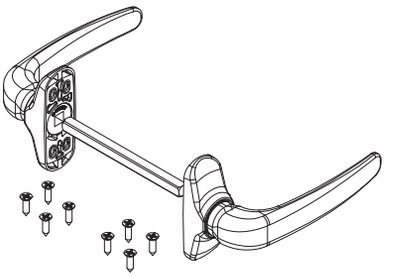
Security lock GU 35/92/240
6-29040-31-0-1



A75D-14

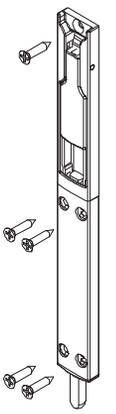
code/description	package/pcs	colour
GI02790.01	10	
GI02790.06	10	
GI02790.02	10	

Double handle for door prima



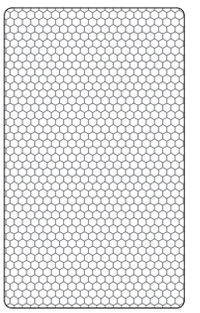
ET 994573.00	10	

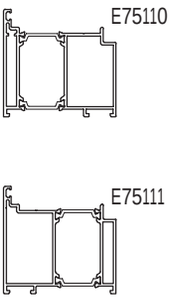
bolt for secondary sash
GIESSE



ET 080525.00	2m	standard

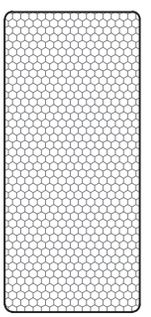
additional insulator for
E75110
E75111

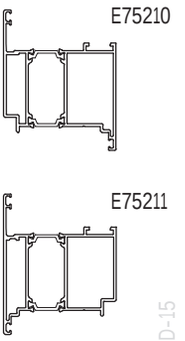




ET 080526.00	2m	standard

additional insulator for
E75210
E75211

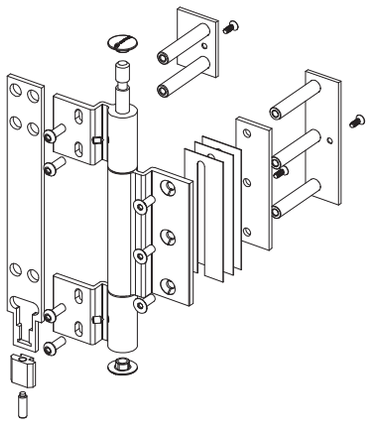




A75D-15

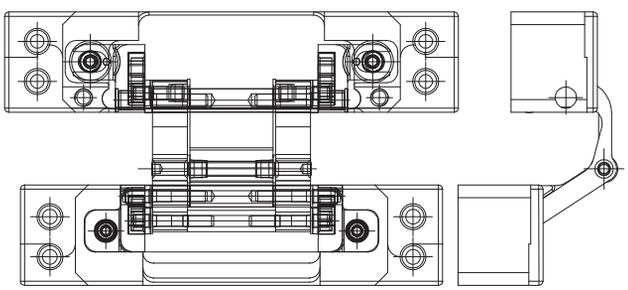
code/description	package/pcs	colour
ET 205114.01	-	●
ET 205114.02	-	●
ET 205114.11	-	EV1

hinge ETEM Alpro



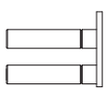
ET 205101.06	2	●
ET 205101.02	2	●

hidden hinge Simonswerk
TECTUS



ET 205102.00	1	MF

fixing set for TECTUS



A75D-16

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

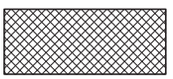
- EN 12020 (1÷2) – ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED PRECISION PROFILES IN ALLOYS EN AW-6060 AND EN AW-6063
- EN 755 (1÷9)– ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED ROD/BAR, TUBE AND PROFILES
- EN 573 (1÷3) – ALUMINIUM AND ALUMINIUM ALLOYS – CHEMICAL COMPOSITION AND FORM OF WROUGHT PRODUCTS
- 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

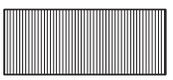
WINDOWS AND DOORS

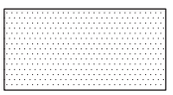
1. EN 14351 – WINDOWS AND DOORS – PRODUCT STANDARD, PERFORMANCE CHARACTERISTICS
2. EN 12519 – WINDOWS AND PEDESTRIAN DOORS – TERMINOLOGY
3. EN 12207 – WINDOWS AND DOORS – AIR PERMEABILITY – CLASSIFICATION
4. EN 1026 – WINDOWS AND DOORS – AIR PERMEABILITY – TEST METHOD
5. EN 12208 – WINDOWS AND DOORS – 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

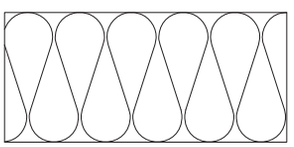
Hatches for different materials

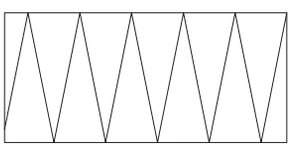

EPDM

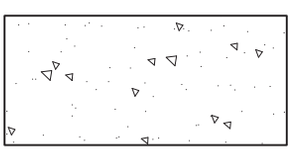

PVC

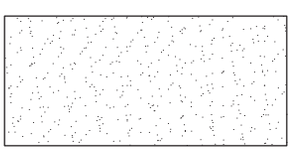

gypsum board

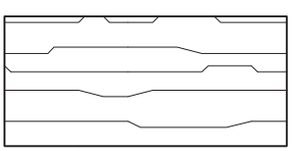

silicone seal


Insulation soft


Insulation hard

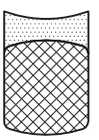

concrete wall


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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