TECHNICAL CATALOGUE

OPENING WINDOW AND DOOR SYSTEM

E1600 E40 E70 E45 E1000 Q60 E75 E85 E2300 E52 E19 Q72 E8000

ETEM

E1000
OPENING WINDOW AND DOOR SYSTEM

TABLE OF CONTENTS

ETEM HISTORY

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

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

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

SERVICES WE PROVIDE

ETEM supports you with the following:

▷ design of conventional and bespoke architectural system solutions

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

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

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

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

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

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

ETEM PRODUCTS AND SUSTAINABLE DEVELOPMENT

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

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

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

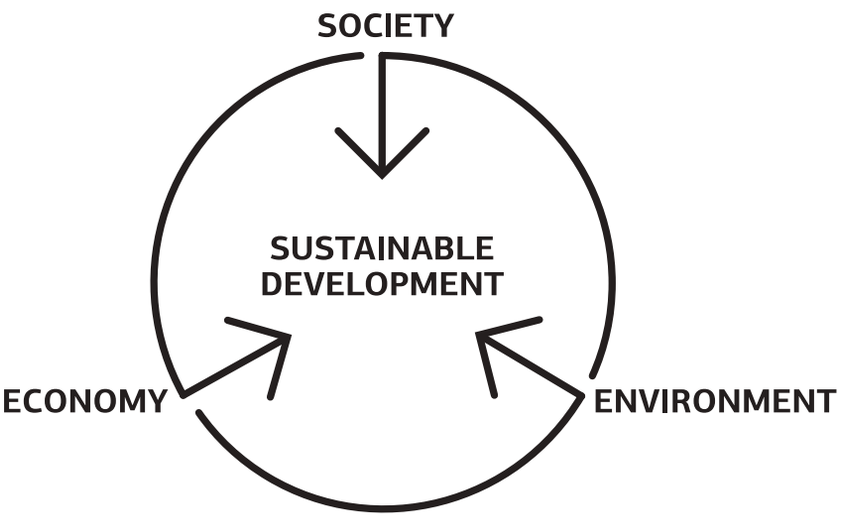
For us meeting this objective translates into the challenge of satisfying market demands at the lowest economic, social and environmental cost possible.

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

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

As a moderator between outside and inside our systems provide:

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



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

GENERAL INFORMATION

CONCEPT / ADVANTAGES / CERTIFICATES

E1000 CONCEPT

E1000 IS DESIGNED TO MEET ALL MODERN REQUIREMENTS IN A BUILDING AS FAR AS CONSTRUCTION, TECHNOLOGY AND AESTHETICS IS CONCERNED, WHILE NOT EXCEEDING BUDGETED COSTS.

- Functional and complete regarding available typologies, wide variety of profiles for the construction of both curved and straight-line profiles.
- Compact 40 mm and 48 mm sash system (for straight and round profiles accordingly)
- Wide range of accessories designed by ETEM that guarantee long lasting functionality and durability
- High aesthetics and functionality
- Economically attractive solutions
- Safe constructions
- Multiple solutions, especially for main entrances
- Adequate sealing
- A capability of powder painting in any RAL colour, special woodgrain patterns and other surface processing methods – anodizing

COMPLIANCE WITH APPLICABLE REGULATIONS
Production management

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

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

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

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

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

PERFORMANCE CHARACTERISTICS OF E1000

Characteristic	Classification / value	Standard
Air permeability	Up to class 4	EN 1026 / EN 12207
Watertightness	Up to class 9A	EN 1027 / EN 12208
Resistance to wind load	Up to class C4	EN 12211 / EN 12210
Acoustic performance	Up to 38 dB	EN ISO 717-1

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.

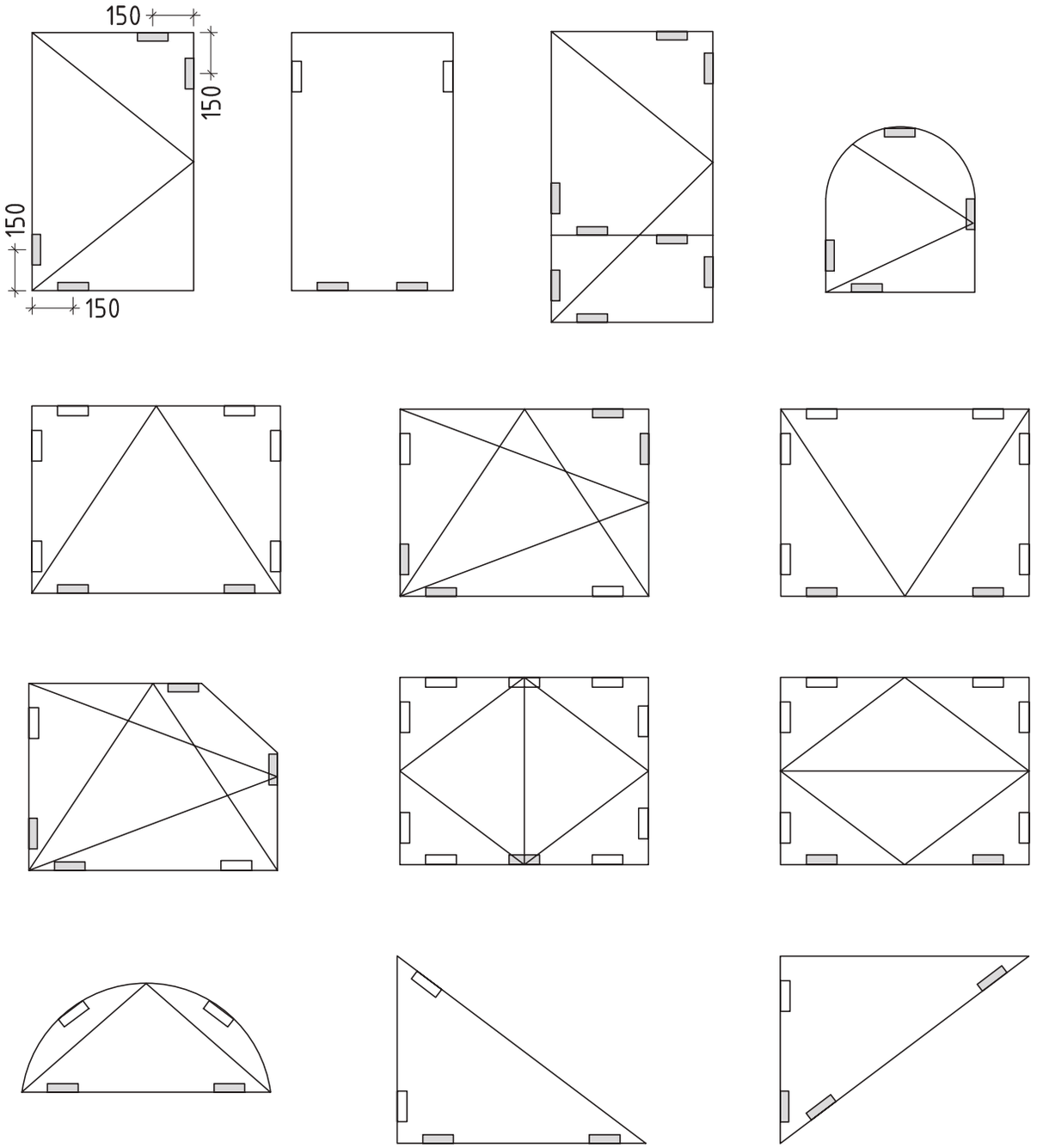
MAINTENANCE

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.

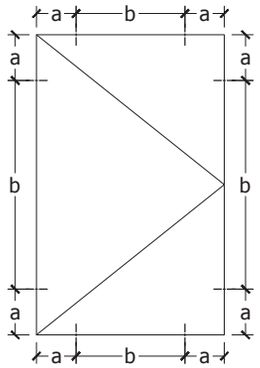
GLAZING SHIMS



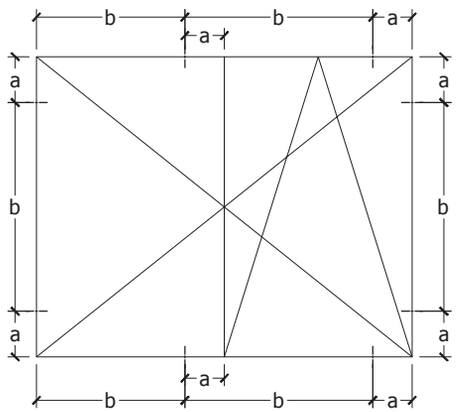
- main glazing shim
- positioning shim

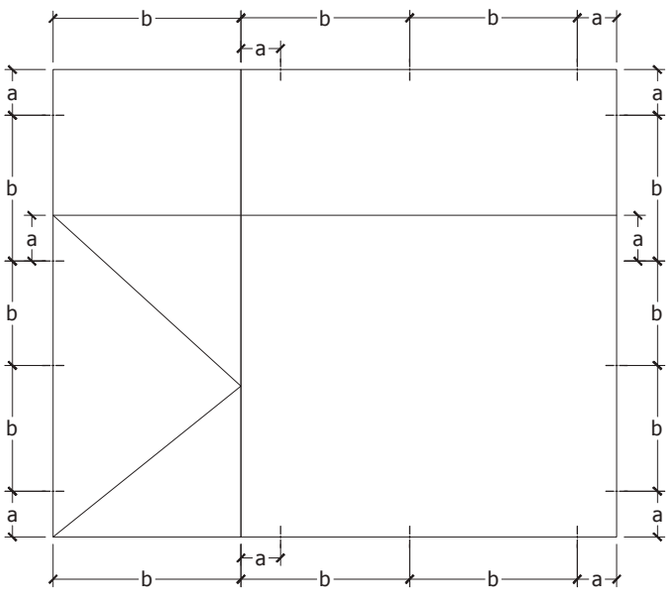
Note:
Load glazing shims should be positioned on 150 mm distance from the glazing edge.
Distance shims do not have exactly defined position.

POSITION OF ANCHORS



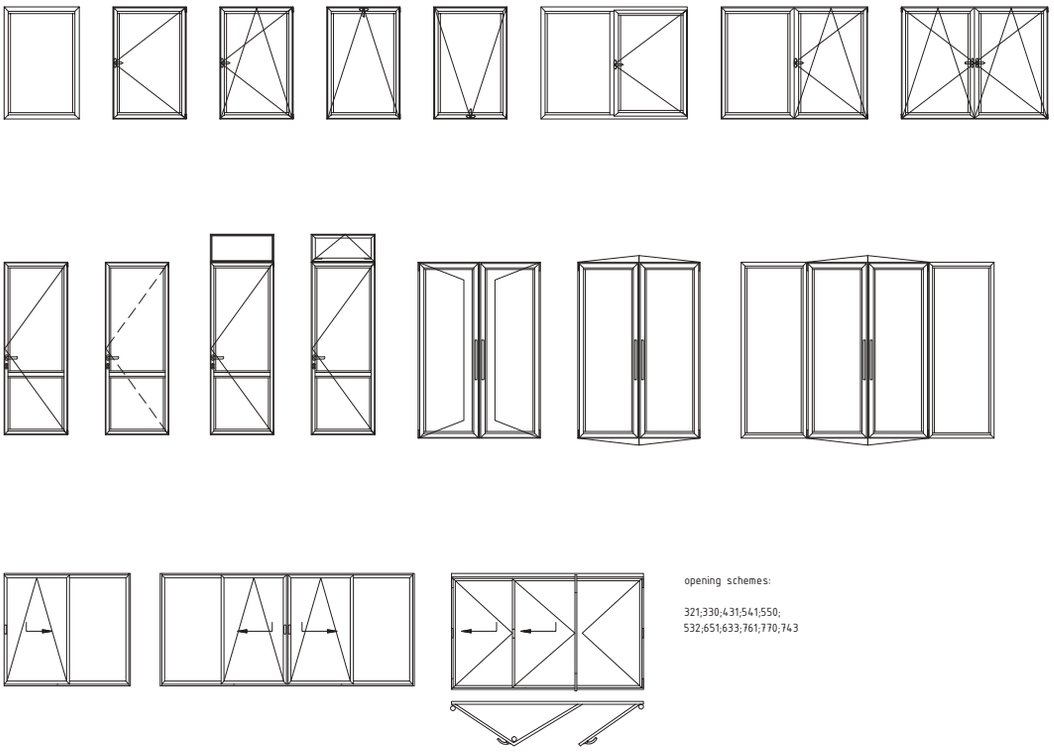
a = 150 ÷ 200 mm
b ≤ 800 mm





TABLES

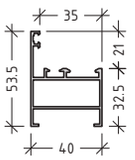
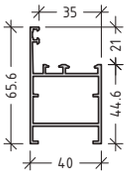
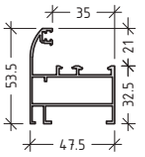
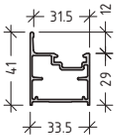
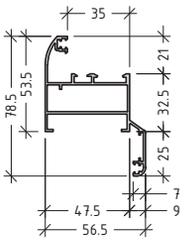
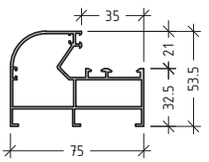
TYPOLOGIES / LIST OF PROFILES / CHARACTERISTICS

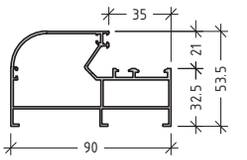
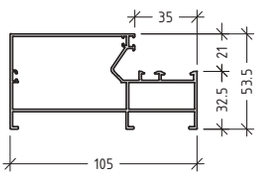
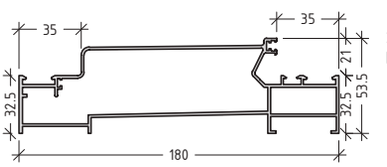
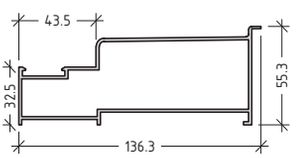
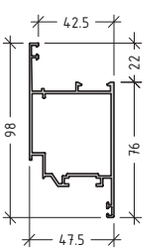
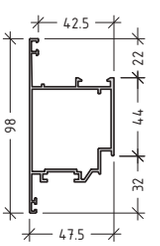


opening schemes:

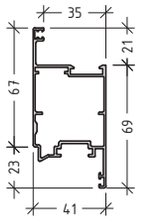
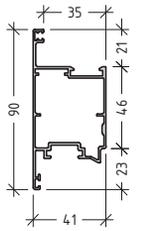
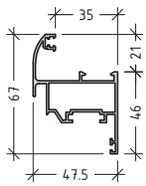
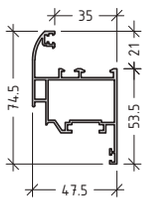
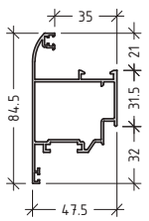
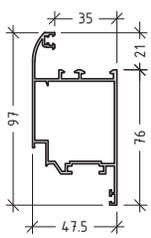
321;330;431;541;550;
532;651;633;761;770;743

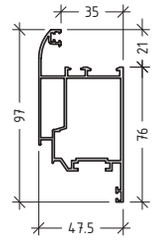
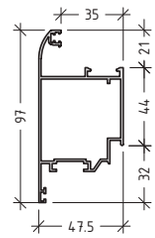
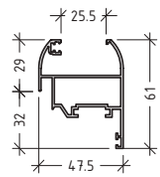
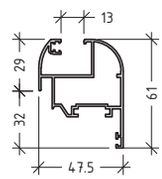
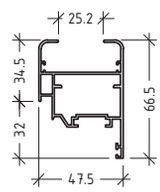
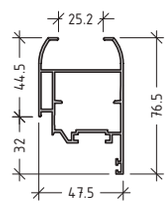
G1000-01

code	profile	weight length moment of inertia
E1100		678 g/m L=6.01 m Ix=4.49 cm^4 Iy=5.82 cm^4
E1140		925 g/m L=6.01 m Ix=9.95 cm^4 Iy=8.52 cm^4
E1101		813 g/m L=6.01 m Ix=6.06 cm^4 Iy=8.72 cm^4
E1190 light line		562.3 g/m L=6.01 m Ix=2.55 cm^4 Iy=3.38 cm^4
E1102		956 g/m L=6.01 m Ix=12.46 cm^4 Iy=14.56 cm^4
E1121		1134 g/m L=6.01 m Ix=10.08 cm^4 Iy=24.21 cm^4

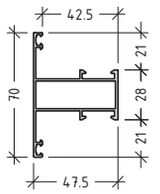
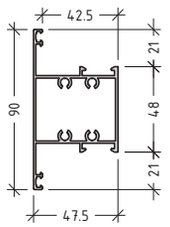
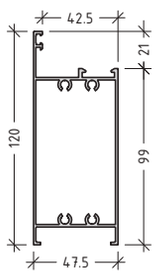
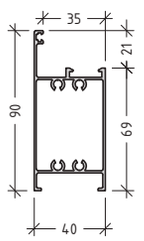
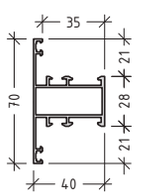
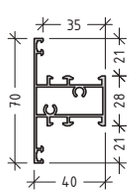
code	profile	weight length moment of inertia
E1132		1239 g/m L=6.01 m Ix=12 cm^4 Iy=38.25 cm^4
E1155		1472 g/m Ix=15.86 cm^4 Iy=64.83 cm^4
E1120		2284 g/m L=6.01 m Ix=21.77 cm^4 Iy=294.98 cm^4
E5352		1750 g/m L=6.01 m Ix=20.64 cm^4 Iy=130.74 cm^4
E1187 straight line		1112 g/m L=6.01 m Ix=26.2 cm^4 Iy=14.83 cm^4
E1188 straight line		1113 g/m L=6.01 m Ix=26.17 cm^4 Iy=14.1 cm^4

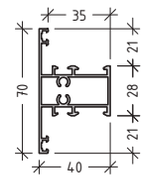
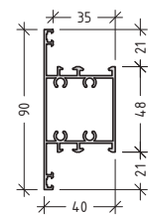
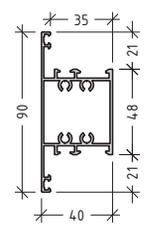
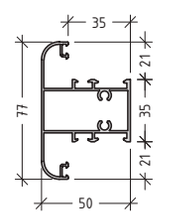
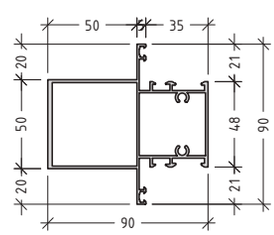
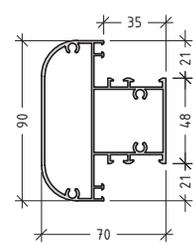
L1000-01

code	profile	weight length moment of inertia
E1191 light line		980.1 g/m L=6.01 m Ix=20.46 cm^4 Iy=9.9 cm^4
E1192 light line		980.1 g/m L=6.01 m Ix=20.46 cm^4 Iy=9.44 cm^4
E1106		851 g/m L=6.01 m Ix=7.81 cm^4 Iy=9.33 cm^4
E1125		969 g/m L=6.01 m Ix=11.64 cm^4 Iy=12.89 cm^4
E1150		1026 g/m Ix=11.54 cm^4 Iy=17.82 cm^4
E1147		1147 g/m L=6.01 m Ix=29.05 cm^4 Iy=14.22 cm^4

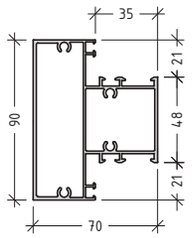
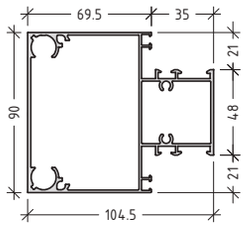
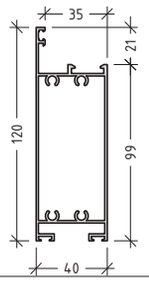
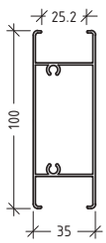
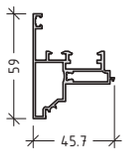
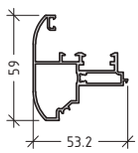
code	profile	weight length moment of inertia
E1107		1247 g/m L=6.01 m Ix=29.34 cm^4 Iy=14.28 cm^4
E1108		1118 g/m L=6.01 m Ix=28.37 cm^4 Iy=13.48 cm^4
E1116		842 g/m L=6.01 m Ix=7.24 cm^4 Iy=9.28 cm^4
E1117		899 g/m L=6.01 m Ix=8.56 cm^4 Iy=9 cm^4
E1118		963 g/m L=6.01 m Ix=9.87 cm^4 Iy=11.52 cm^4
E1126		1031 g/m L=6.01 m Ix=14.76 cm^4 Iy=12.58 cm^4

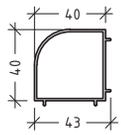
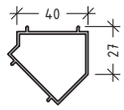
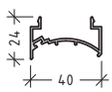
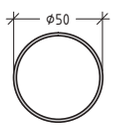
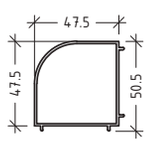
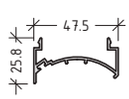
L1000-02

code	profile	weight length moment of inertia
E1183 straight line		808 g/m L=6.01 m Ix=7.49 cm^4 Iy=9.65 cm^4
E1184 straight line		1162 g/m L=6.01 m Ix=20.33 cm^4 Iy=13.27 cm^4
E1185 straight line		1484 g/m L=6.01 m Ix=75.32 cm^4 Iy=19.97 cm^4
E1193 light line		1104.4 g/m L=6.01 m Ix=27.88 cm^4 Iy=9.59 cm^4
E1128		815 g/m L=6.01m Ix=7.71 cm^4 Iy=6.48 cm^4
E1103		902 g/m L=6.01 m Ix=7.81 cm^4 Iy=6.73 cm^4

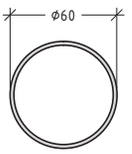
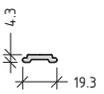
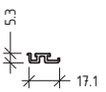
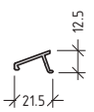
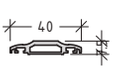
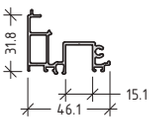
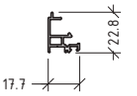
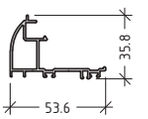
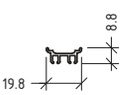
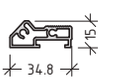
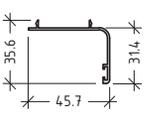
code	profile	weight length moment of inertia
E1141		902 g/m Ix=7.81 cm^4 Iy=6.51 cm^4
E1104		1131 g/m Ix=20.5 cm^4 Iy=9.03 cm^4
E1181		1169 g/m L=6.01 m Ix=20.76 cm^4 Iy=8.96 cm^4
E1122		1104 g/m L=6.01 m Ix=15.05 cm^4 Iy=12.44 cm^4
E1134		1771 g/m L=6.01 m Ix=130.78 cm^4 Iy=58.81 cm^4
E1133		1760 g/m L=6.01 m Ix=46.71 cm^4 Iy=34.42 cm^4

L1000-03

code	profile	weight length moment of inertia
E1156		1877 g/m L=6.01 m Ix=54.4 cm^4 Iy=36.44 cm^4
E1157		2319 g/m L=6.01 m Ix=82.13 cm^4 Iy=109.73 cm^4
E1105		1474 g/m L=6.01 m Ix=77.96 cm^4 Iy=14.27 cm^4
E1119		1072 g/m L=6.01 m Ix=36.4 cm^4 Iy=8.54 cm^4
E1135		829 g/m L=6.01 m Ix=5.52 cm^4 Iy=6.22 cm^4
E1136		891 g/m L=6.01 m Ix=6.52 cm^4 Iy=8.59 cm^4

code	profile	weight length moment of inertia
E1110		554 g/m L=6.01 m Ix=4.92 cm^4 Iy=4.92 cm^4
E1111		524 g/m L=6.01 m Ix=3.61 cm^4 Iy=4.2 cm^4
E1112 for 7233		381 g/m L=6.01 m Ix=0.37 cm^4 Iy=3.22 cm^4
7233		615 g/m L=5.01 m Ix=6.72 cm^4 Iy=6.72 cm^4
E1131		654 g/m L=6.01 m Ix=8.29 cm^4 Iy=8.29 cm^4
E1143 for 7316		413 g/m L=6.01 m Ix=0.41 cm^4 Iy=5.02 cm^4

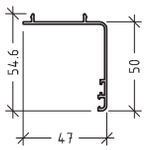
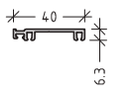
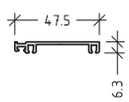
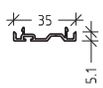
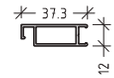
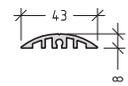
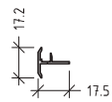
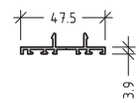
L1000-04

code	profile	weight length moment of inertia
7316		984 g/m L=5.01 m Ix=15.34 cm^4 Iy=15.34 cm^4
E2308		159 g/m L=4.4 m
E23900		116 g/m
E2357		144 g/m L=6.01 m
E40820		143 g/m L=6.01 m
E40650		338 g/m L=6.01 m
E1149		605 g/m Ix=1.61 cm^4 Iy=4.74 cm^4
E1137		213 g/m L=6.01 m
E1139		516 g/m L=6.01 m Ix=1.96 cm^4 Iy=4.69 cm^4
E40812		138 g/m L=6.01 m
E1138		432 g/m L=6.01 m
E1127		288 g/m L=6.01 m Ix=1.23 cm^4 Iy=2.39 cm^4

L1000-05

opening system without thermal break

E1000

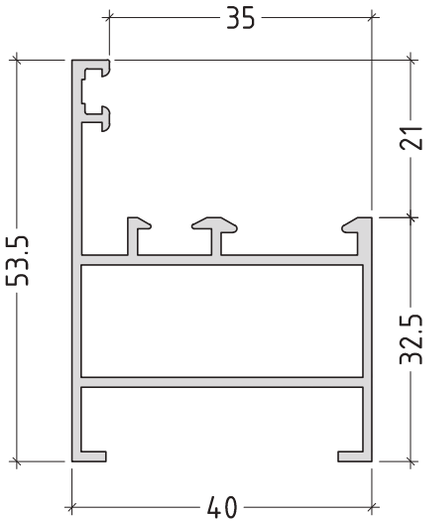
code	profile	weight length moment of inertia
E1115		408 g/m L=6.01 m Ix=4.77 cm^4 Iy=3.37 cm^4
E62001		67.5 g/m
E1182		277 g/m L=6.01 m
E1189		310 g/m L=6.01 m
E1148		203 g/m
E1166		321 g/m Ix=0.27 cm^4 Iy=1.56 cm^4
E5364		402 g/m L=6.01 m
E40604		113 g/m L=6.01 m
E1123		335 g/m

L1000-06

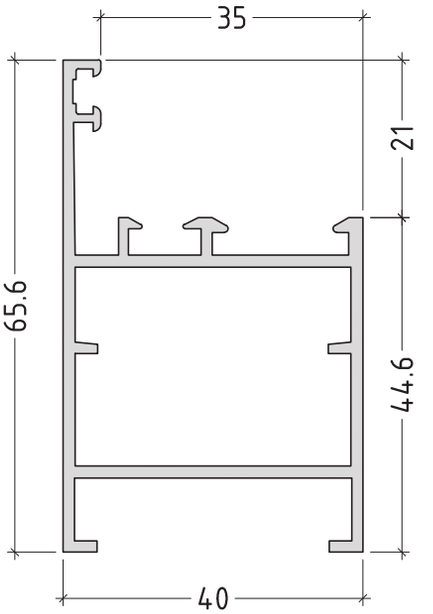
PROFILES

DRAWINGS / SCALE 1:1

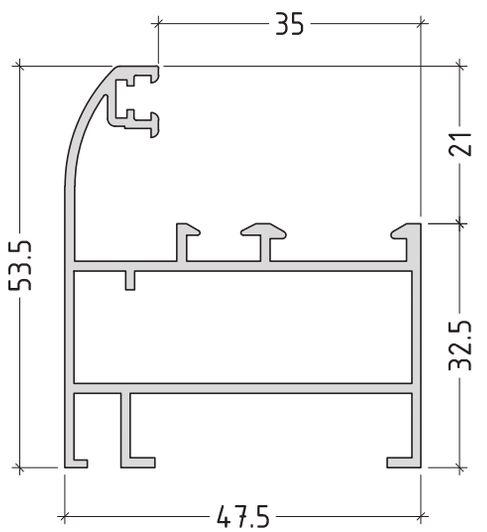
E1100
678 g/m



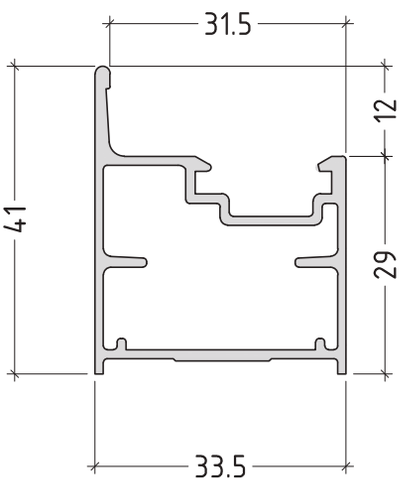
E1140
925 g/m



E1101
813 g/m



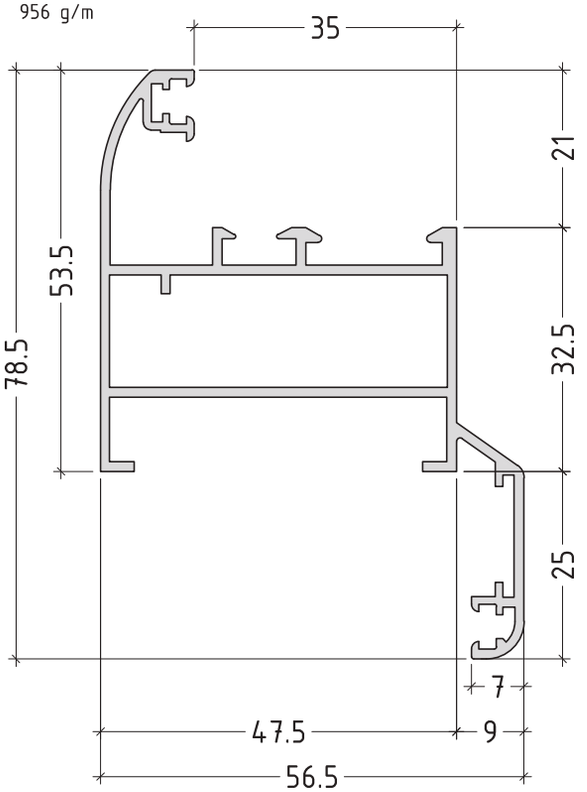
E1190 light line
562.3 g/m



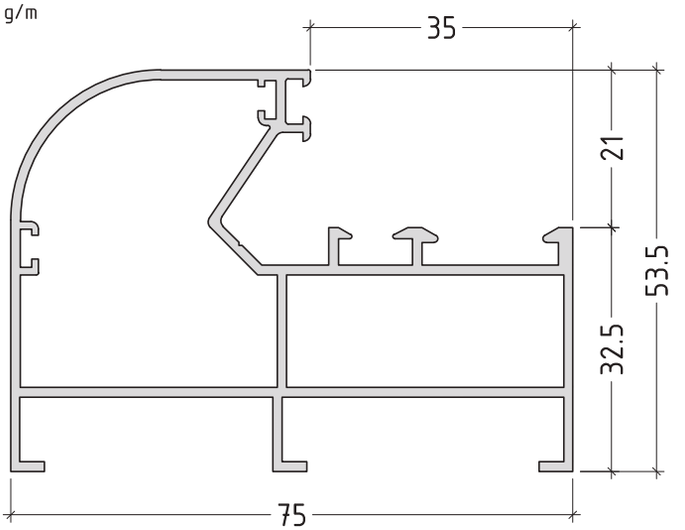
scale: 1:1

P1000-01

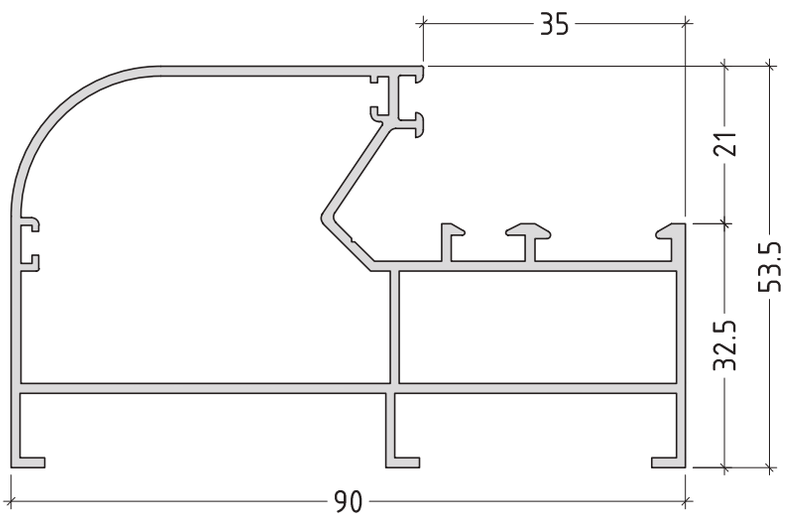
E1102
956 g/m



E1121
1134 g/m



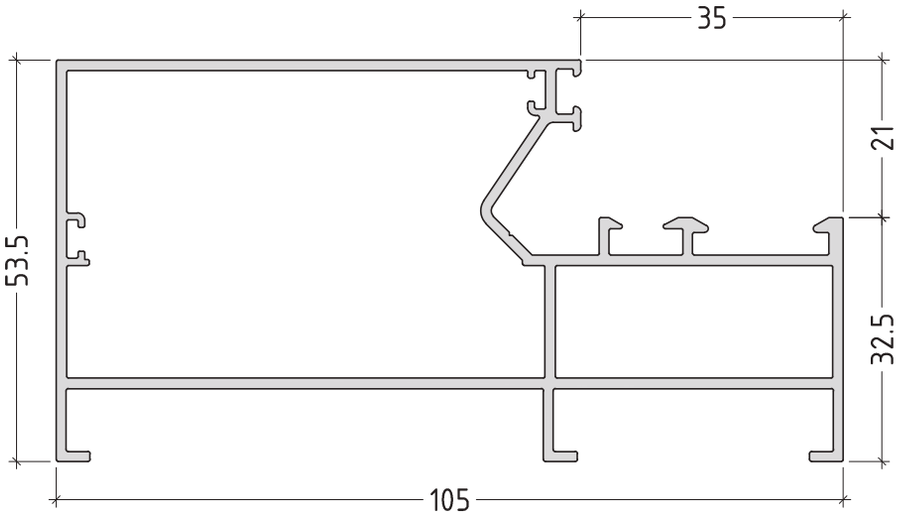
E1132
1239 g/m



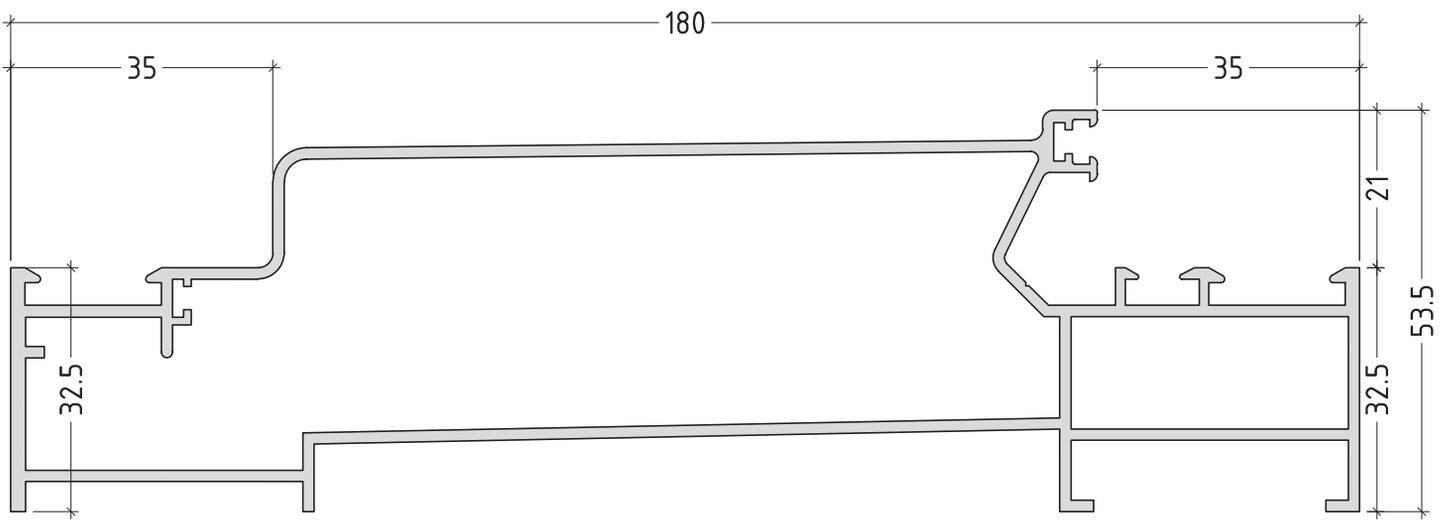
scale: 1:1

P1000-02

E1155
1472 g/m



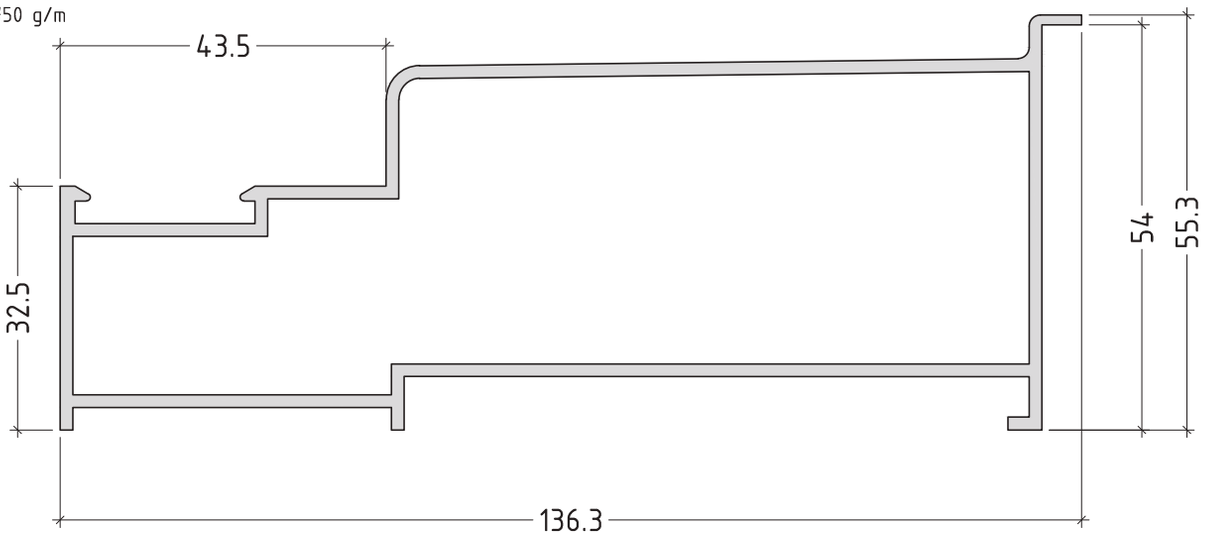
E1120
2284 g/m



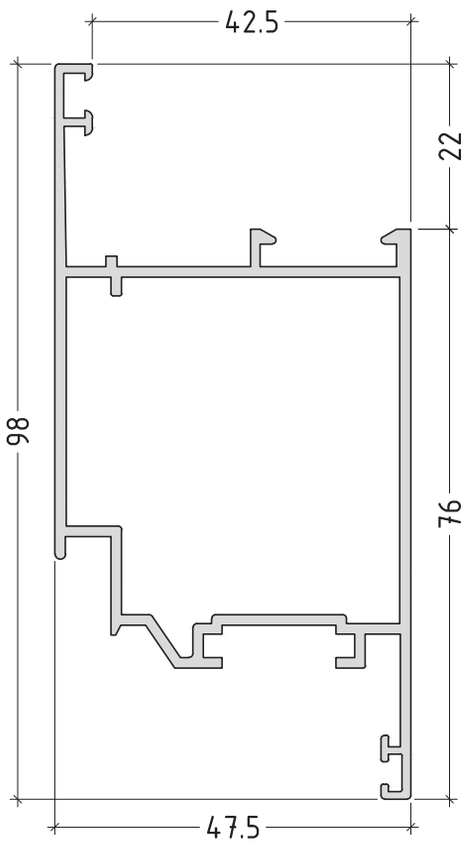
scale: 1:1

P1000-03

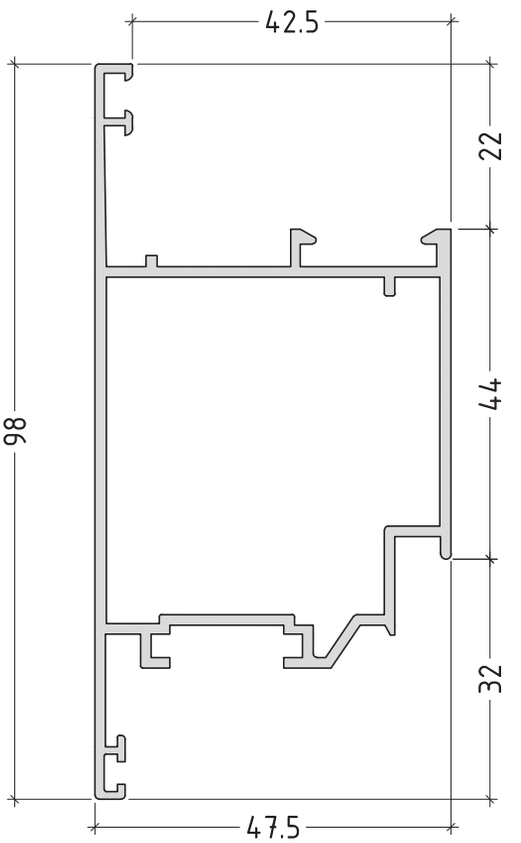
E5352
1750 g/m



E1187 straight line
1112 g/m



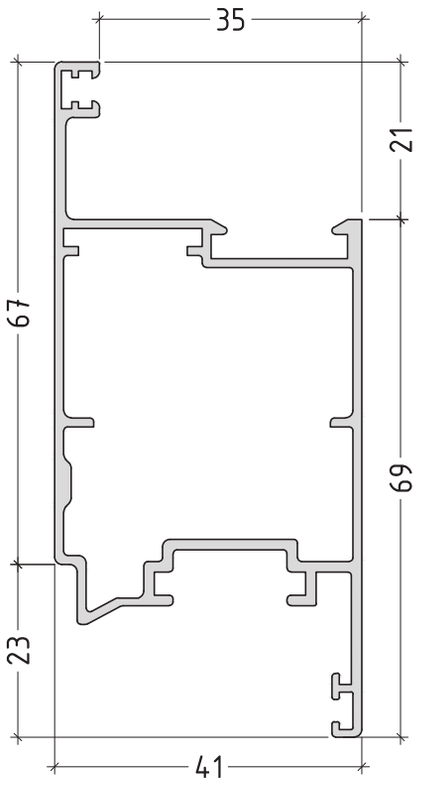
E1188 straight line
1113 g/m



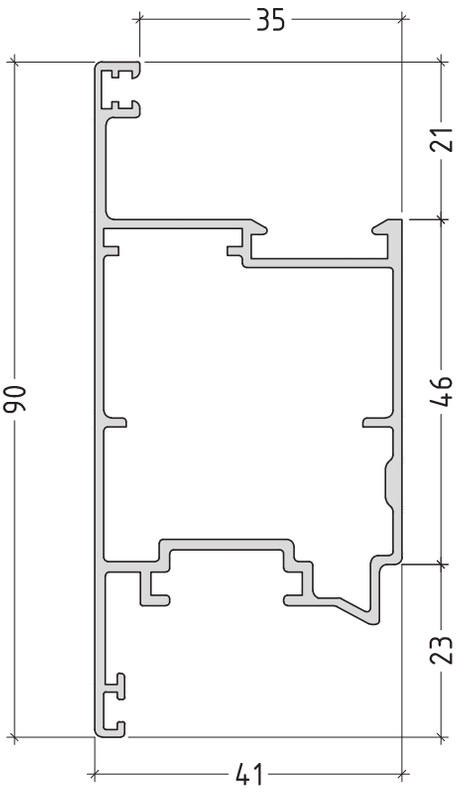
scale: 1:1

P1000-04

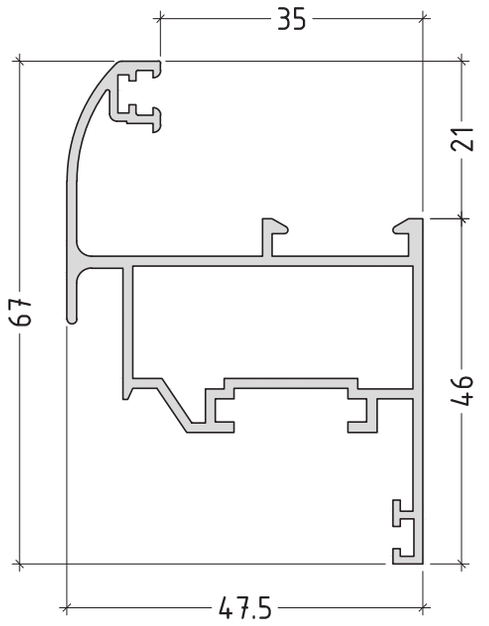
E1191 light line
980.1 g/m



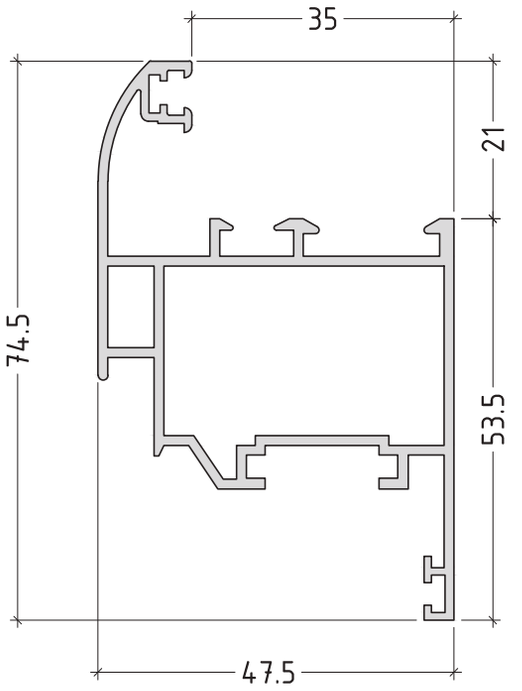
E1192 light line
980.1 g/m



E1106
851 g/m



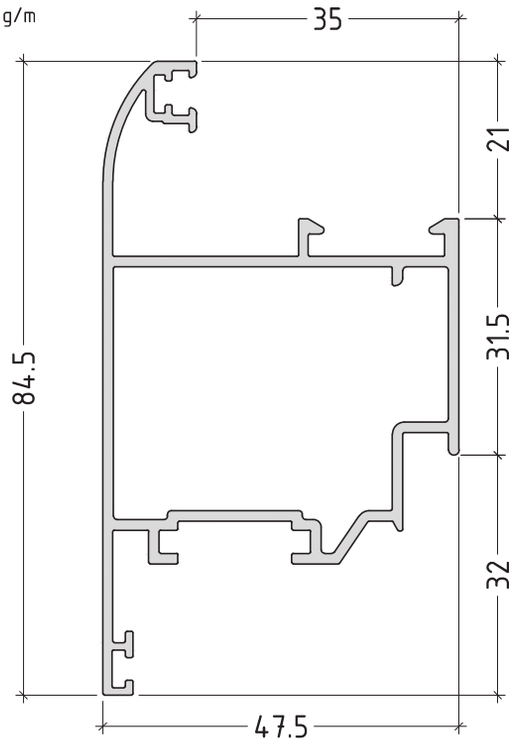
E1125
969 g/m



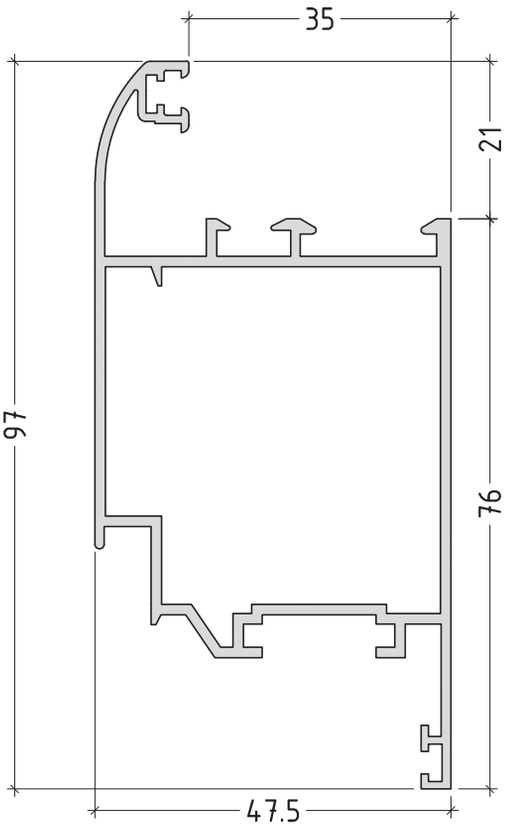
scale: 1:1

P1000-05

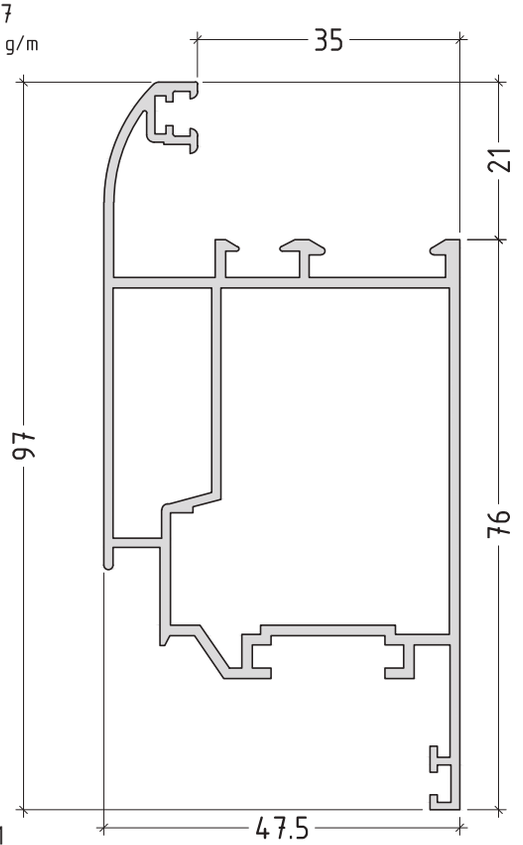
E1150
1026 g/m



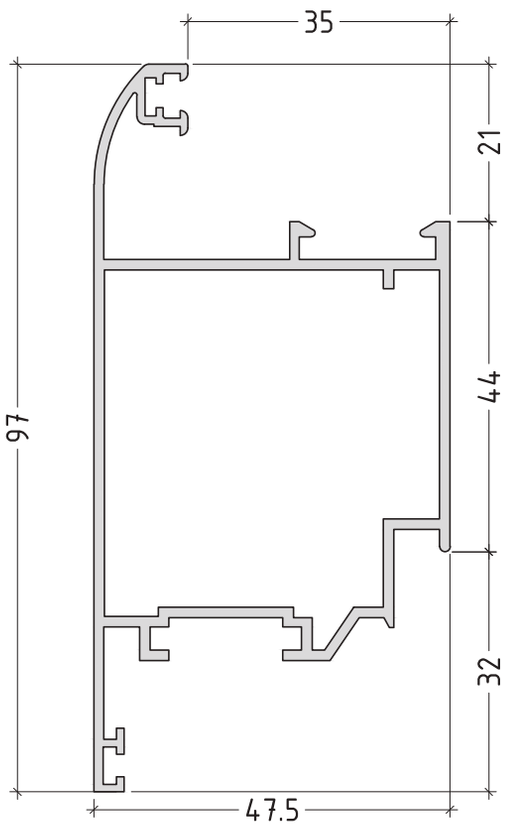
E1147
1147 g/m



E1107
1247 g/m



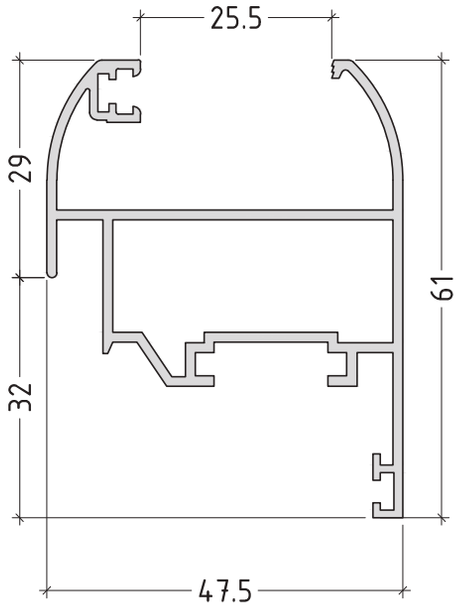
E1108
1118 g/m



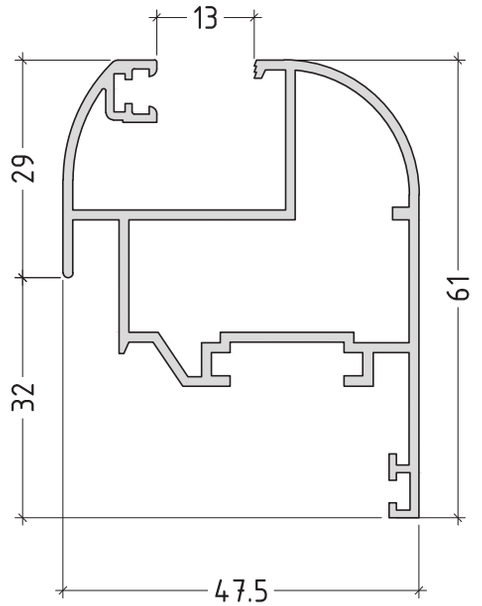
scale: 1:1

P1000-06

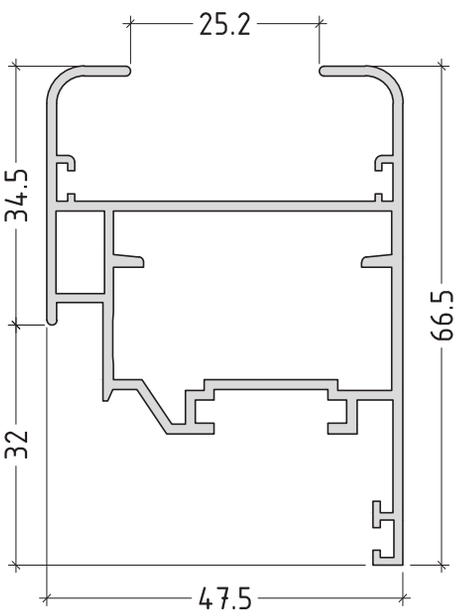
E1116
842 g/m



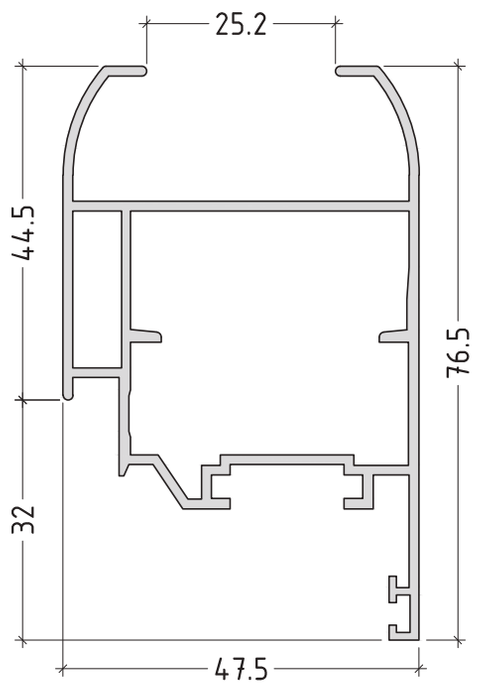
E1117
899 g/m



E1118
963 g/m



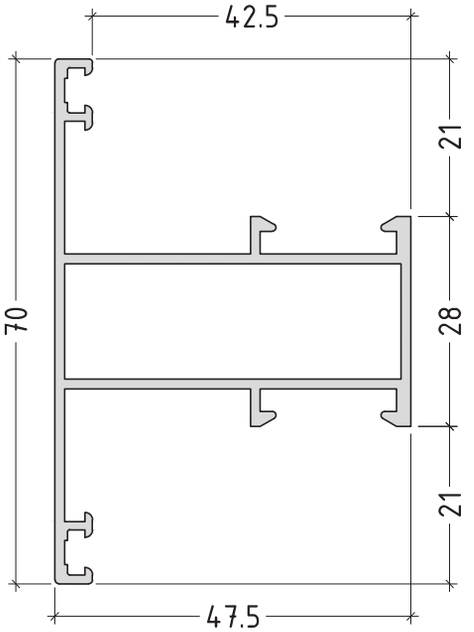
E1126
1031 g/m



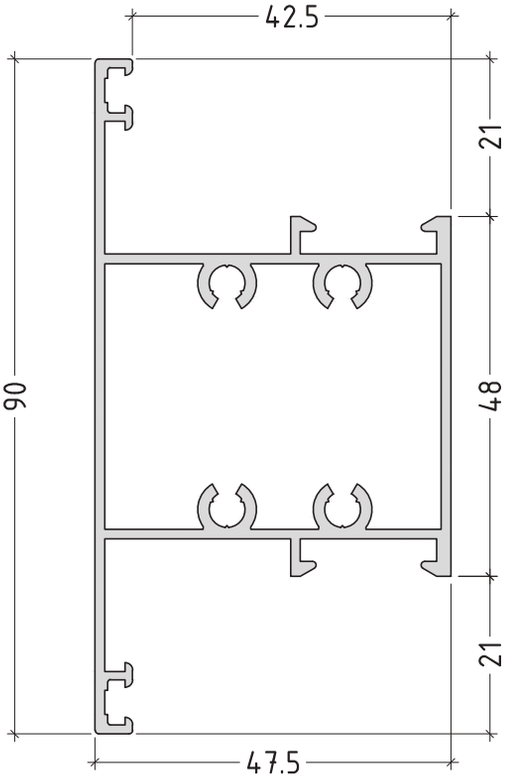
scale: 1:1

P1000-07

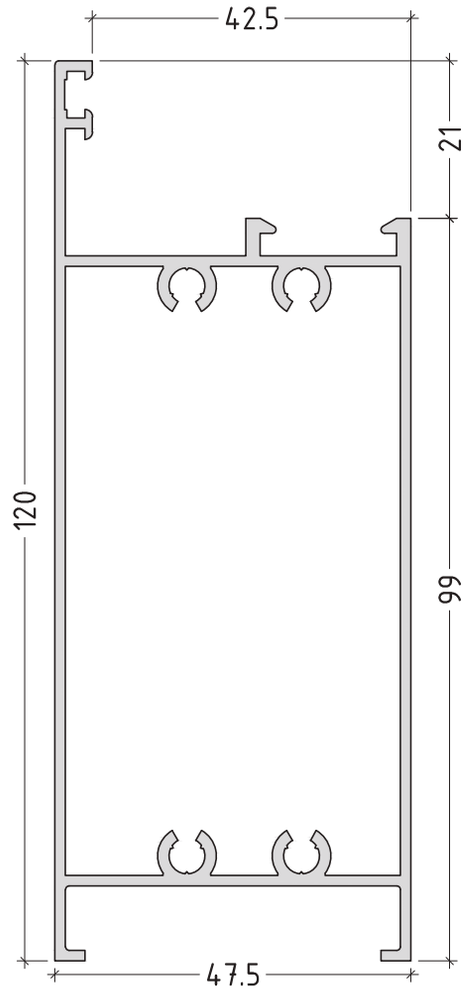
E1183 straight line
808 g/m



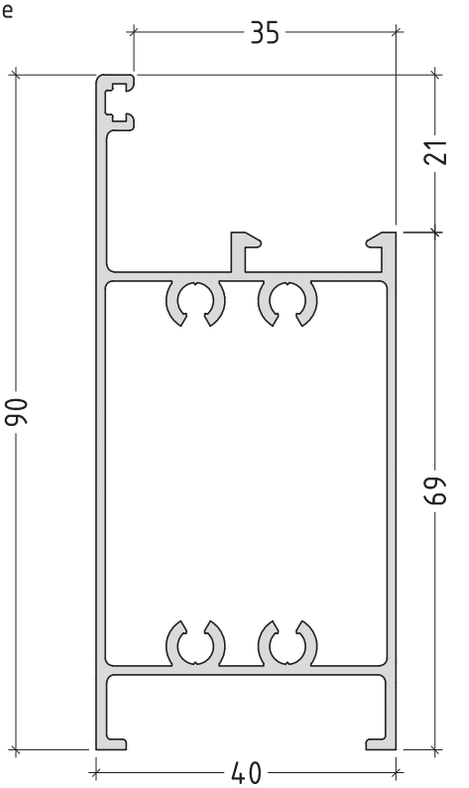
E1184 straight line
1162 g/m



E1185 straight line
1484 g/m



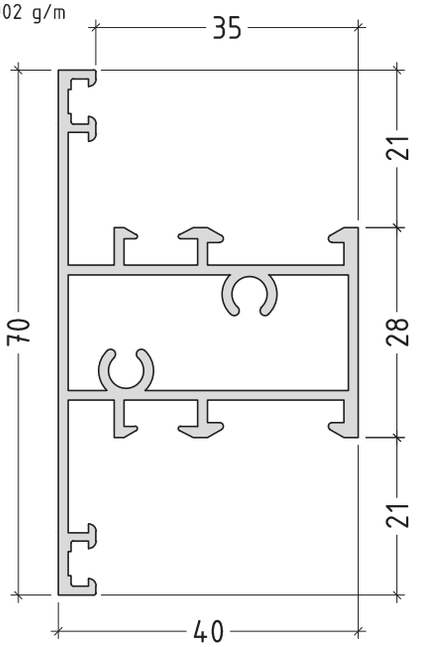
E1193 light line
1104.4 g/m



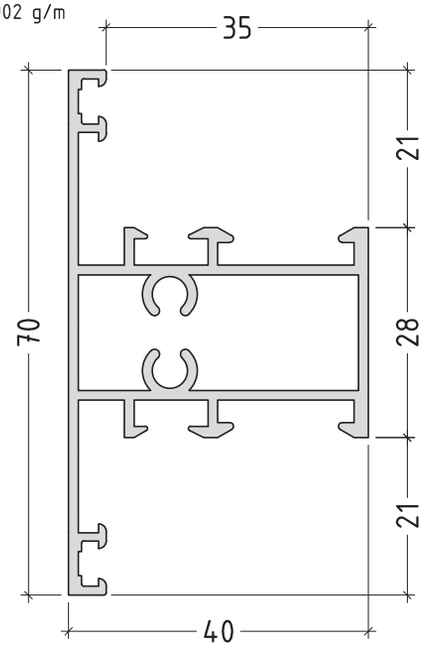
scale: 1:1

P1000-08

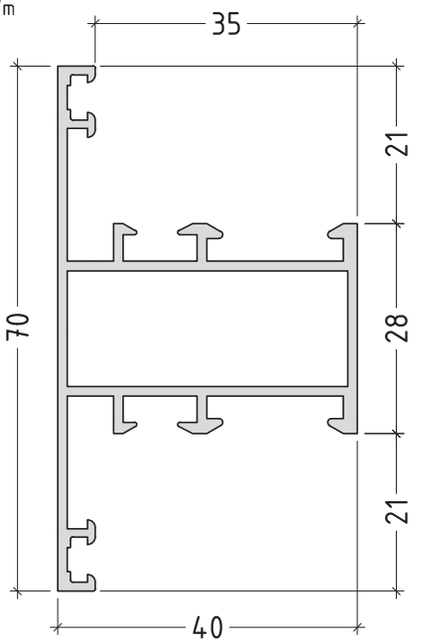
E1103
902 g/m



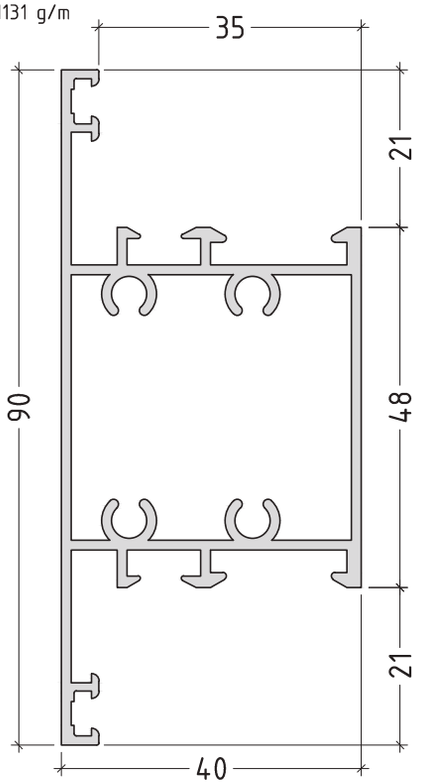
E1141
902 g/m



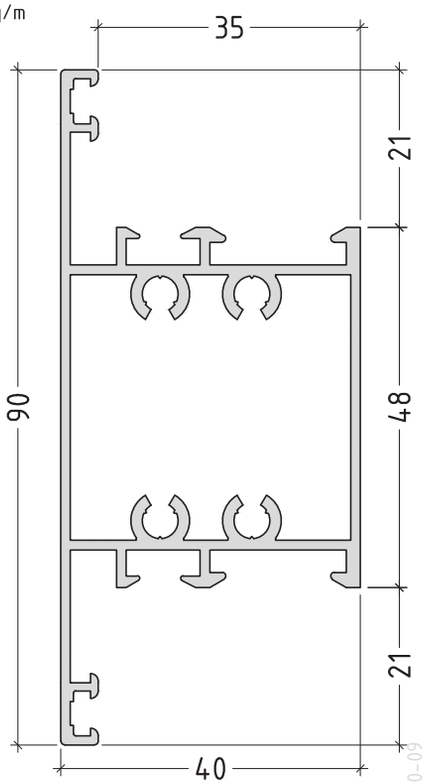
E1128
815 g/m



E1104
1131 g/m



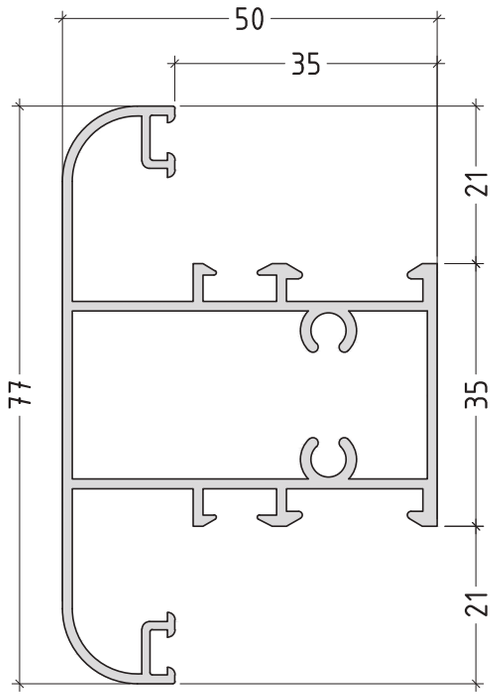
E1181
1169 g/m



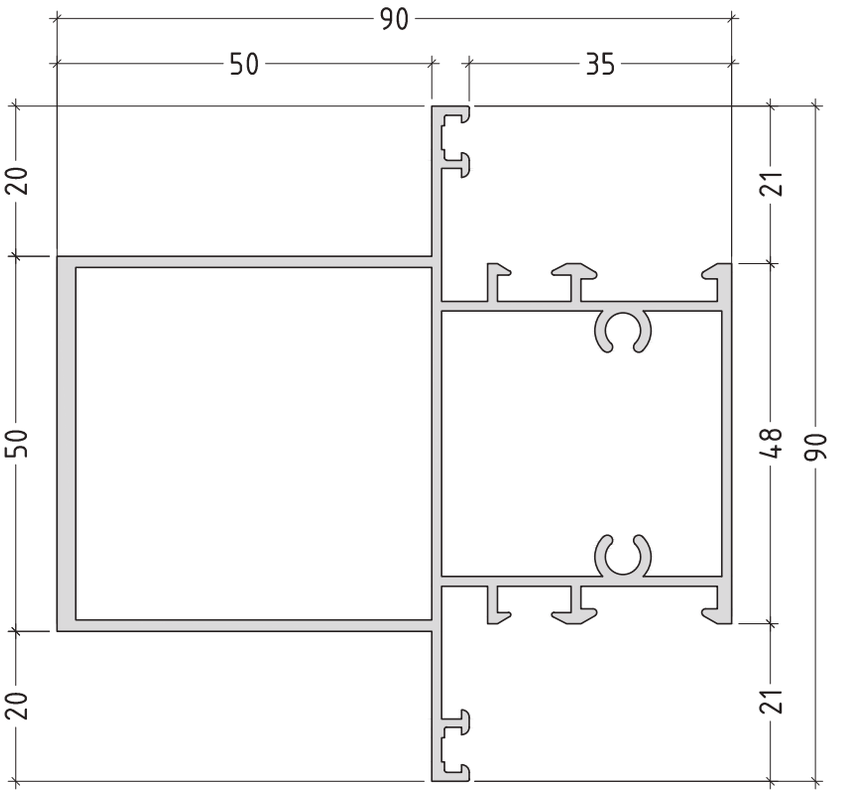
scale: 1:1

P1000-09

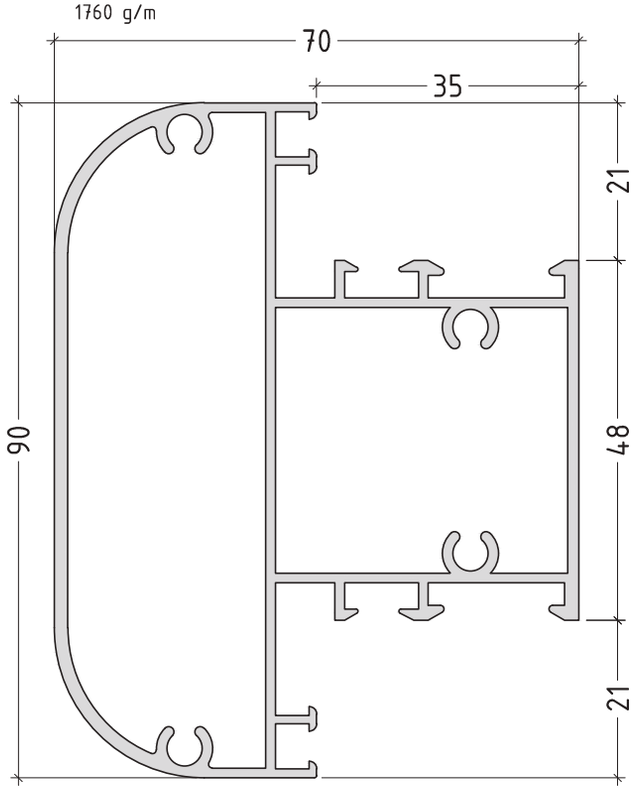
E1122
1104 g/m



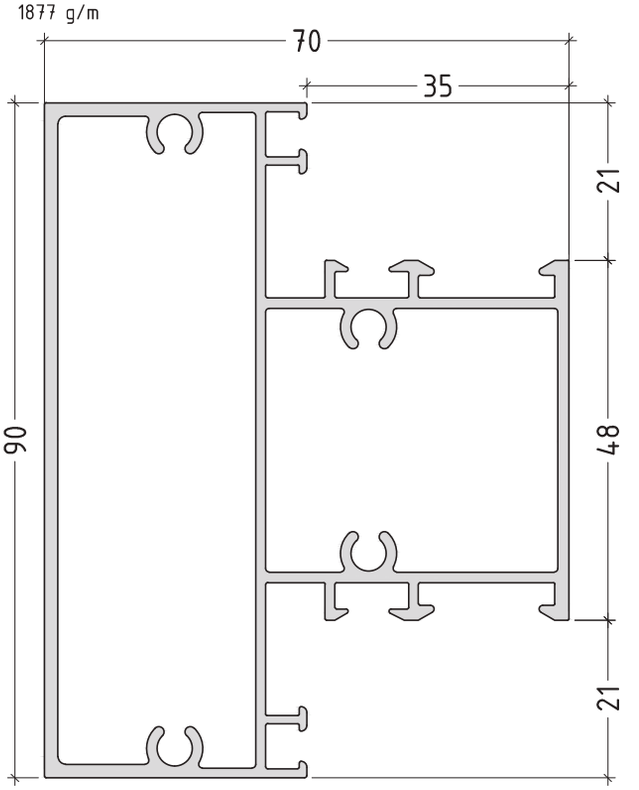
E1134
1771 g/m



E1133
1760 g/m



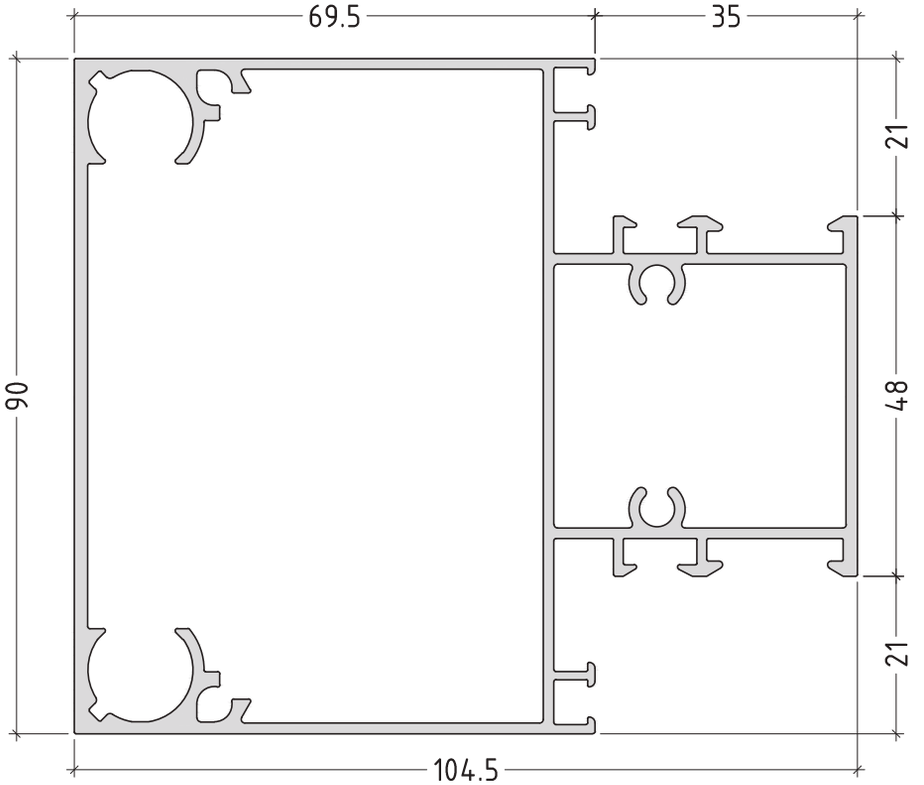
E1156
1877 g/m



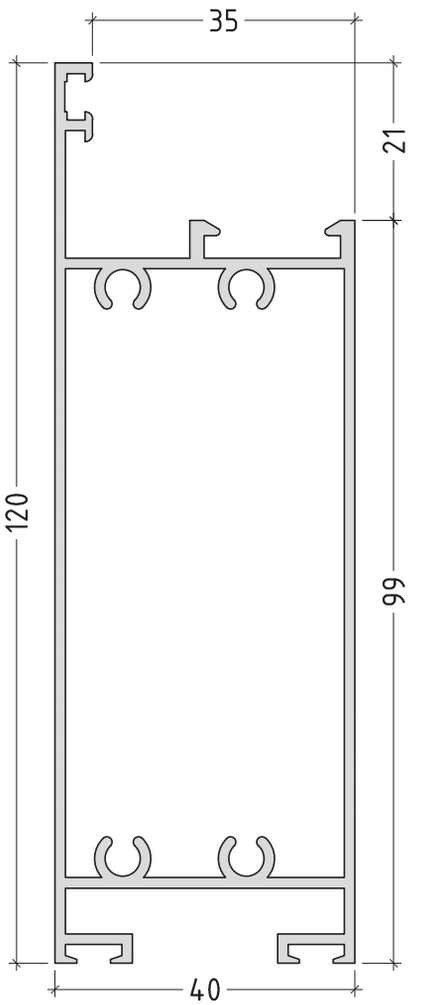
scale: 1:1

P1000-10

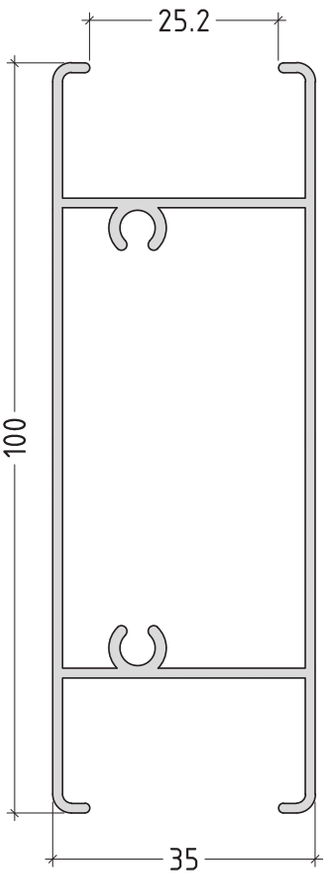
E1157
2319 g/m



E1105
1474 g/m



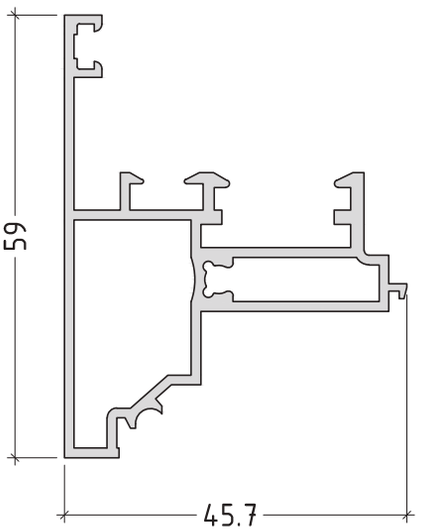
E1119
1072 g/m



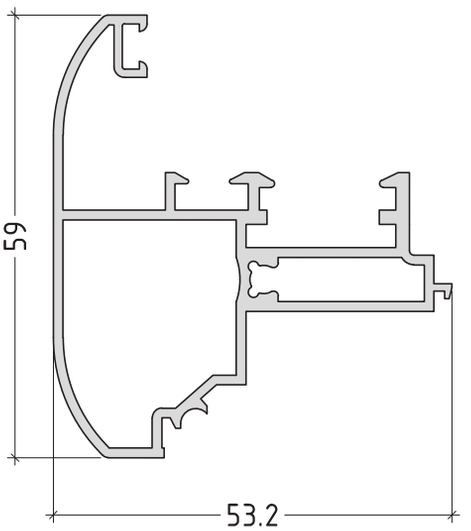
scale: 1:1

P1000-11

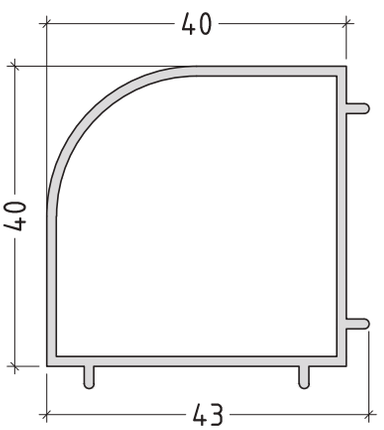
E1135
829 g/m



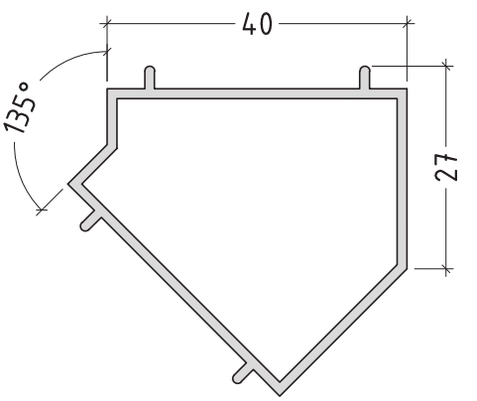
E1136
891 g/m



E1110
554 g/m



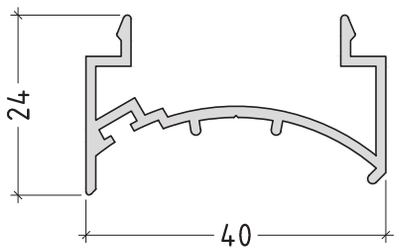
E1111
524 g/m



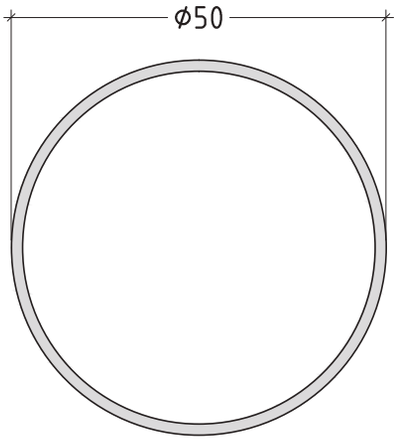
scale: 1:1

P1000-12

E1112
381 g/m

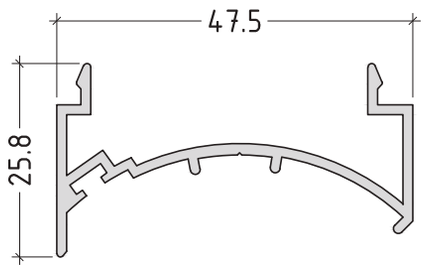


7233
615 g/m

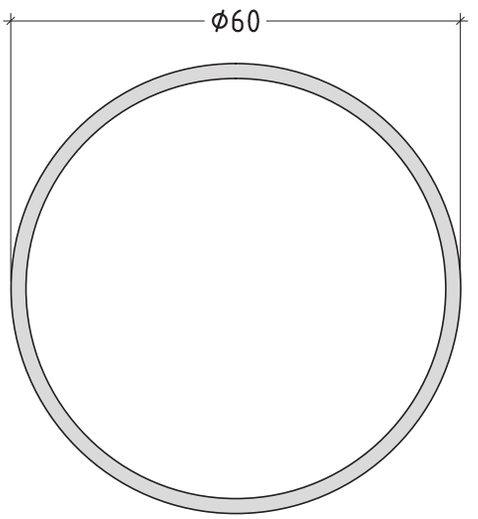


Note: use profile E1112 always with 7233

E1143
413 g/m



7316
984 g/m

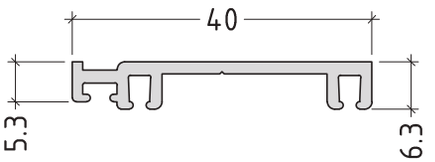


Note: use profile E1143 always with 7316

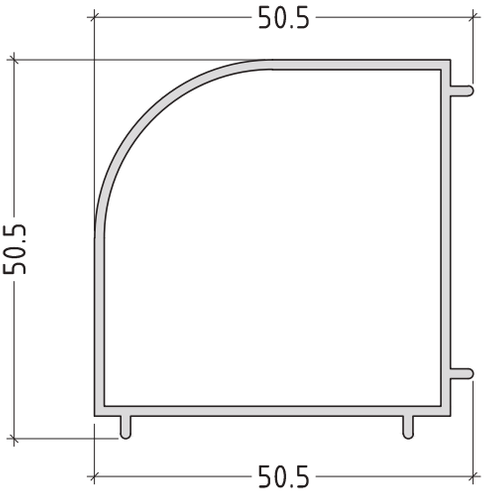
scale: 1:1

P1000-13

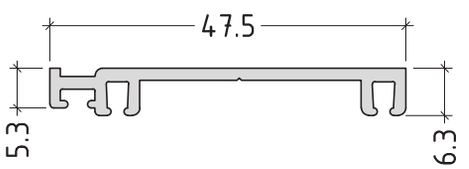
E1182
277 g/m



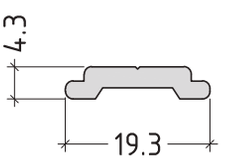
E1131
654 g/m



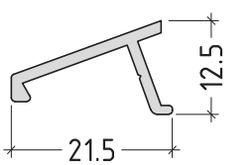
E1189
310 g/m



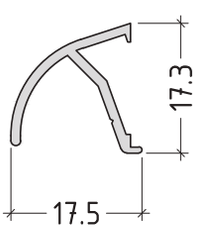
E2308
159 g/m



E2357
144 g/m



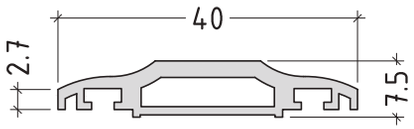
E40820
143 g/m



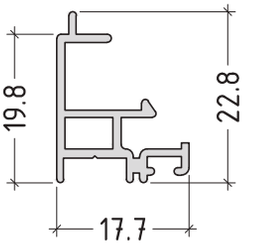
scale: 1:1

P1000-14

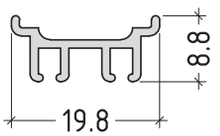
E40650
338 g/m



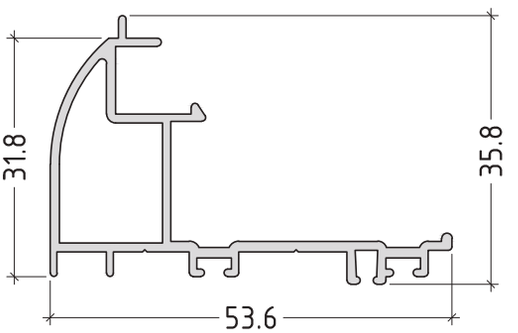
E1137
213 g/m



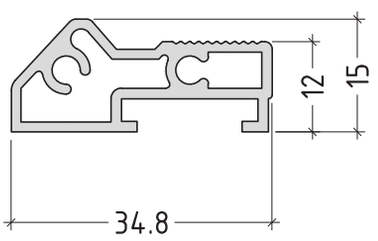
E40812
138 g/m



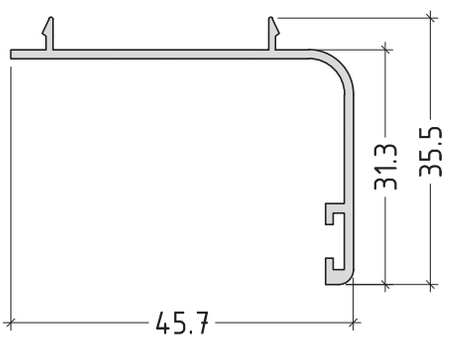
E1139
516 g/m



E1138
432 g/m



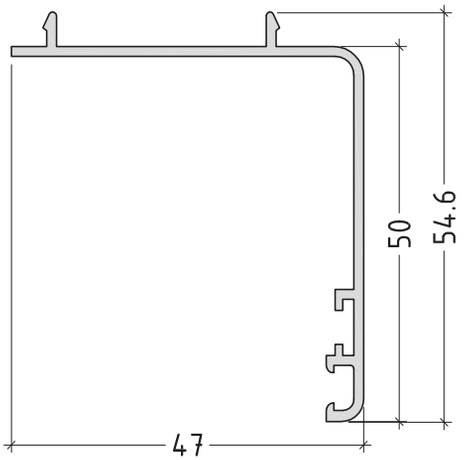
E1127
288 g/m



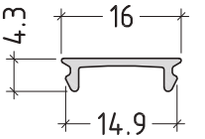
scale: 1:1

P1000-15

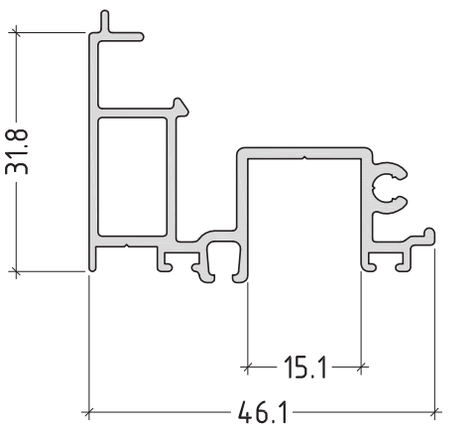
E1115
408 g/m



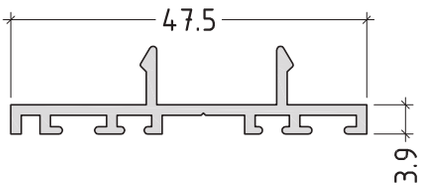
E62001
67.5 g/m



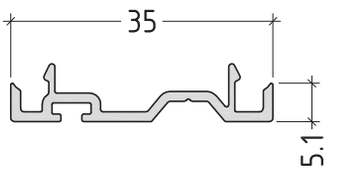
E1149
605 g/m



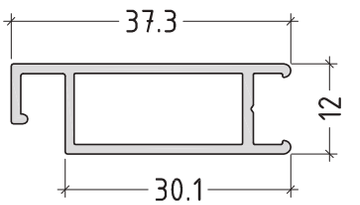
E1123
335 g/m



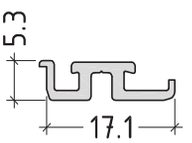
E1148
203 g/m



E1166
321 g/m



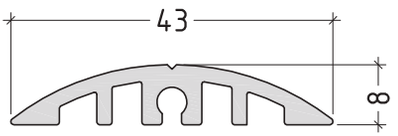
E23900
116 g/m



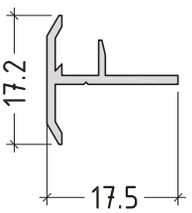
scale: 1:1

P1000-16

E5364
402 g/m



E40604
113 g/m



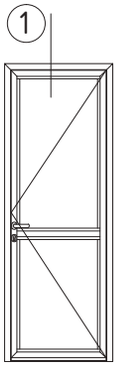
scale: 1:1

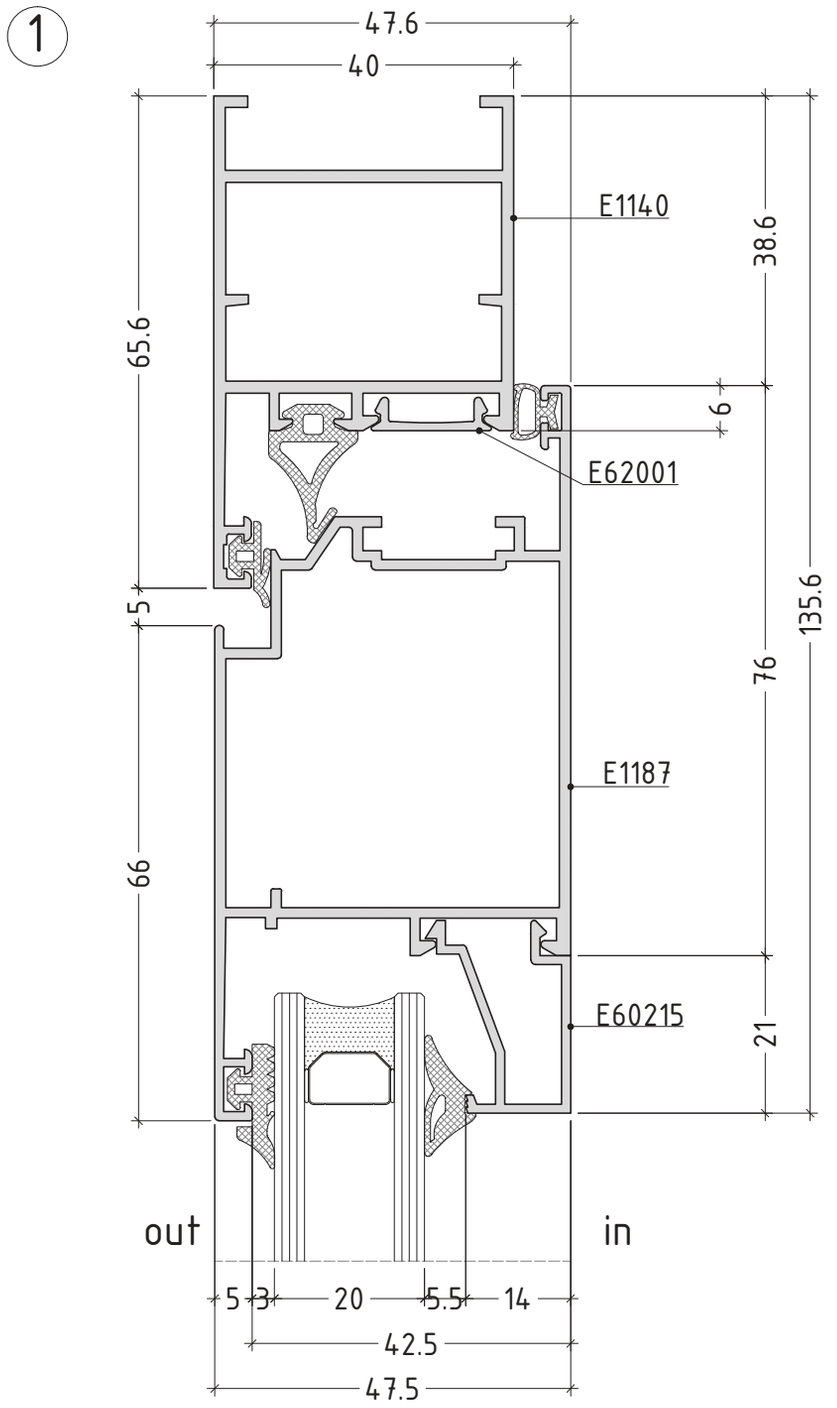
P1000-17

SECTIONS

SECTIONS / DETAILS

inward opening

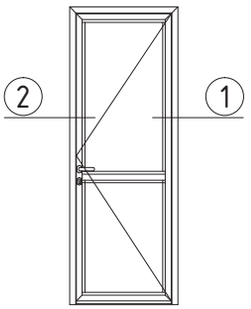


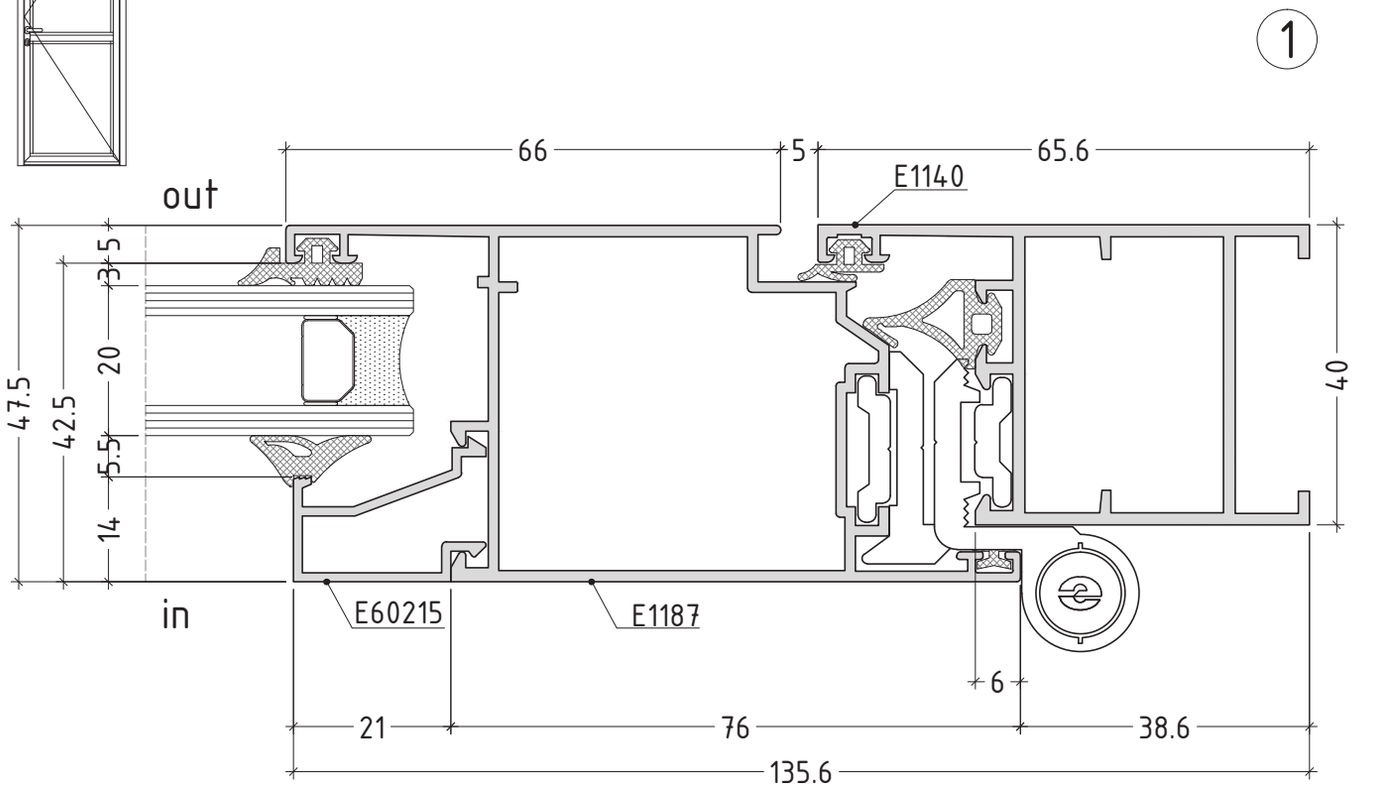


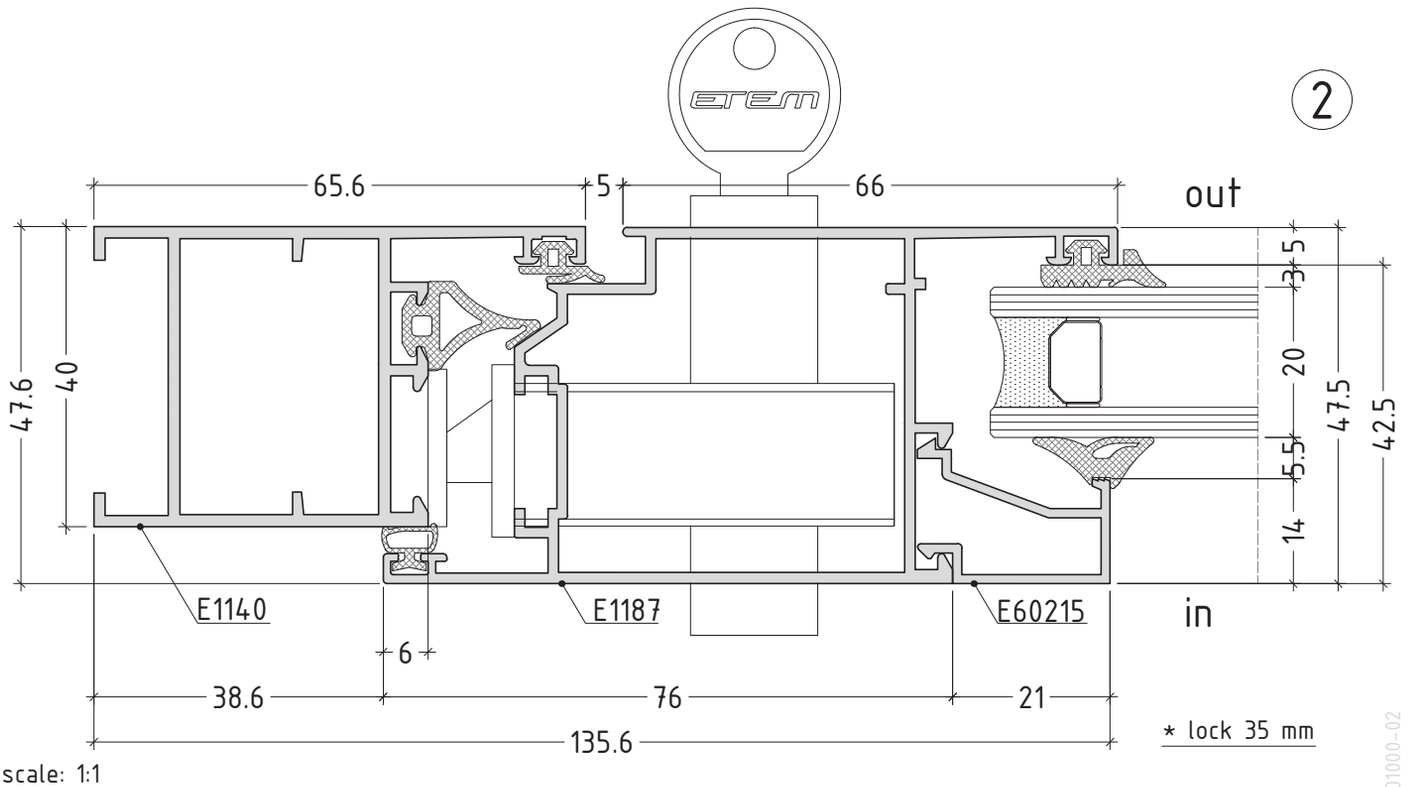
scale: 1:1

D1000-01

inward opening



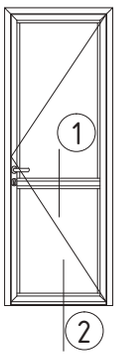


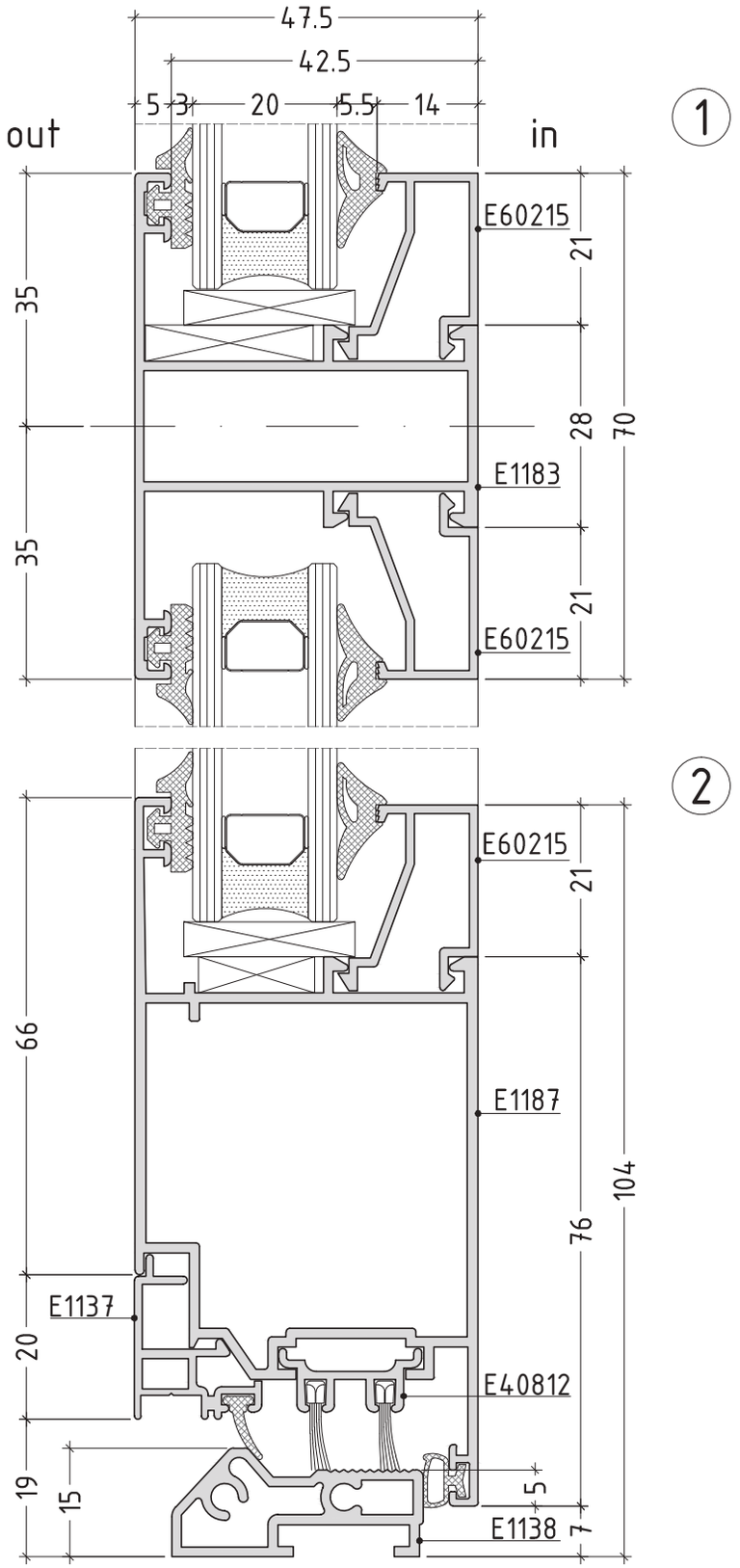


scale: 1:1

D1000-02

inward opening

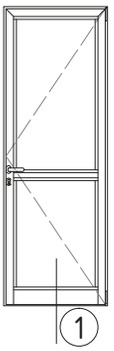


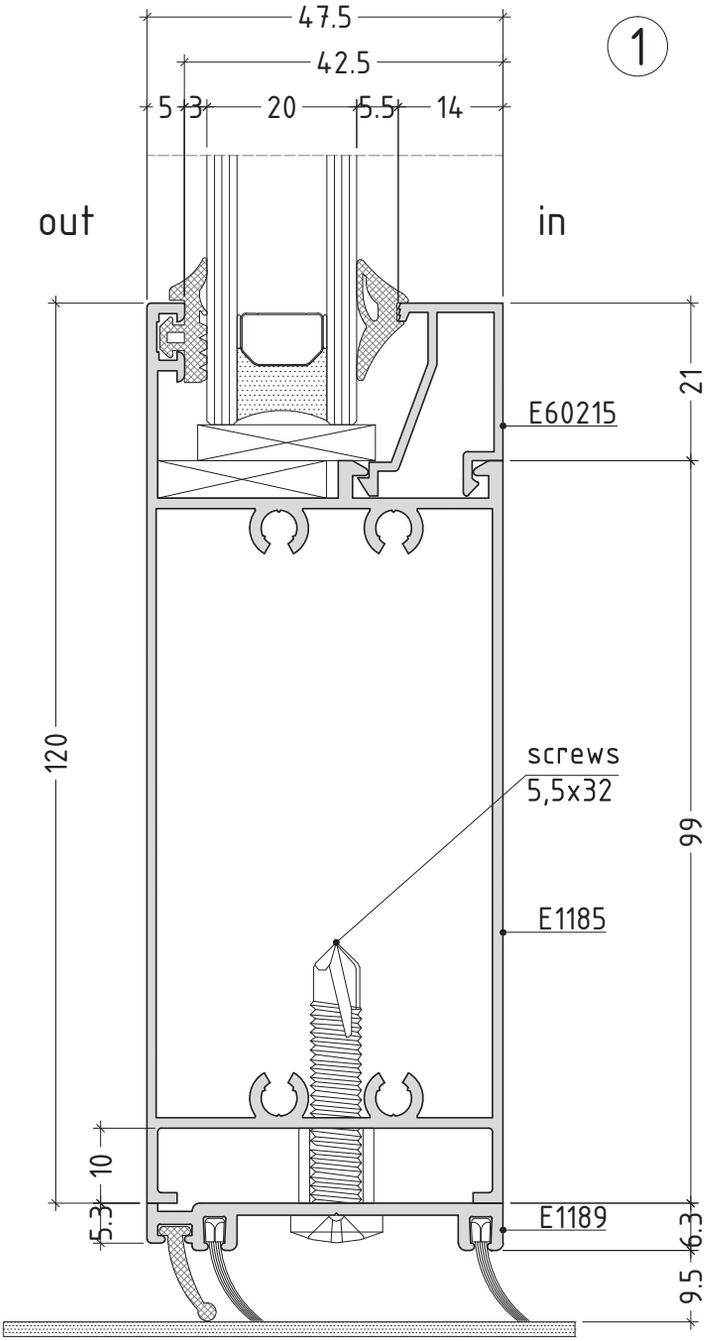


scale: 1:1

D1000-03

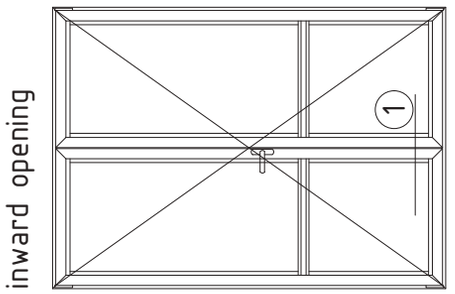
outward opening

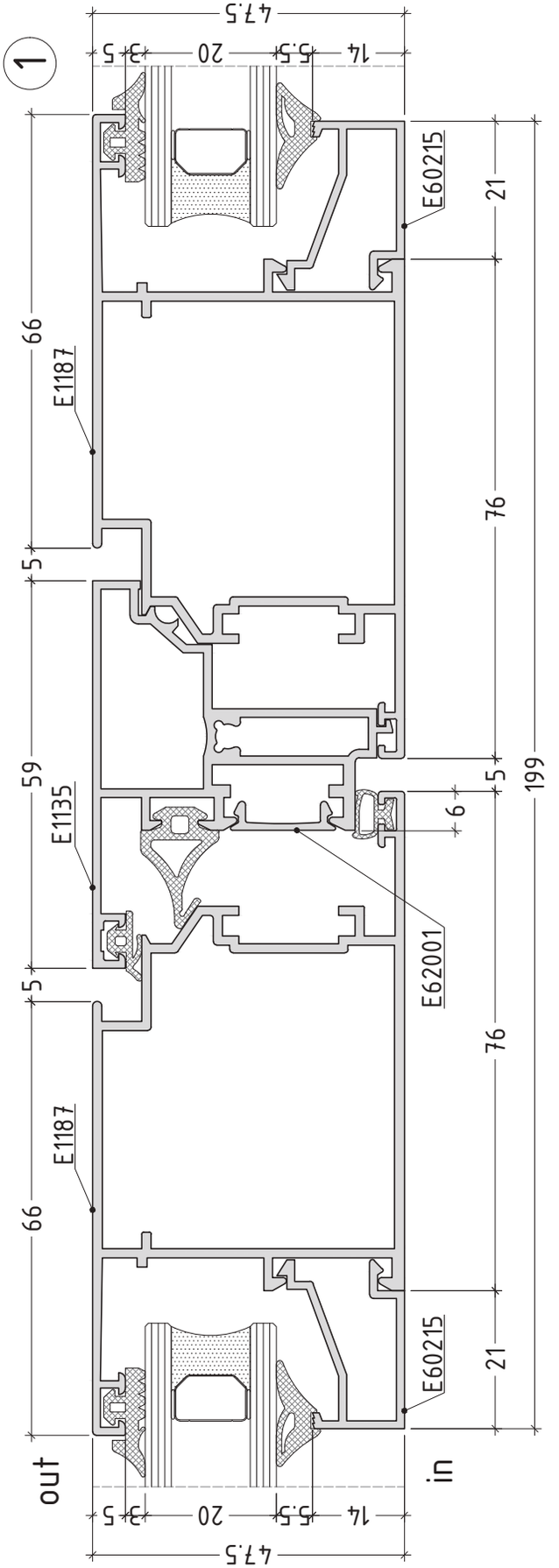




scale: 1:1

D1000-04

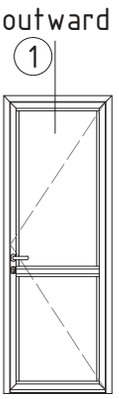


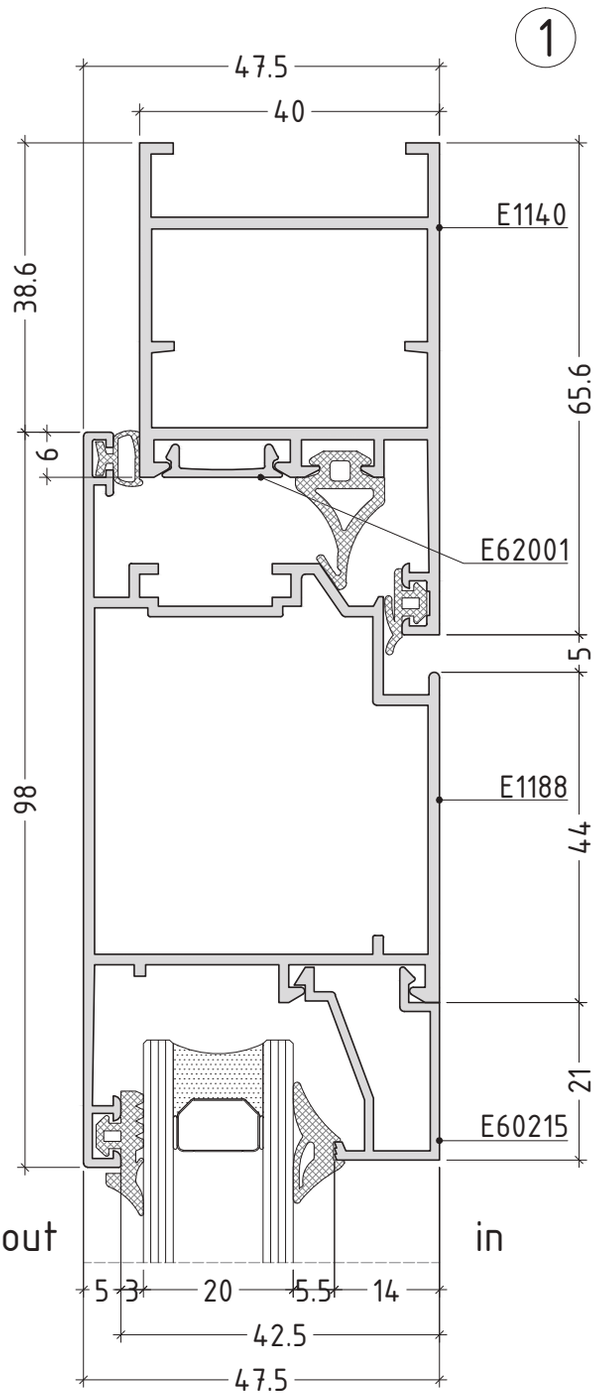


scale: 1:1

D1000-05

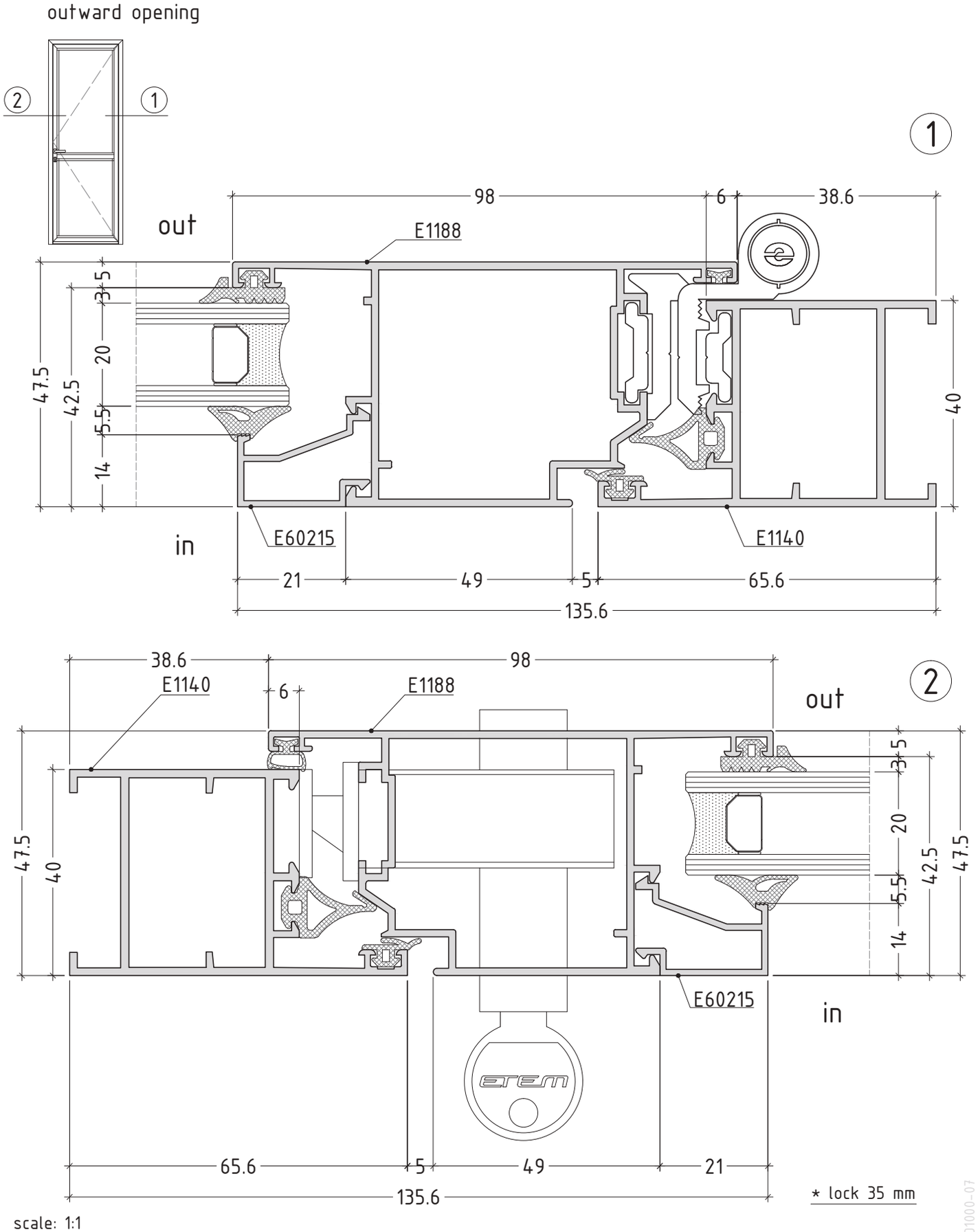
outward opening



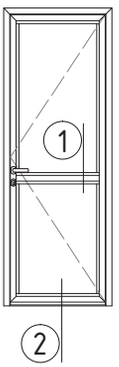


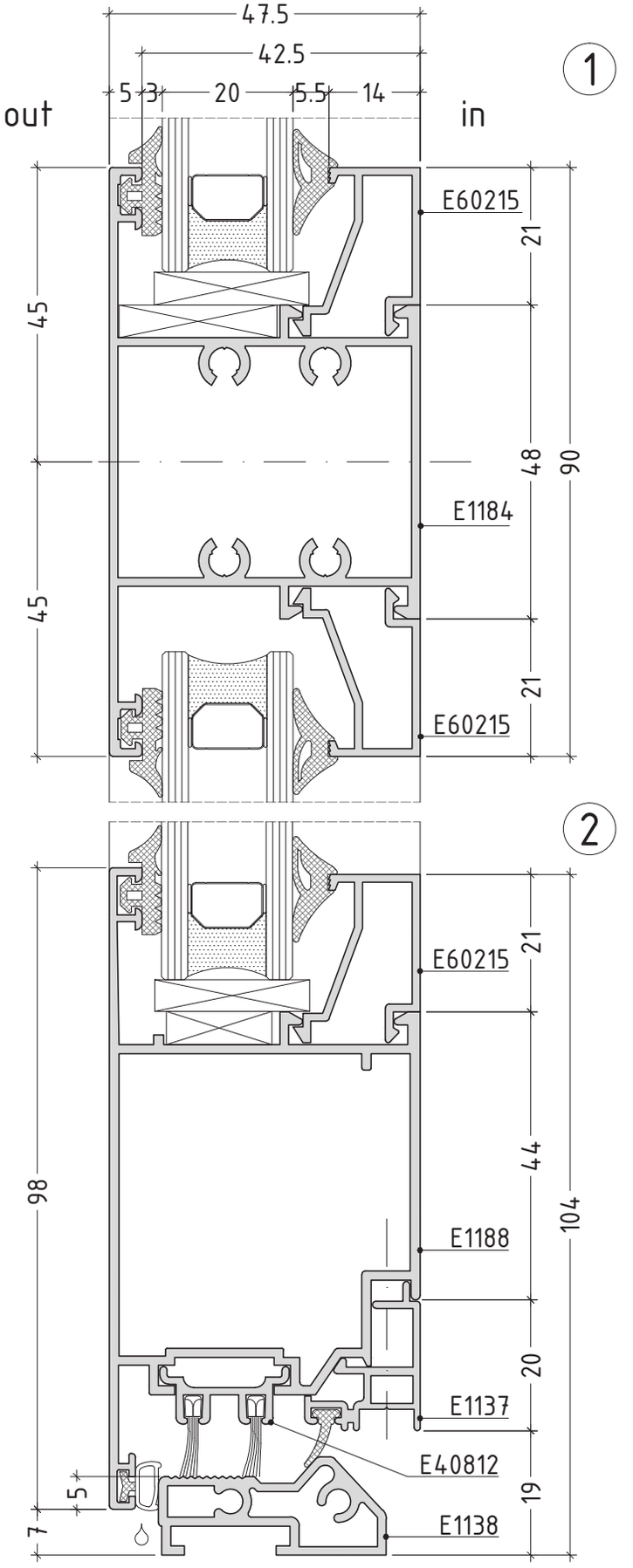
scale: 1:1

D1000-06


outward opening
2
1
1
98
6
38.6
out
E1188
3.5
20
5.5
14
47.5
42.5
40
E60215
E1140
in
21
49
5
65.6
135.6
2
38.6
98
E1140
6
E1188
out
3.5
20
5.5
14
47.5
42.5
40
47.5
E60215
in
65.6
5
49
21
135.6
* lock 35 mm
scale: 1:1
D1000-07

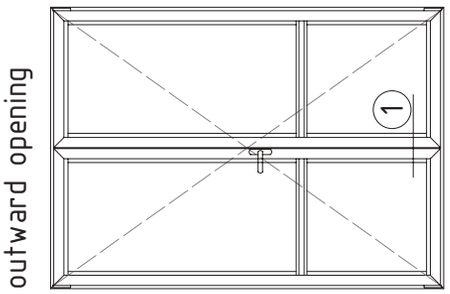
outward opening

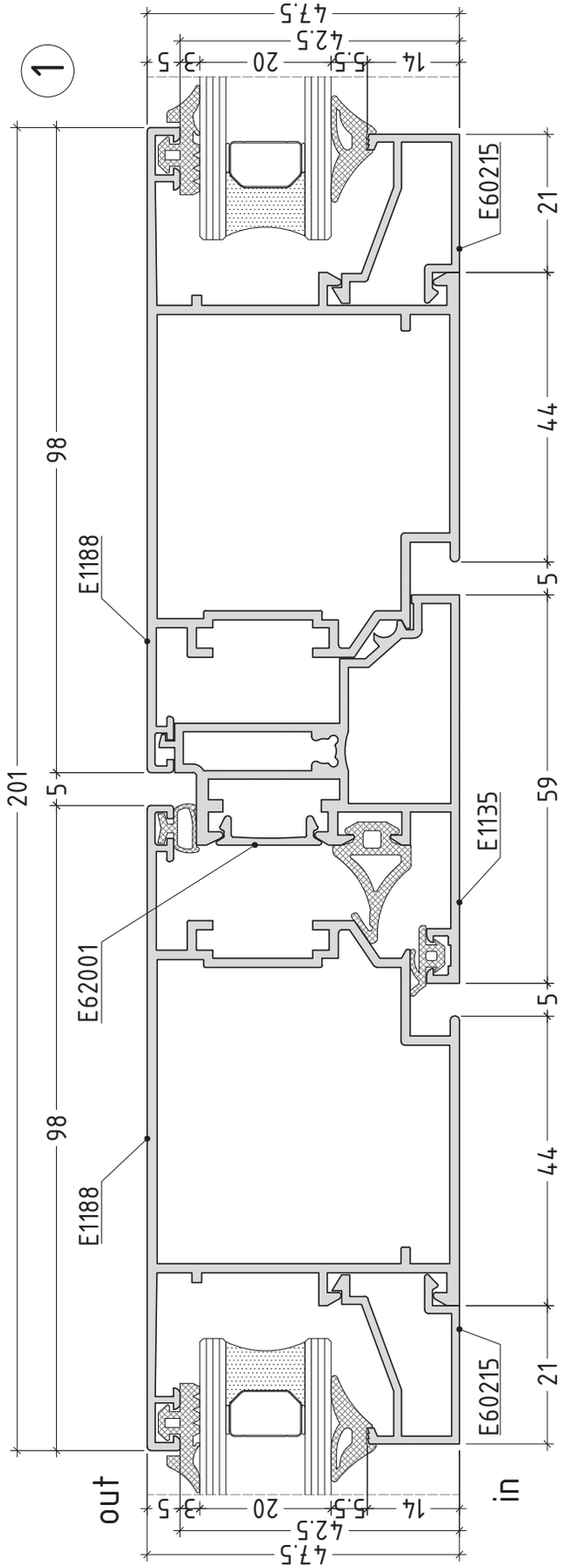




scale: 1:1

D1000-08

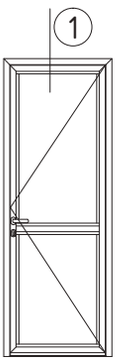


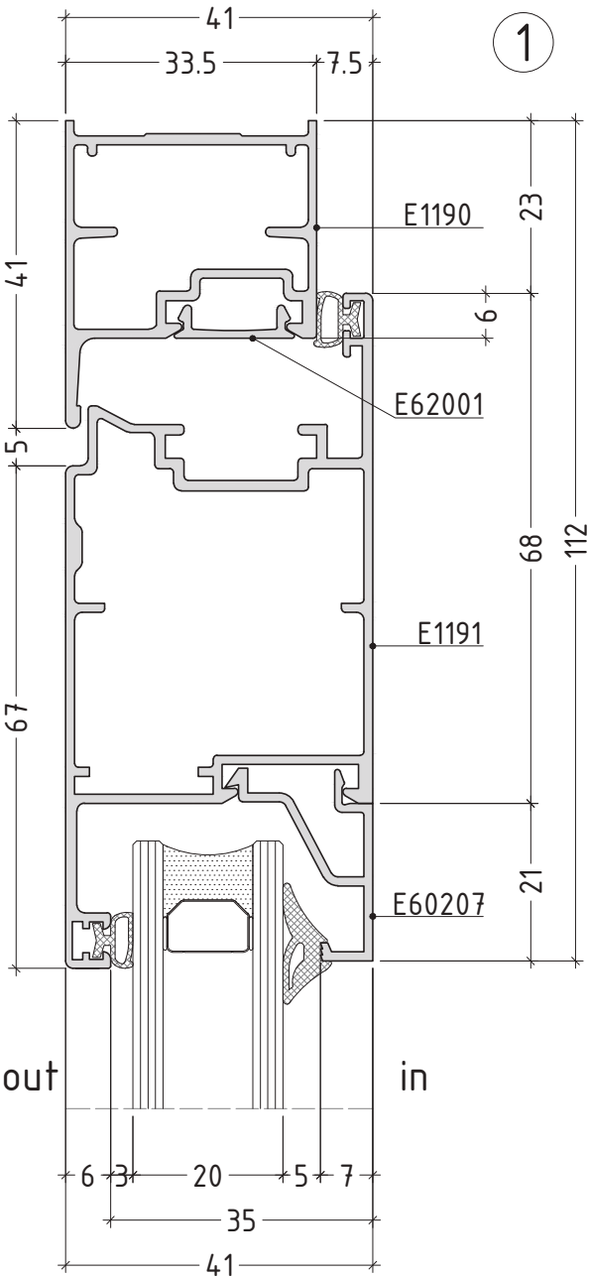


scale: 1:1

D1000-09

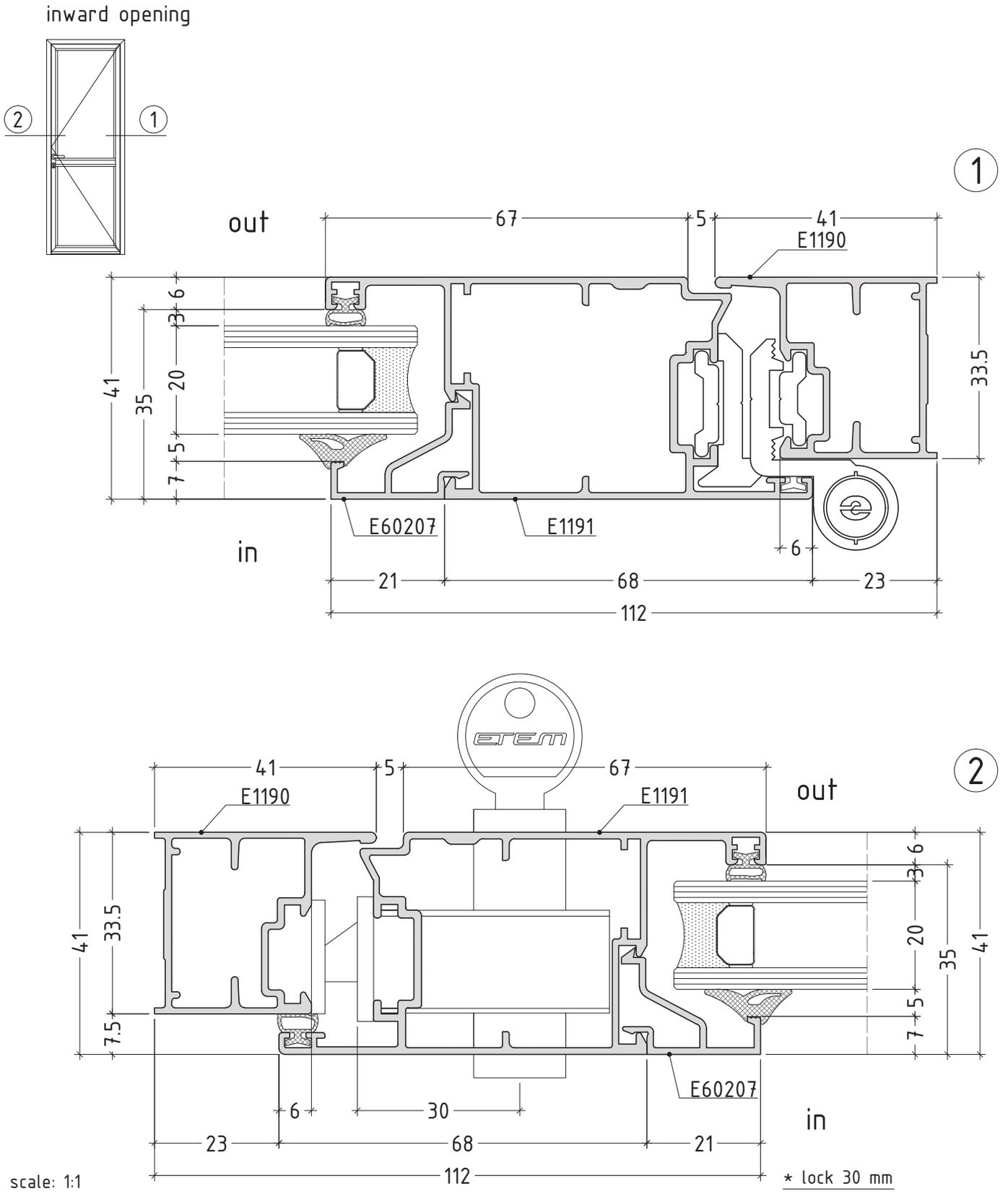
inward opening



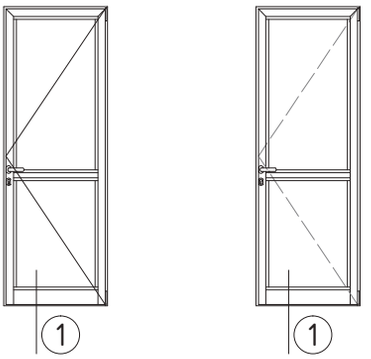


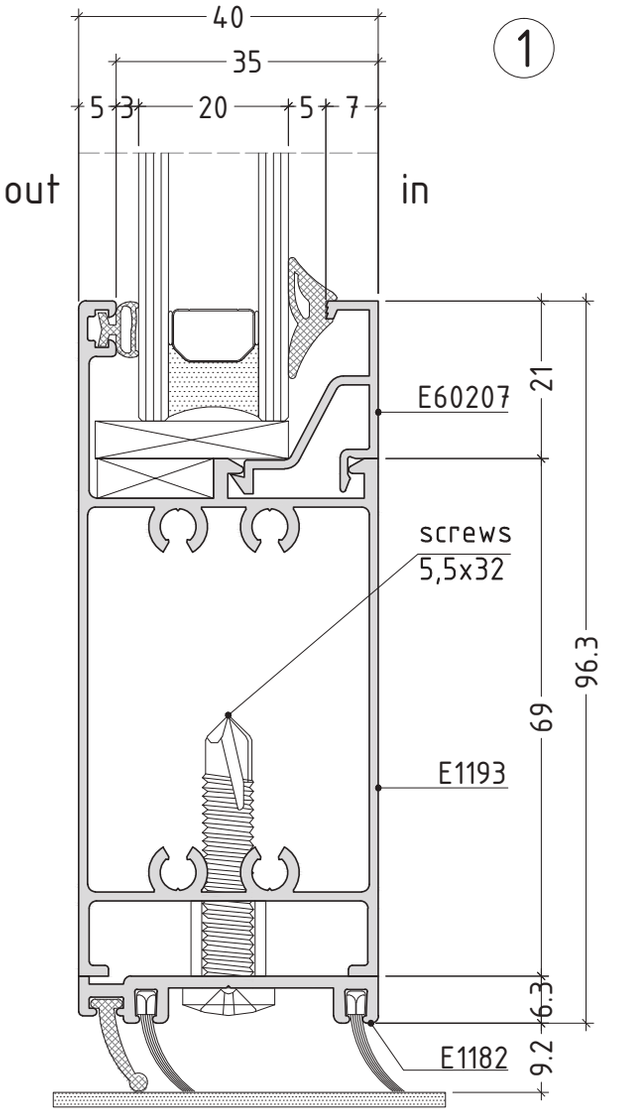
scale: 1:1

D1000-10


inward opening
2
1
1
out
67
5
41
E1190
6
3
20
5
7
41
35
33.5
E60207
E1191
in
6
21
68
23
112
2
41
5
67
E1190
E1191
out
41
33.5
7.5
6
3
20
5
7
35
41
E60207
6
30
in
23
68
21
112
scale: 1:1
* lock 30 mm
D1000-11

inward opening / outward opening

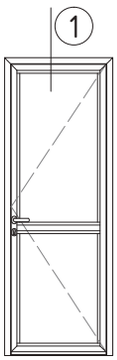


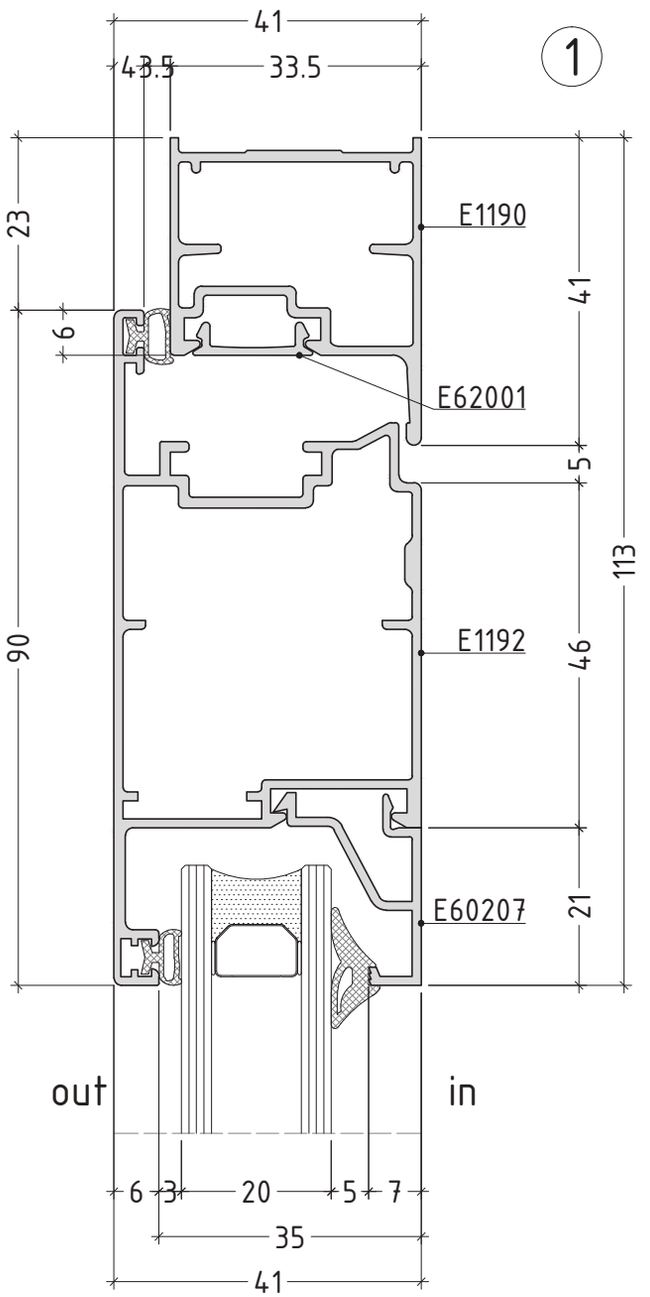


scale: 1:1

D1000-12

outward opening

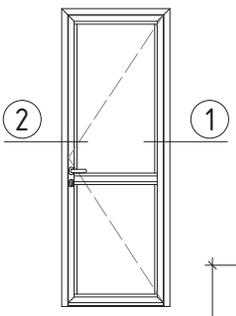




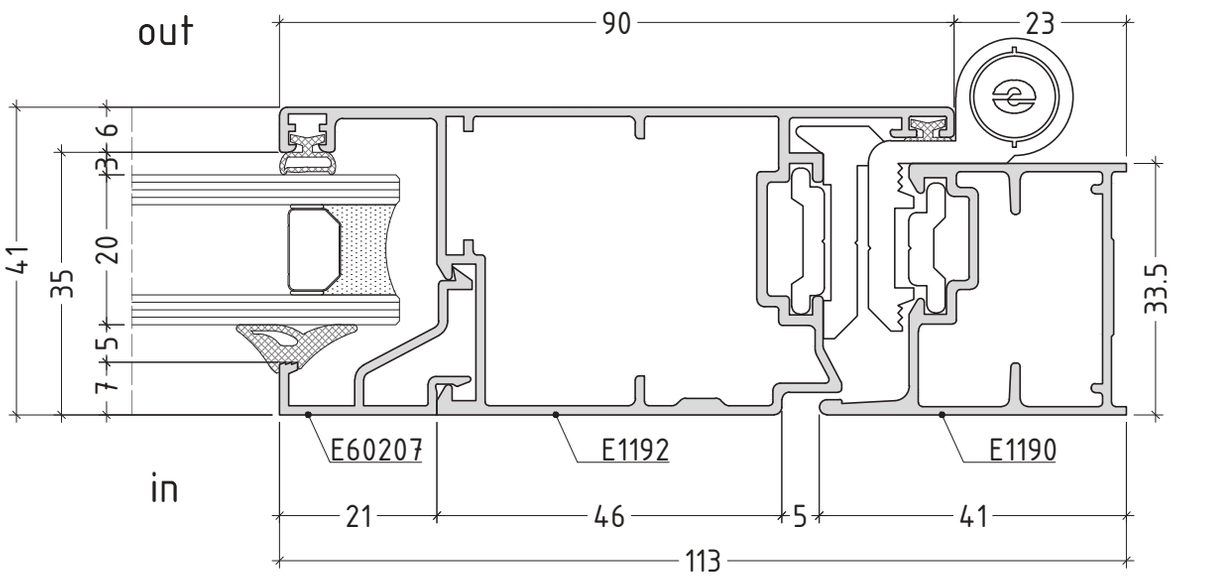
scale: 1:1

D1000-13

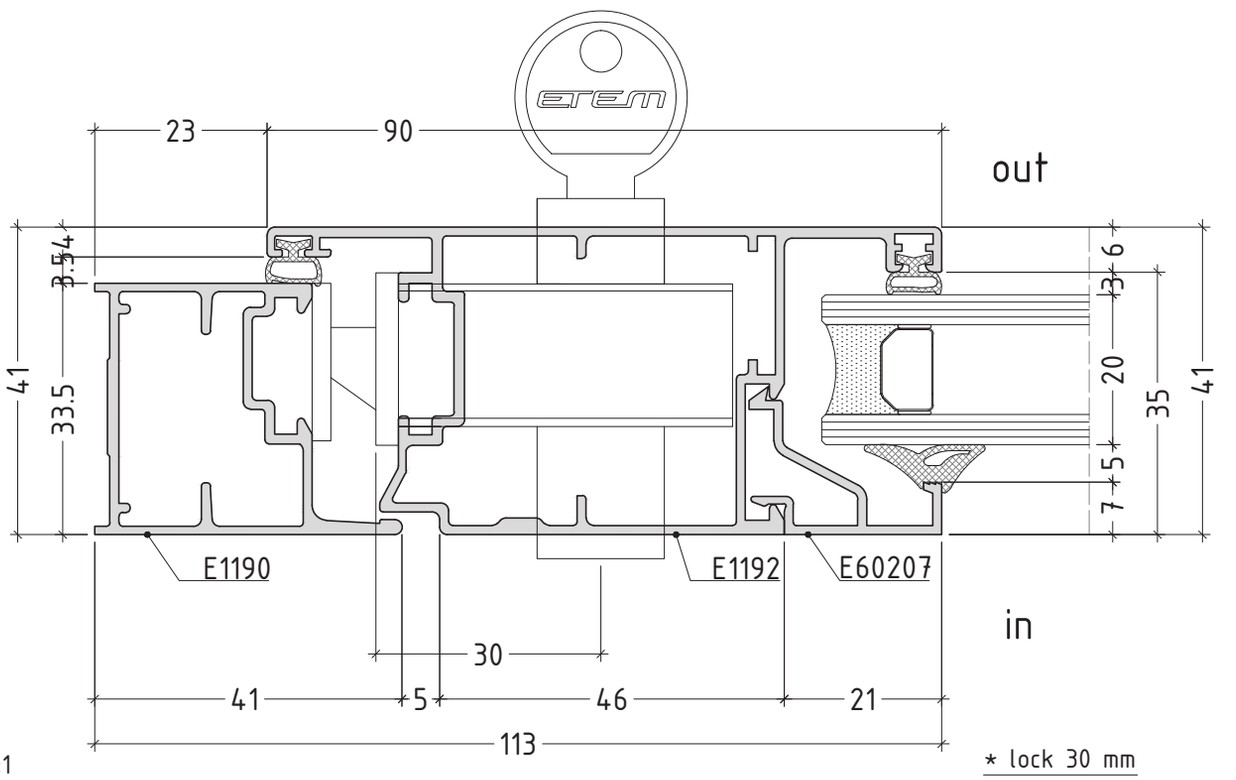
outward opening



1



2

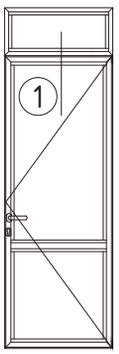


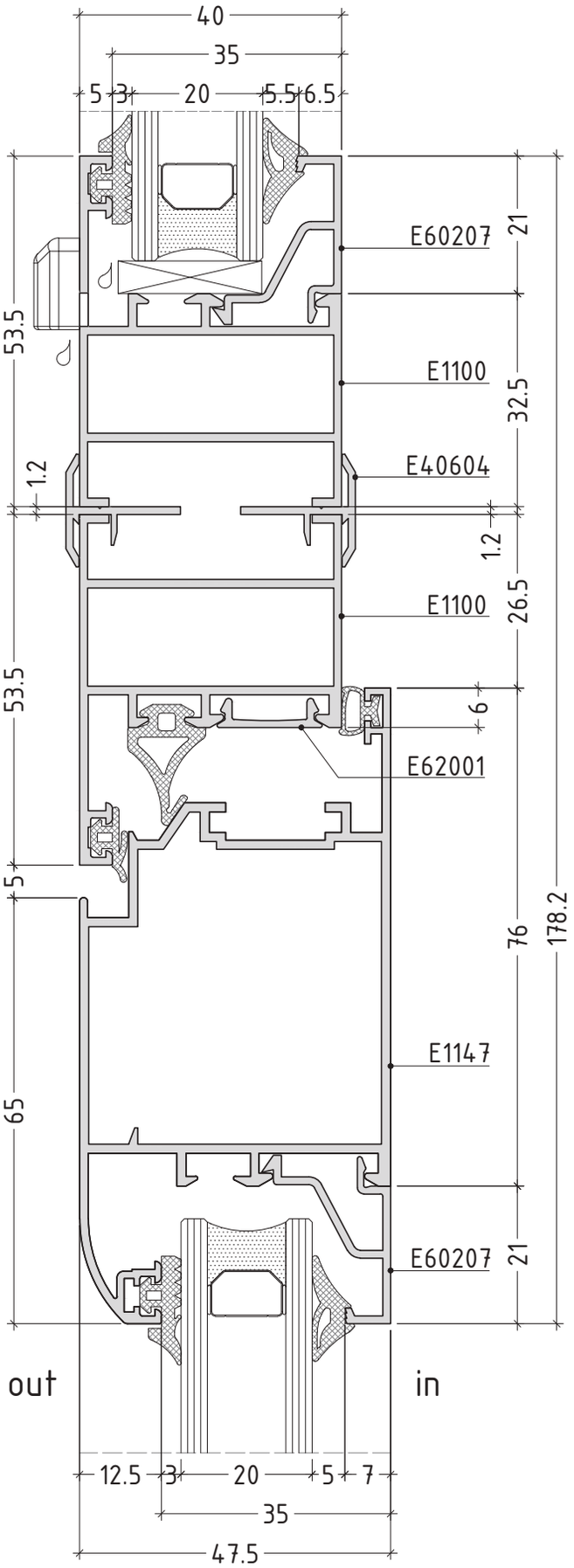
scale: 1:1

* lock 30 mm

D1000-14

inward opening



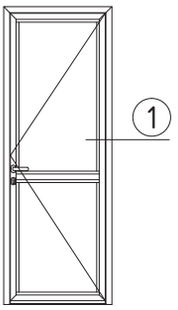


1

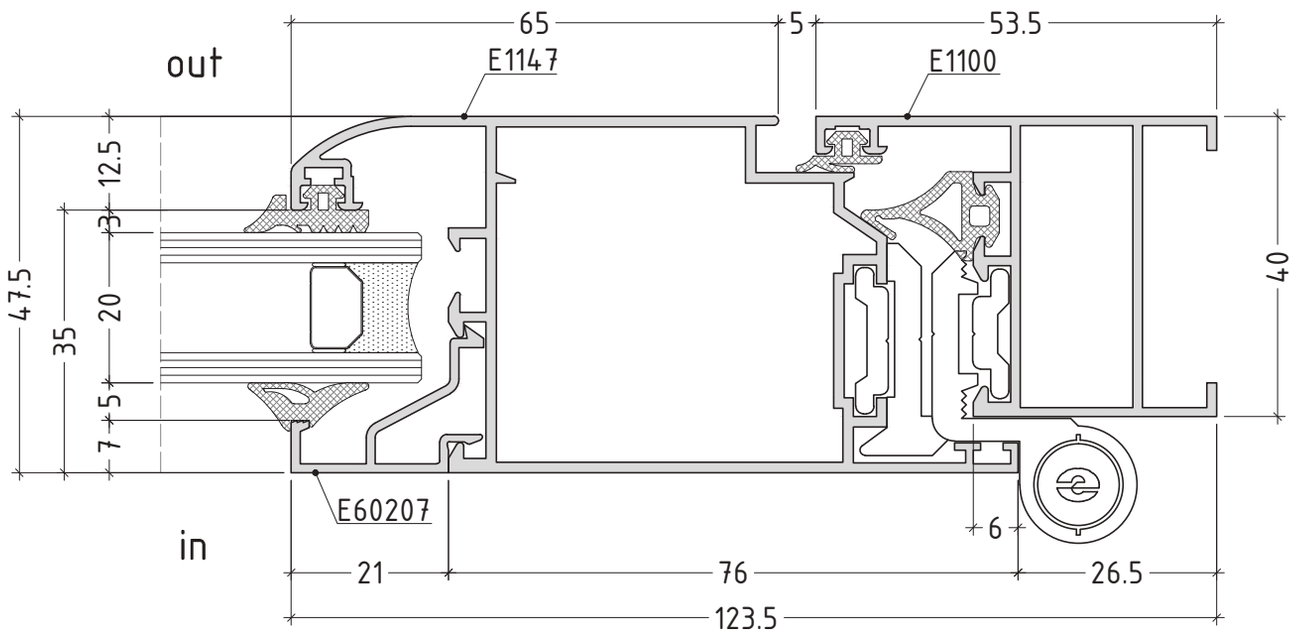
scale: 1:1

D1000-15

inward opening



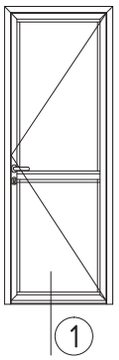
1



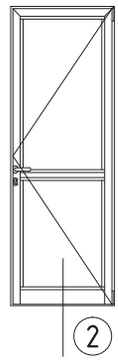
scale: 1:1

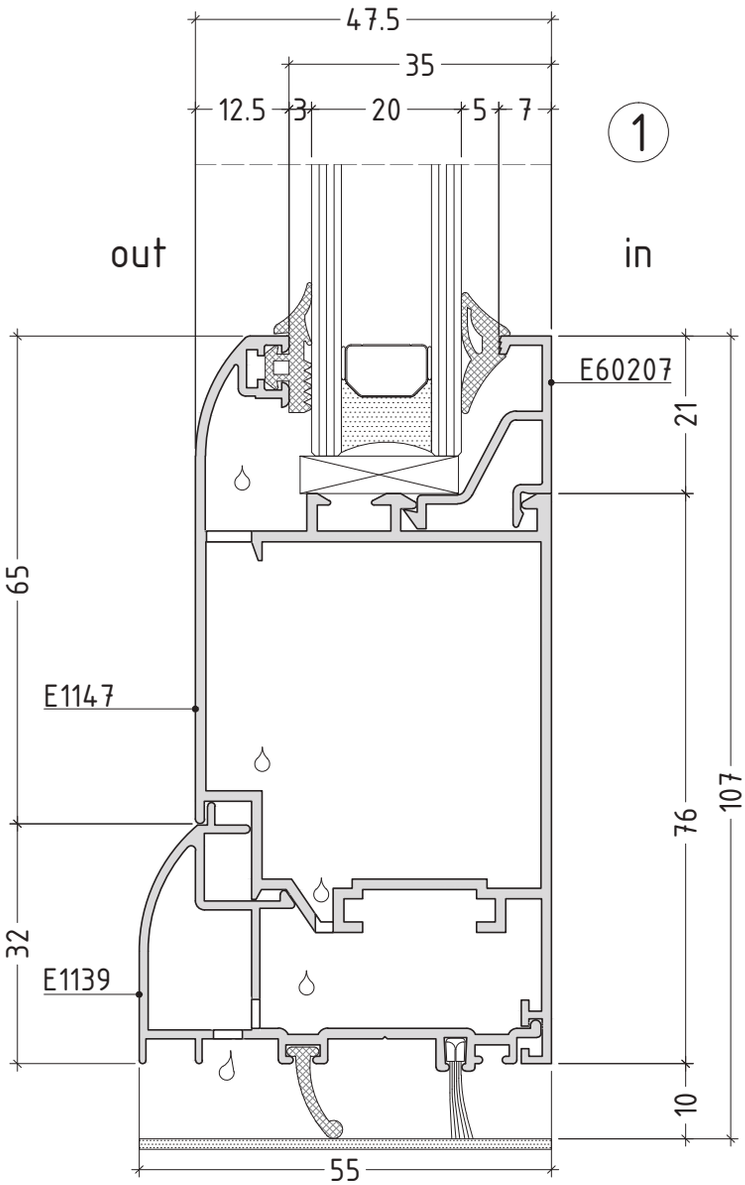
D1000-16

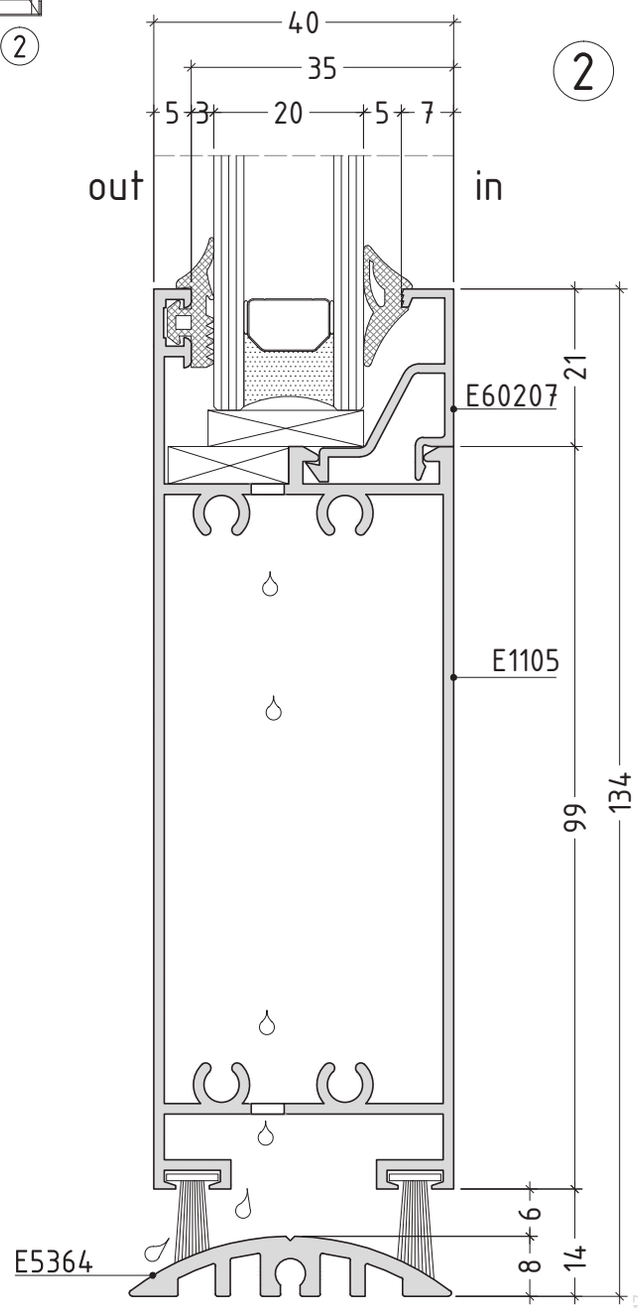
inward opening



inward opening



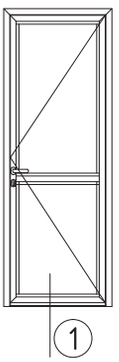




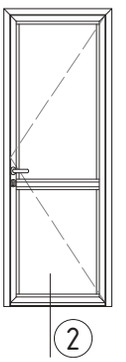
scale: 1:1

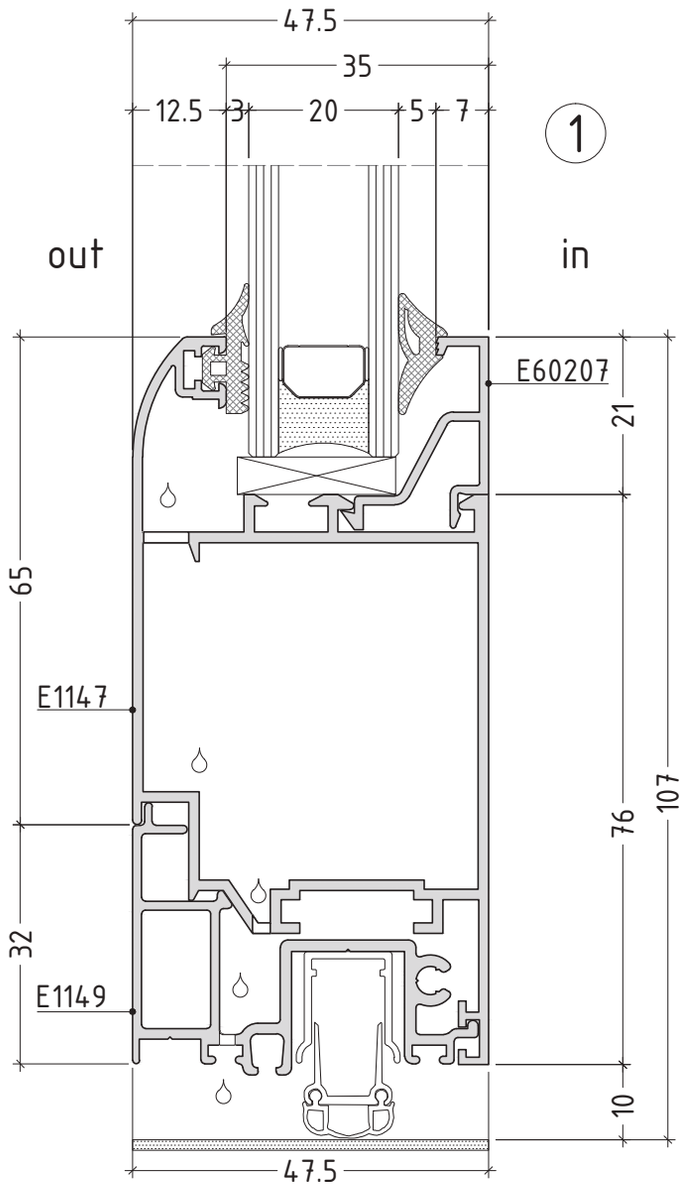
D1000-17

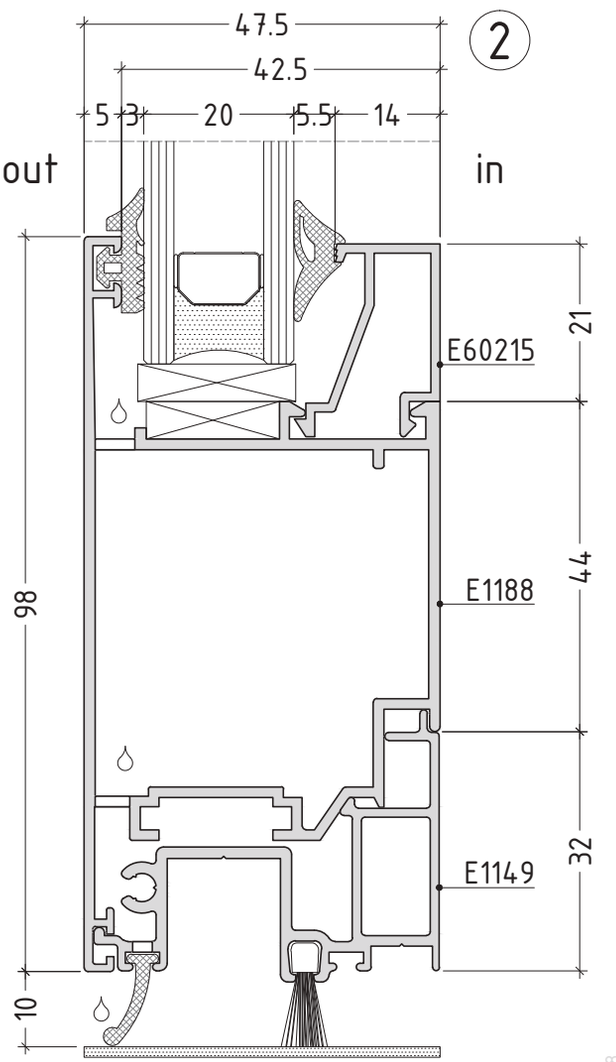
inward opening



outward opening



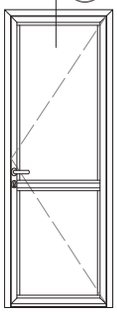


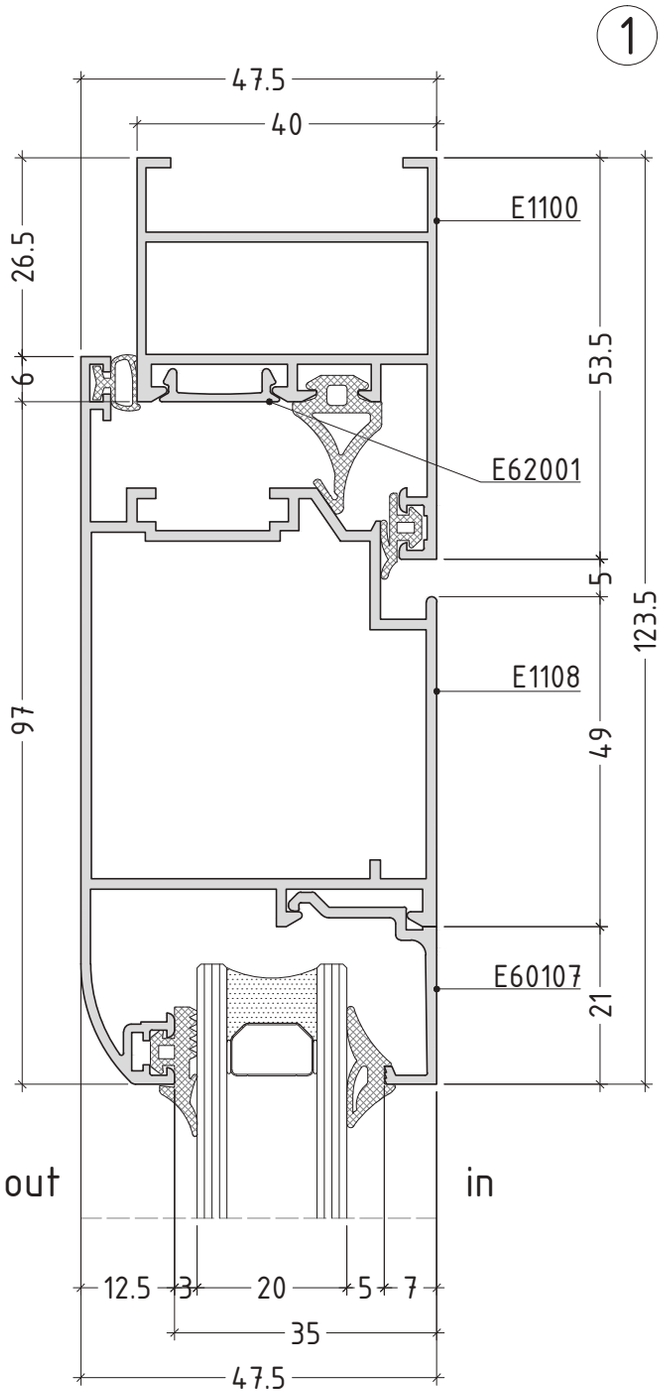


scale: 1:1

D1000-18

outward opening

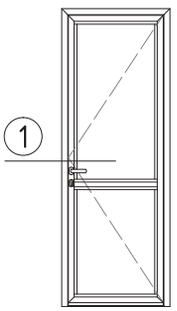


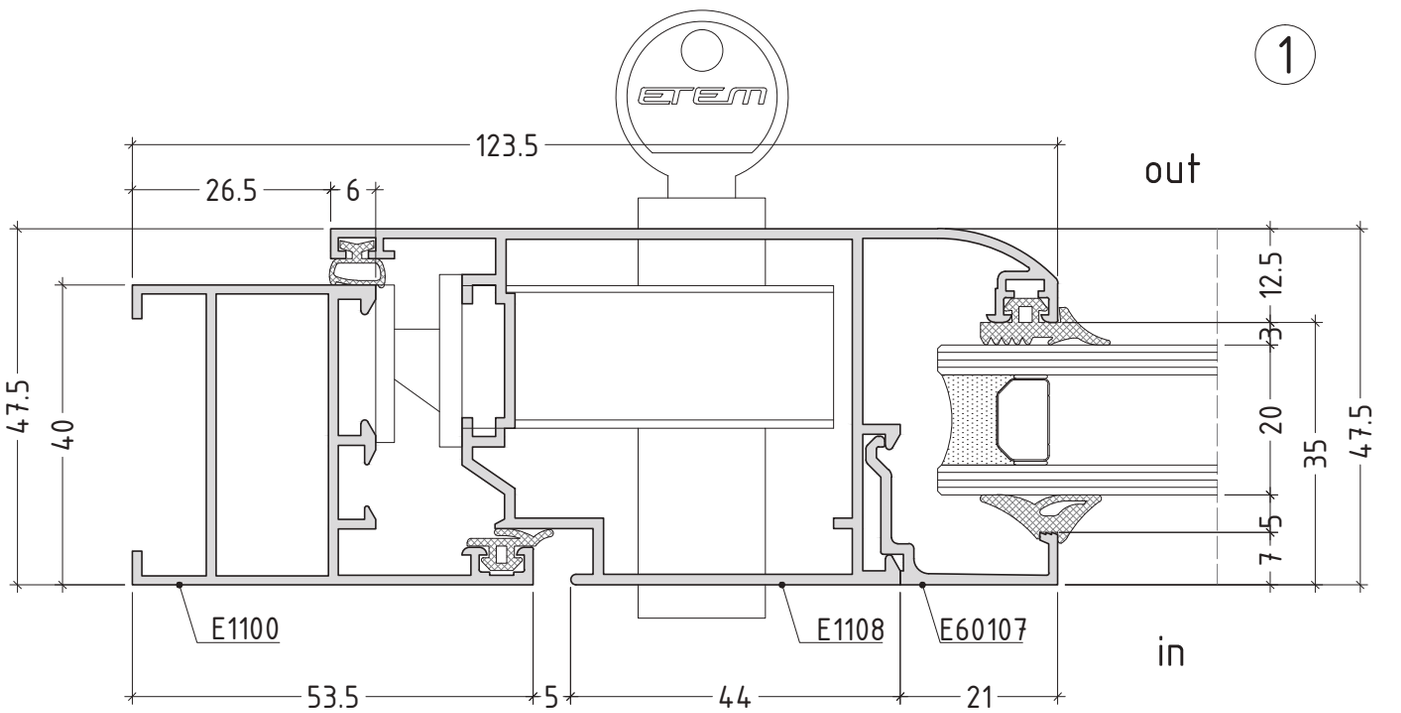


scale: 1:1

D1000-19

outward opening



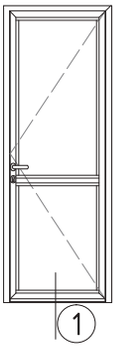


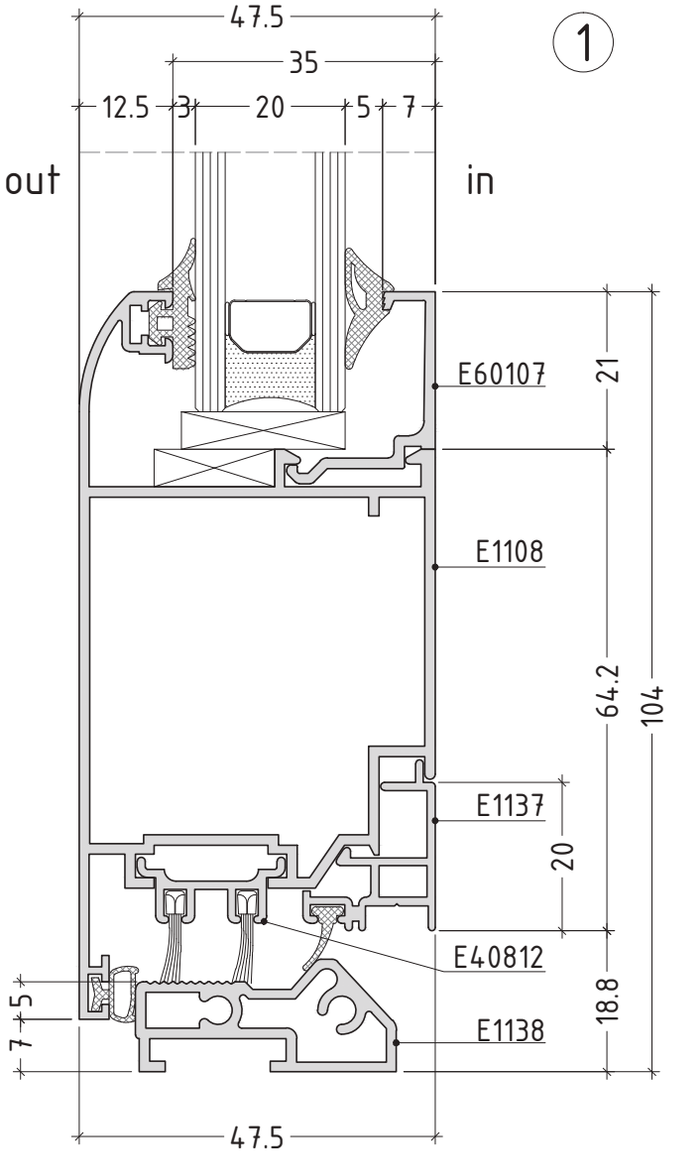
* lock 35 mm

scale: 1:1

D1000-20

outward opening

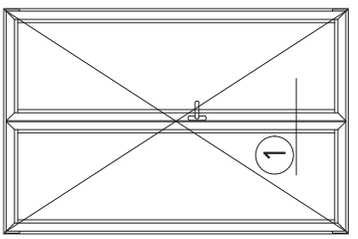


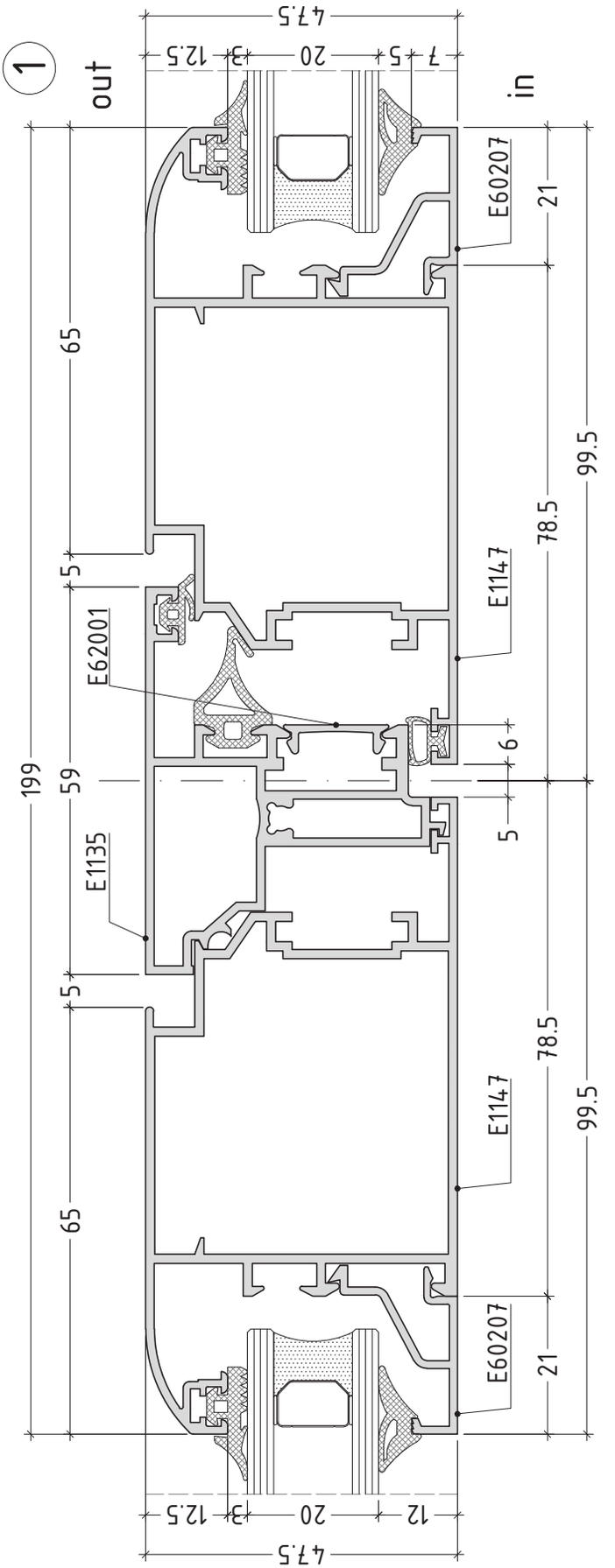


scale: 1:1

D1000-21

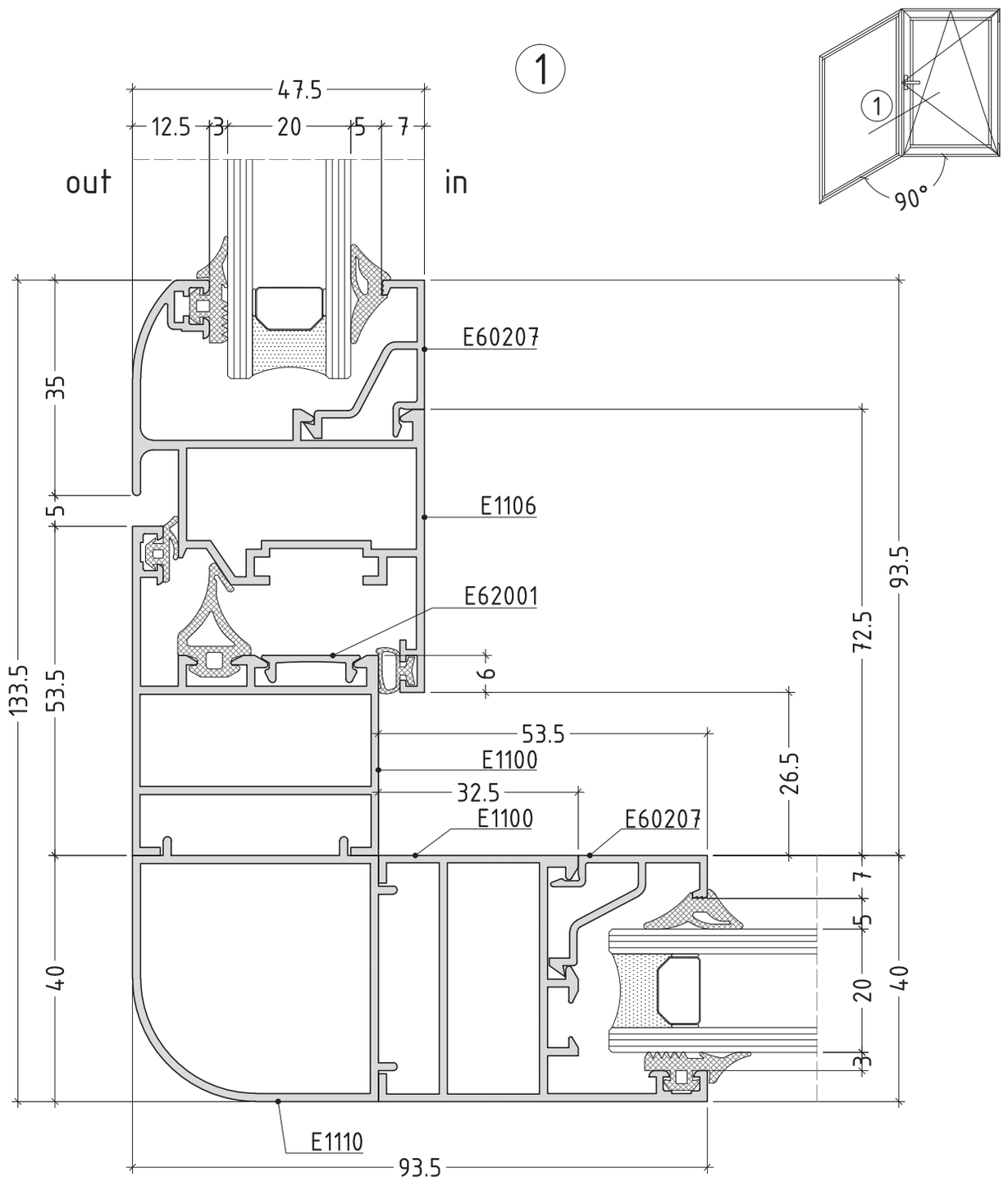
inward opening





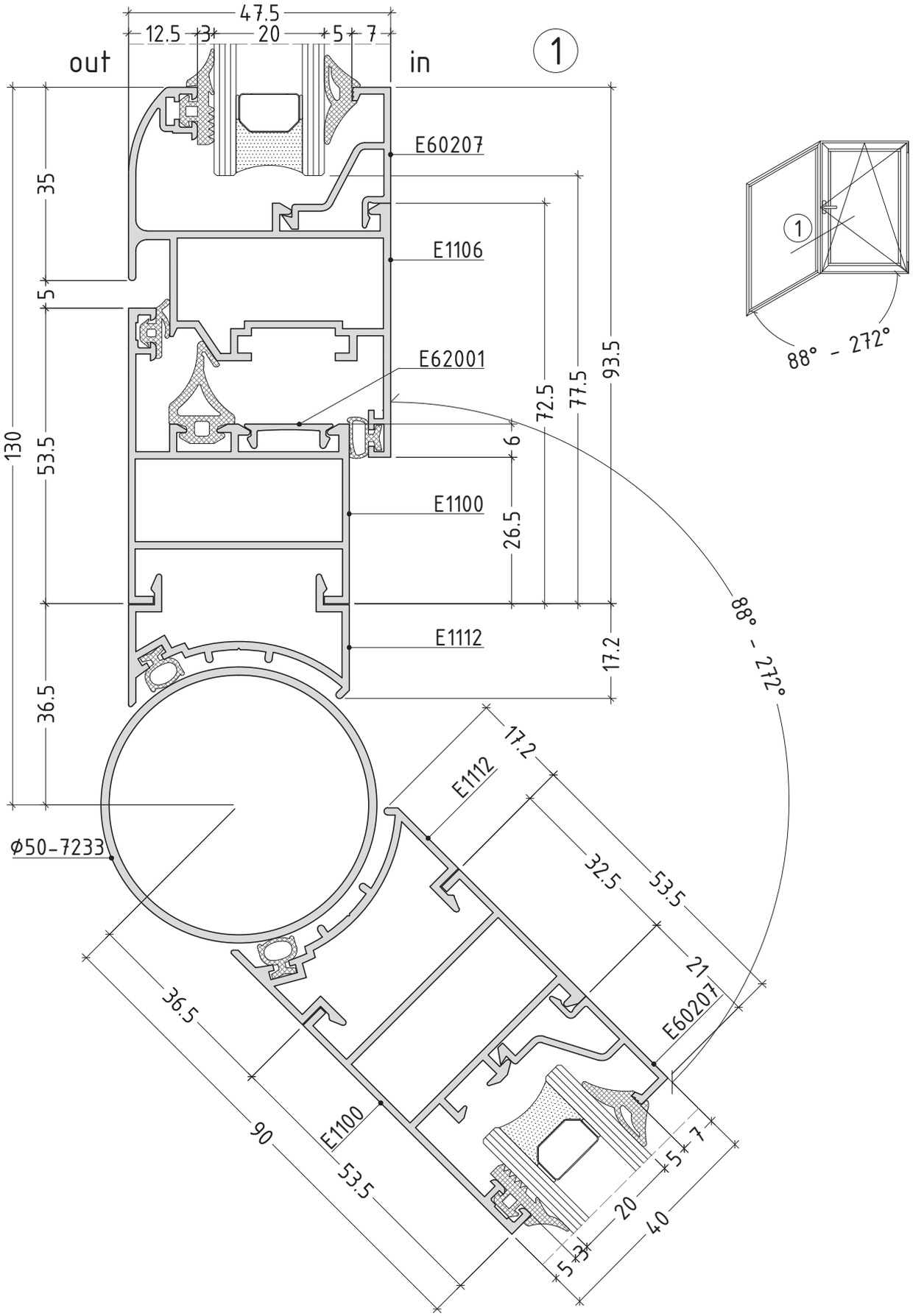
scale: 1:1

D1000-22



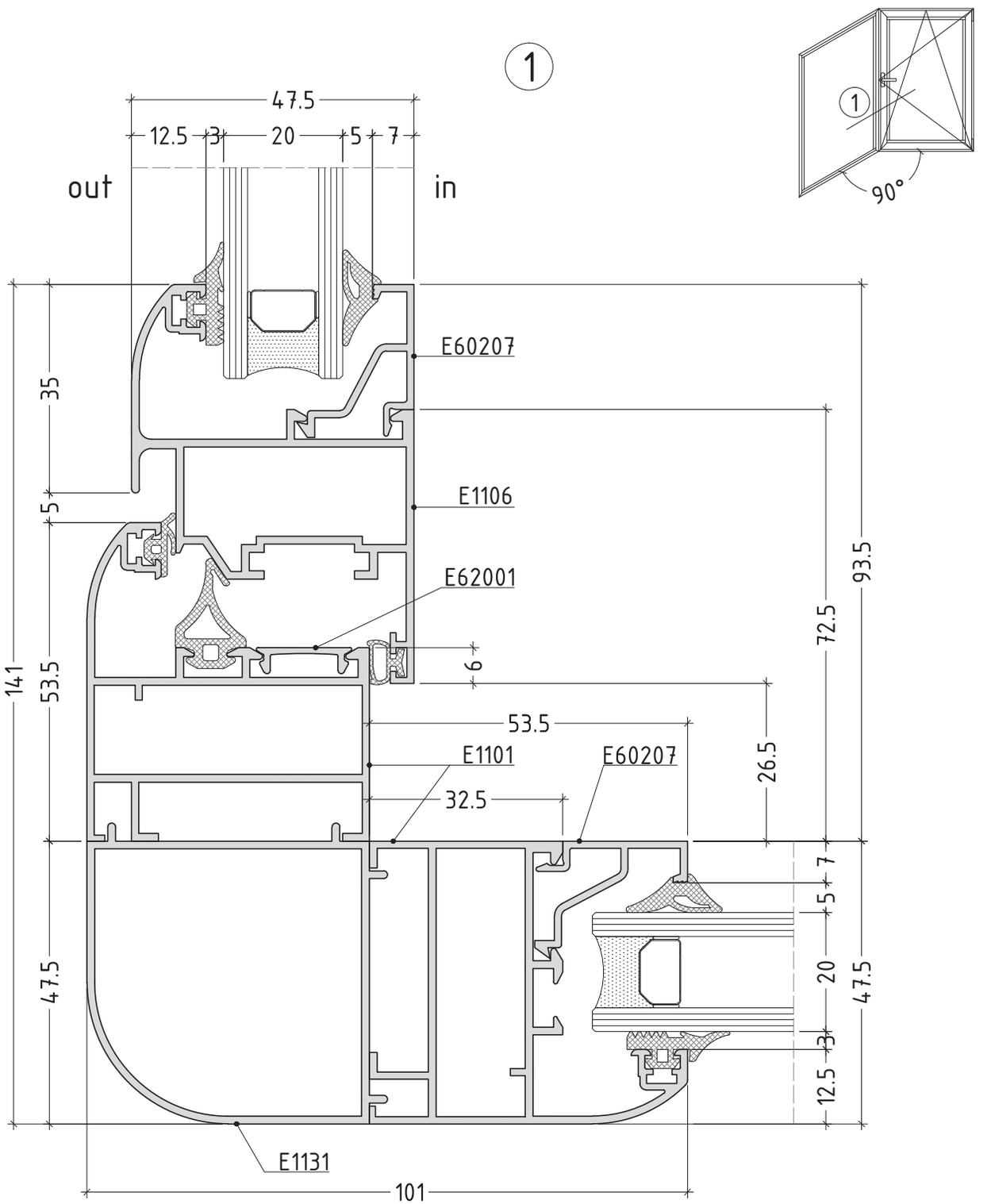
scale: 1:1

D1000-23



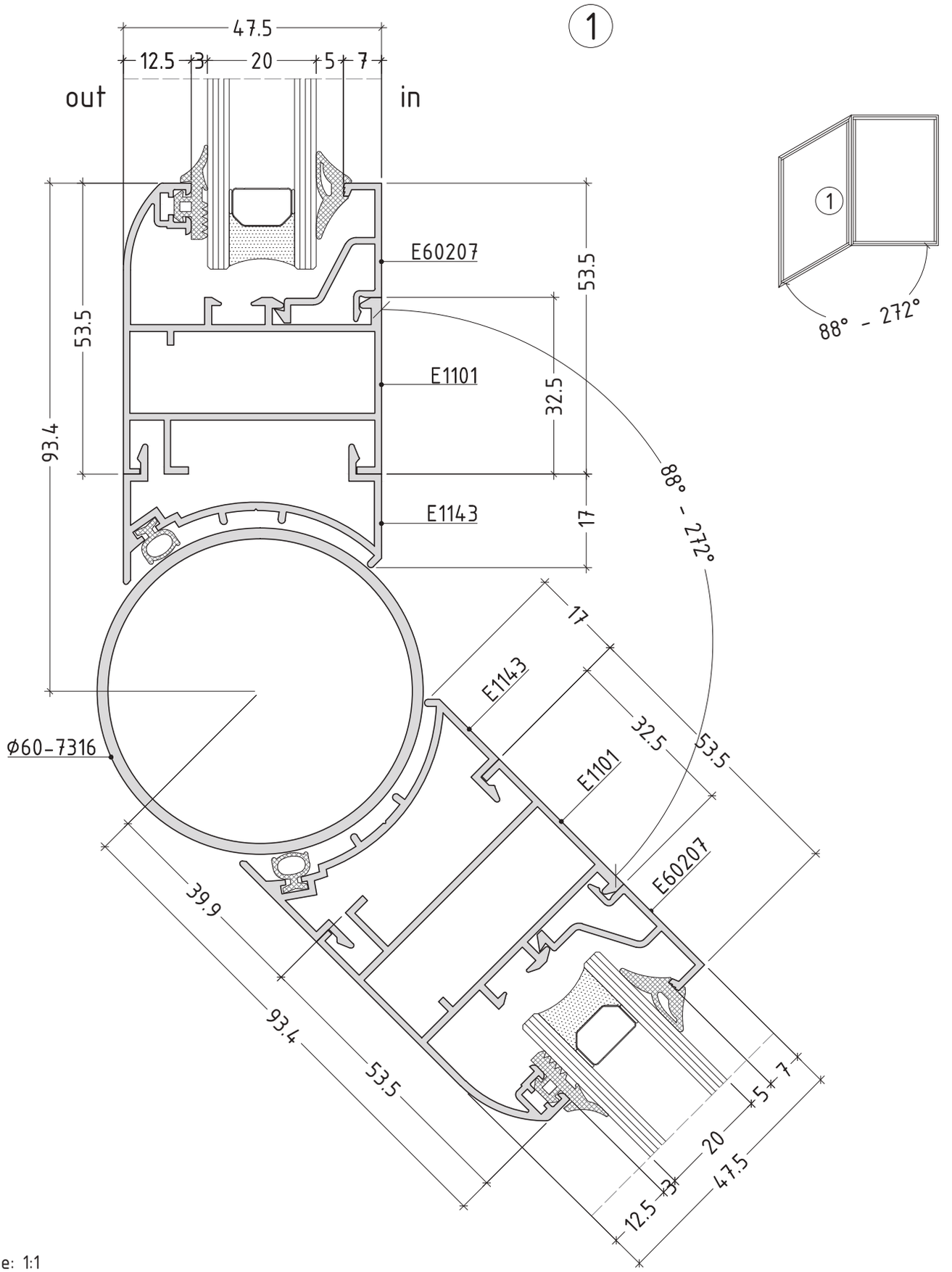
scale: 1:1

D1000-24



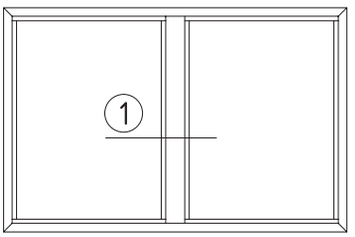
scale: 1:1

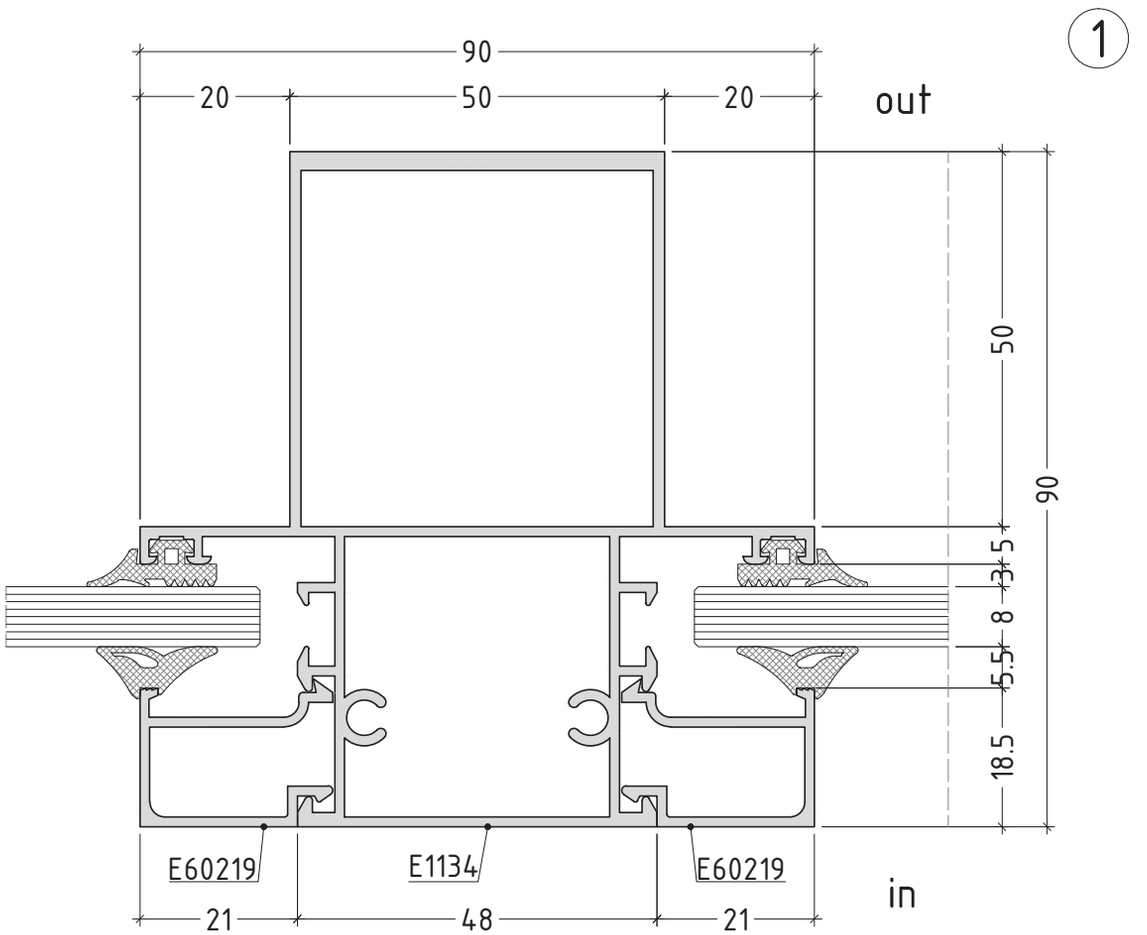
D1000-25



scale: 1:1

D1000-26

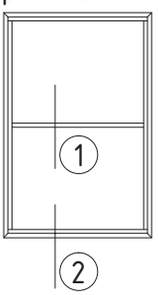




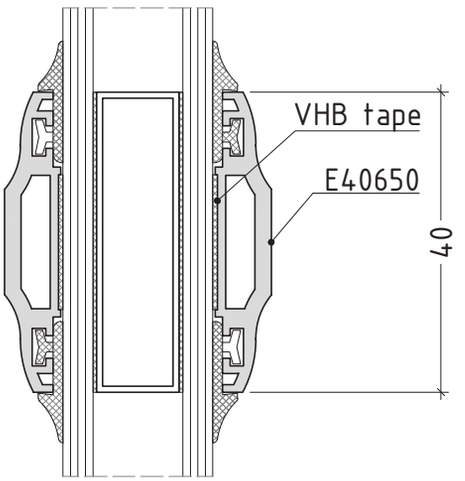
scale: 1:1

D1000-27

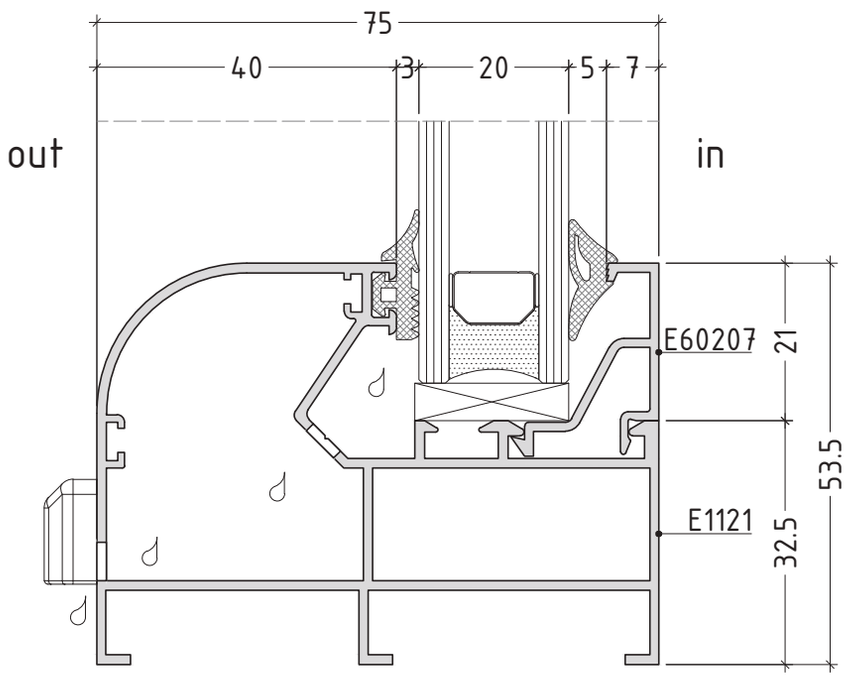
fix
position



1



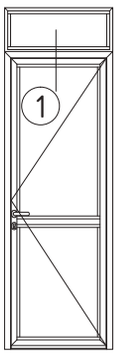
2

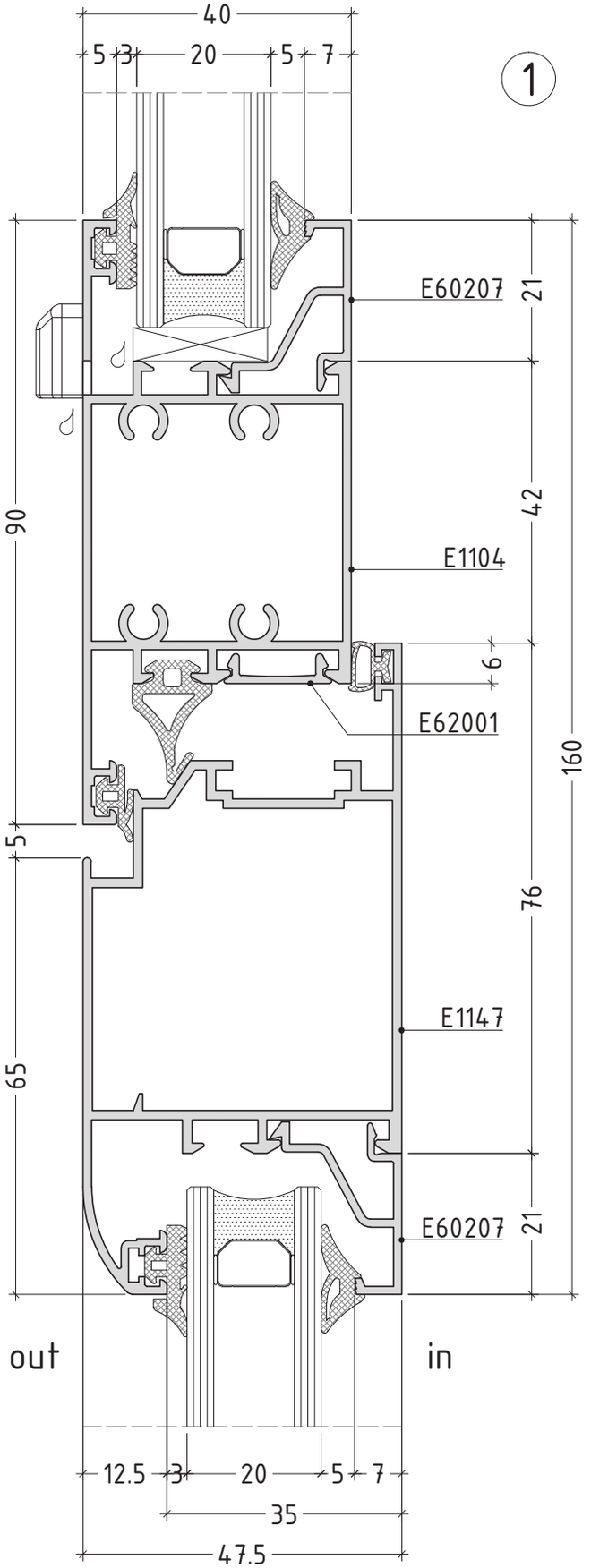


scale: 1:1

D1000-28

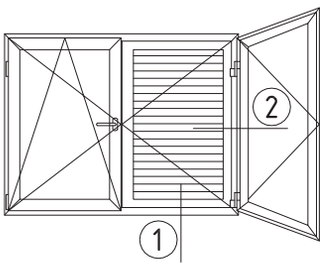
inward opening

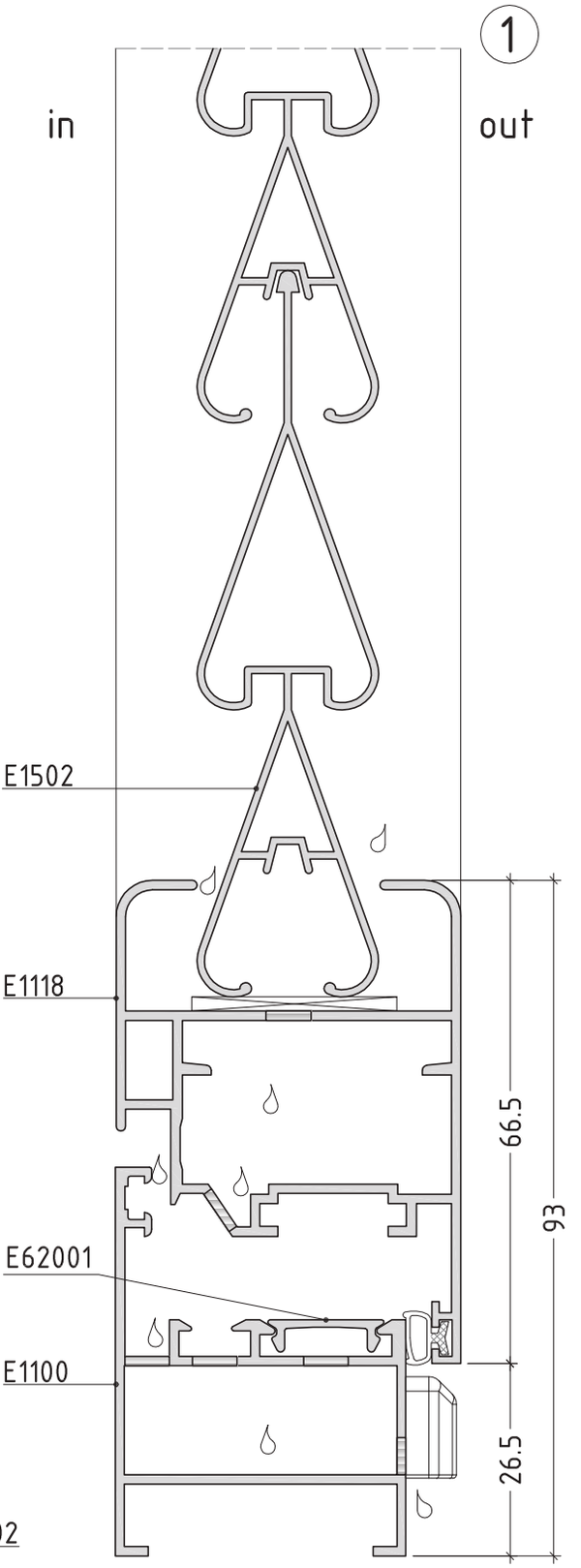


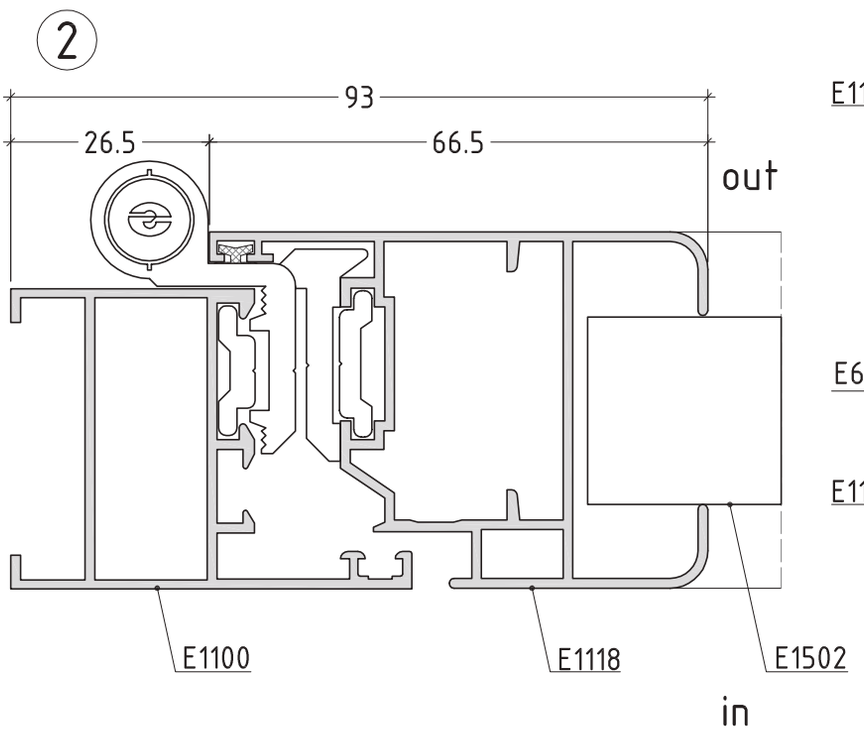


scale: 1:1

D1000-29

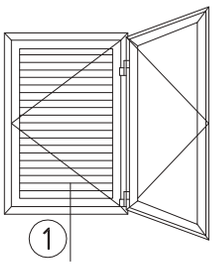


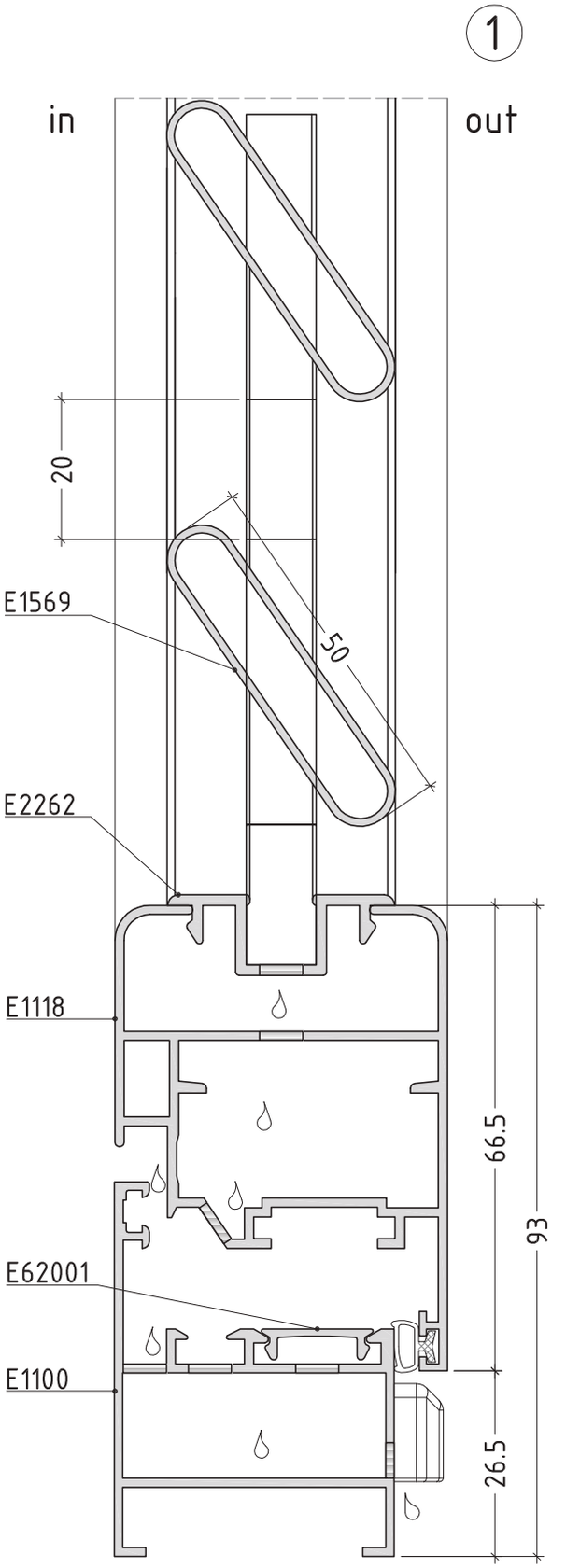




scale: 1:1

D1000-30

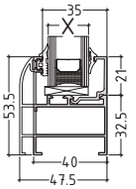
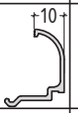
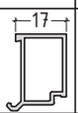
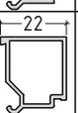
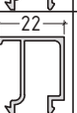
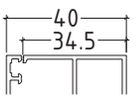




scale: 1:1

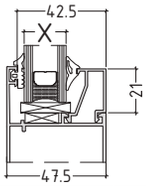
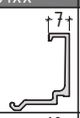
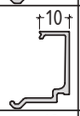
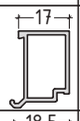
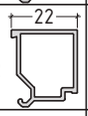
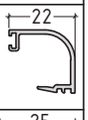
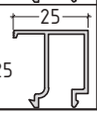
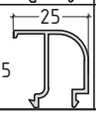
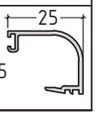
D1000-31

GLAZING OPTIONS

GLAZING OPTIONS										
external gaskets	INTERNAL GASKETS					GLAZING BEADS				
	5 - 6 mm 130176		7 - 8 mm 130177							
3 mm 130411	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	10 mm 130210					
130402										
4 mm 130153	X mm					E601xx	E602xx	E604xx	E605xx	E607xx
130411 130402	20	19	18	17	15	 E60107 old code E1114	 E60207 old code E1144			
130153	19	18	17	16	14					
130411 130402	17	16	15	14	12	 E60110		 E60410 old code E1160	 E60510 old code E1130	
130153	16	15	14	13	11					
130411 130402	15	14	13	12	10	 E60112 old code E5317				 E60712
130153	14	13	12	11	9					
130411 130402	13	12	11	10	8		 E60215 old code E5324			
130153	12	11	10	9	7					
130411 130402	10	9	8	7	5	 E60117 old code E5311				
130153	9	8	7	6	4					
130411 130402	8	7	6	5	-	 E60119 old code E5314	 E60219 old code E5304	 E60419 old code E5394		
130153	7	6	5	4	-					
130411 130402	5	4	-	-	-	 E60122 old code E5312	 E60222 old code E1113	 E60422		 E60722
130153	4	-			-					
							 E60235	 E60435		

Note:
Tolerance in dimension chain ±0.5 mm

T1000-01

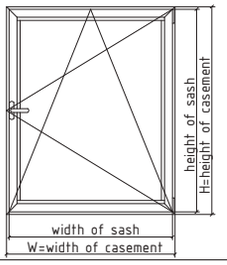
GLAZING OPTIONS										
external gaskets	INTERNAL GASKETS					GLAZING BEADS				
	5 - 6 mm 130176		7 - 8 mm 130177			 For profile E1183 E1184 E1185 E1187 E1188				
3 mm 130411	5 mm 130205	6 mm 130206	7 mm 130207	8 mm 130208	10 mm 130210					
130402										
4 mm 130153	X mm					E601xx	E602xx	E604xx	E605xx	E607xx
130411 130402	27	26	25	24	22	 E60107 old code E1114	 E60207 old code E1144			
130153	26	25	24	23	21					
130411 130402	24	23	22	21	19	 E60110		 E60410 old code E1160	 E60510 old code E1130	
130153	23	22	21	20	18					
130411 130402	22	21	20	19	17	 E60112 old code E5317				 E60712
130153	21	20	19	18	16					
130411 130402	20	19	18	17	15		 E60215 old code E5324			
130153	19	18	17	16	14					
130411 130402	17	16	15	14	12	 E60117 old code E5311				
130153	16	15	14	13	11					
130411 130402	16	15	14	13	11	 E60119 old code E5314	 E60219 old code E5304	 E60419 old code E5394		
130153	15	14	13	12	10					
130411 130402	12	11	10	9	7	 E60122 old code E5312	 E60222 old code E1113	 E60422		 E60722
130153	11	10	9	8	6					
130411 130402	9	8	7	6	4		 E60225 old code E5307	 E60425 old code E5308		 E60725 old code E5348
130153	8	7	6	5	-					

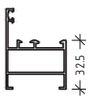
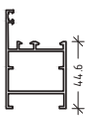
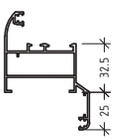
Note:
Tolerance in dimension chain ±0.5 mm

T1000-02

CUTTING LISTS

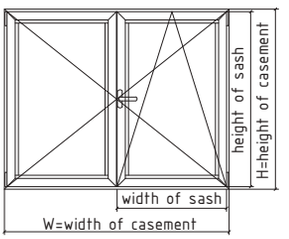
calculation of cutting length for one leaf window



frame profile selection		sash profile selection: E1106 E1125 E1150 E1147 E1107 E1108	sash profile selection: straight line E1187 E1188
E1100 E1101 E1121 E1132 E1155 E1120 	width of sash	W - 54	W - 54
	height of sash	H - 54	H - 54
E1140 	width of sash	W - 78.2	W - 78.2
	height of sash	H - 78.2	H - 78.2
E1102 	width of sash	W - 104	W - 104
	height of sash	H - 104	H - 104

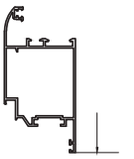
T1000-01

calculation of cutting length for two leaf window



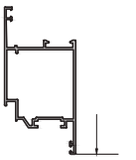
sash profile selection

E1106
E1125
E1150
E1147
E1107
E1108

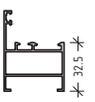
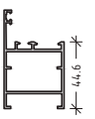
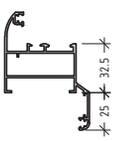


straight line

E1187
E1188

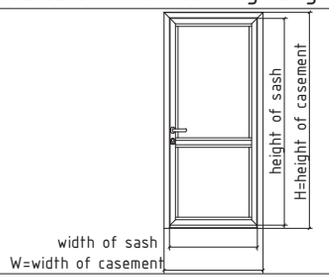


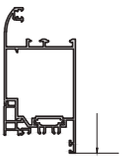
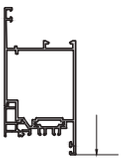
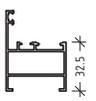
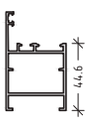
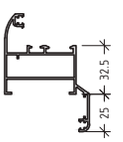
frame profile selection

E1100 E1101 E1121 E1132 E1155 E1120 	width of sash	$\frac{W - 59}{2}$	$\frac{W - 59}{2}$
	height of sash	H - 54	H - 54
	height of secondary sash profile	H - 124	H - 124
E1140 	width of sash	$\frac{W - 83.2}{2}$	$\frac{W - 83.2}{2}$
	height of sash	H - 78.2	H - 78.2
	height of secondary sash profile	H - 148.2	H - 148.2
E1102 	width of sash	$\frac{W - 109}{2}$	$\frac{W - 109}{2}$
	height of sash	H - 104	H - 104
	height of secondary sash profile	H - 174	H - 174

T1000-02

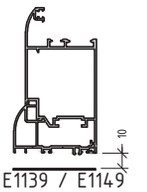
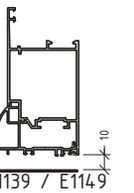
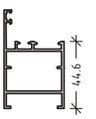
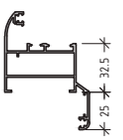
calculation of cutting length for one leaf door with door threshold profile



frame profile selection		sash profile selection: E1106 E1125 E1150 E1147 E1107 E1108  E1137 + E40812	sash profile selection: straight line E1187 E1188  E1137 + E40812
E1100 E1101 E1121 E1132 E1155 E1120  32.5	width of sash	W - 54	W - 54
	height of sash	H - 34	H - 34
E1140  44.6	width of sash	W - 78.2	W - 78.2
	height of sash	H - 46	H - 46
E1102  32.5 25	width of sash	W - 104	W - 104
	height of sash	H - 59	H - 59
four side sash with door threshold profile		E1138  34.8	E1138  34.8

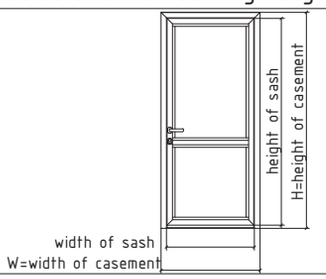
T1000-03

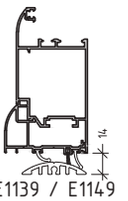
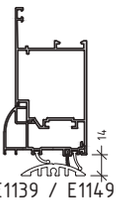
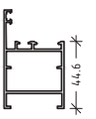
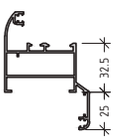
calculation of cutting length for one leaf door with door threshold profile

frame profile selection / sash profile selection		E1106 E1125 E1150 E1147 E1107 E1108  E1139 / E1149	straight line E1187 E1188  E1139 / E1149
E1100 E1101 E1121 E1132 E1155 E1120 	width of sash	W - 54	W - 54
	height of sash	H - 37	H - 37
E1140 	width of sash	W - 78.2	W - 78.2
	height of sash	H - 49	H - 49
E1102 	width of sash	W - 104	W - 104
	height of sash	H - 62	H - 62

T1000-04

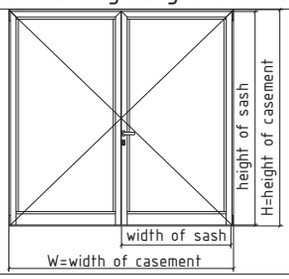
calculation of cutting length for one leaf door with door threshold profile



frame profile selection		sash profile selection E1106 E1125 E1150 E1147 E1107 E1108  E1139 / E1149	straight line E1187 E1188  E1139 / E1149
E1100 E1101 E1121 E1132 E1155 E1120 	width of sash	W - 54	W - 54
	height of sash	H - 41	H - 41
E1140 	width of sash	W - 78.2	W - 78.2
	height of sash	H - 53	H - 53
E1102 	width of sash	W - 104	W - 104
	height of sash	H - 66	H - 66
four side sash with door threshold profile		E5364 	E5364 

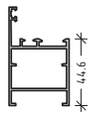
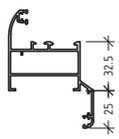
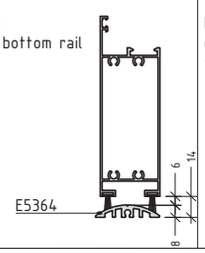
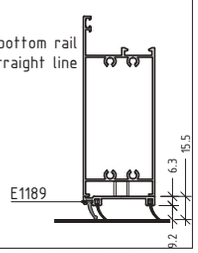
T1000-05

calculation of cutting length for two leaf door with bottom rail and threshold profile



sash profile selection

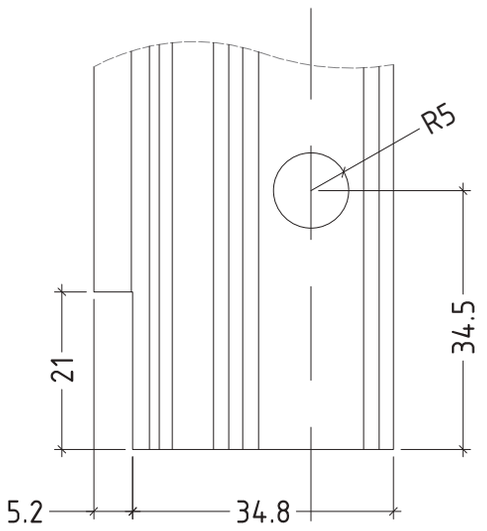
frame profile selection

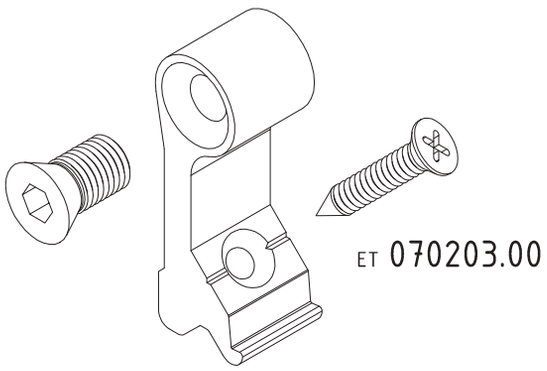
		E1106 E1125 E1150 E1147 E1107 E1108	straight line E1187 E1188
E1100 E1101 E1121 E1132 E1155 E1120 	width of sash	$\frac{W - 59}{2}$	$\frac{W - 59}{2}$
	height of sash	H - 41	H - 42.5
	height of secondary sash profile	H - 76	H - 71.2
E1140 	width of sash	$\frac{W - 83.2}{2}$	$\frac{W - 83.2}{2}$
	height of sash	H - 53.6	H - 54.6
	height of secondary sash profile	H - 88	H - 83.2
E1102 	width of sash	$\frac{W - 109}{2}$	$\frac{W - 109}{2}$
	height of sash	H - 66.5	H - 67.5
	height of secondary sash profile	H - 101	H - 96.2
three side sash with door bottom rail		E1105 door bottom rail 	E1185 door bottom rail for straight line 

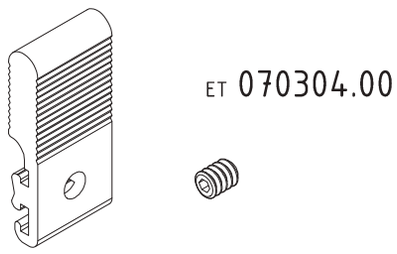
T1000-06

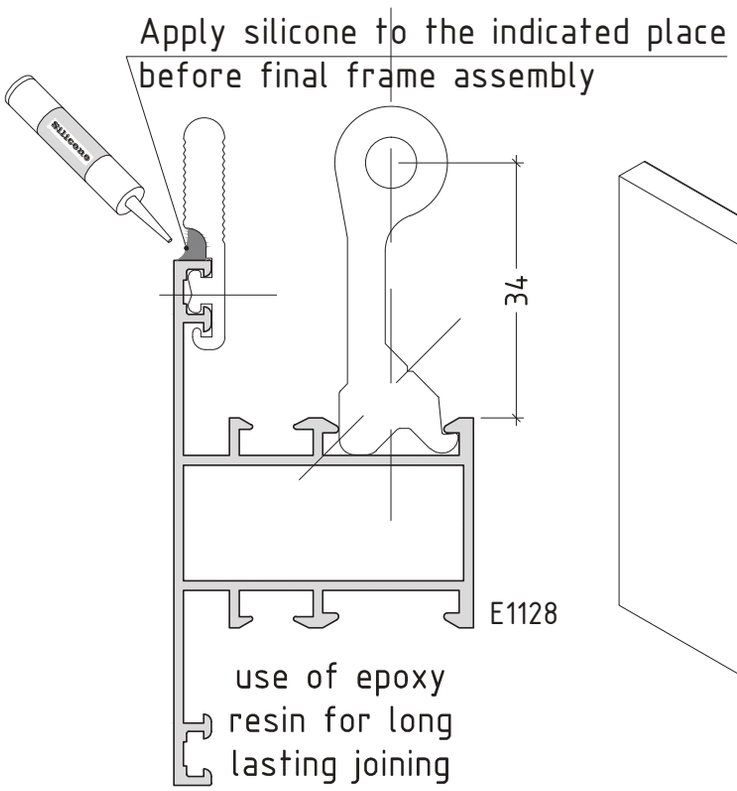
MACHINING

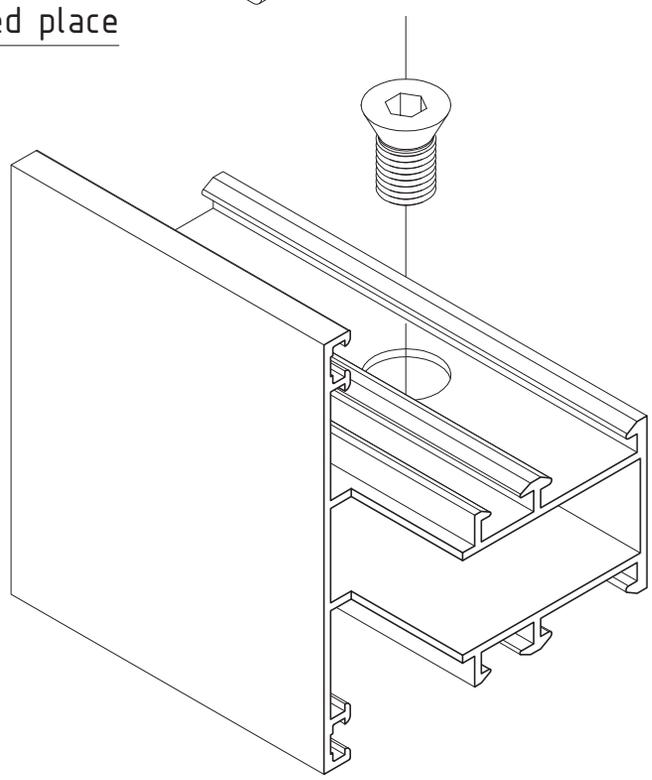
machining to use T-bracket – T-bracket for frames, sashes, T-profile, kickplate







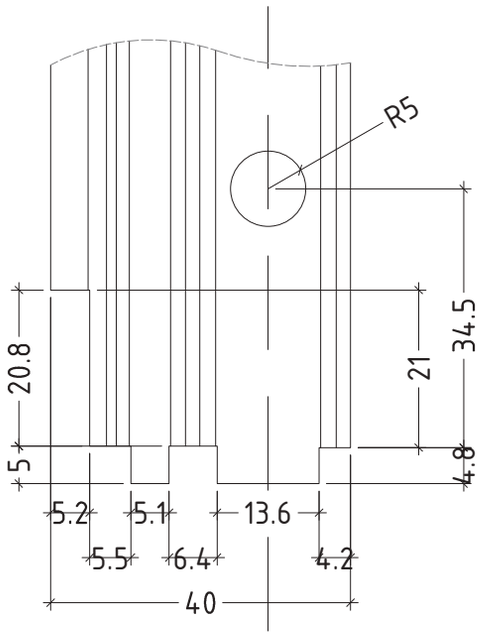


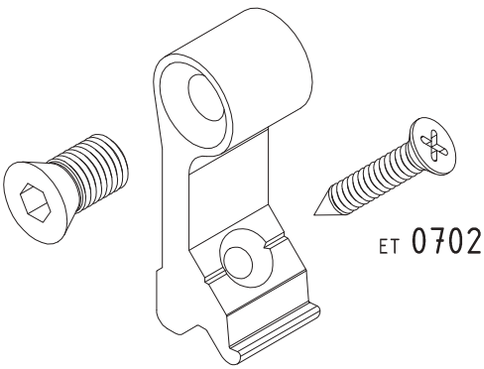


scale : 1:1

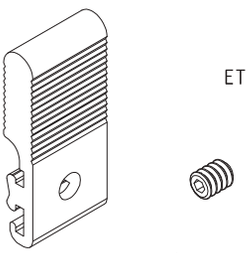
D1000-01

machining to use T-bracket - T-bracket for frames, sashes, T-profile, kickplate



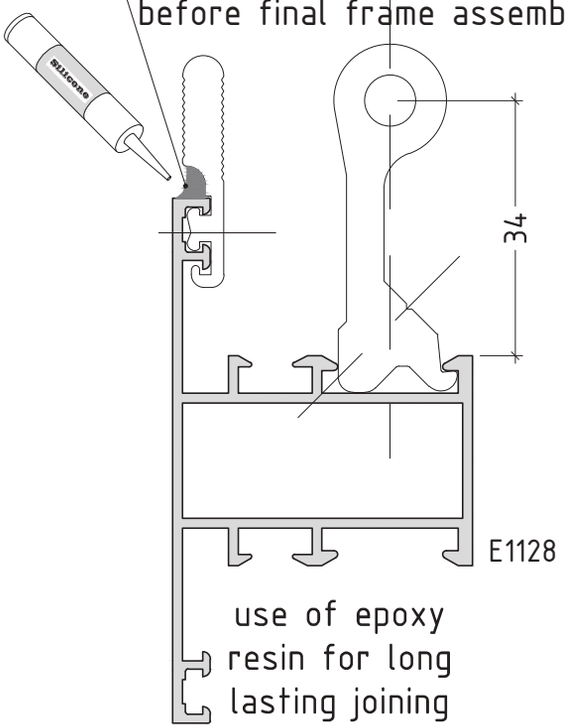


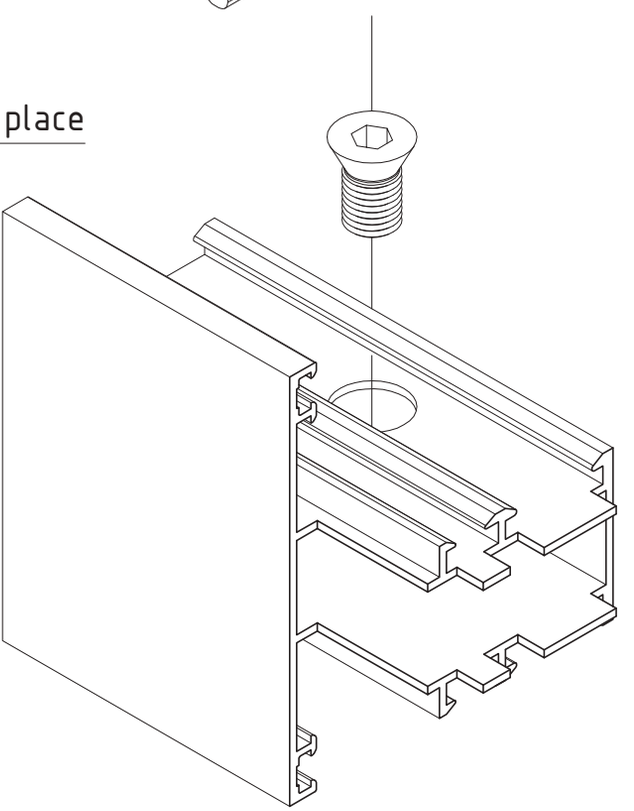
ET 070203.00



ET 070304.00

Apply silicone to the indicated place
before final frame assembly

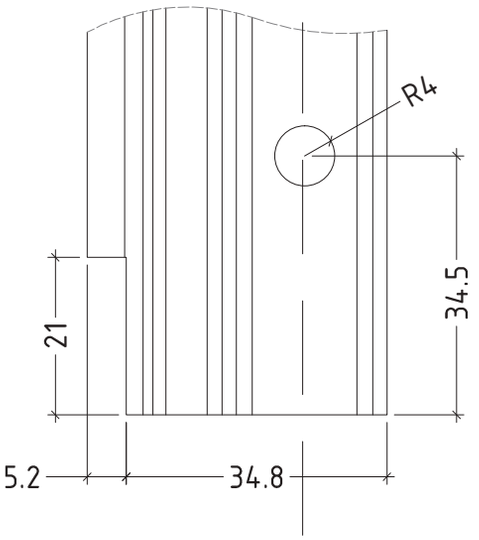


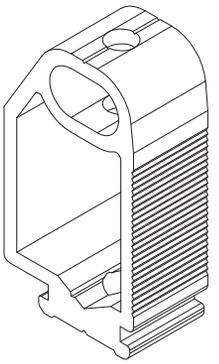


scale : 1:1

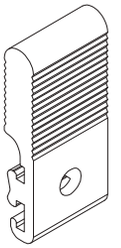
D1000-02

machining to use T-bracket – T-bracket for frames, sashes, T-profile, kickplate



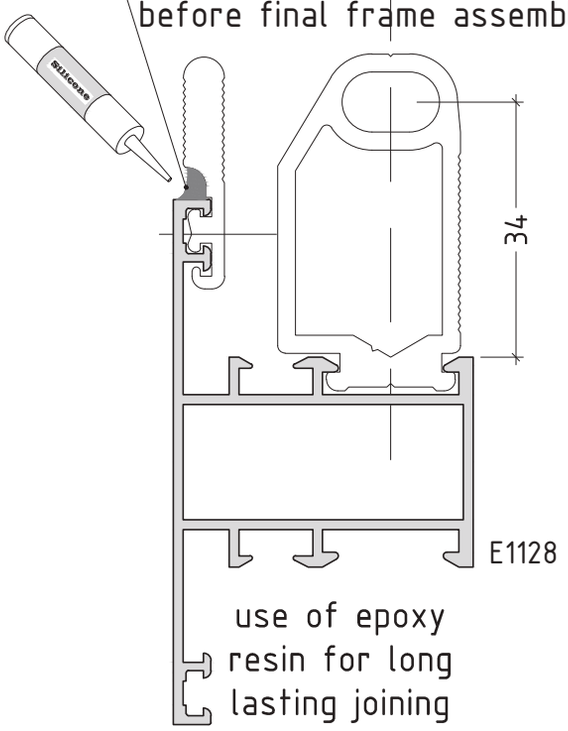


ET 070204.00

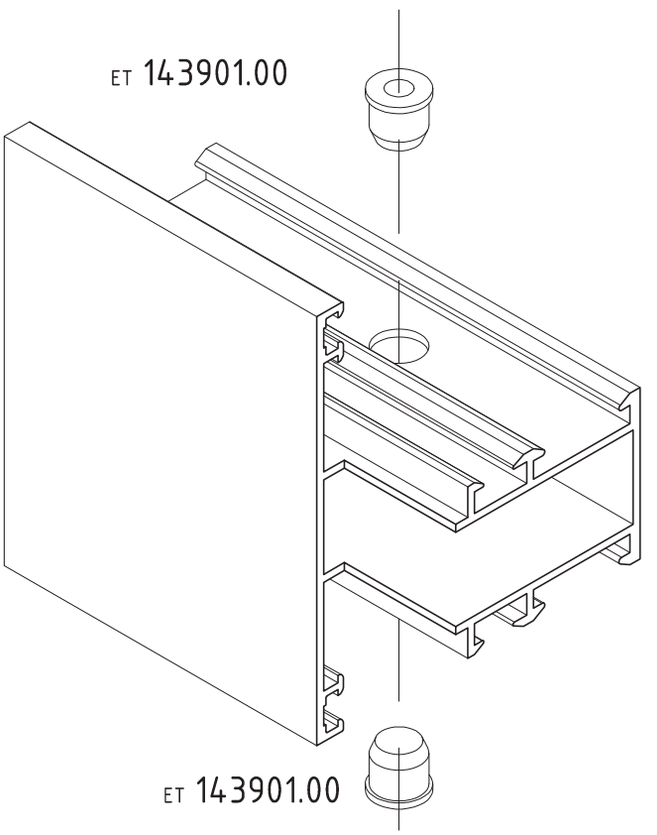


ET 070304.00

Apply silicone to the indicated place
before final frame assembly



ET 143901.00

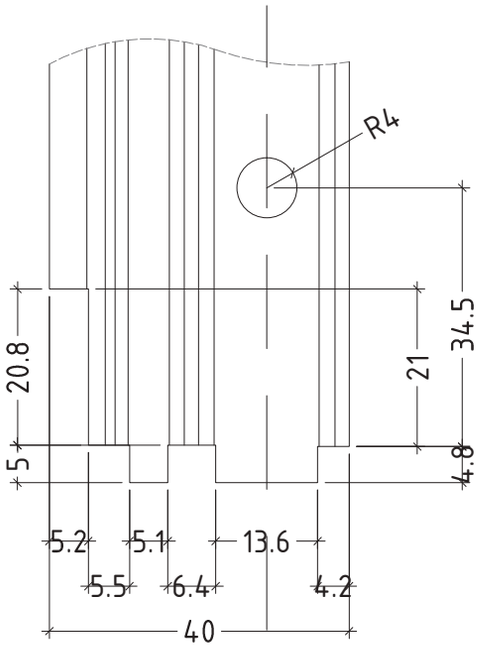


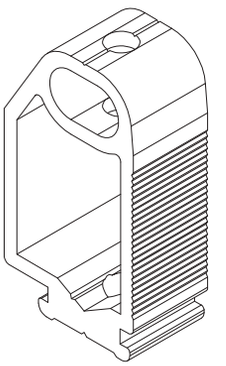
ET 143901.00

scale : 1:1

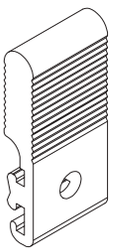
D1000-03

machining to use T-bracket - T-bracket for frames, sashes, T-profile, kickplate



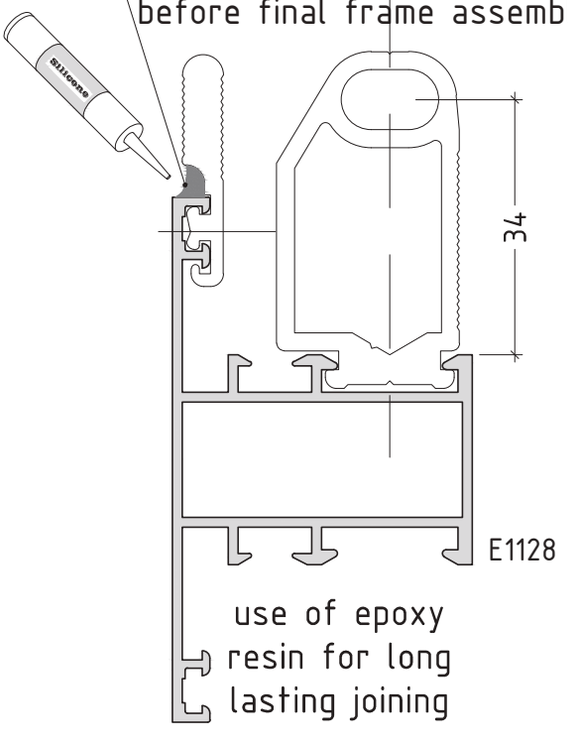


ET 070204.00

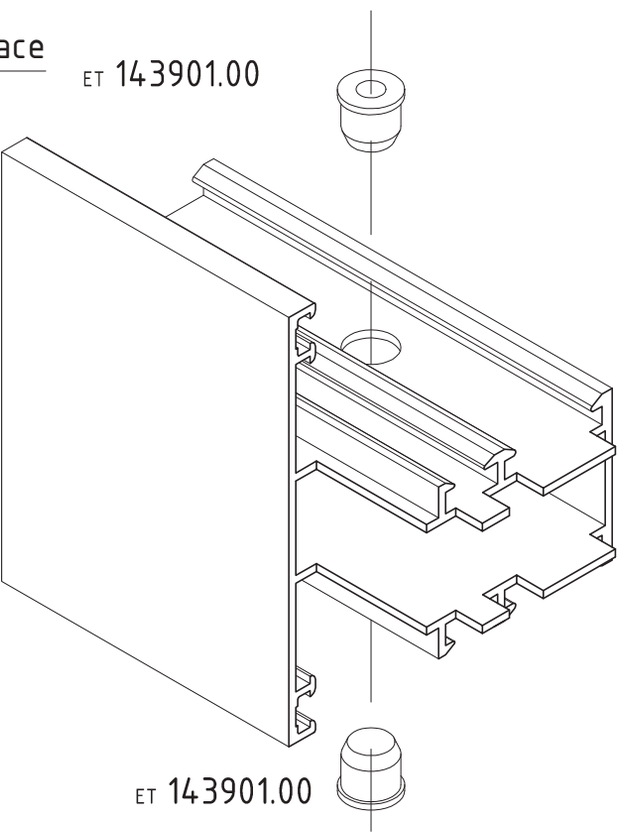


ET 070304.00

Apply silicone to the indicated place before final frame assembly



ET 143901.00

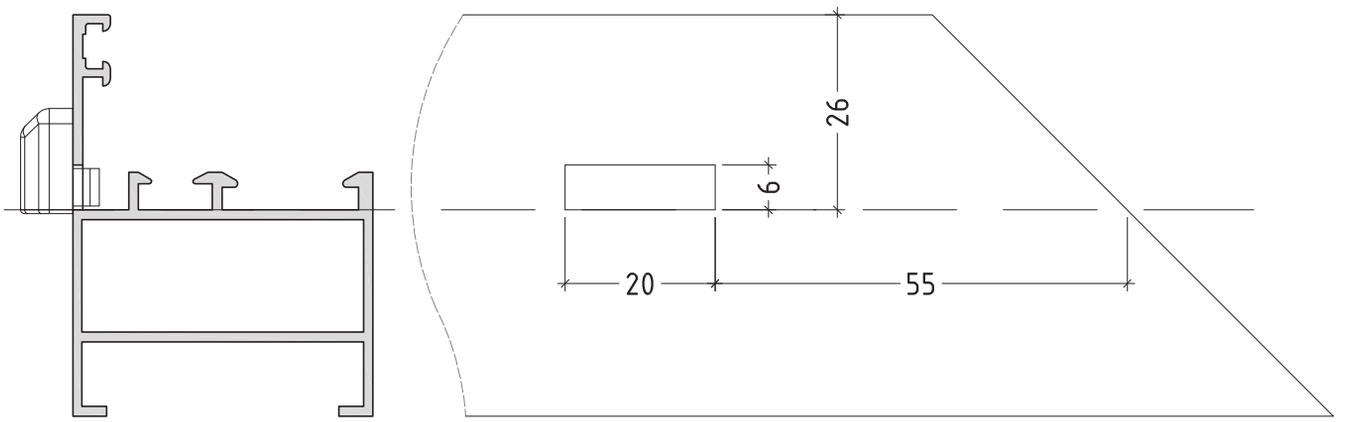


ET 143901.00

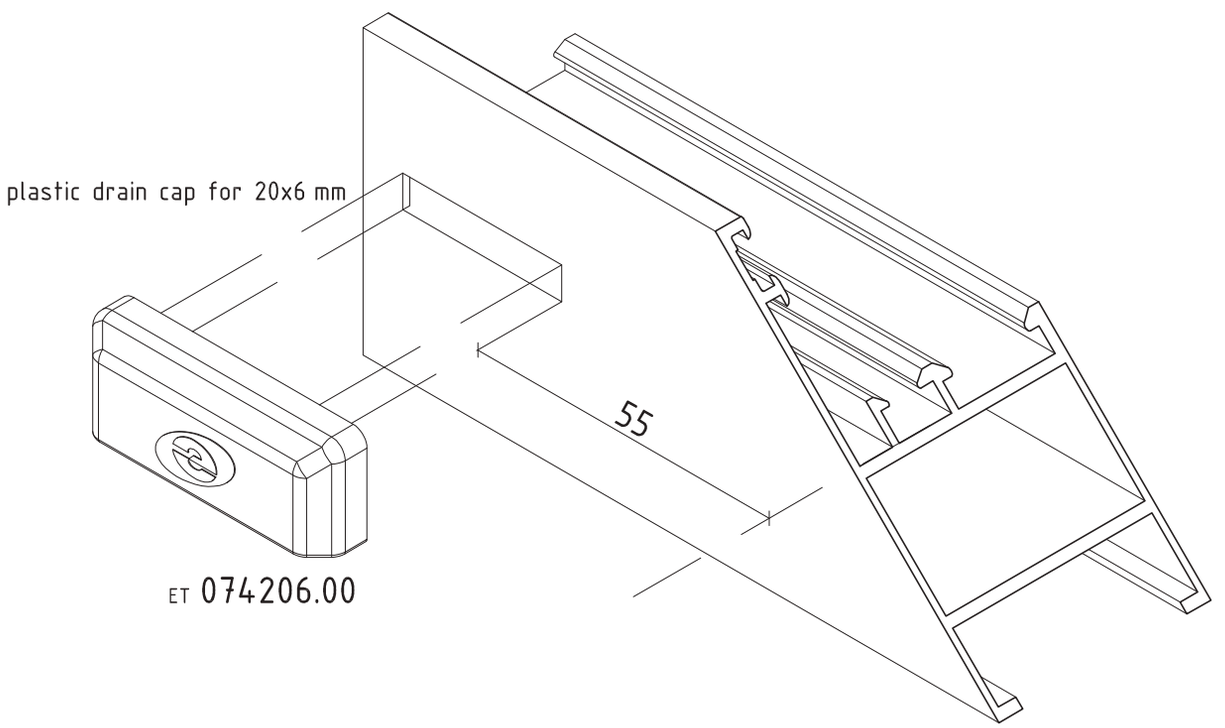
scale : 1:1

D1000-04

machining for drainage and plastic cap – ET 074206.00



E1100

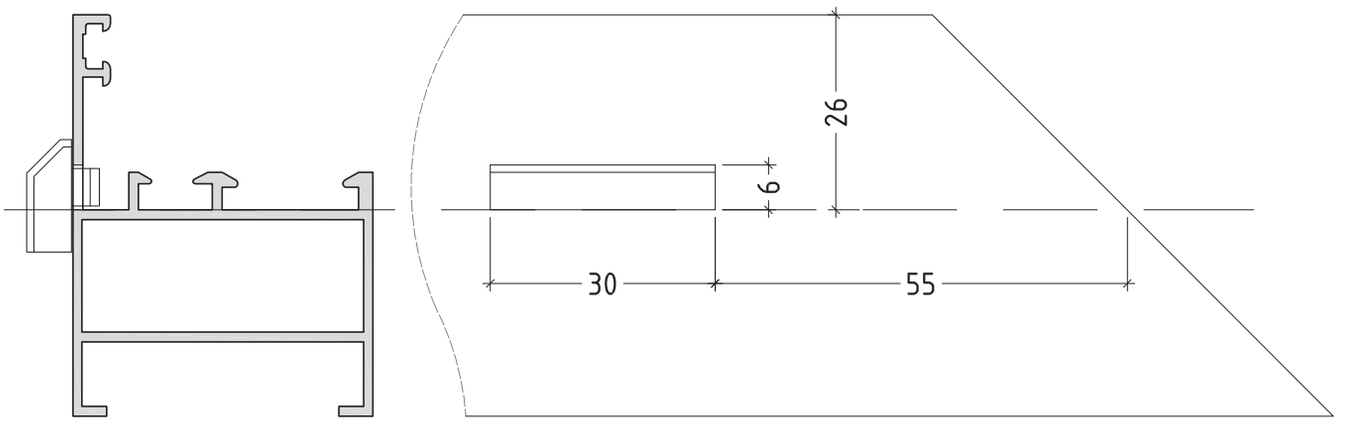


ET 074206.00

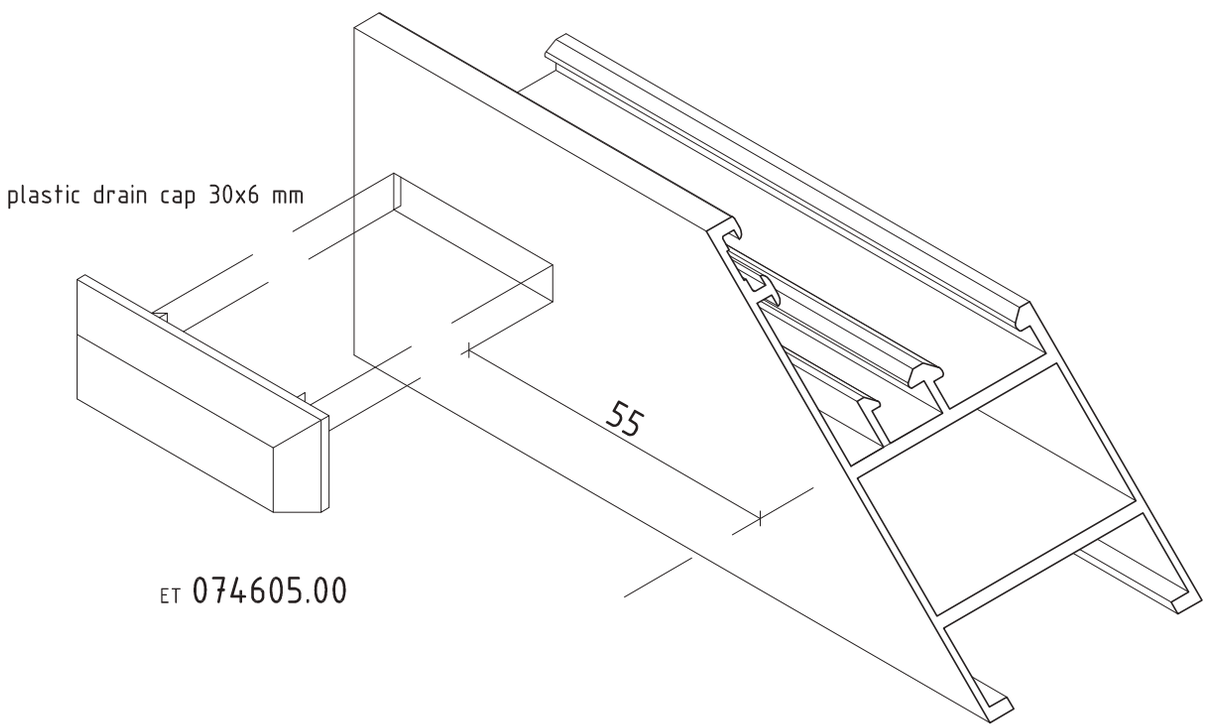
scale : 1:1

D1000-05

machining for drainage and plastic cap – ET 074605.00



E1100

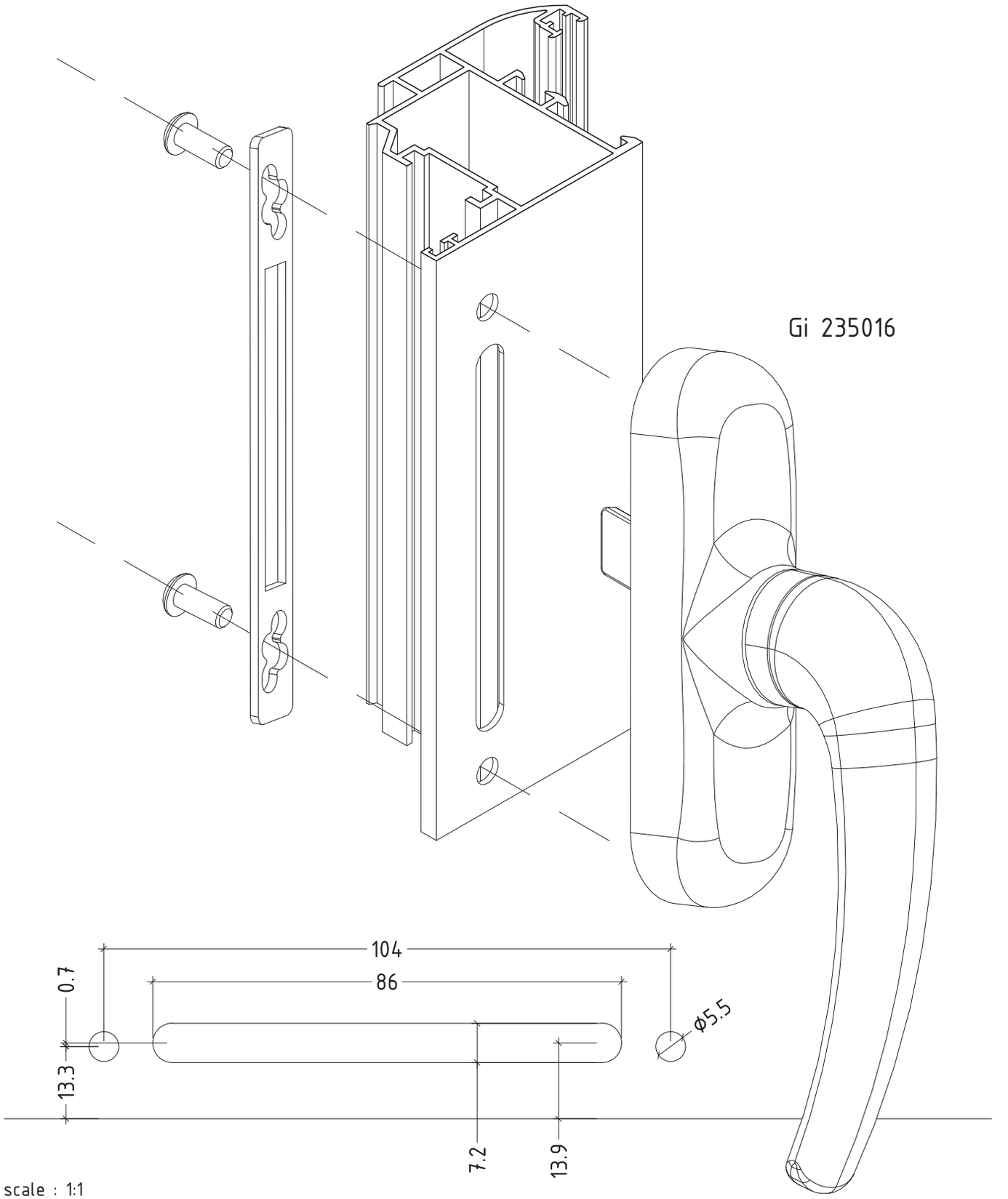


ET 074605.00

D1000-05.1

scale : 1:1

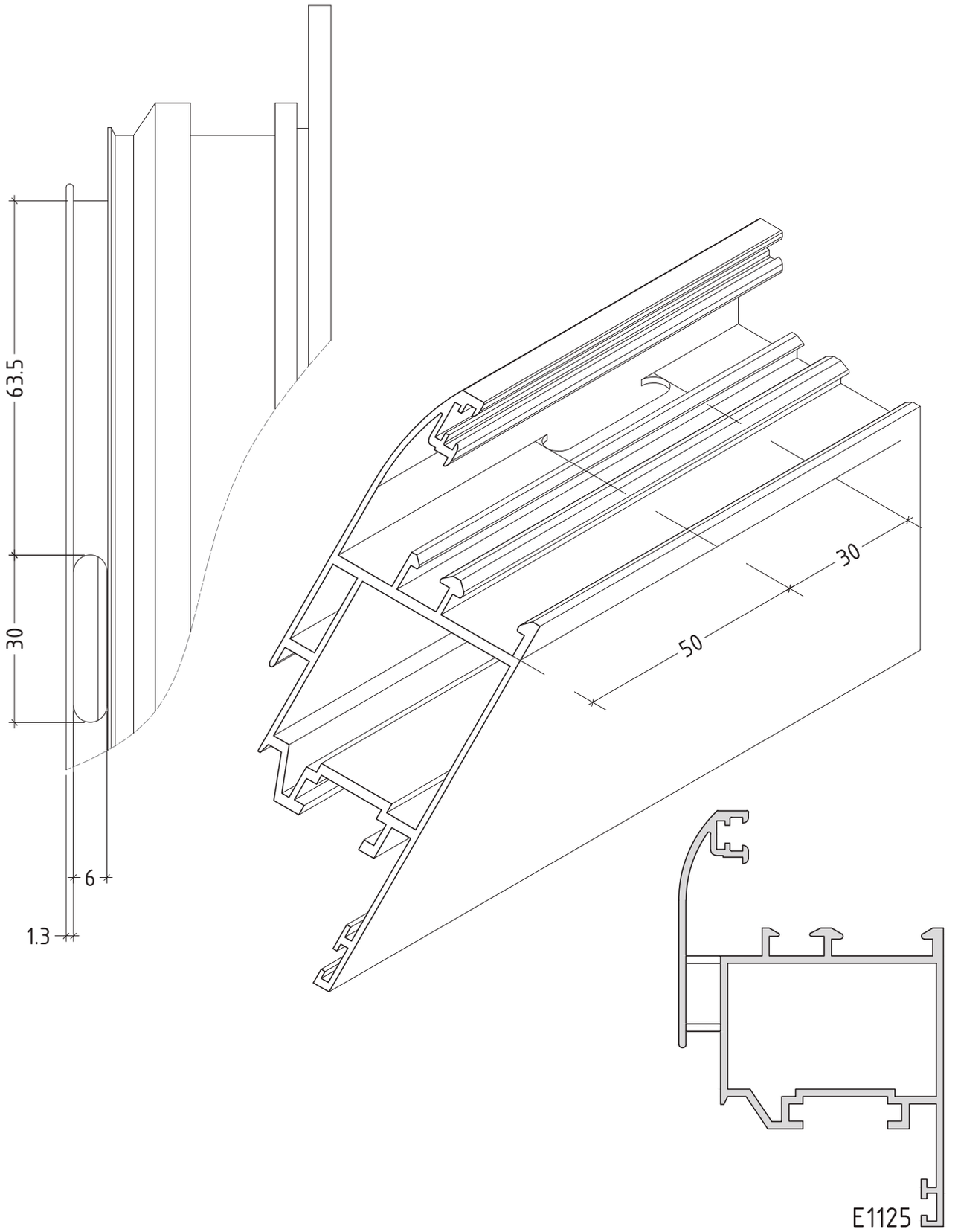
machining for window handle



scale : 1:1

D1000-06

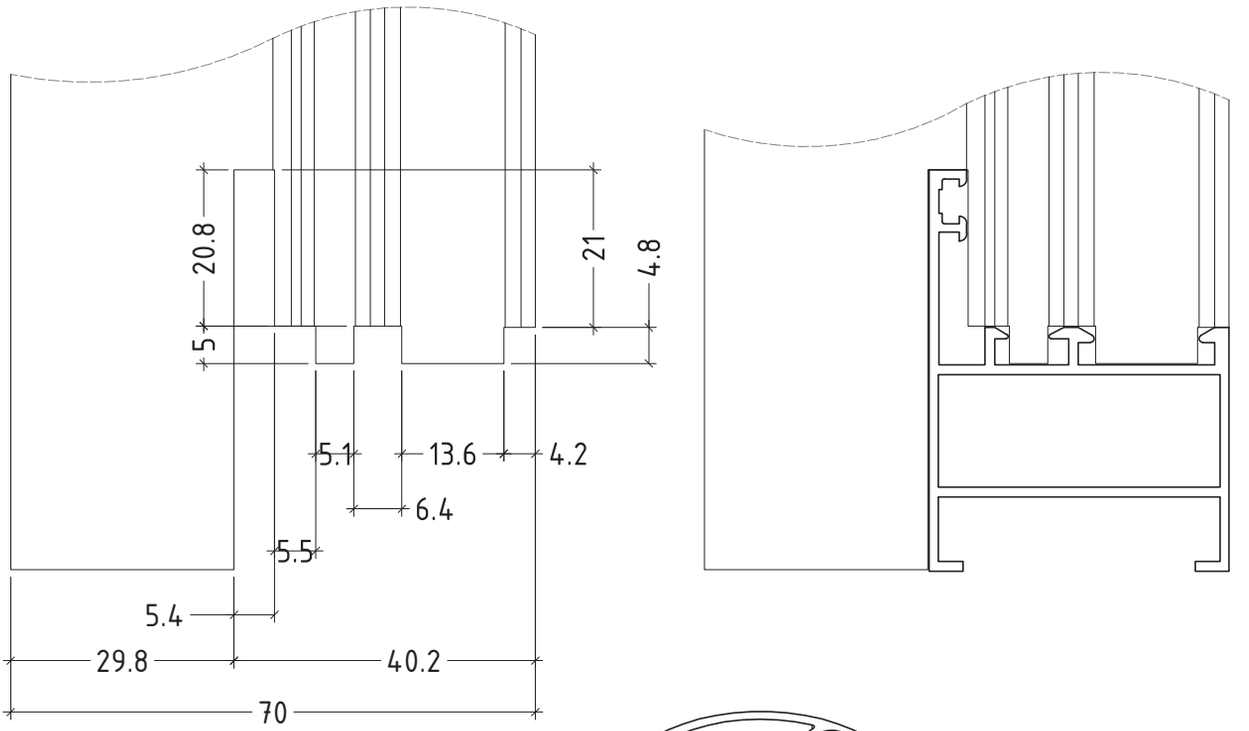
machining for drainage on sash

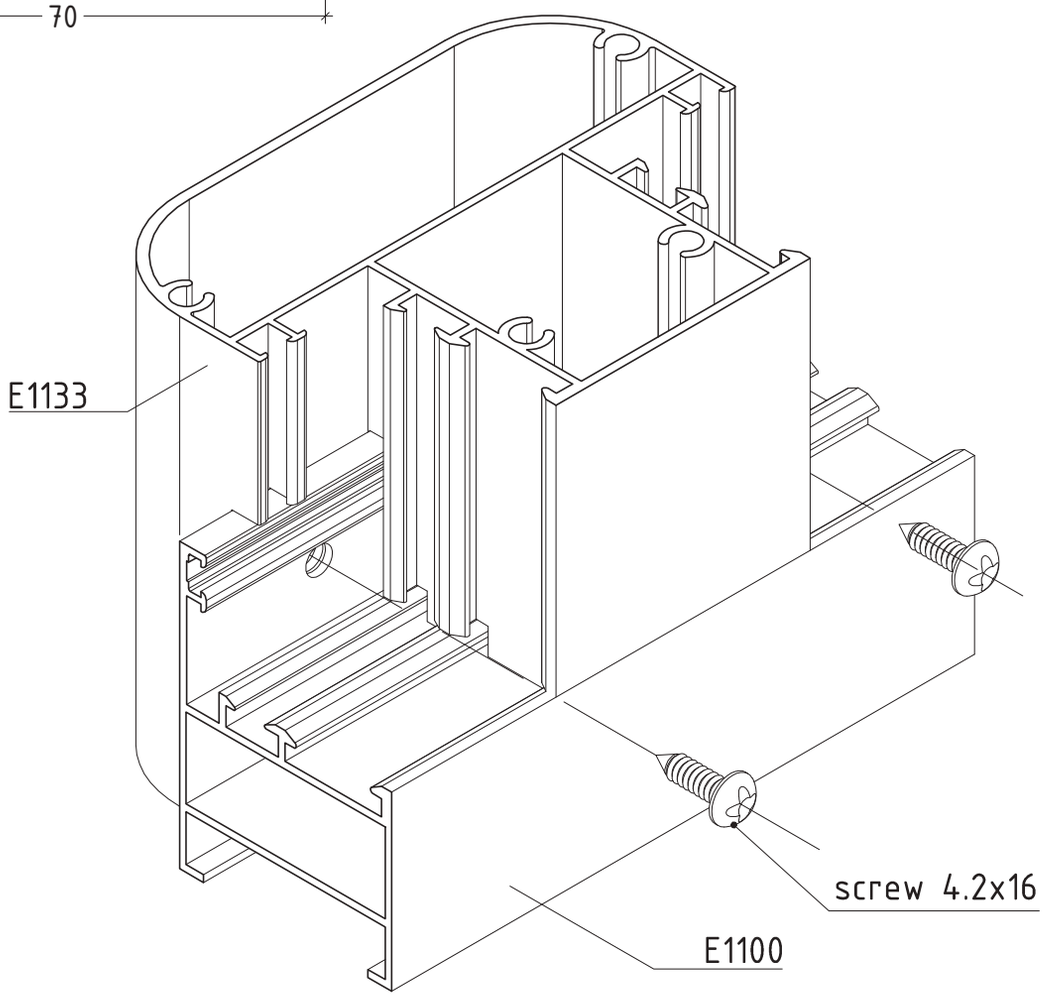


scale : 1:1

D1000-07

machining to use E1133 profile

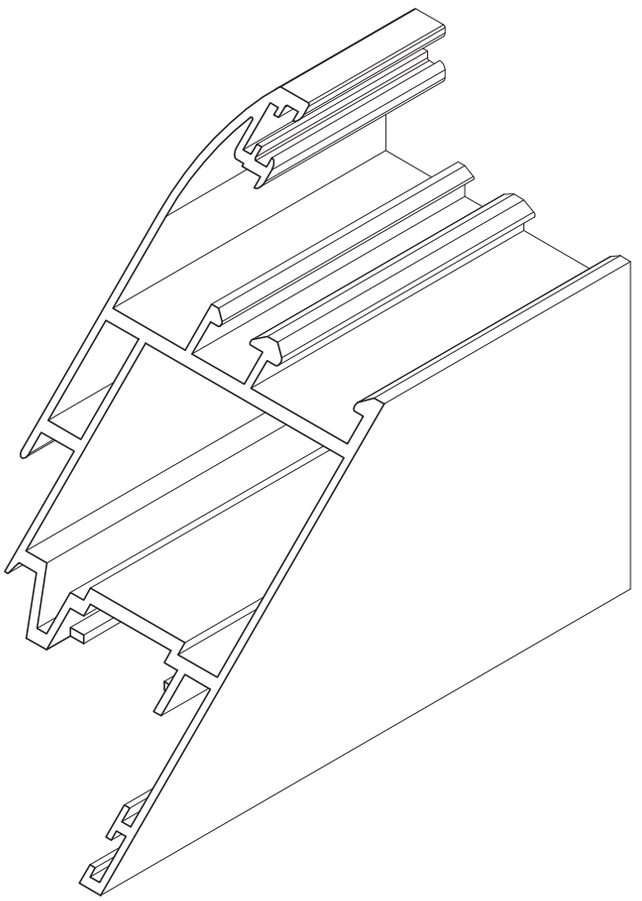


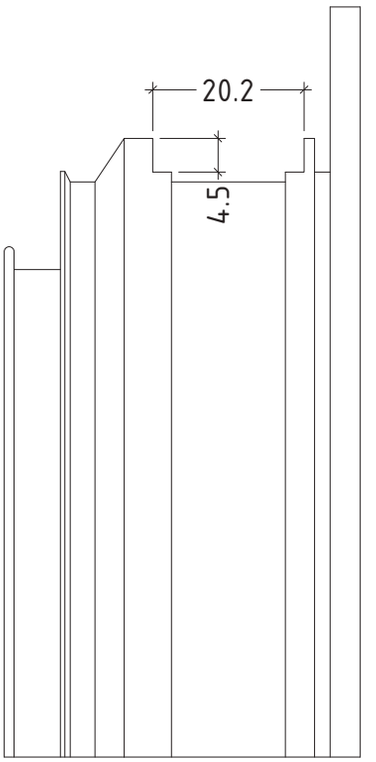


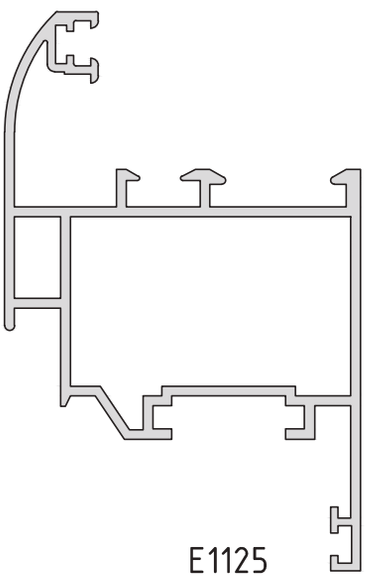
scale : 1:1

D1000-08

machining for connecting rod



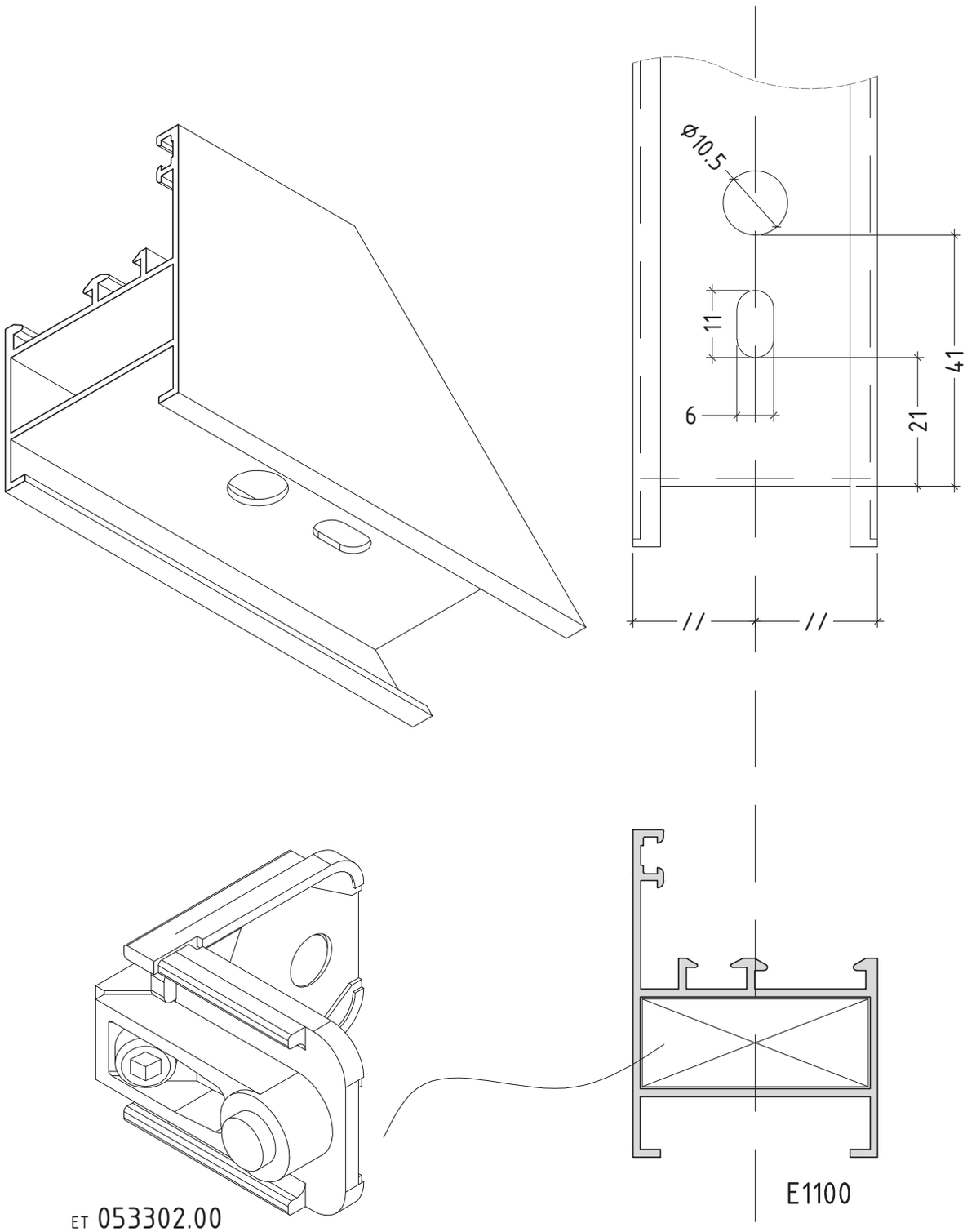




scale : 1:1

D1000-09

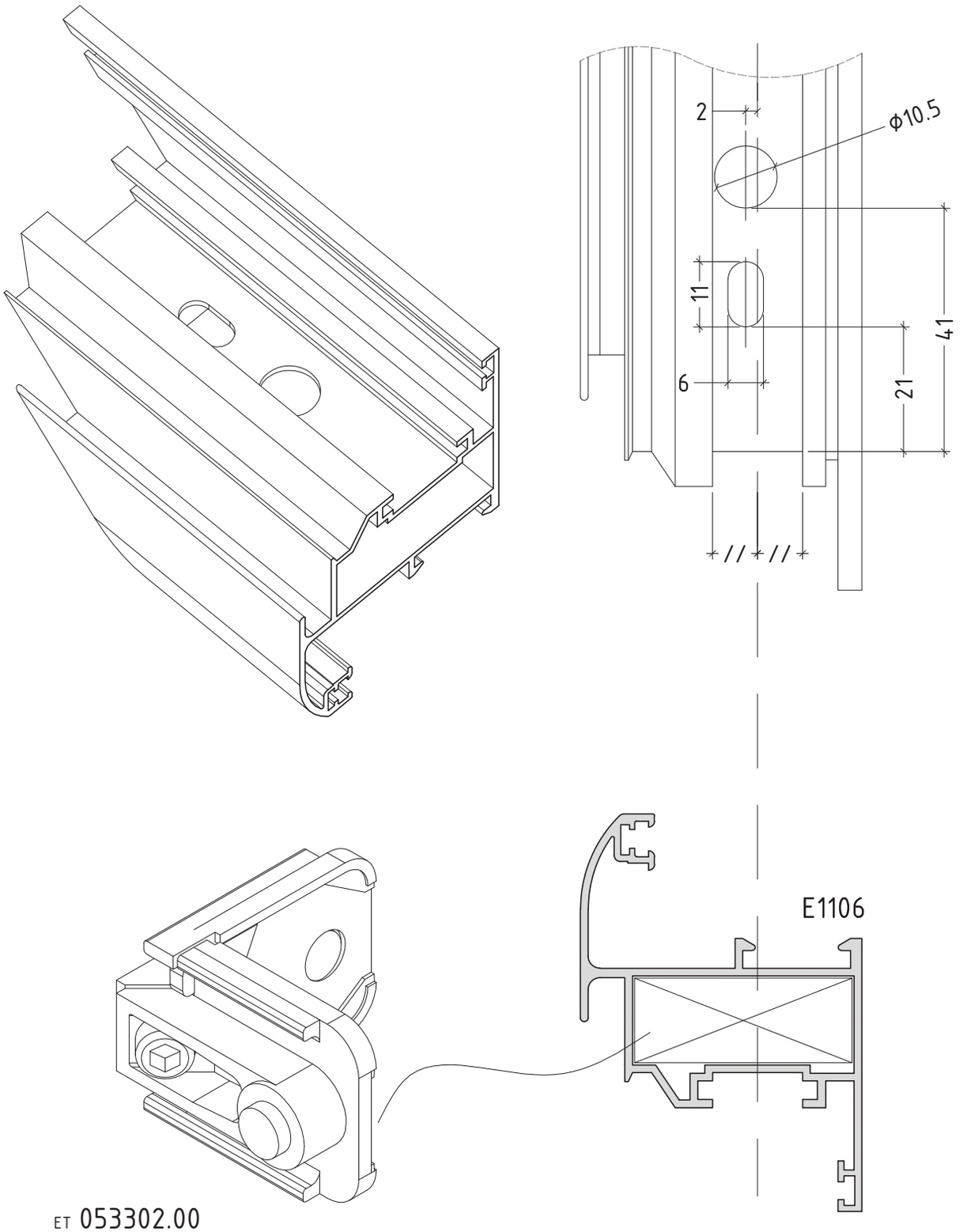
die cust al. joint corner bracket



scale : 1:1

D1000-10

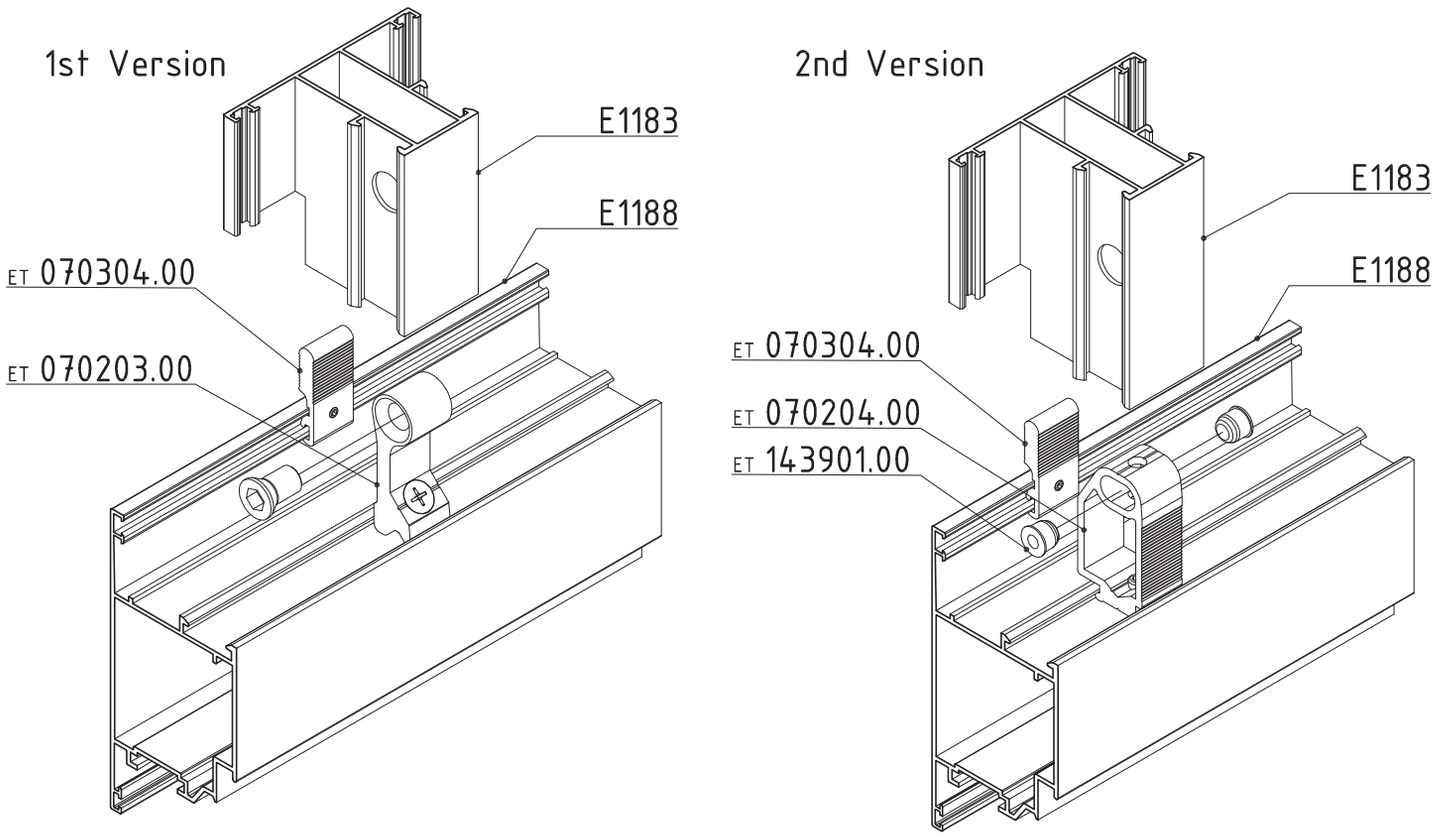
die cust al. joint corner bracket

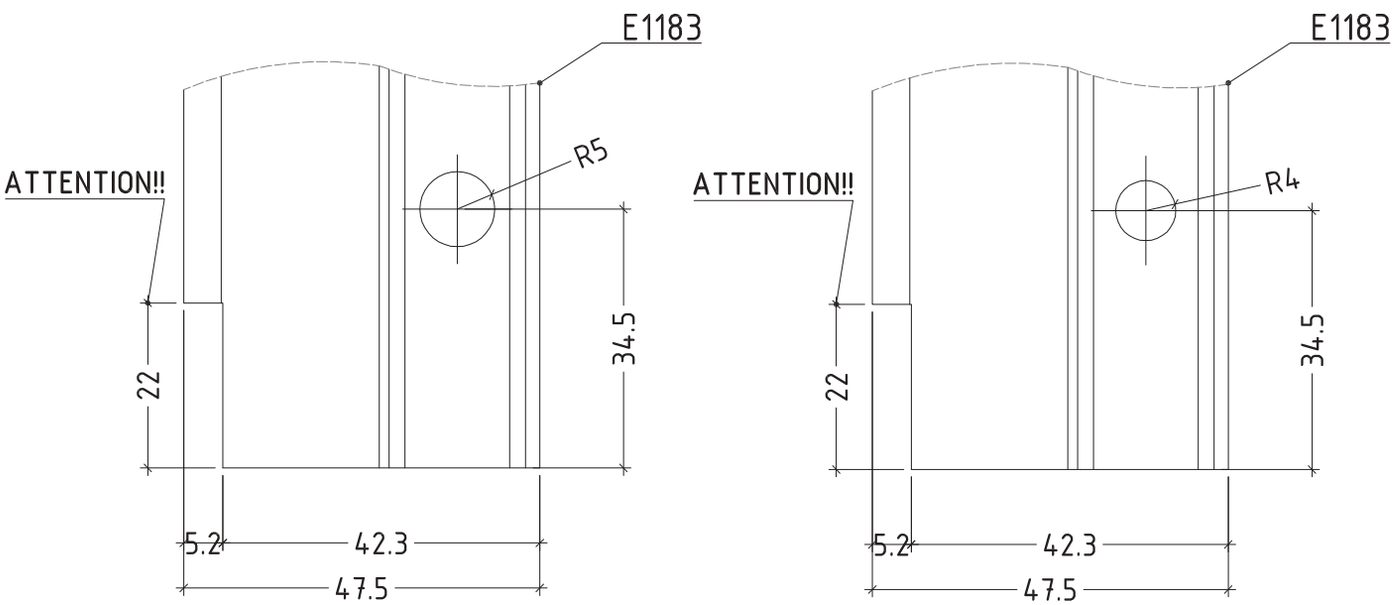


scale : 1:1

D1000-11

Fixing scheme for T-prolile E1183
Scheme for fixing of T-profile E1183 to sash E1188



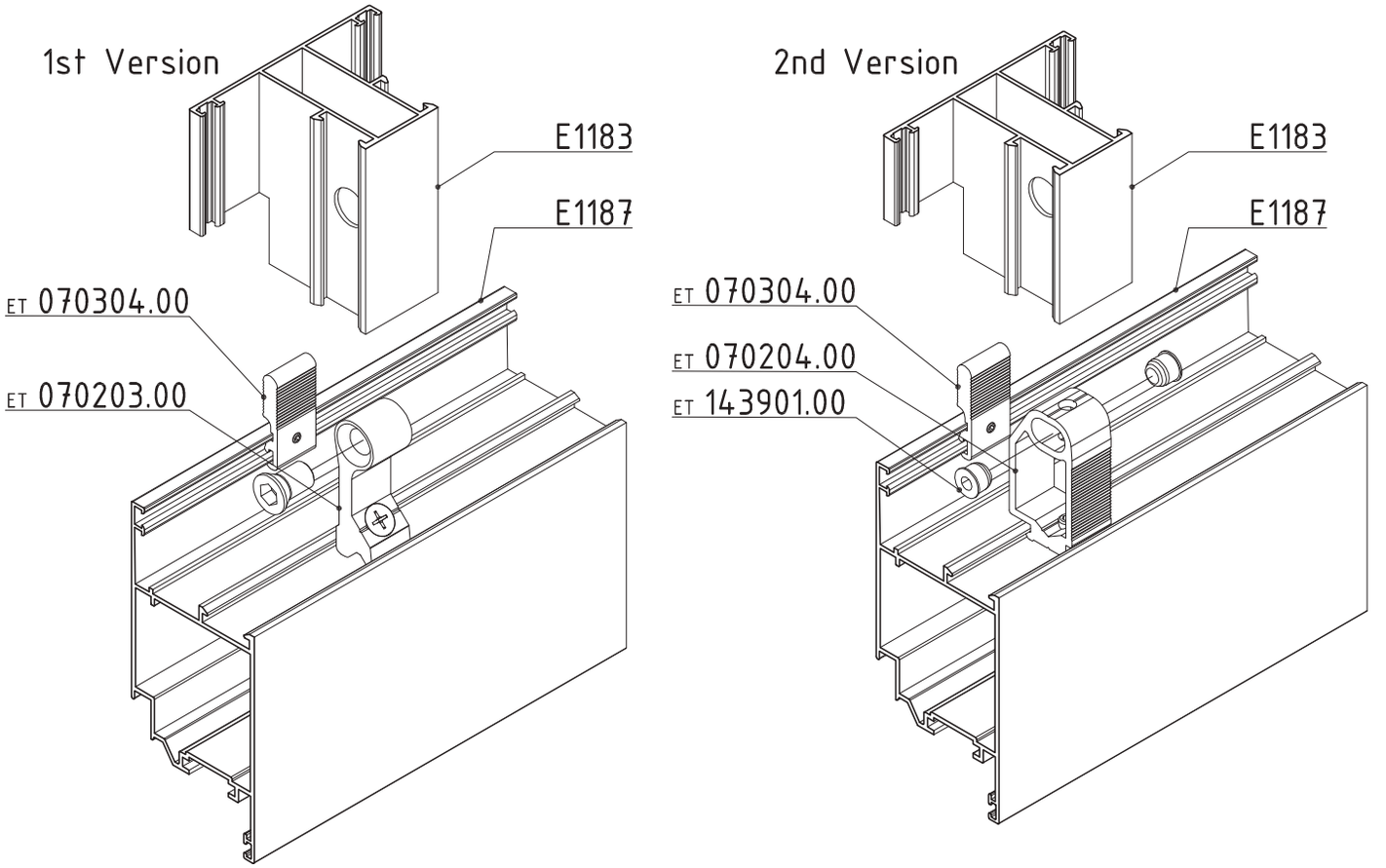


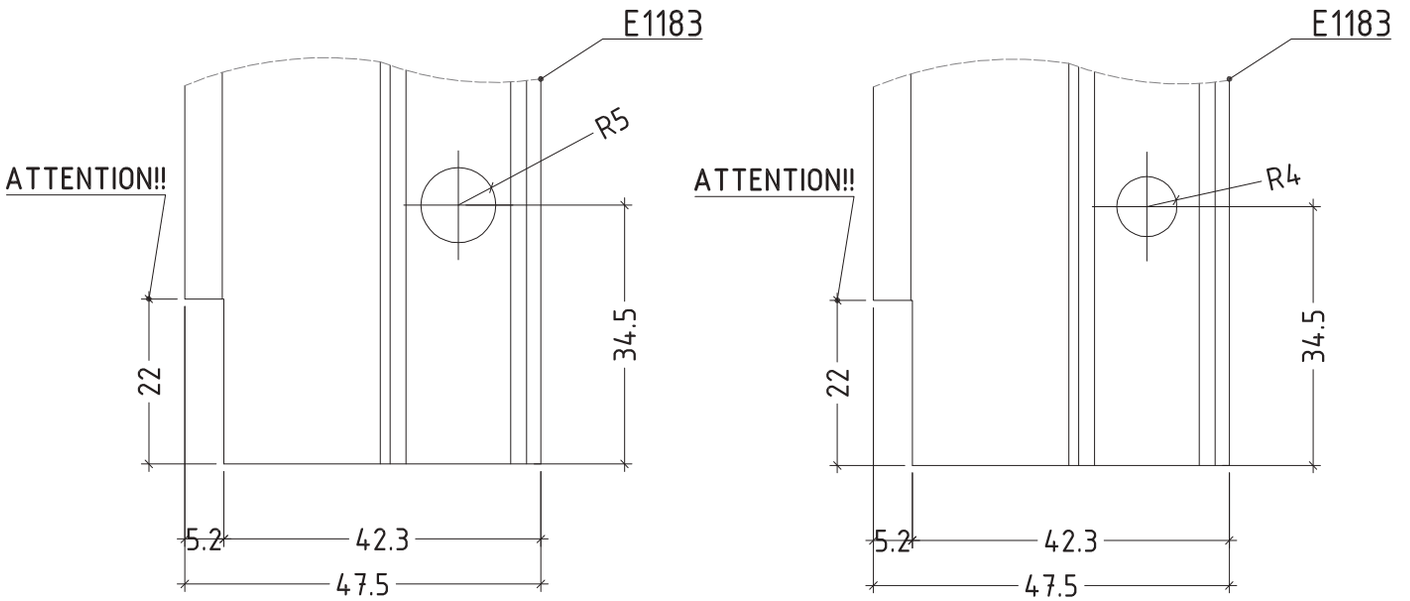
T-prolile processing

scale : 1:1

D1000-12

Scheme for fixing of T-profile E1183 to Z sash E1188 with brackets



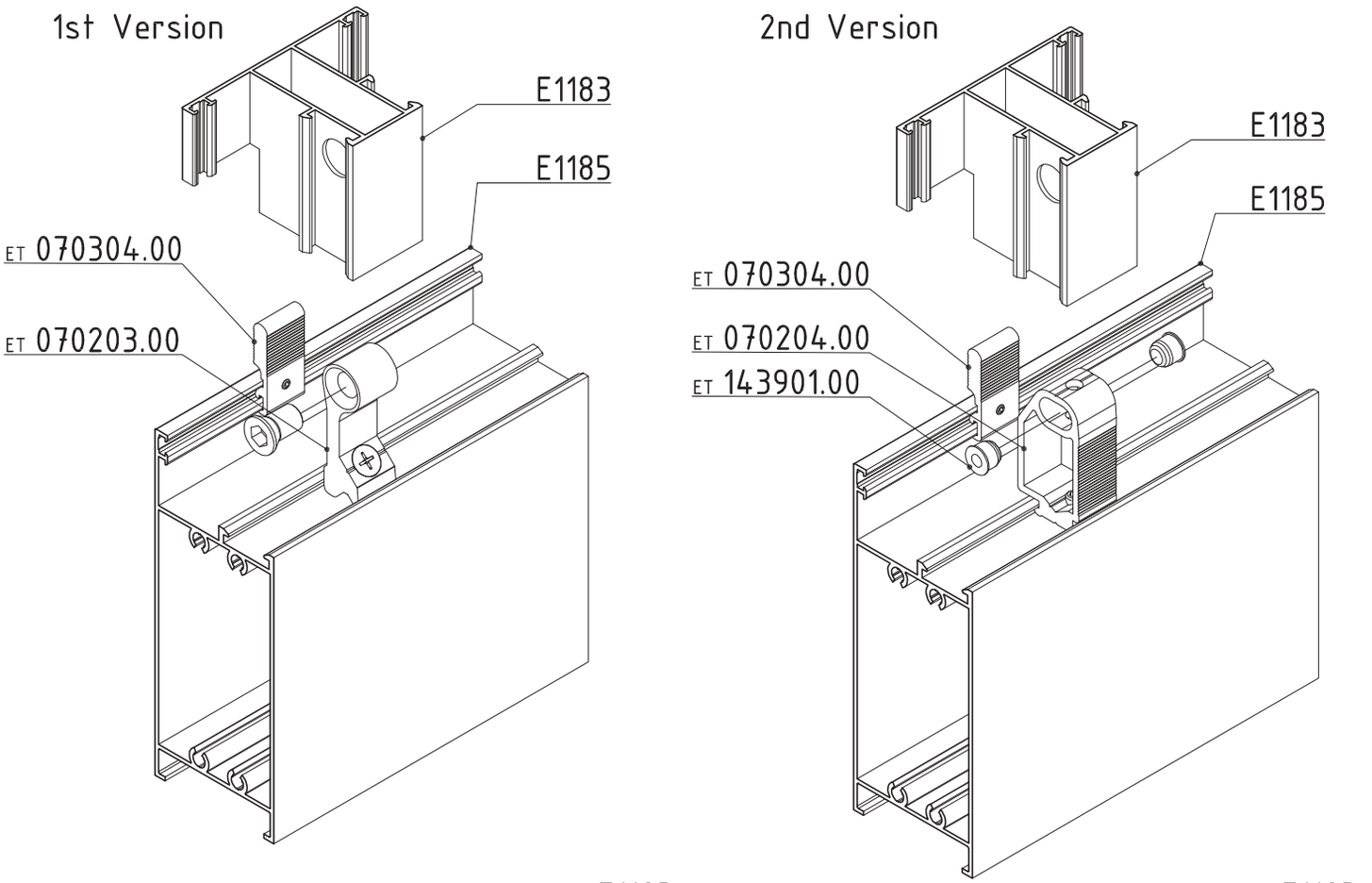


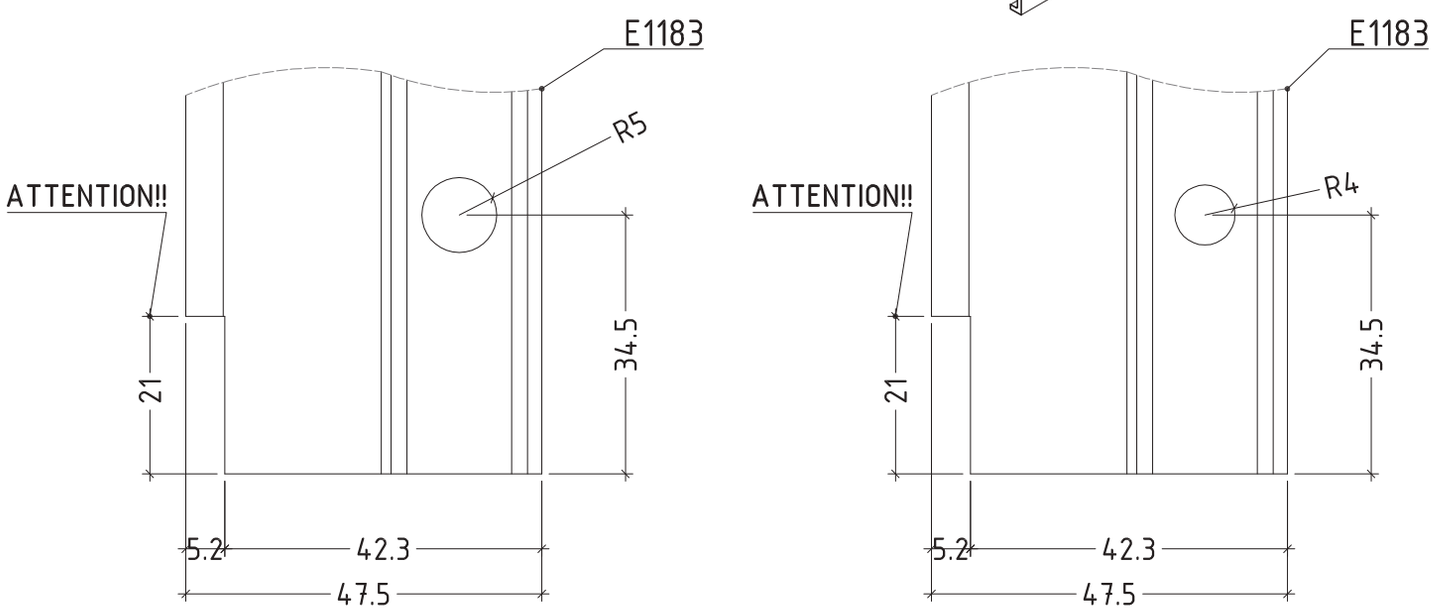
T-prolile processing

scale : 1:1

D1000-13

Scheme for fixing of T-profile E1183 to door bottom rail E1185





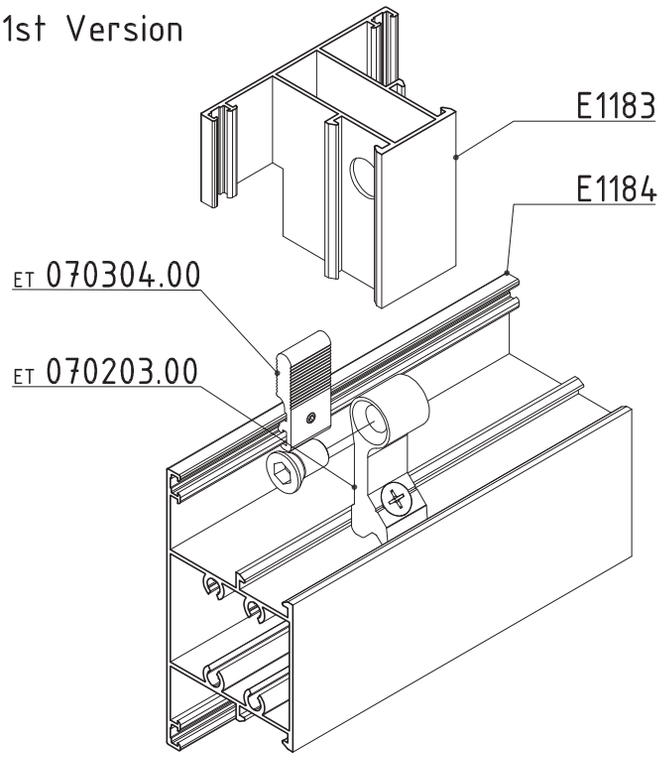
T-prolile processing

scale : 1:1

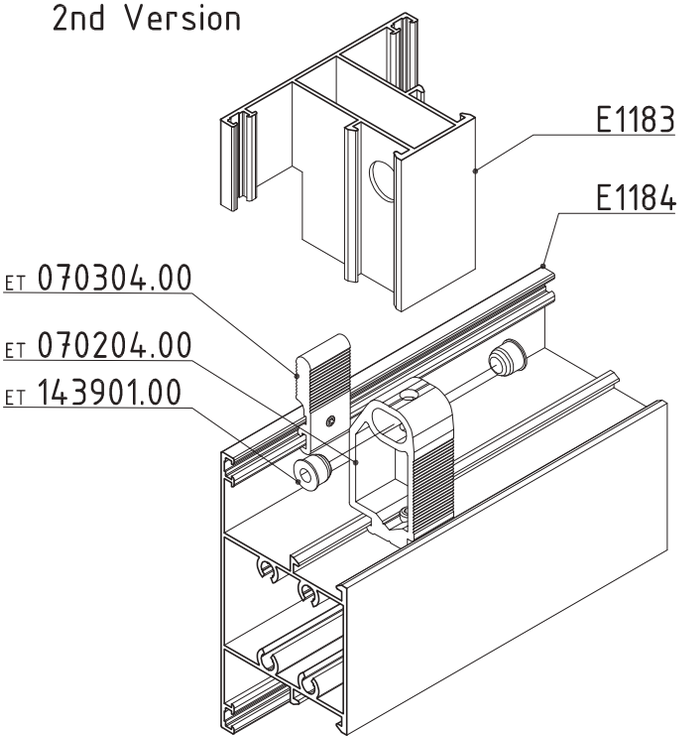
D1000-14

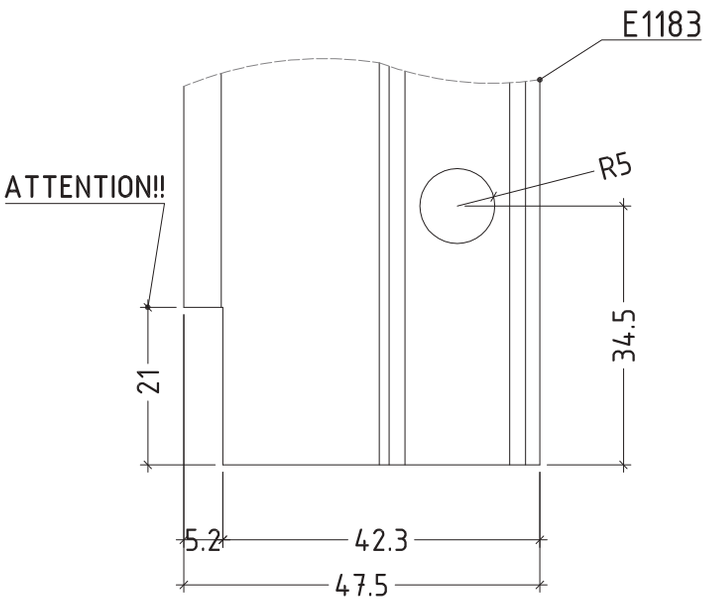
Scheme for fixing of T-profile E1183 to T-profile E1184

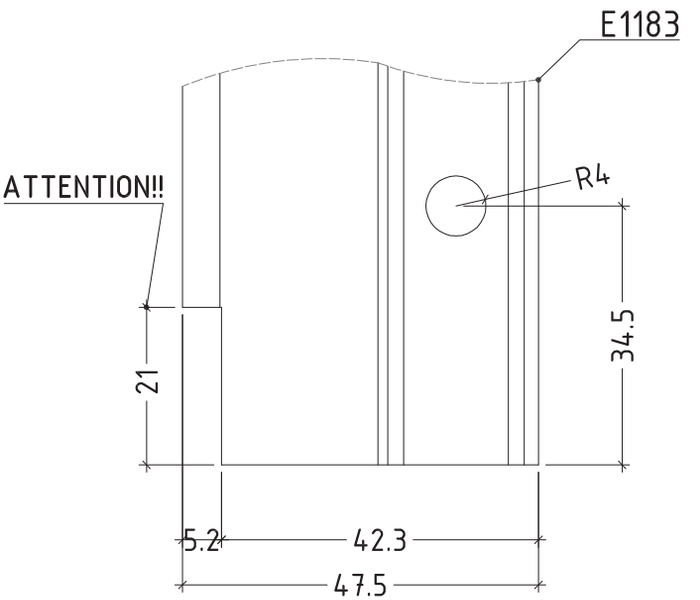
1st Version



2nd Version





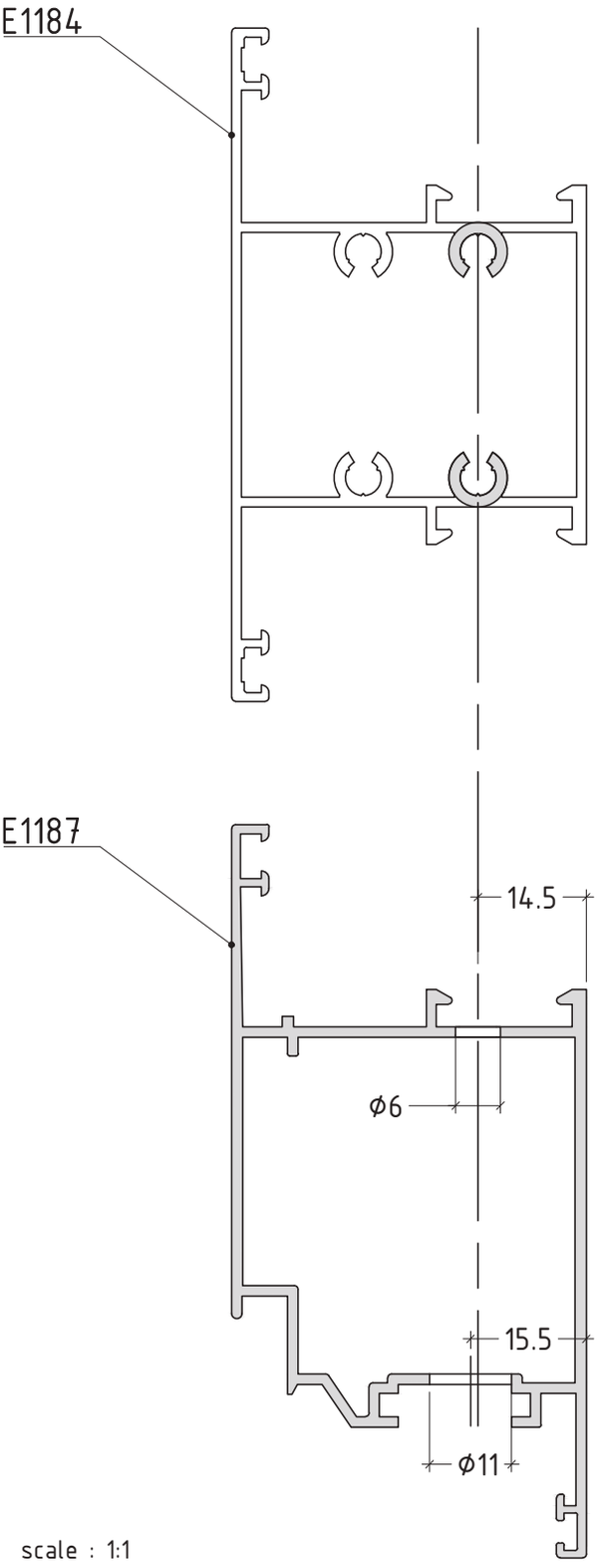


T-prolile processing

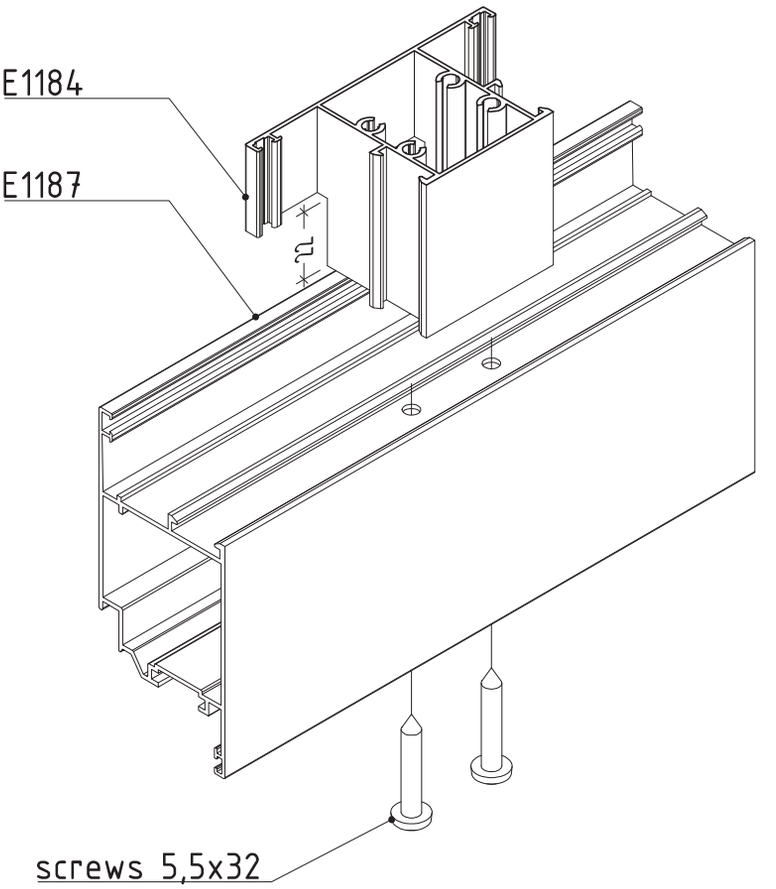
scale : 1:1

D1000-15

Fixing scheme for T-profile E1184
Scheme for fixing of T-profile E1184 to sash E1187



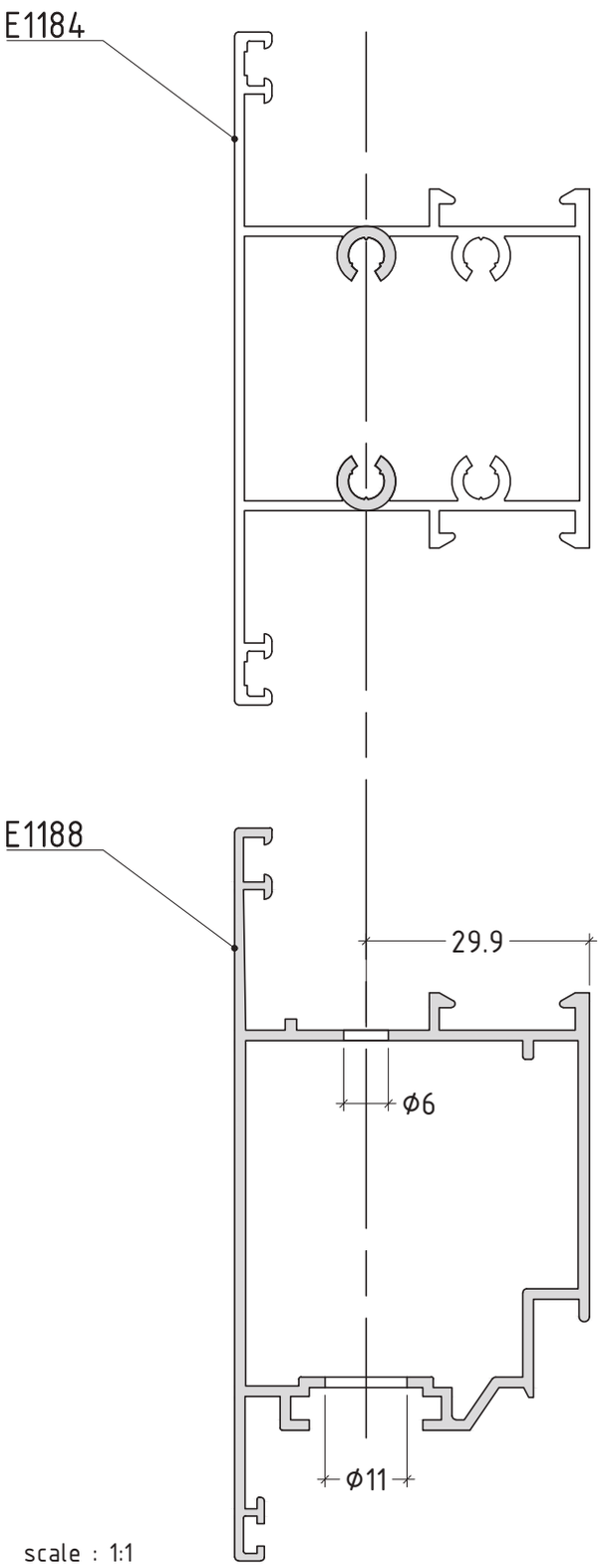
scale : 1:1



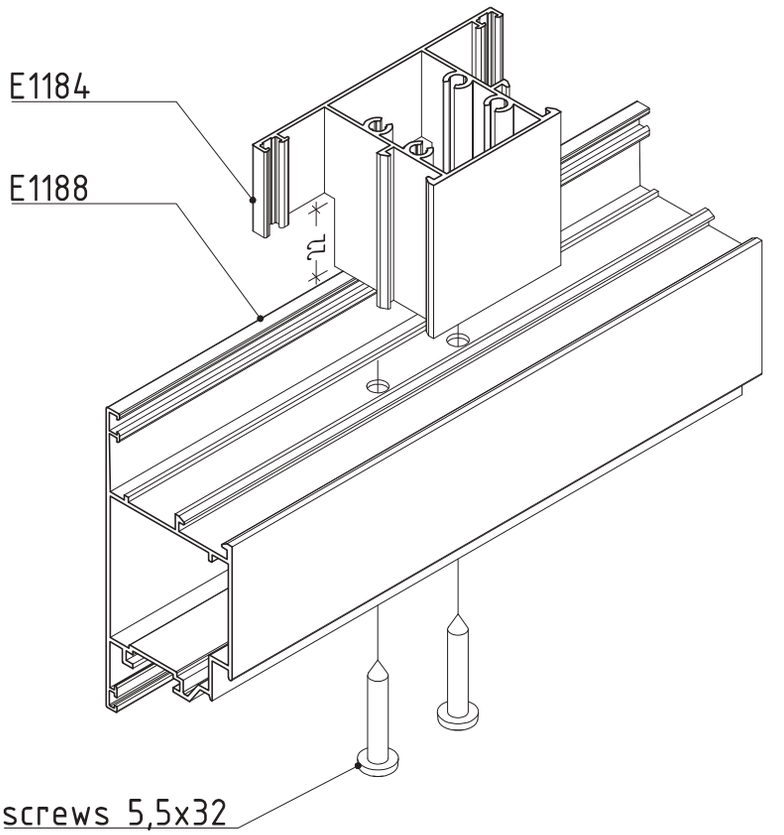
Drilling of sash E1187

D1000-16

Fixing scheme for T-profile E1184
Scheme for fixing of T-profile E1184 to sash E1188



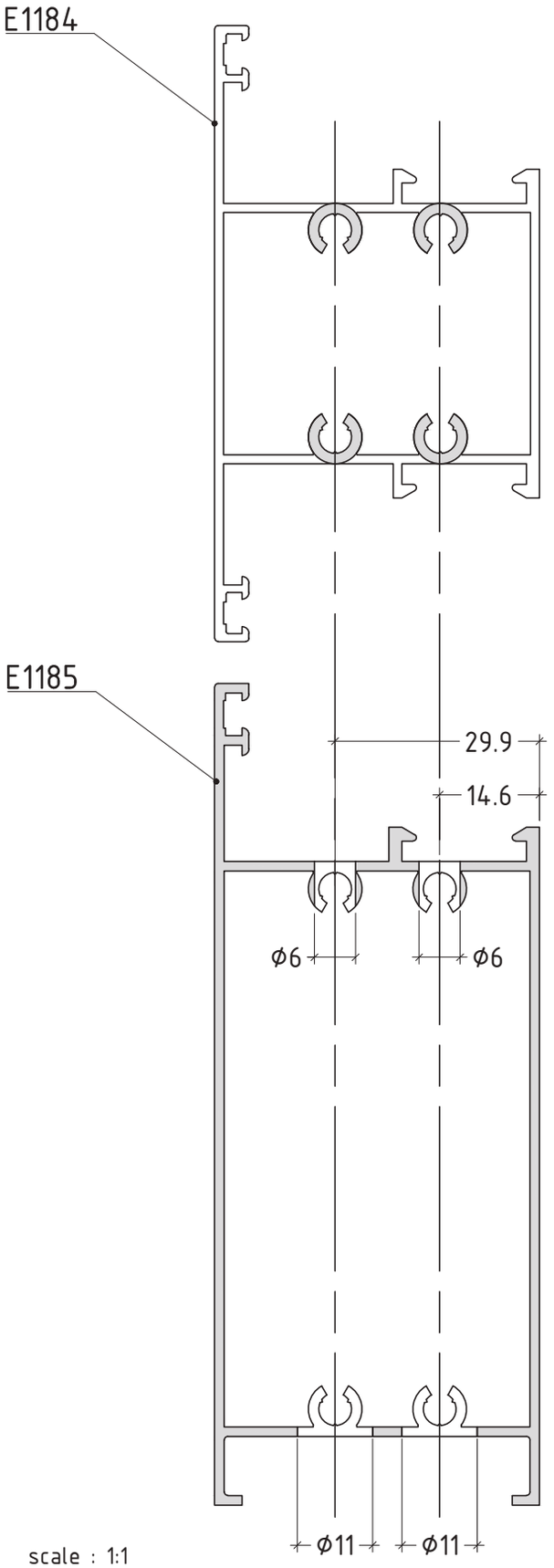
scale : 1:1



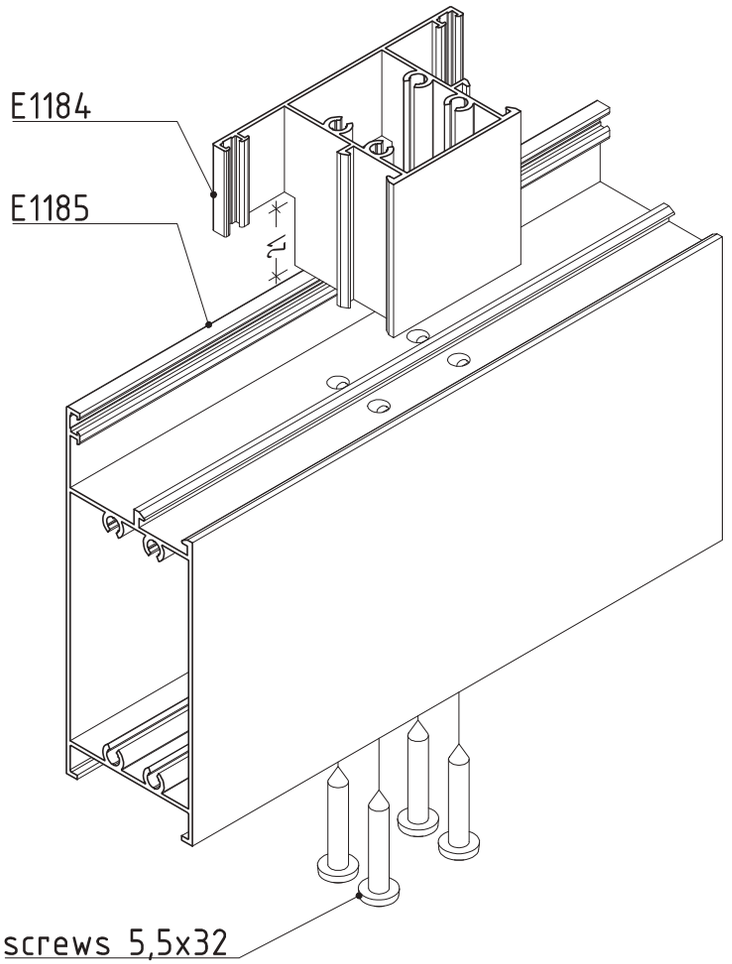
Drilling of sash E1188

D1000-17

Hole scheme for fixing of T-profile E1184 to door bottom rail E1185



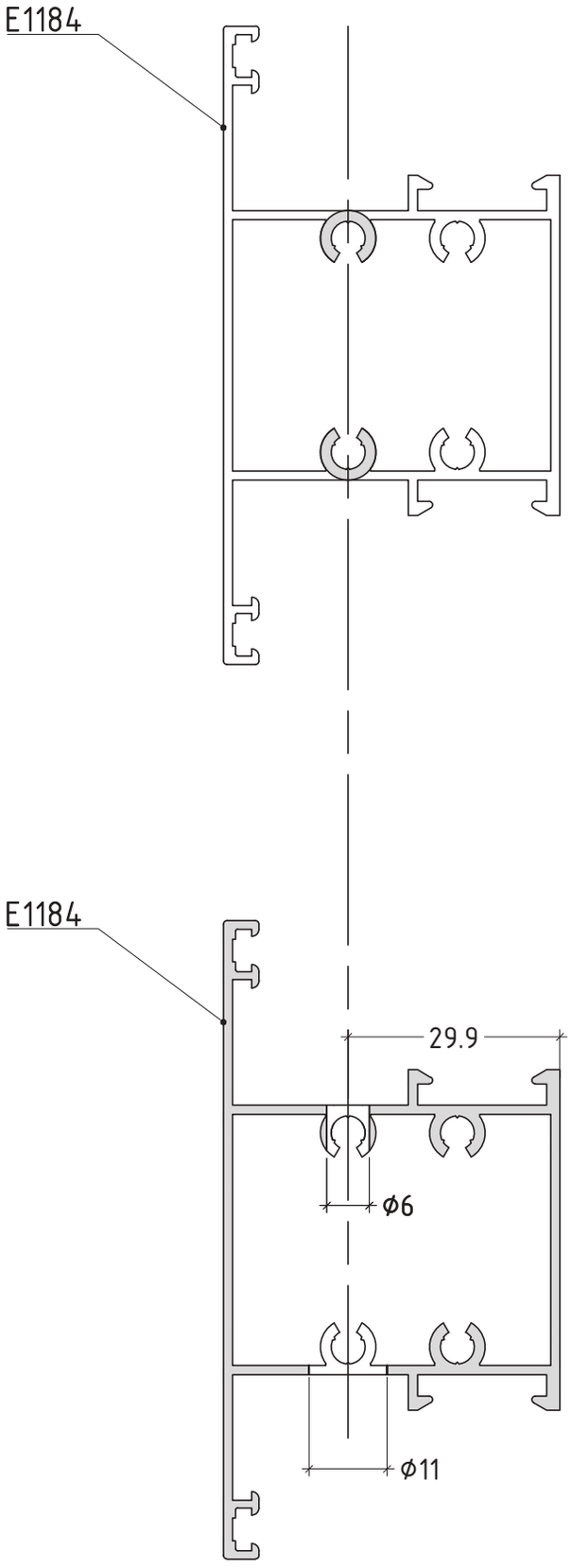
scale : 1:1



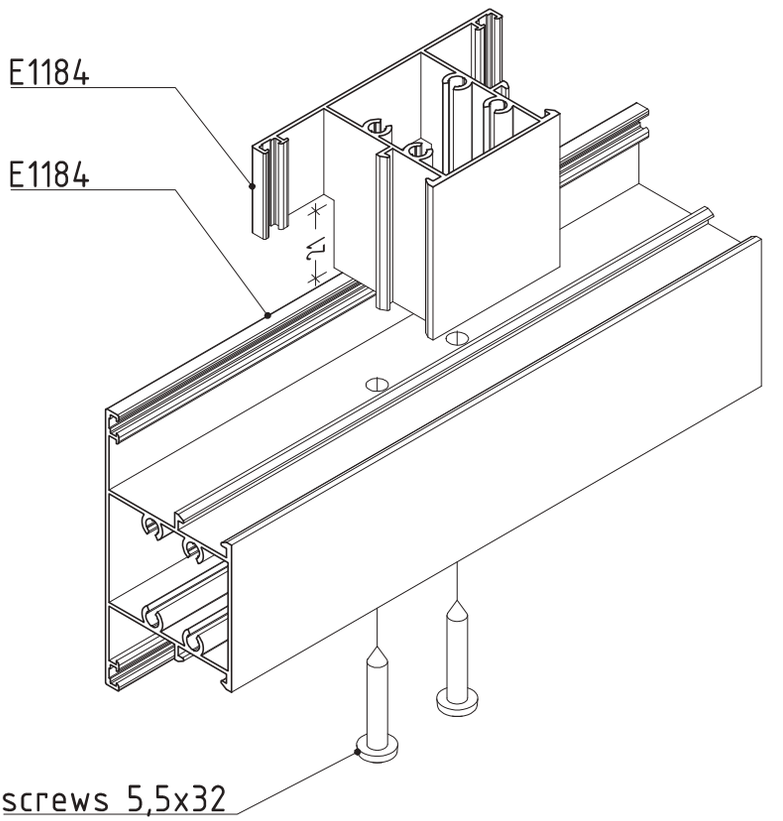
Drilling of door bottom rail E1185

D1000-18

Hole scheme for fixing of T-profile E1184 to T-profile E1184



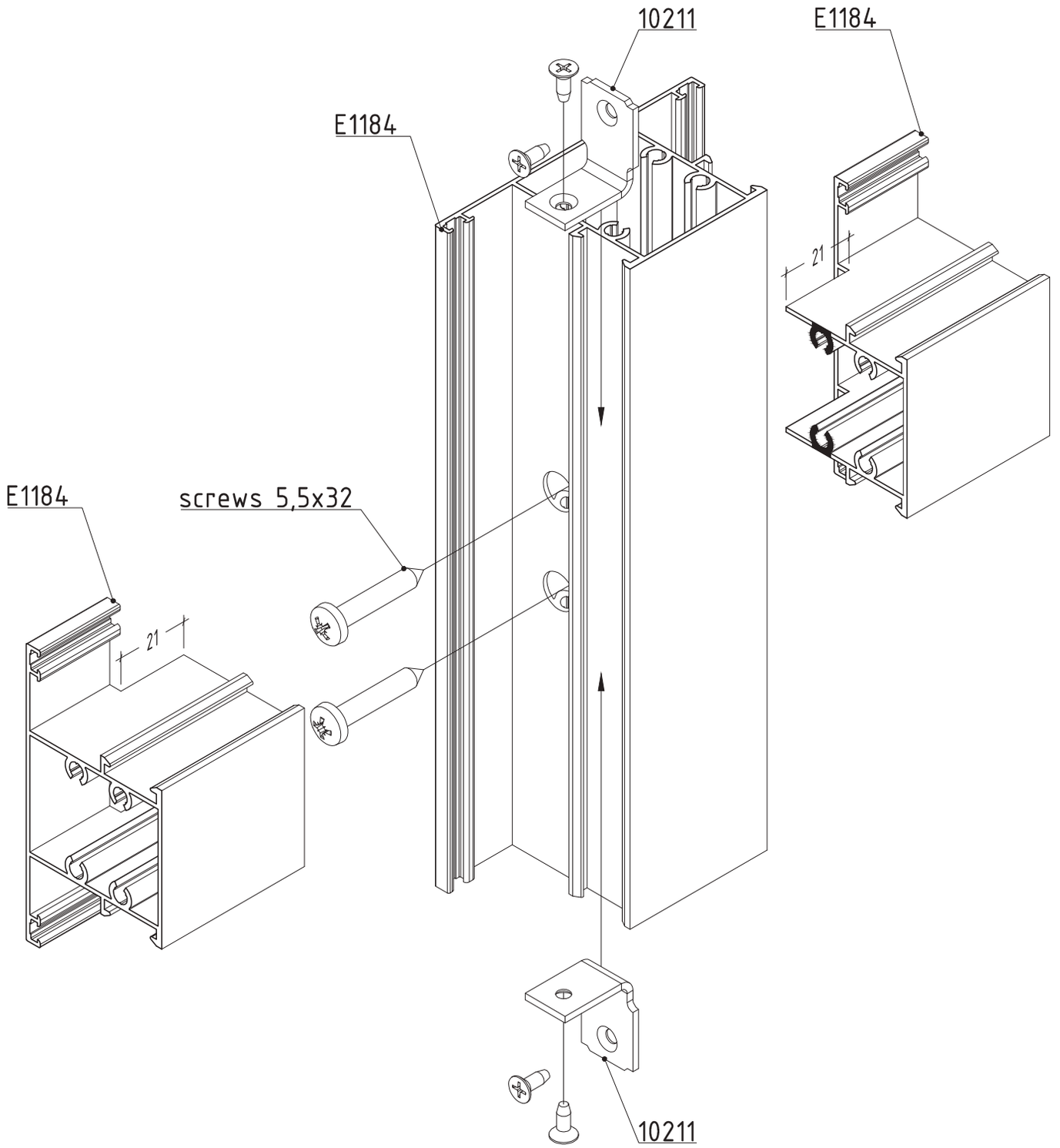
scale : 1:1



Drilling of T-profile E1184

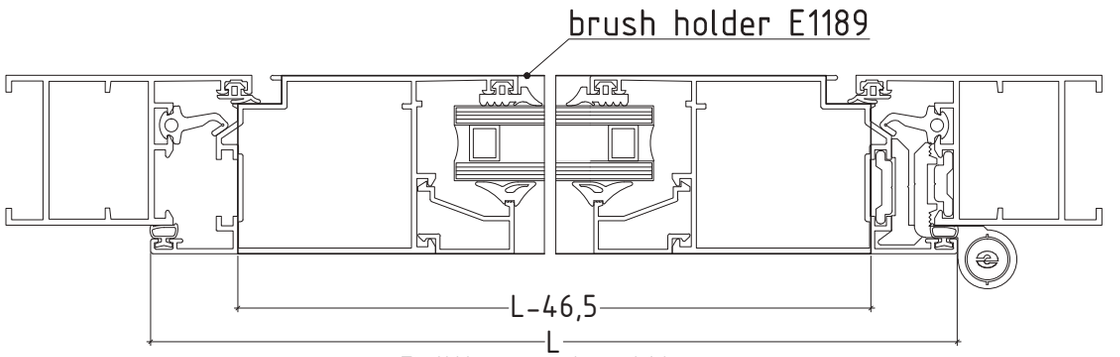
D1000-19

Fitting two horizontal profiles to a vertical profile

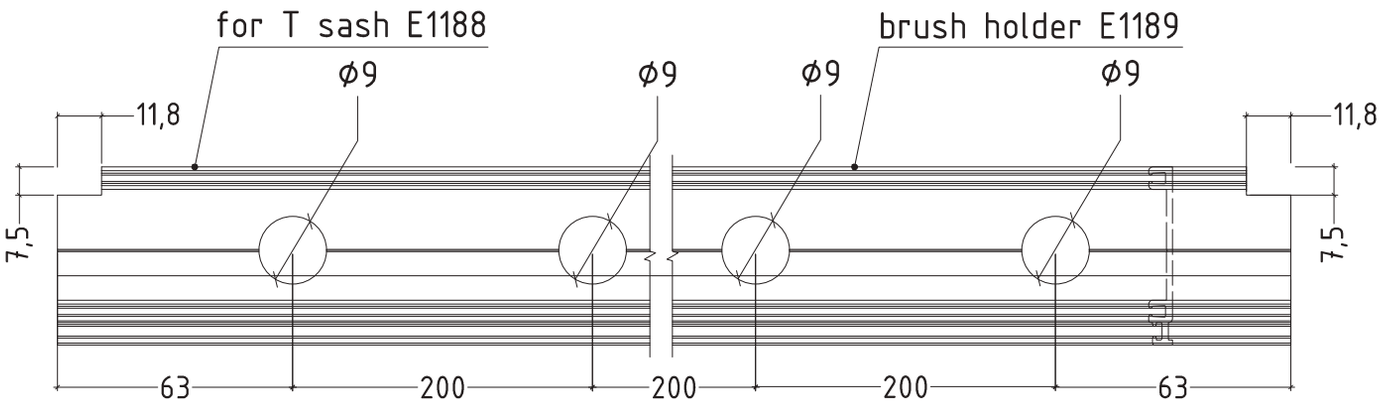


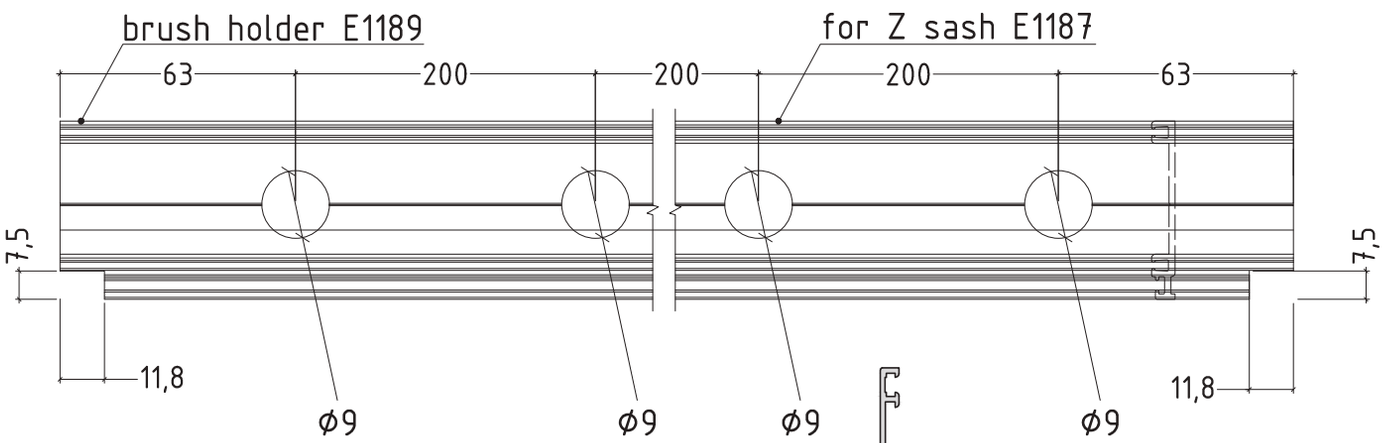
D1000-20

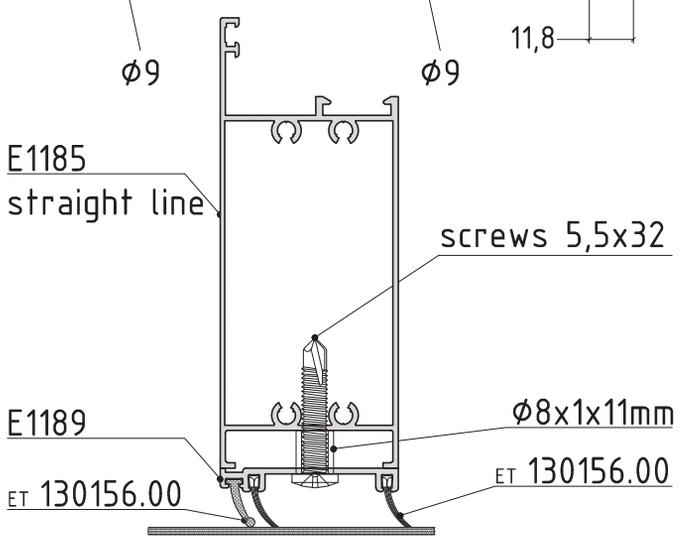
Sequence of mounting of brush holder E1189



Drilling and cutting

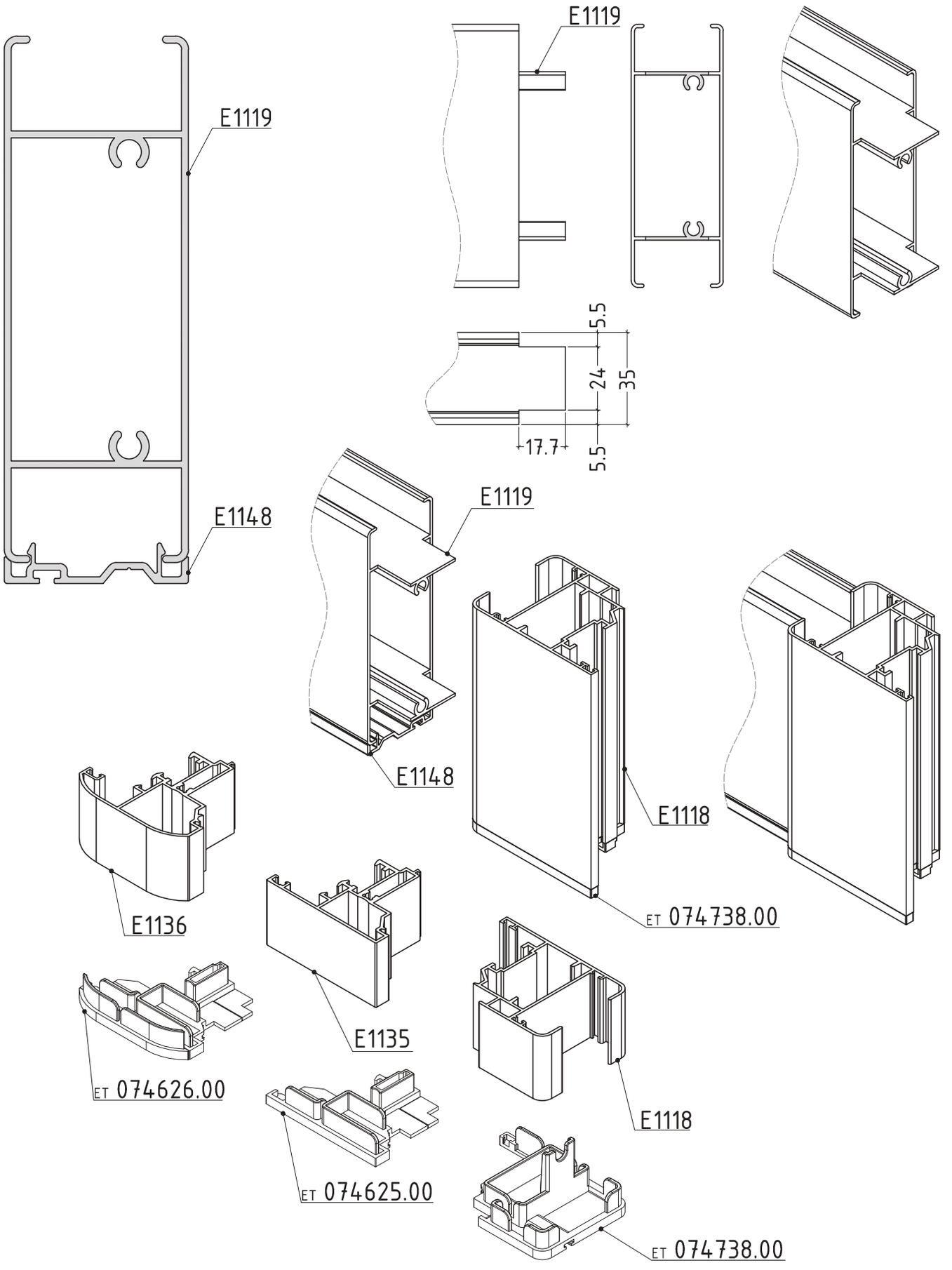






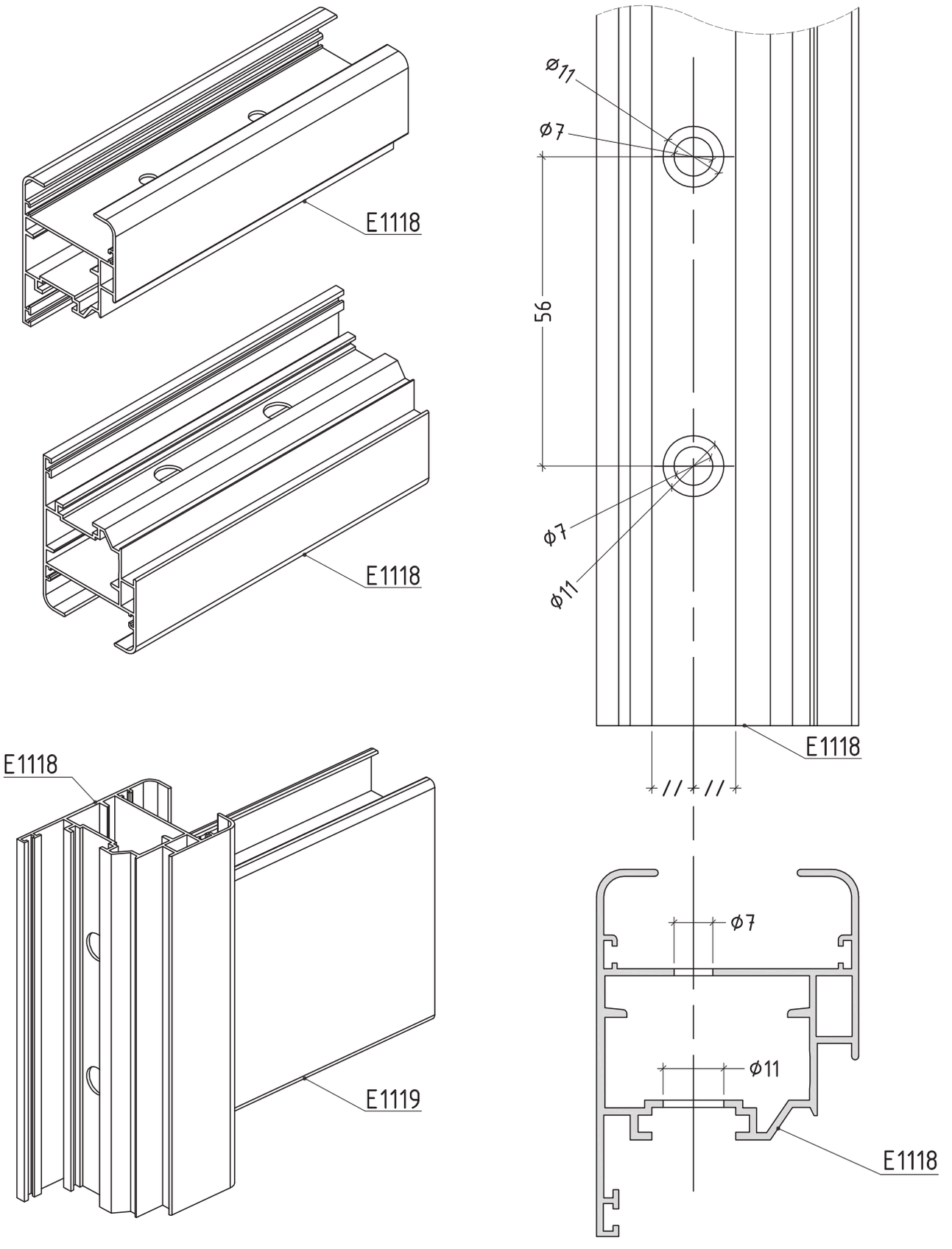
scale 1:2

D1000-21

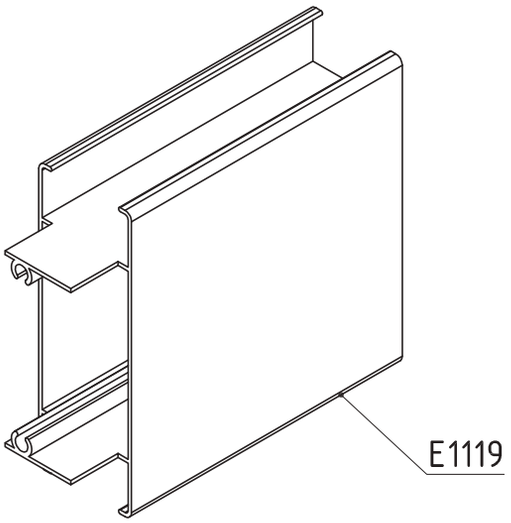

E1119
E1148
E1119
5.5
24
35
17.7
5.5
E1119
E1148
E1118
E1136
E1135
ET 074738.00
ET 074626.00
E1118
ET 074625.00
ET 074738.00

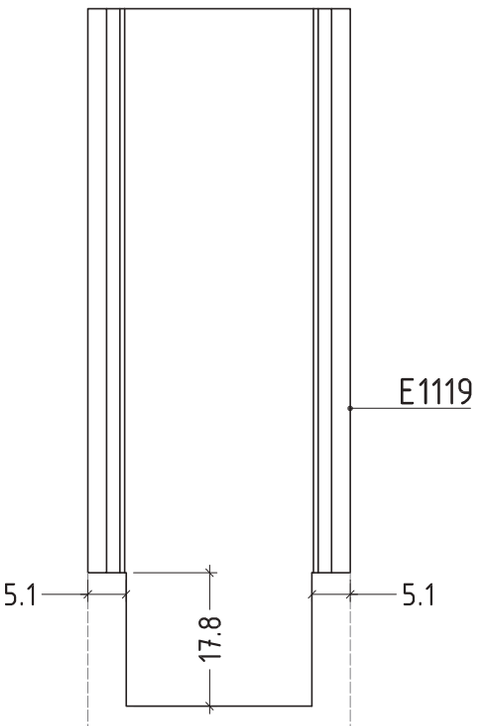
D1000-22

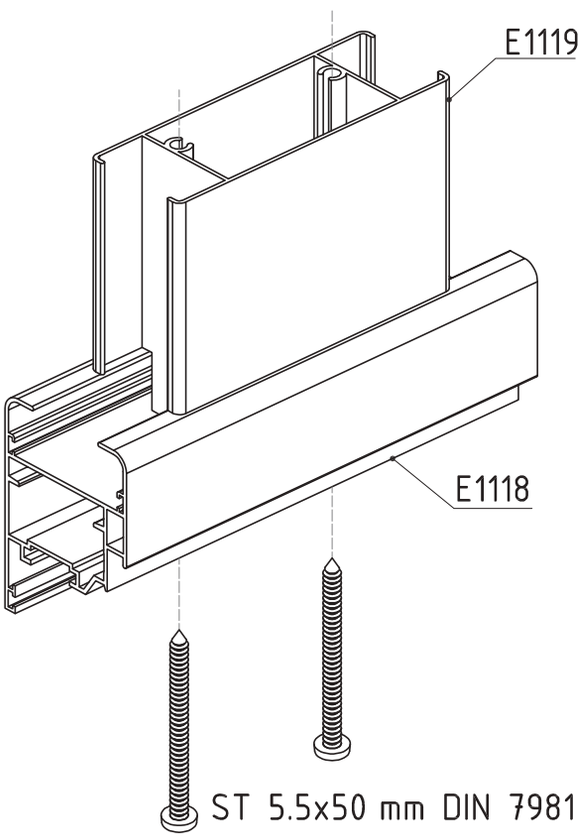
machining on E1118 so that to fix E1119

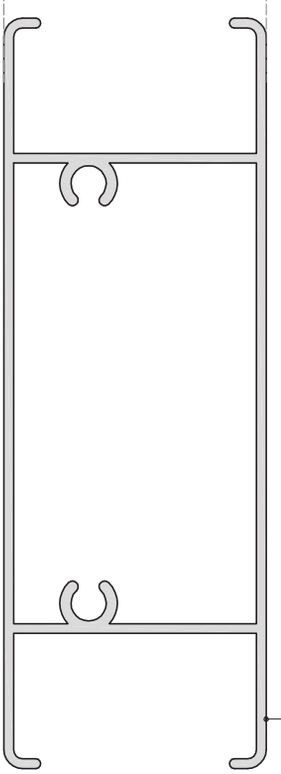


machining on E1119 so that to fix sash E1118

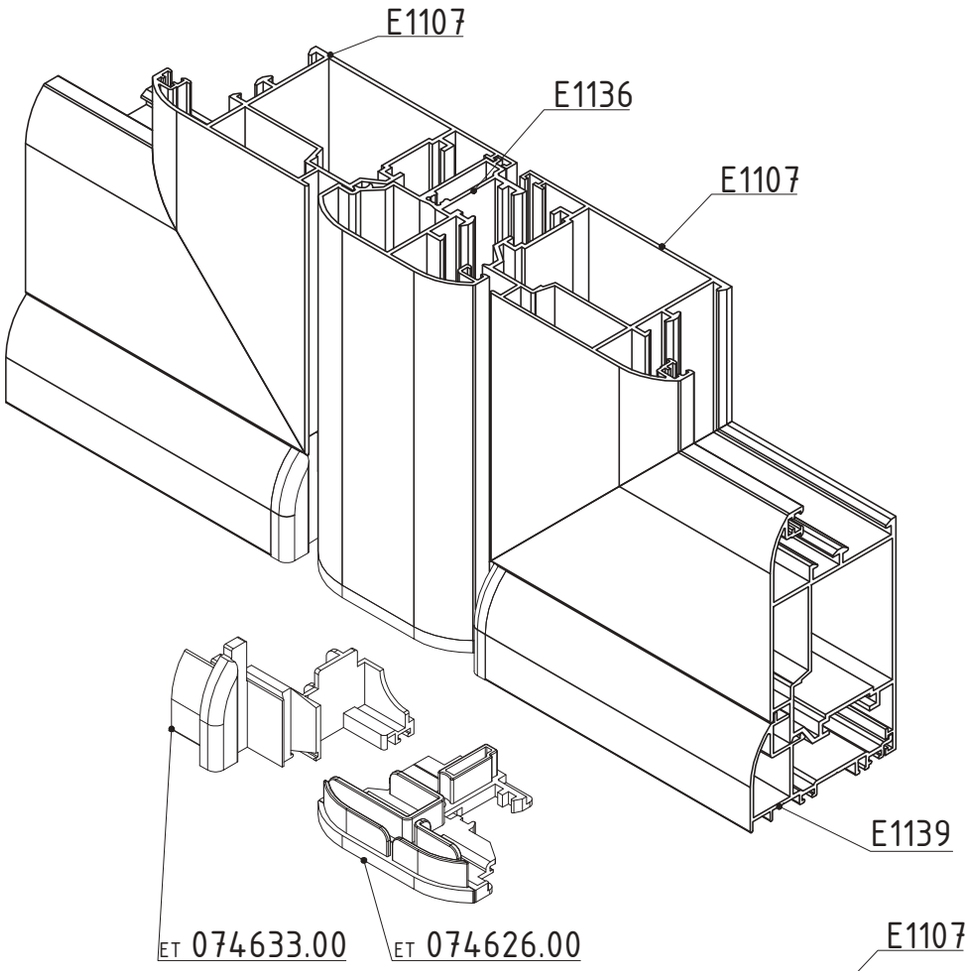


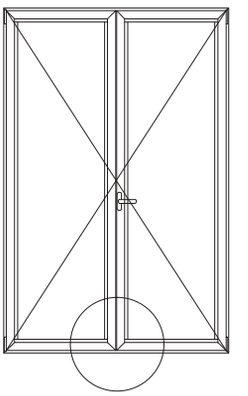


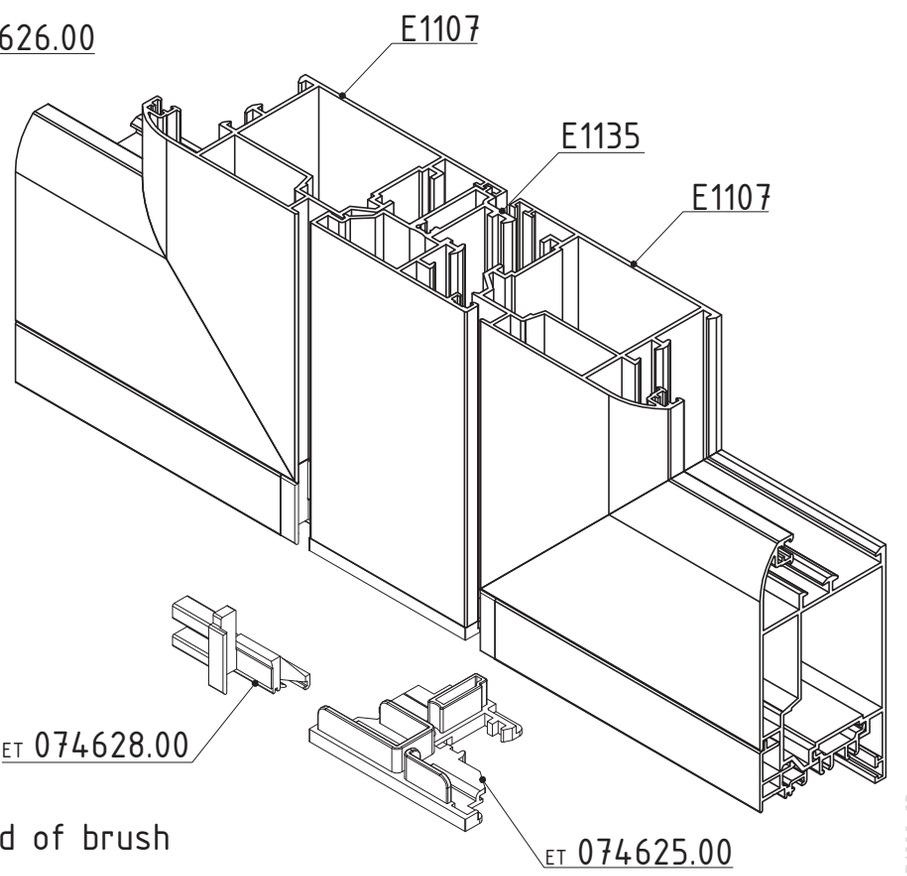




D1000-22-2

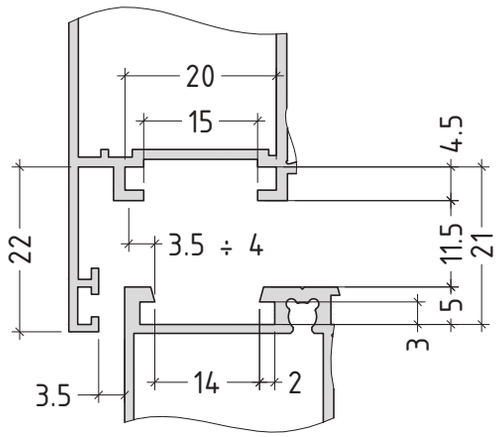


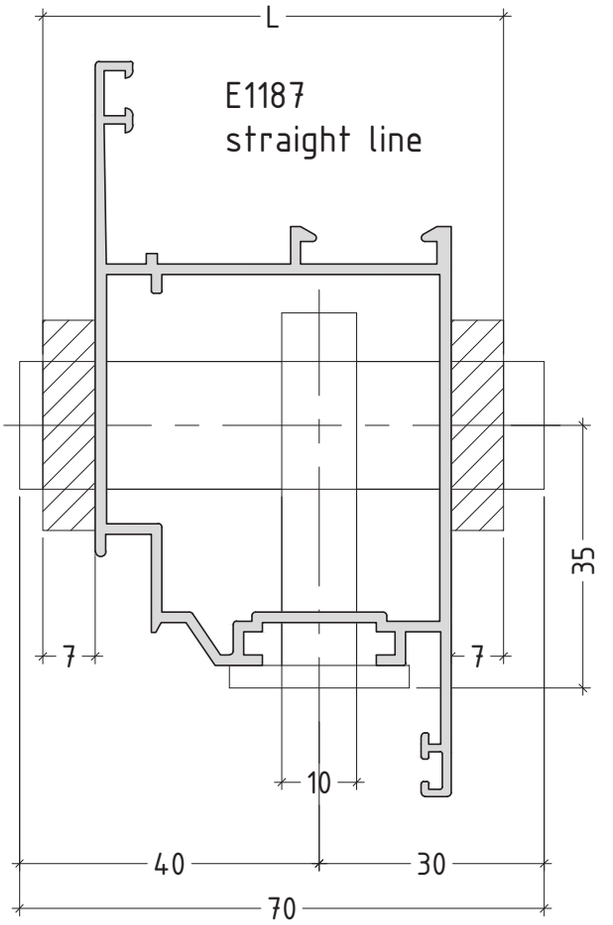




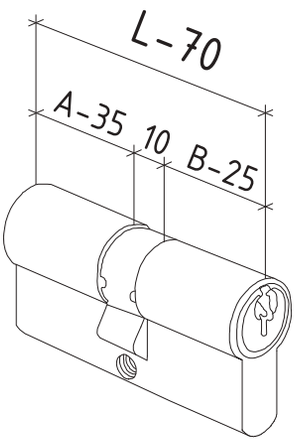
Use ET 130412.00 gasket instead of brush

D1000-23





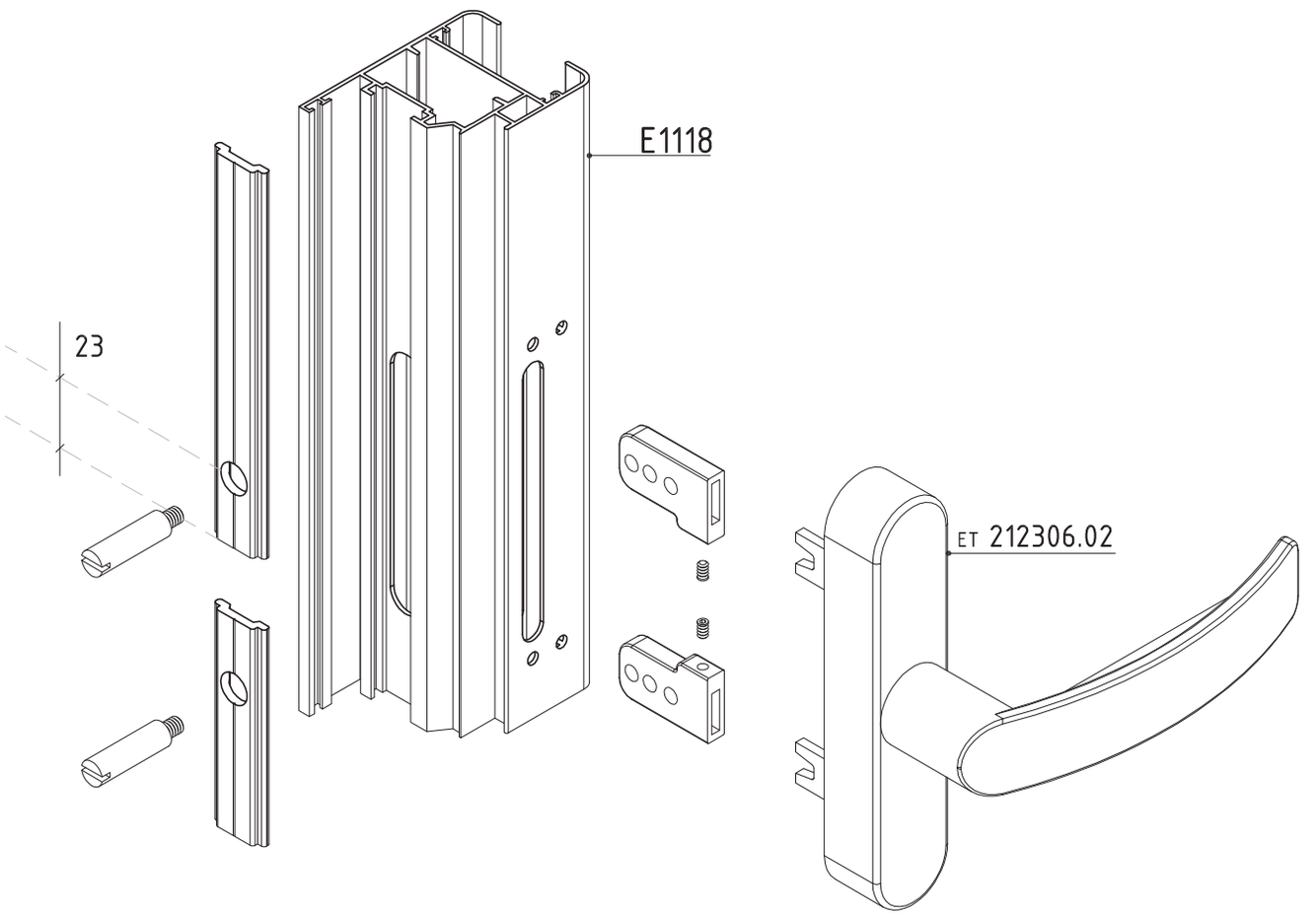
Note:
Hardware used for E1000 is intended for Eurogroove with the noted parameters



Note:
The length L of the cylinder depends on the chosen type of decorative rosettes

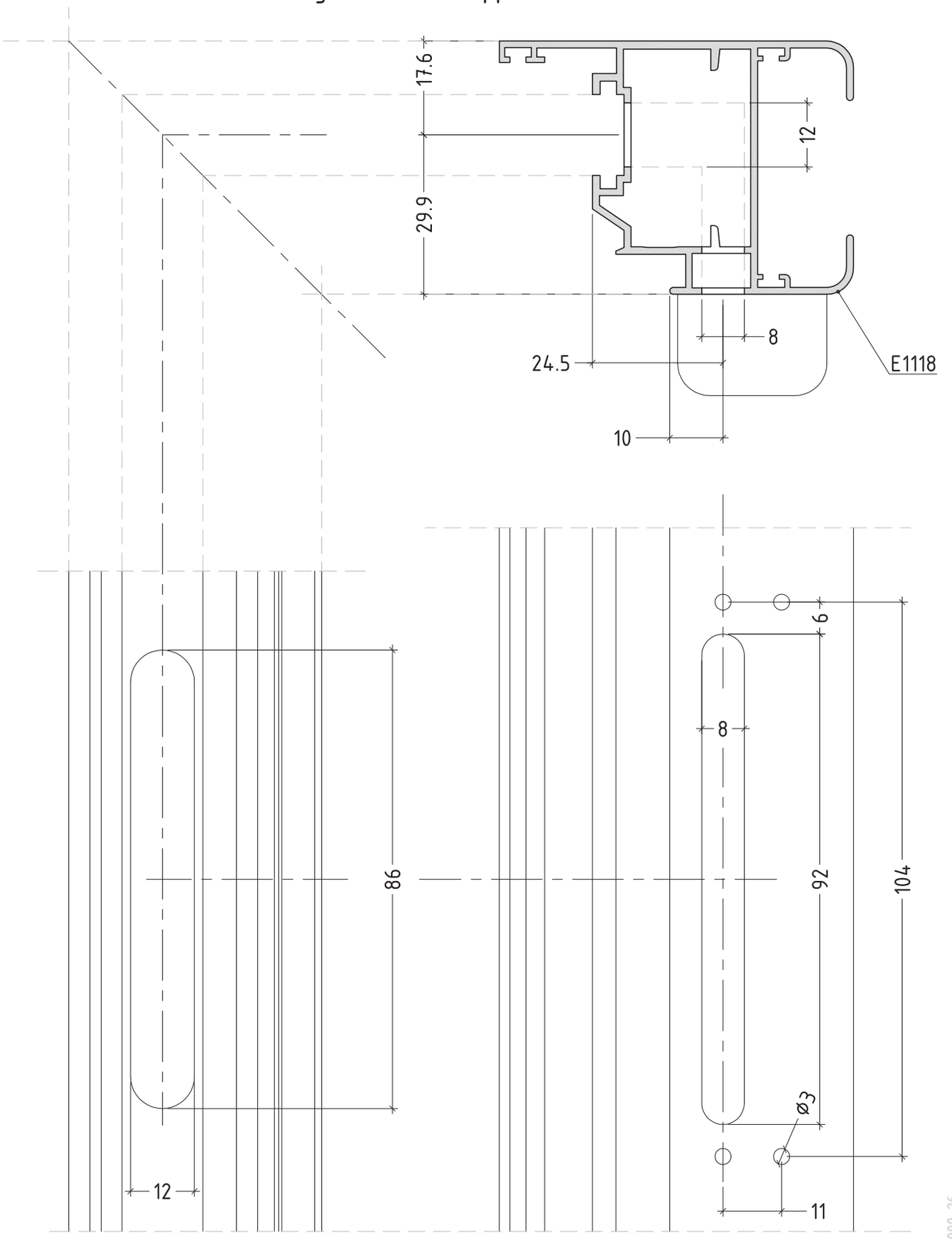
D1000-24

machining for handle appliance on blinds



D1000-25

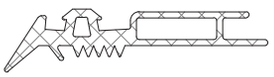
machining for handle appliance on blinds



ACCESSORIES

code/description	package/pcs	colour
ET 130402.00	60	●

elongated glazing EPDM
gasket E40 - E45 3 mm



ET 130411.00	150	●

glazing EPDM gasket for
E1000 E40 E45 3 mm

ET 130153.00	150	●

glazing EPDM gasket 4 mm

ET 130152.00	320	●

internal seal EPDM gasket

A1000-01

code/description	package/pcs	colour
ET 130174.00	160	●

interior seal EPDM gasket
top line

ET 130131.00	200	●

interior seal gasket E2300
E1000 E40 E45

ET 130154.00	200	●

interior seal window EPDM
gasket - 4 mm

ET 130175.00	250	●

glazing EPDM gasket
press-in 3-4 mm

A1000-02

code/description	package/pcs	colour
ET 130176.00	125	●

glazing EPDM gasket
press-in 5-6 mm

ET 130177.00	60	●

glazing EPDM gasket
press-in 7-8 mm

ET 990619.00	125	●
ET 130205.00	125	●

P5 old code

glazing EPDM gasket
press-in 5 mm

ET 990620.00	125	●
ET 130206.00	125	●

P6 old code

glazing EPDM gasket
press-in 6 mm

A1000-03

code/description	package/pcs	colour
ET 130207.00	75	●

P7 old code

glazing EPDM gasket
press-in 7 mm

ET 130208.00	40	●

P8 old code

glazing EPDM gasket
press-in 8 mm

ET 130210.00	40	●

P10 old code

glazing EPDM gasket
press-in 10 mm

ET 130413.00	200	●

seal EPDM gasket for
decorative lattice bar

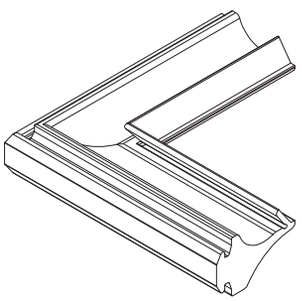
A1000-04

code/description	package/pcs	colour
ET 130128.00	130	●

central seal EPDM gasket

ET 060128.00	40	●

vulcanized EPDM corner
for 130128



ET 130412.00	240	●

door seal EPDM gasket

ET 130156.00	200	●

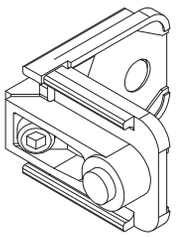
door seal EPDM gasket

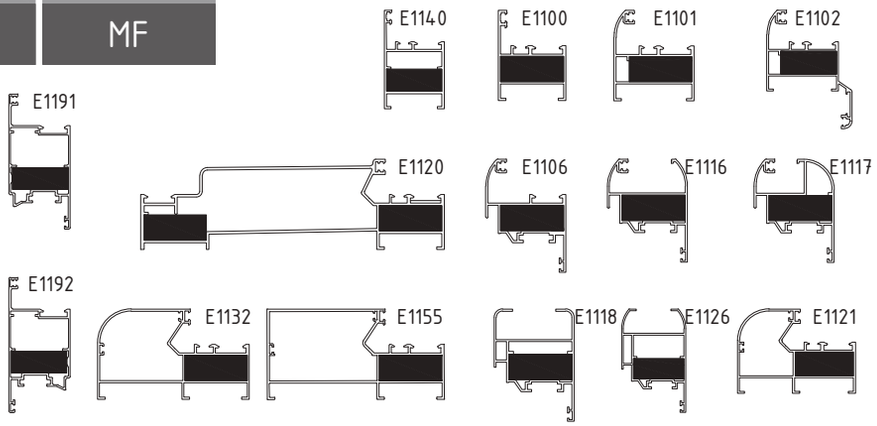
attention
use with profile
E1123 and E1139

A1000-05

code/description	package/pcs	colour
ET 053302.00	250	MF

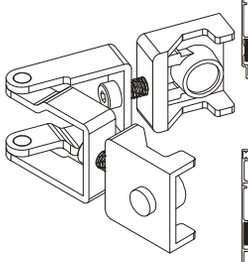
die cust al. joint corner bracket

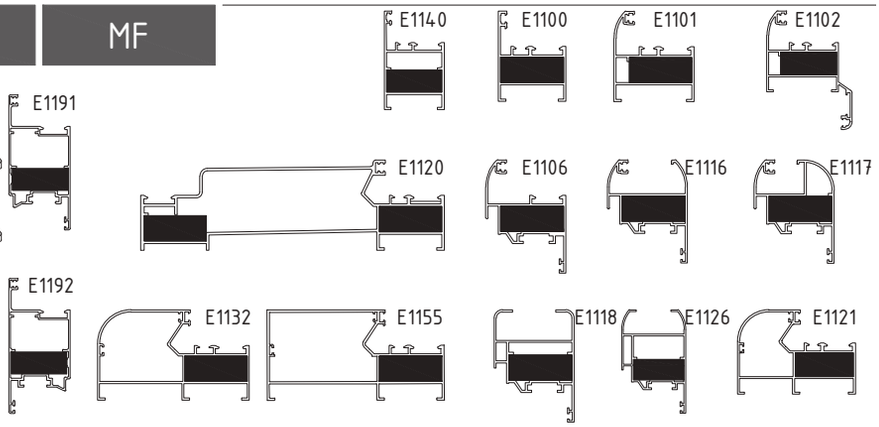




ET 053301.00	20	MF

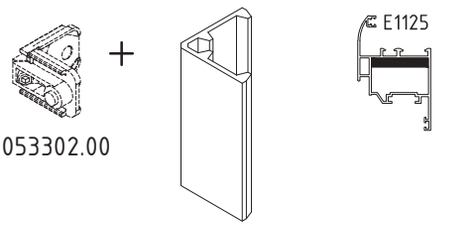
die cust al. variable angled joint corner bracket





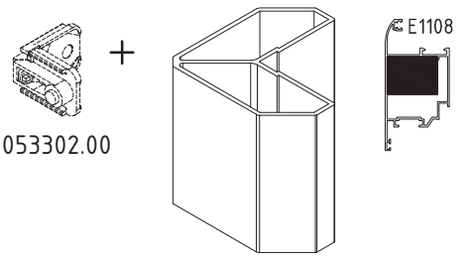
ET 050001.00	100	MF

extruded al. shimming corner



ET 050005.00	80	MF

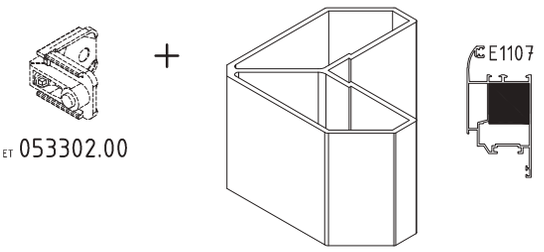
extruded al. shimming corner



A1000-06

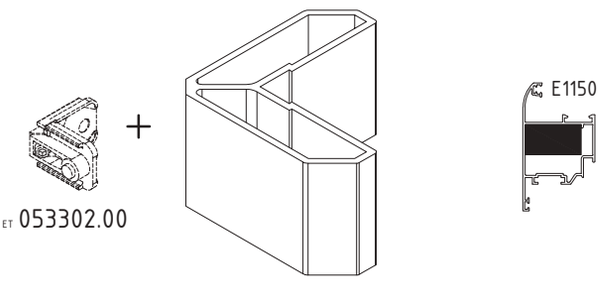
code/description	package/pcs	colour
ET 050008.00	100	MF

extruded al. shimming corner



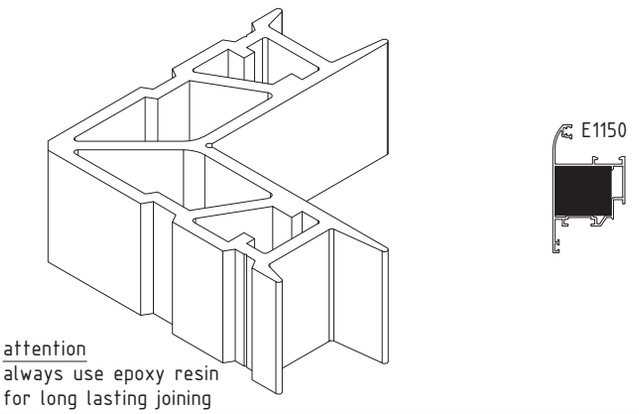
ET 050009.00	70	MF

extruded al. joint corner bracket



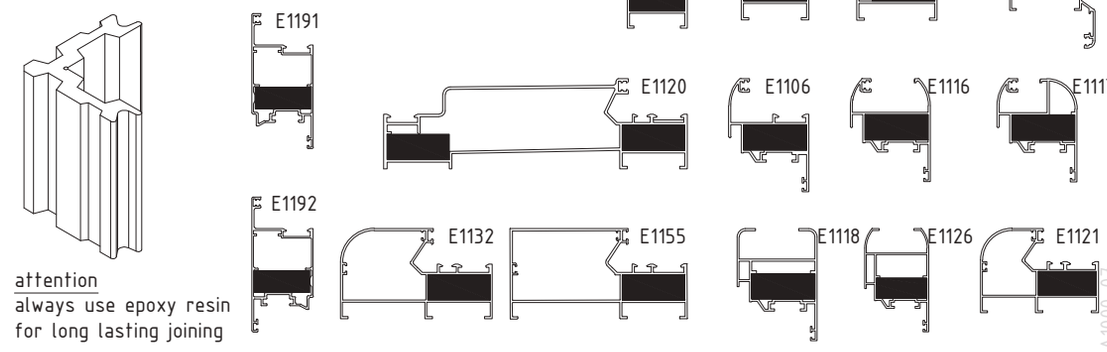
ET 054502.00	70	MF

extruded al. joint corner bracket



ET 054401.00	100	MF

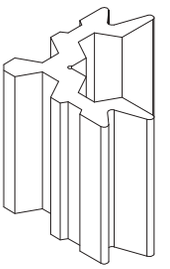
extruded al. joint corner bracket

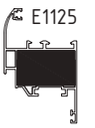


A1000-07

code/description	package/pcs	colour
ET 054404.00	100	MF

extruded al. joint corner bracket

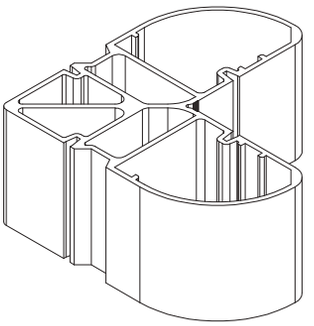


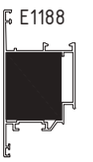


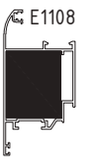
attention
always use epoxy resin
for long lasting joining

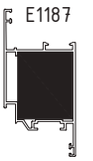
code/description	package/pcs	colour
ET 990966.00	40	MF

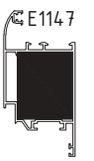
extruded al. joint corner bracket







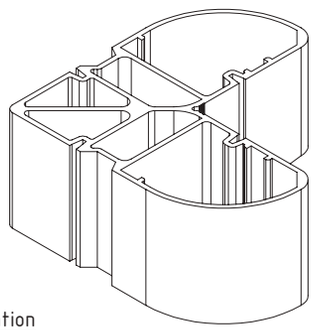


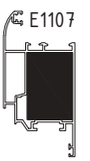


attention
always use epoxy resin
for long lasting joining

code/description	package/pcs	colour
ET 991127.00	70	MF

extruded al. joint corner bracket

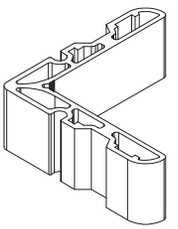




attention
always use epoxy resin
for long lasting joining

code/description	package/pcs	colour
ET 054255.00	200	MF

extruded al. joint corner bracket

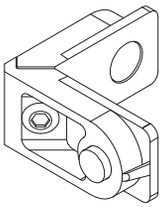


attention
always use epoxy resin
for long lasting joining

A1000-08

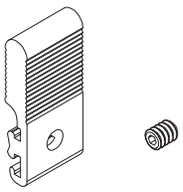
code/description	package/pcs	colour
ET 053305.00	250	MF

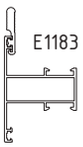
die cust al. joint corner bracket

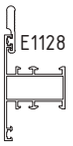


ET 070304.00	10	MF

"T" bracket for mullions/transoms external side - 15 mm



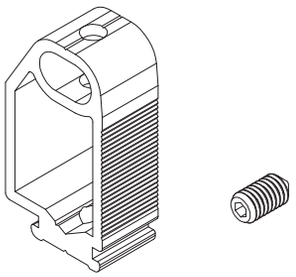


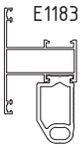


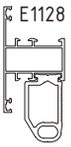
attention
always use epoxy resin
for long lasting joining

ET 070204.00	10	MF

"T" bracket for mullions/transoms (fastened with roll pins) -15 mm



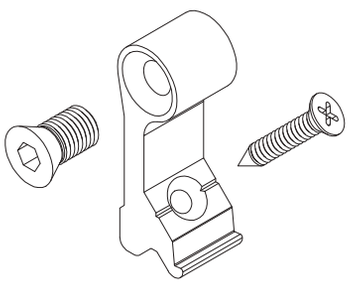


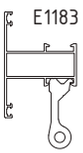


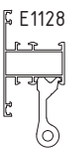
attention
always use epoxy resin
for long lasting joining

ET 070203.00	10	MF

screwing "T" bracket for mullions/transoms - 15 mm





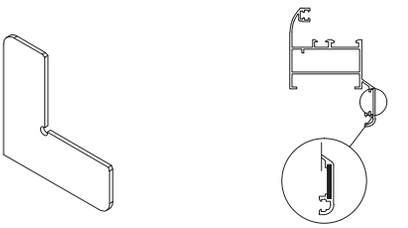


attention
always use epoxy resin
for long lasting joining

A1000-09

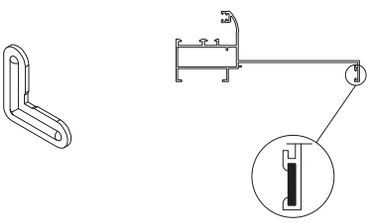
code/description	package/pcs	colour
ET 055505.00	100	MF
ET 056605.00	100	INOX

alignment square



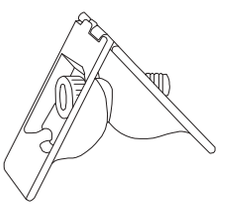
ET 055506.00	100	MF
ET 056606.00	100	INOX

alignment square



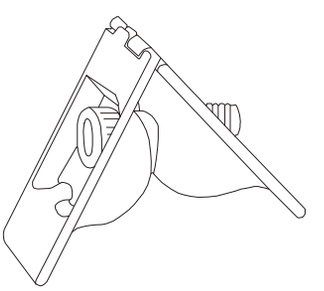
ET 051101.00	200	MF

stainless steel joint corner
(small)



ET 051102.00	200	MF

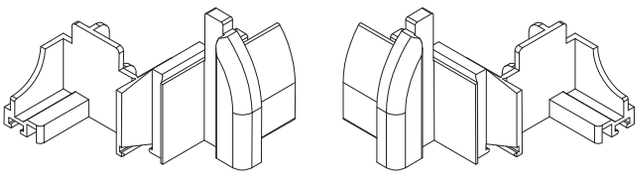
stainless steel joint corner
(large)



A1000-11

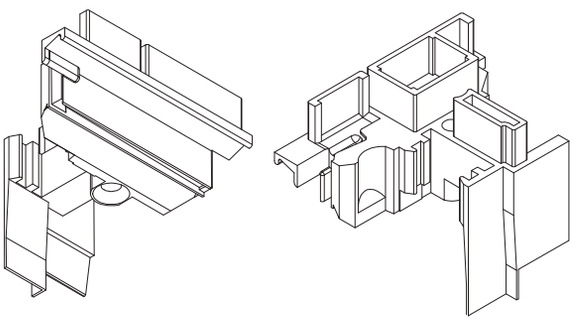
code/description	package/pcs	colour
ET 074633.00	10	●

plastic plug for E1139



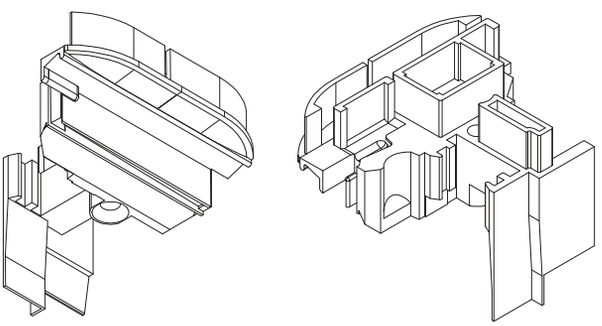
ET 074625.00	5	●

pair of plastic plugs for
straight secondary
sash profile E1135



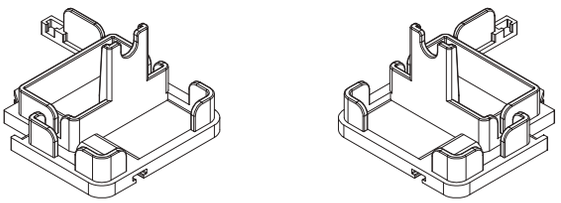
ET 074626.00	5	●

pair of plastic plugs for
round secondary
sash profile E1136



ET 074738.00	5	●

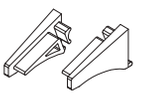
pair of plastic plugs for
round secondary
sash profile E1118



A1000-12

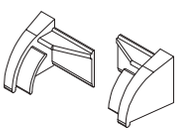
code/description	package/pcs	colour
ET 074629.00	200	●

plastic plug for drip profile
E 2357



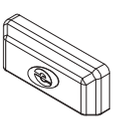
ET 074624.00	200	●

plastic plug for drip profile
E 40820



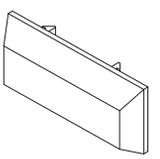
ET 074206.00	100	●

plastic drain cap 20x6 mm



ET 074605.00	100	●

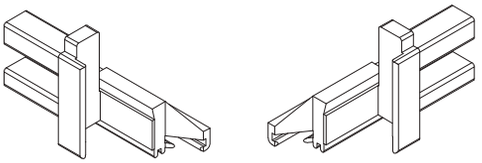
plastic drain cap 30x6 mm



A1000-13

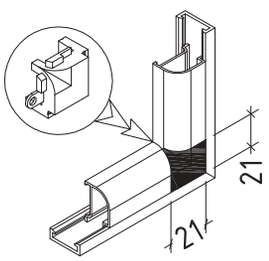
code/description	package/pcs	colour
ET 074628.00	20	●

plastic plug for E1137



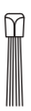
ET 059902.00	25	MF
ET 059902.02	25	●
ET 059902.01	25	●

corner for round bead



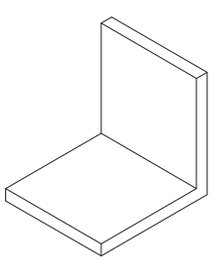
ET 135900.00	200	●

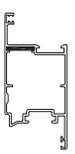
brush with metallic body

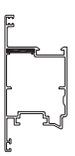


ET 055511.00	100	MF

alignment square







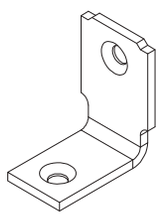
A1000-14

code/description	package/pcs	colour
ET 135412.02	–	●

brush

ET 990898.00	100	MF

bracket



A1000-15

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

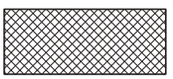
- EN 12020 (1÷2) – ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED PRECISION PROFILES IN ALLOYS EN AW-6060 AND EN AW-6063
- EN 755 (1÷9)– ALUMINIUM AND ALUMINIUM ALLOYS – EXTRUDED ROD/BAR, TUBE AND PROFILES
- EN 573 (1÷3) – ALUMINIUM AND ALUMINIUM ALLOYS – CHEMICAL COMPOSITION AND FORM OF WROUGHT PRODUCTS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

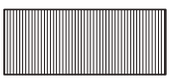
1. EN 14351 – WINDOWS AND DOORS – PRODUCT STANDARD, PERFORMANCE CHARACTERISTICS
2. EN 12519 – WINDOWS AND PEDESTRIAN DOORS – TERMINOLOGY
3. EN 12207 – WINDOWS AND DOORS – AIR PERMEABILITY – CLASSIFICATION
4. EN 1026 – WINDOWS AND DOORS – AIR PERMEABILITY – TEST METHOD
5. EN 12208 – WINDOWS AND DOORS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

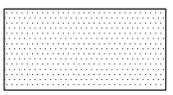
Hatches for different materials



EPDM

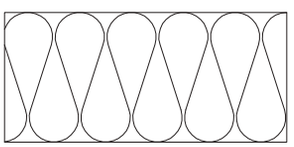


PVC

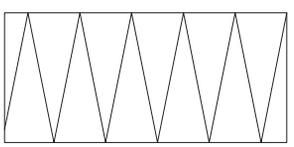


gypsum board

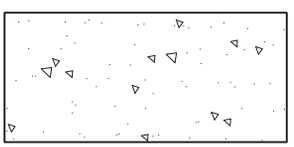
silicone seal



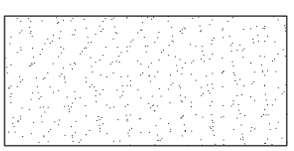
Insulation soft



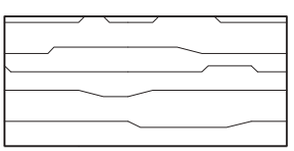
Insulation hard



concrete wall



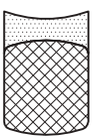
plaster



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 of 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.

ETEM is not liable for any calculations and conclusions made on the basis of the stated information. All calculations and specifications must be estimated, endorsed and guaranteed by architect, engineer, professional or legal entity authorized by law for such activities.

COPYRIGHT

DISCLAIMER

ETEM is not responsible for any typographical errors, technical inaccuracies and following changes of the content of this catalogue.
Before starting manufacturing process, it is highly recommended to contact ETEM R&D department in order to provide you with updated information.

WWW.ETEM.COM

ETEM ALBANIA

ETEM BULGARIA

ETEM GREECE

ETEM ROMANIA

ETEM SERBIA

ETEM UKRAINE