



GENERAL BUILDING-AUTHORITY TEST CERTIFICATE (AbP)

EASY GLASS[®] PRO

TOP MONT	MOD.8110
FASCIA MOUNT	MOD.8130
TOP MOUNT F	MOD.8120
FASCIA MOUNT Y	MOD.8140
INVERSE	MOD.8150

For any questions about this certificate, please contact:

Q-railing Europe GmbH & Co. KG
Marie-Curie-Straße 8-14
46446 Emmerich am Rhein, Germany
+49 (0) 2822 915 69 0

Labor für Stahl- und Leichtmetallbau GmbH

Management: Prof. Dr. - Ing. Ö. Bucak
at University of Munich
Faculty 02 Structural engineering / Steel construction



Karlstraße 6, 80333 Munich
Tel.: 0049/ (0)89/ 1265- 2611; FAX 0049/ (0)89/ 1265- 2699; email: info@laborsl.de

Bay 27

General building-authority test certificate

Test certificate number: P-2021-3051

Object: linearly mounted compound safety glazing

System: EASY GLASS PRO

Intended purpose: Barrier according to DIN 18008-4
Additional requirements for barrier glazing
Building Regulations List A Part 2 - issue 2015/2
Design according to no. 2.12

Barrier category: B

Applicant: Q-railing Europe GmbH & Co. KG
Marie-Curie-Straße 8 - 14
46446 Emmerich am Rhein

Date of issue: 22.06.2021

Valid until: 21.06.2026

This general building-authority certificate conforms that the object named above can be used in accordance with the State Building Code.

The general building-authority test certificate consists of 11 pages and 12 appendices.



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I. General regulations

1. The general building-authority test certificate does not replace the permits, approvals and certificates legally required for construction projects.
2. The general building-authority test certificate is issued without affect the rights, especially private property rights, of third parties.
3. Regardless of additional regulations under "Special regulations", the manufacturer of the design must provide the user of the construction with copies of the general building-authority test certificate and point out that the general building-authority test certificate must be available at the location of use. Upon request, the authorities involved must be provided with copies of the general building-authority test certificate.
4. The general building-authority test certificate must only be reproduced in its unshortened version. Publication in parts requires the approval of the Labor für Stahl- und Leichtmetallbau GmbH. Texts and drawings of advertising must not contradict the general building-authority test certificate. Translations of the general building-authority test certificate must contain the note "This translation of the German original version was not reviewed by the Labor für Stahl- und Leichtmetallbau GmbH".

II. Special regulations

1 Object and scope of application

1.1 Object

The object of the general building-authority test certificate is the glass barriers according administrative instructions Technical Building Regulations for Nordrhein-Westfalen (VV TB NRW) Version 2019/01 sold by Q-railing Europe GmbH & Co. KG. The glass panels are linearly clamped at the lower edge and connected with a handrail profile at the upper edge of the glass panel. The glass panels can be installed at a tilt of up to 10° from the vertical.

1.2 Scope of application

The object named above is used in accordance with DIN 18008-4, Additional requirements for barrier glazing according to **Category B**.

2 Requirements for the design

2.1 Description of the construction

2.1.1 Mounting

The glazing is mounted linearly at the lower horizontal glass edge. The admissible mounting profiles are presented in appendices 1 to 10. All profiles of the **EASY GLASS®PRO** series can be



used (PRO TOP, PRO FASCIA, PRO INVERSE, PRO Y and PRO F). The five profile types are presented as an example in the following figures.

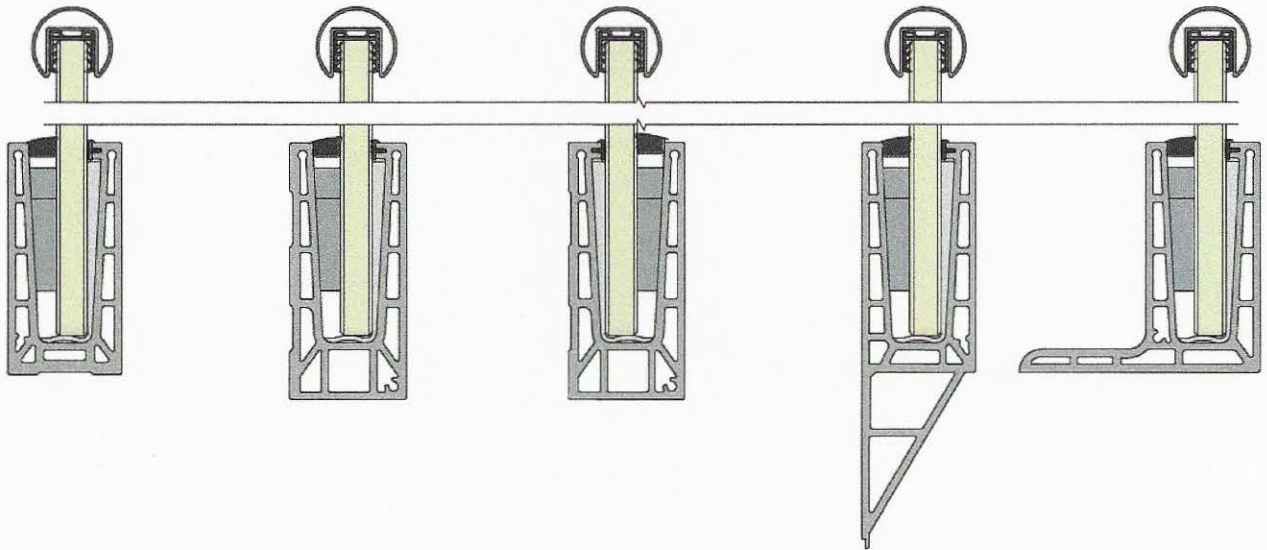


Fig. 1: PRO TOP, PRO FASCIA, PRO INVERSE, PRO Y and PRO F

The clamping of the glass is achieved by inserting plastic wedges.

The aluminium profiles are fixed on reinforced concrete using chemical anchors from Q-railing (Q VMZ-IG M12) or mechanical anchors (Q SZ-S12), or attached at steel constructions using M12 screws. As an alternative to the attached profile, the handrail can also be fixed with points as shown in Appendix 12.

At the upper edge of the glass, the panels are connected with a continuous handrail profile. The profile must fulfil the specifications for static dimensioning according to DIN 18008-4, section 6.1.

Impacts may occur from both sides of the glass panel (see appendix 11).



2.1.2 Glazing

The following glass constructions can be used:

Glass construction tempered glass:

		built up 1	built up 2	built up 3
tempered glass (ESG)		6,00 mm	8,00 mm	10,00 mm
PVB interlayer	mind.	0,76 mm	0,76 mm	0,76 mm
tempered glass (ESG)		6,00 mm	8,00 mm	10,00 mm
total glass thickness		12,8 mm	16,8 mm	20,8 mm

Glass construction c:

		built up 4	built up 5
heat strengthened glass		8,00 mm	10,00 mm
PVB interlayer	mind.	0,76 mm	0,76 mm
heat strengthened glass		8,00 mm	10,00 mm
total glass thickness		16,8 mm	20,8 mm

Only glass products in accordance with DIN 18008-4 may be used. The glass and film thicknesses listed above may be exceeded or heat soaked glass may be used.

All glass constructions with intermediate layers with an appropriate general building-authority certificate may be used as laminated sheet glass.

2.2 Test procedure to be used

The test of the barrier function of the glazing was done according to Appendix A of DIN 18008-4 and the Technical Rules for Glass in Safety Barriers (TRAV) -version January 2003. The bearing capacity under impact loading was tested for the standard dimensions of the described glazing using the pendulum impact test. The test results are documented in test report 2014-3032.

2.3 Use, maintenance and service

The construction must be mounted and secured using suitable measures in such a way that it meets the specified requirements as barrier permanently. The proof of secure anchoring of the glazing construction at the building must follow the applicable technical building regulations.

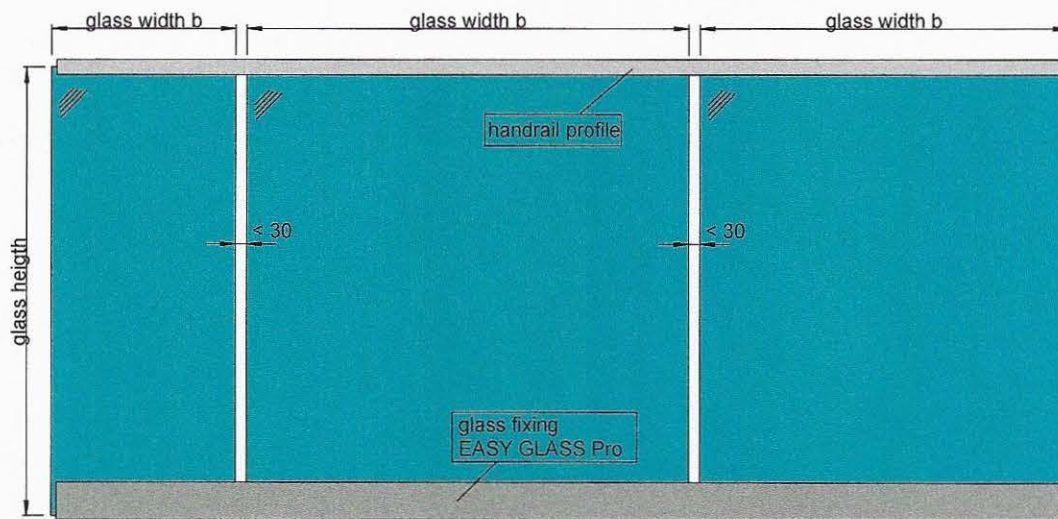
3 Validity and specifications for dimensioning

3.1 Area of application

The general building-authority test certificate is valid for the design described in section 2. The glazing has a barrier function according to category B. The admissible dimensions for the corresponding installation situation are specified in the following tables and figures.



straight installation:



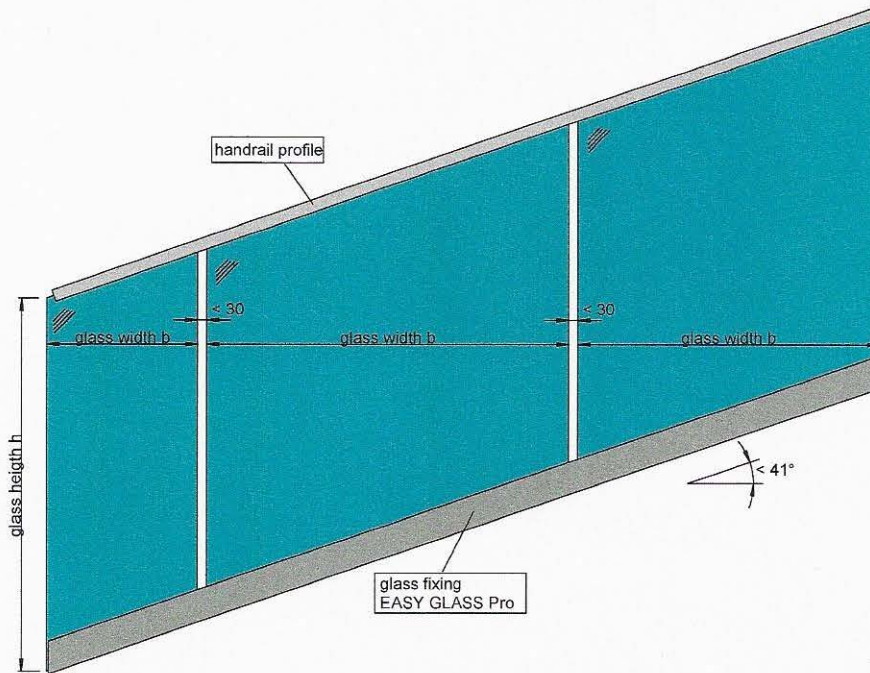
The following dimensions were proven in tests:

Table 1: admissible dimensions for straight installation

glass built up		Glasswidth b [mm]		Glassheight [mm]
		min	max	max
1	2 x 6 mm ESG	800	any	1100
2	2 x 8 mm ESG	500	any	1500
3	2 x 10 mm ESG	500	any	1800
4	2 x 10 mm ESG	800	any	2000
5	2 x 8 mm TVG	500	any	1200
6	2 x 10 mm TVG	500	any	1200



Deviations from rectangular shape (flight of stairs):



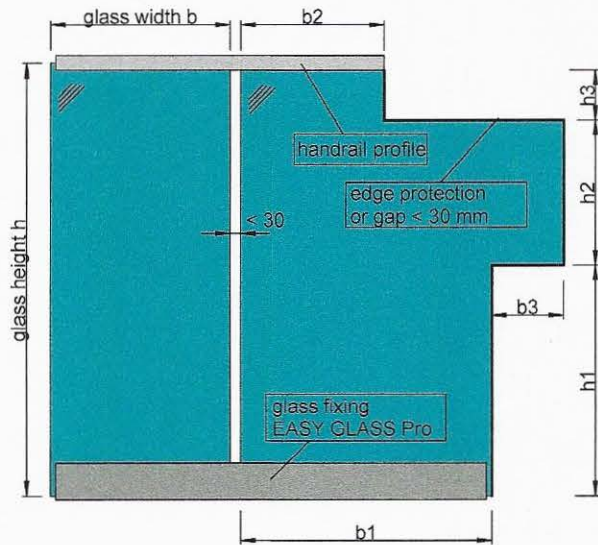
The following dimensions were proven in tests:

Table 2: admissible dimensions for a flight of stairs

	glass built up	Glasswidth b [mm]		Glassheight [mm]
		min	max	max
1	2 x 6 mm ESG	800	any	1100
2	2 x 8 mm ESG	500	any	1500
3	2 x 10 mm ESG	500	any	1800
4	2 x 10 mm ESG	800	any	2000
5	2 x 8 mm TVG	500	any	1200
6	2 x 10 mm TVG	500	any	1200



Model panel:

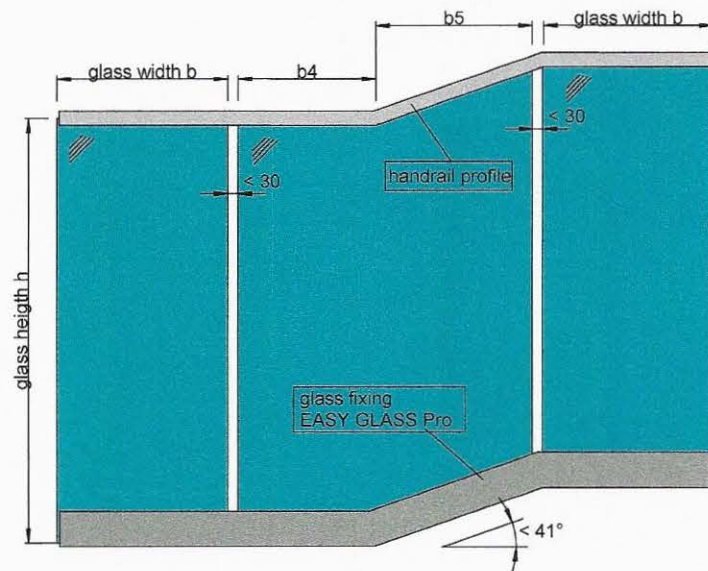


The following dimensions were proven in tests:

Table 3: admissible dimensions for a model panel

	glass built up	b1 [mm]		b2 [mm]		b3 [mm]	Glassheight [mm]	h1 [mm]	h2 [mm]	h3 [mm]
		min	max	min	max	max	max			max
2	2 x 8 mm ESG	700	any	400	b1 + b3	300	1250	any	any	300
3	2 x 10 mm ESG	700	any	400	b1 + b3	300	1250	any	any	300

Transition panel:



The following dimensions were proven in tests:



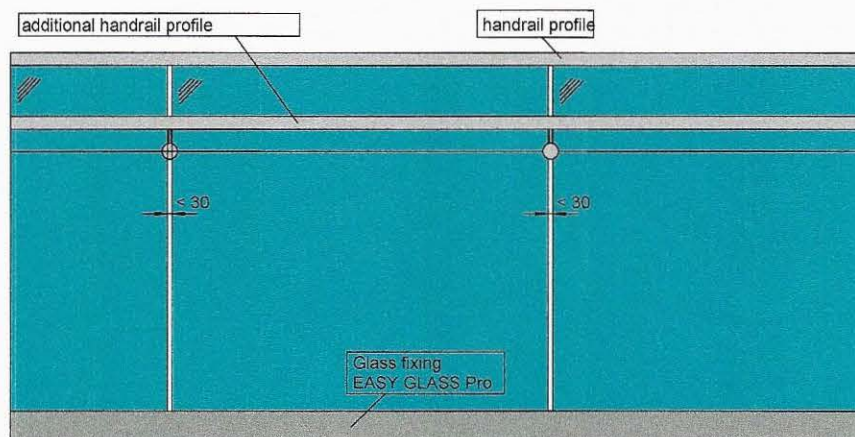
Table 4: admissible dimensions for a transition panel

glass built up		b4 [mm]		b5 [mm]		glass height [mm]
		min	max	min	max	max
2	2 x 8 mm ESG	400	any	460	any	1200
3	2 x 10 mm ESG	400	any	460	any	1200

Other constructive specifications:

- At least 3 panels with the smallest glass width must always be installed
- If the handrail is anchored at the end, the glass barrier may also consist of one panel.
- The glass built ups described in table 1 to 4 can be screen printed if the coating is orientated to the layer.
- The specifications of Q-railing must be observed for the arrangement of the plastic wedges
- An additional, constructive handrail can be used, which is attached in the gaps between the panels using clamp holders (see following figure).

Additional, constructive handrail



3.2 Dimensions

For the application, a calculated proof of bearing capacity under static load according to DIN 18008-4, section 6.1 must be provided for the glazing and mounting constructions.

4 Declaration of conformity

4.1 General

The design described in this general building-authority test certificate requires a declaration of conformity by the user (contractor) in accordance with Building Regulations List A part 3. In this document, the contractor declares for the client that the described design complies with this general building-authority test certificate in all details.



4.2 Production control

A production control must be set up and conducted at every location of application of the design. The production control is understood to be the continuous monitoring of the production by the contractor, with which he ensures that the design produced by him complies with the regulations of this general building-authority test certificate.

The production control must contain the description and test of the raw materials and components.

The results of the production control must be recorded and analysed. The records must contain at least the following information:

- Name of the design with a description of its components
- Date of manufacture and test of the design
- Results of the test and comparison with the requirements
- Signature of the person responsible for production control

The records must be kept for a minimum of five years and submitted to the supreme building authority in charge upon request.

5 Associated regulations

The provisions of DIN 18008-4, Additional requirements for barrier glazing, must be considered for the descriptions. Furthermore, the following standards and information sheets in their current version are referenced:

- [a] Building code for Land Nordrhein-Westfalen (BauO NRW) Fassung 2018/07
- [b] Administrative instructions Technical Building Regulations for Nordrhein-Westfalen (VV TB NRW) Version 2019/01
- [c] DIN EN 14449; Glass in building - Laminated glass and laminated safety glass
- [d] DIN 572, Part 1-2; Glass in building - Basic soda lime silicate glass products
- [e] DIN 12150, Part 1; Glass in building - Thermally toughened soda lime silicate safety glass
- [f] DIN EN 1863, Part 1; Glass in building - Heat strengthened soda lime silicate glass
- [g] DIN 18545, Part 1; Sealing of glazing with sealants
- [h] DIN 18008, Part 1-2; Glass in Building - Design and construction rules Test report 2014-3032; impact test according to DIN 18008-4; Labor für Stahl und Leichtmetallbau GmbH



III. Legal basis

This general building-authority test certificate was issued based on § 22 of the building code for Land Nordrhein-Westfalen (BauO NRW) Fassung 2018/07.

IV. Instruction on right to appeal

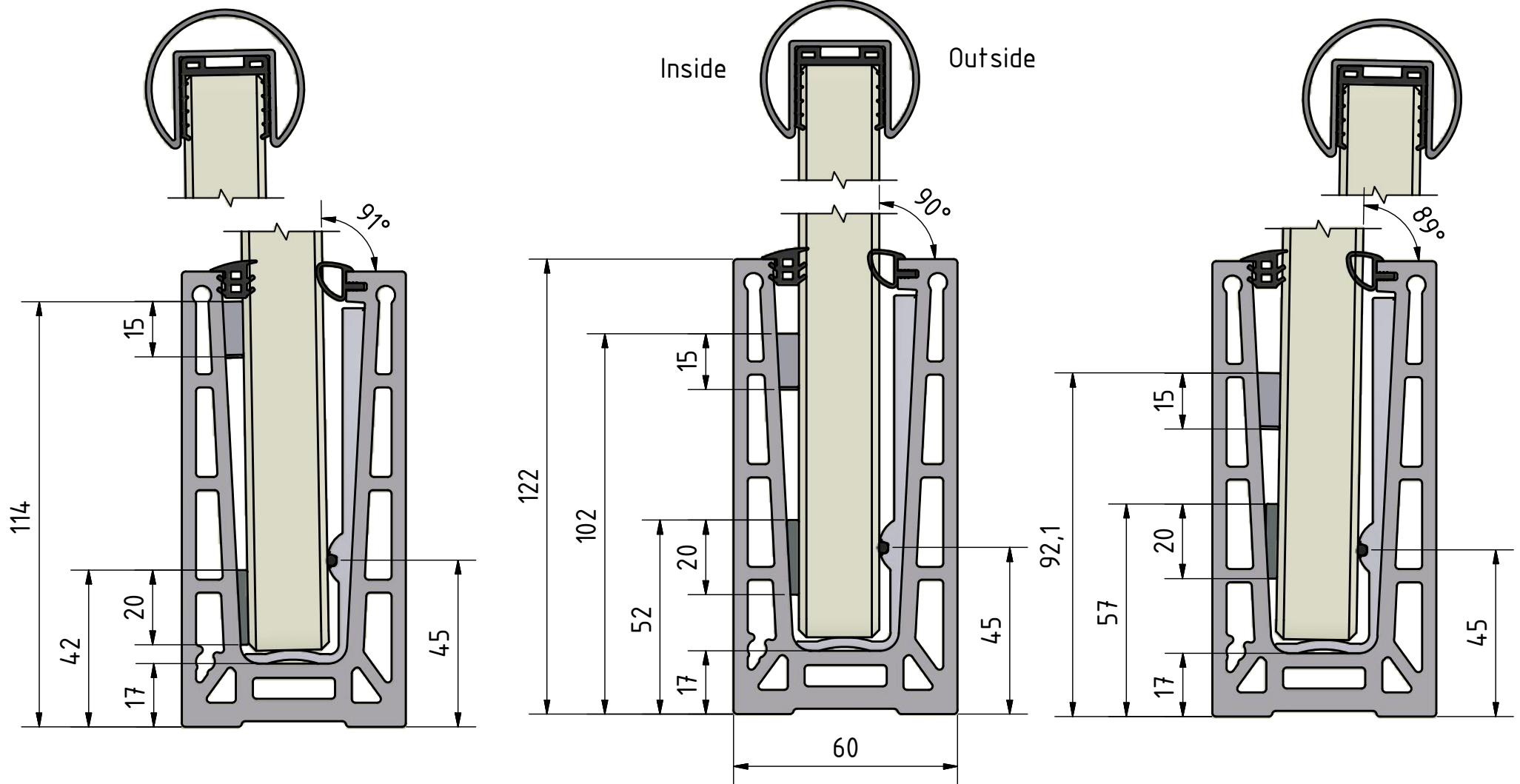
This general building-authority test certificate can be appealed within one month after issue. The appeal must be submitted in writing or for recording at the Labor für Stahl- und Leichtmetallbau GmbH.

Munich, 22.06.2021


For management and administration

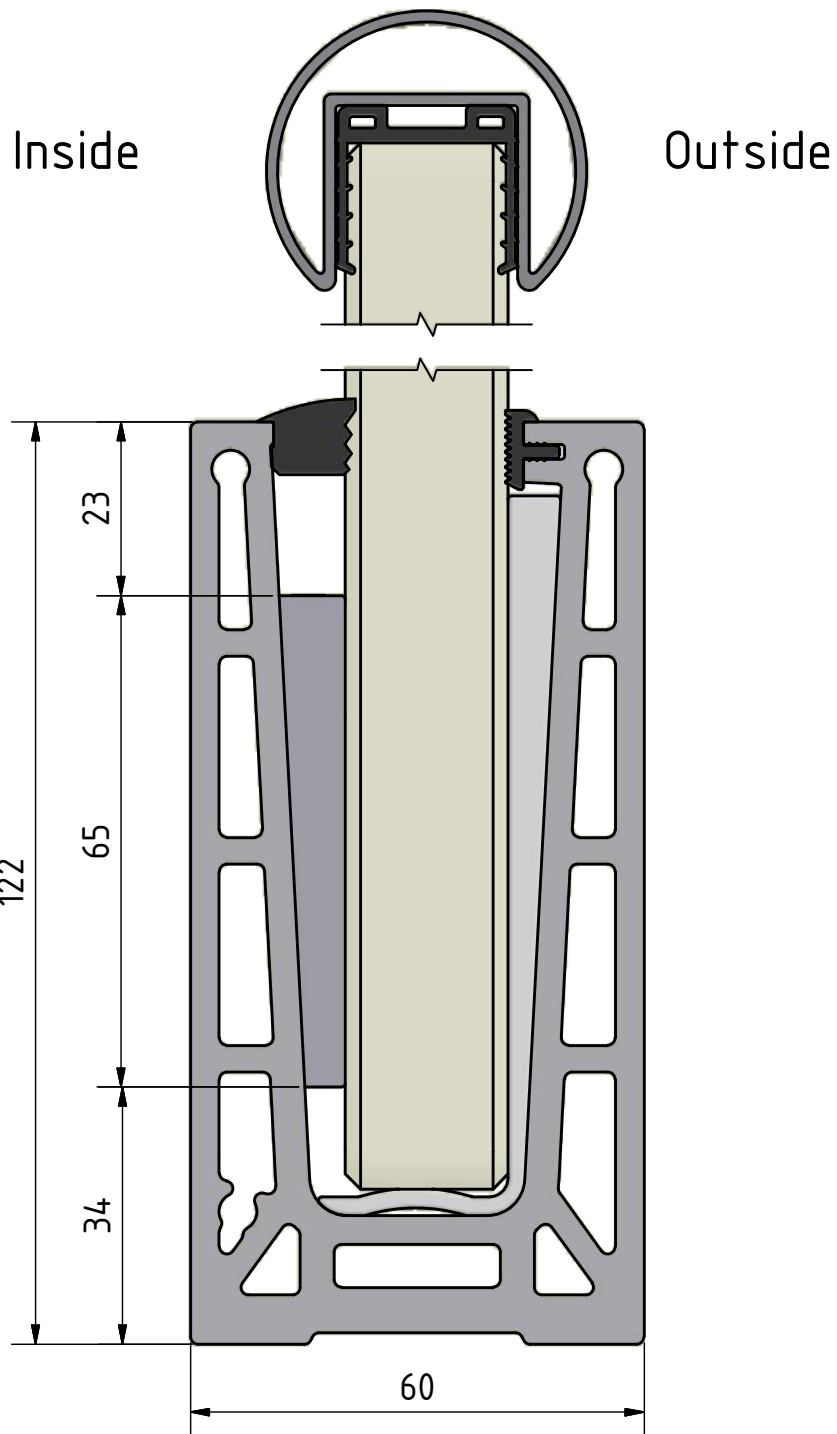


Dipl.-Ing. (FH) A. Lorenz
(Head of institute)




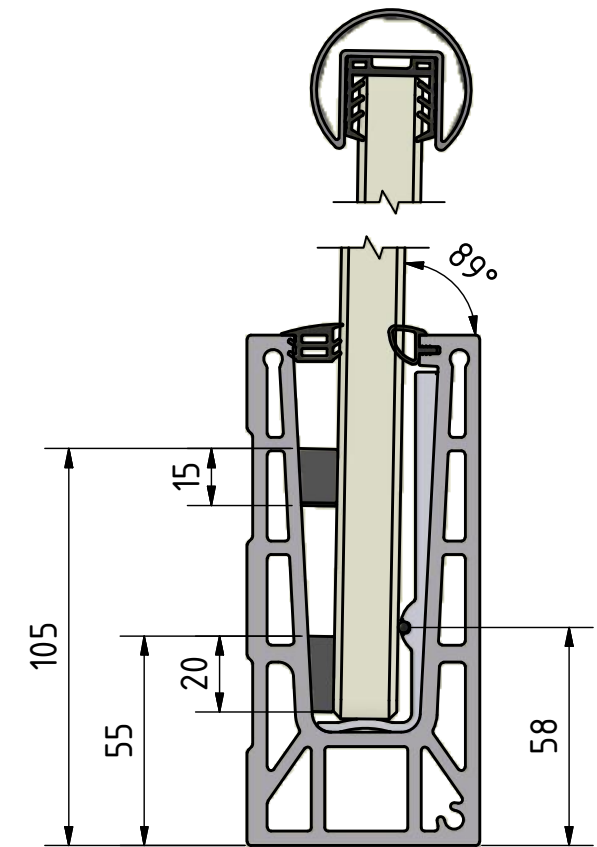
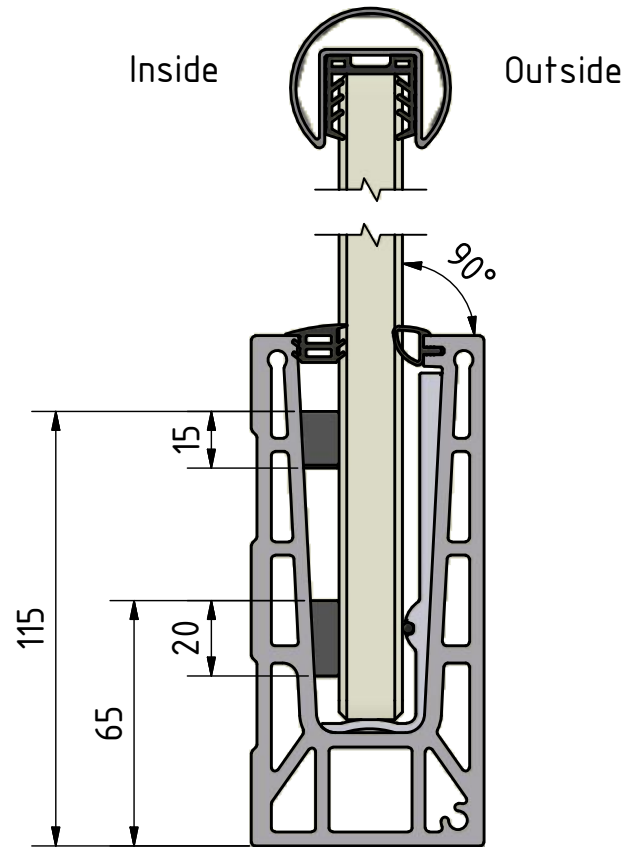
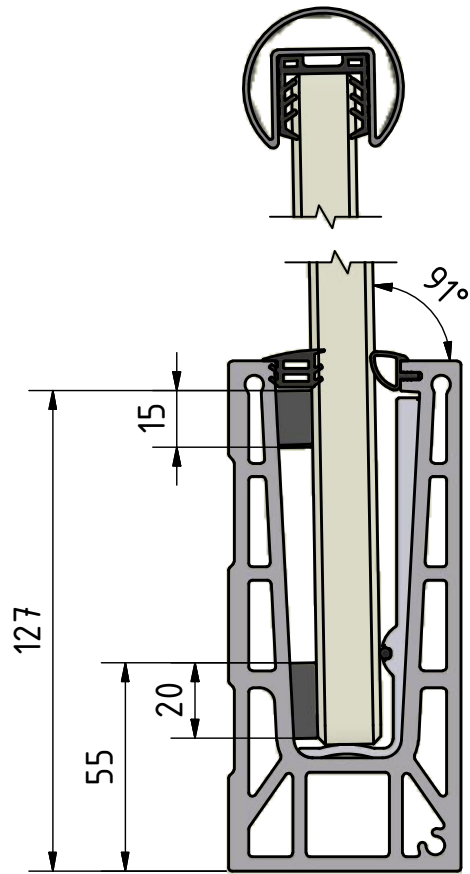
Inlay, Wedge top and Wedge bottom 4 per meter

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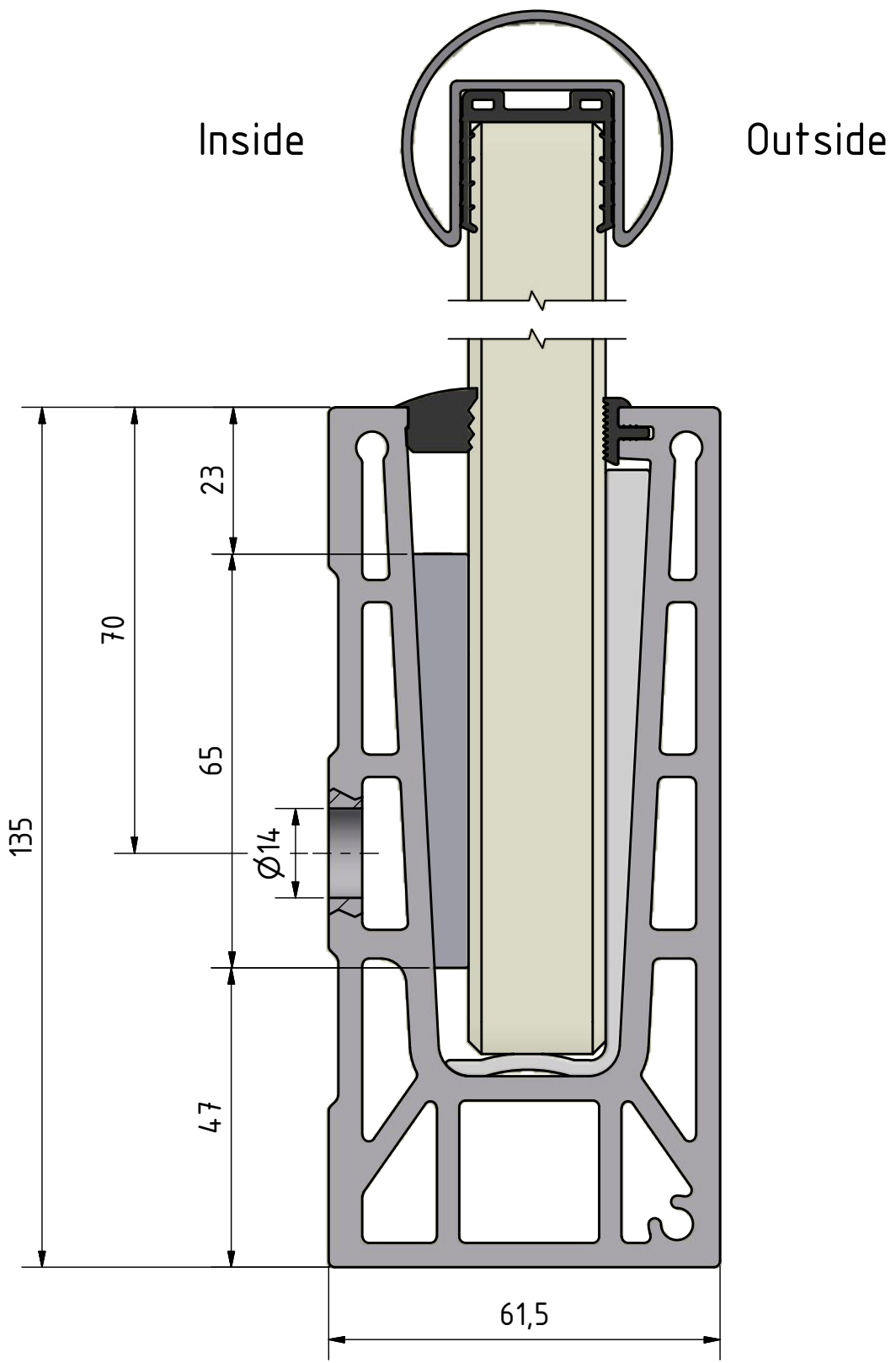


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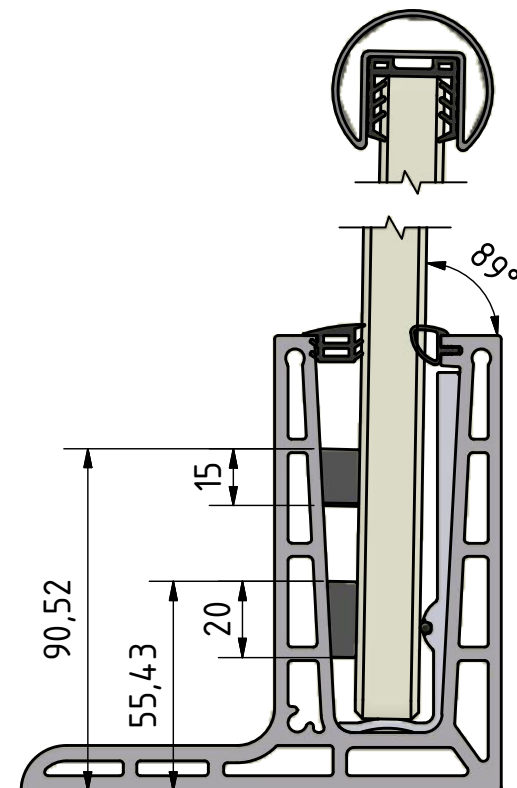
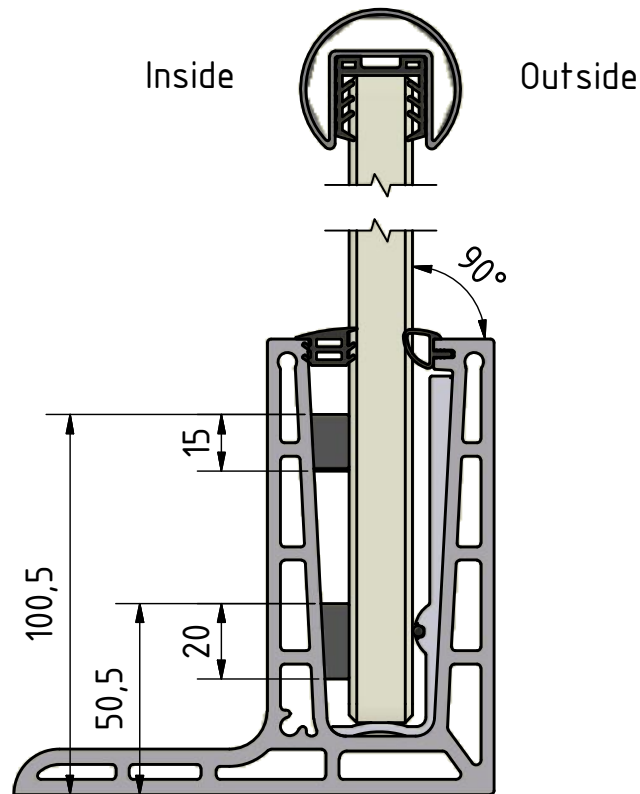
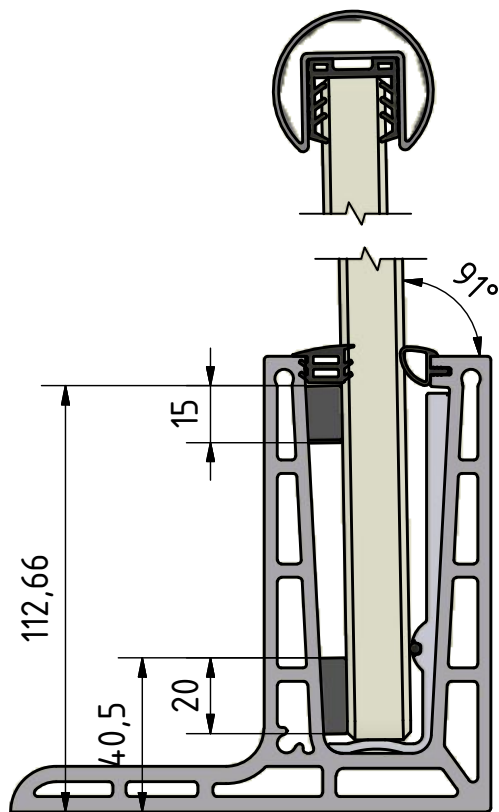


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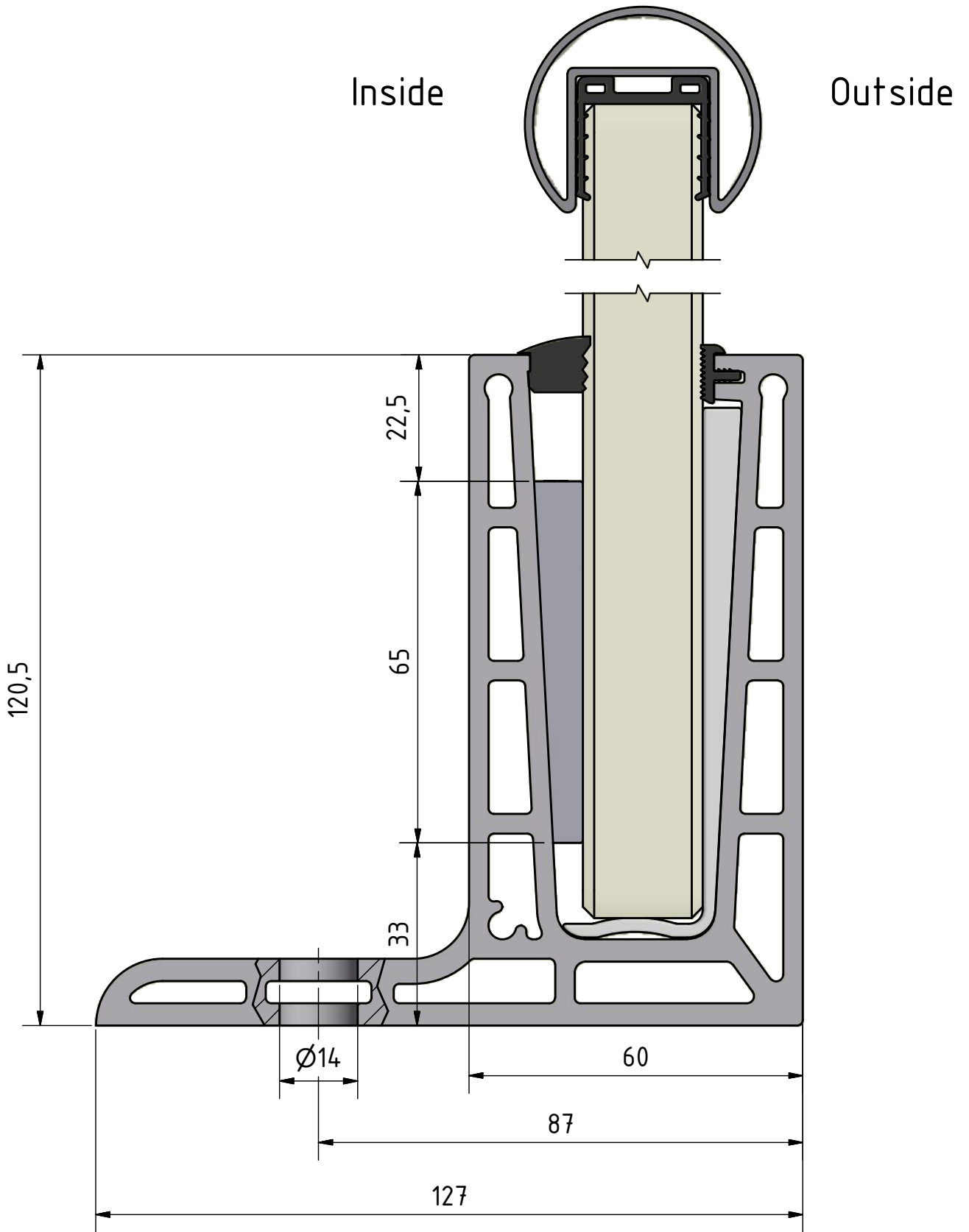
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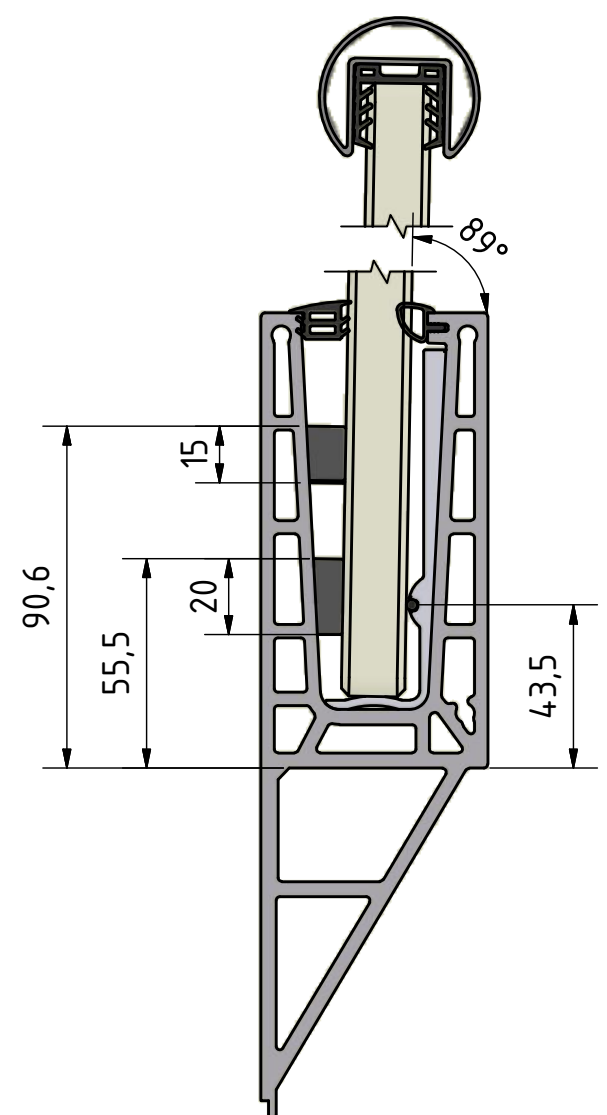
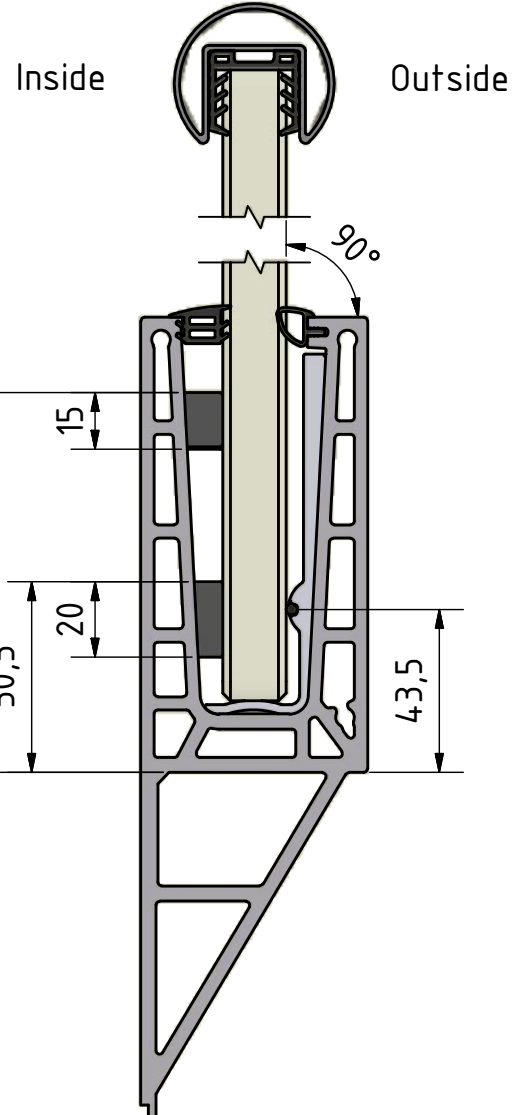
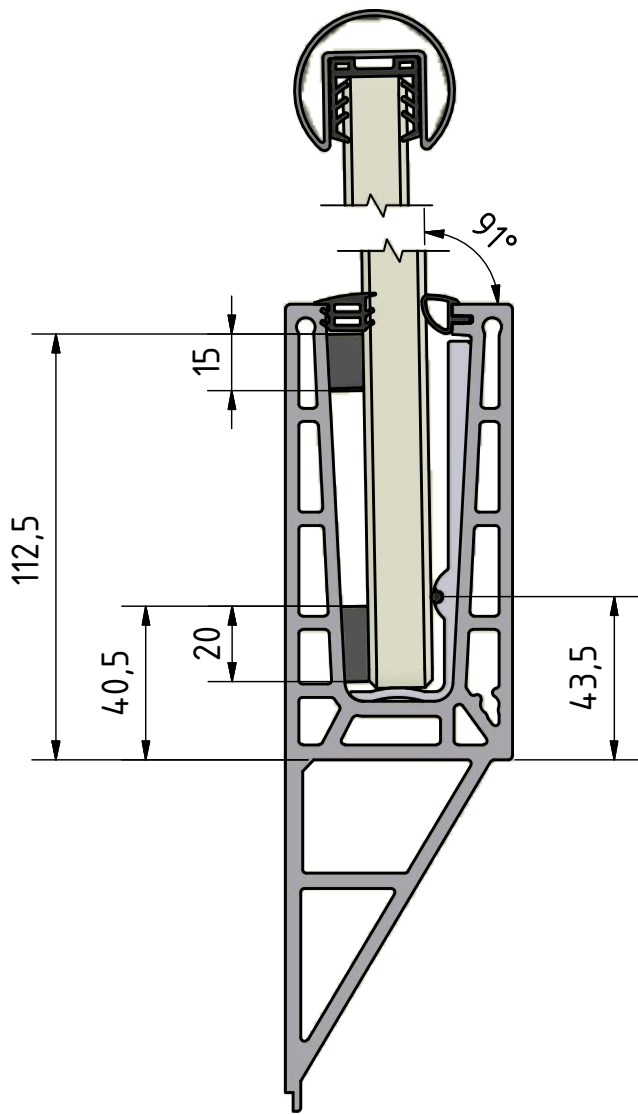
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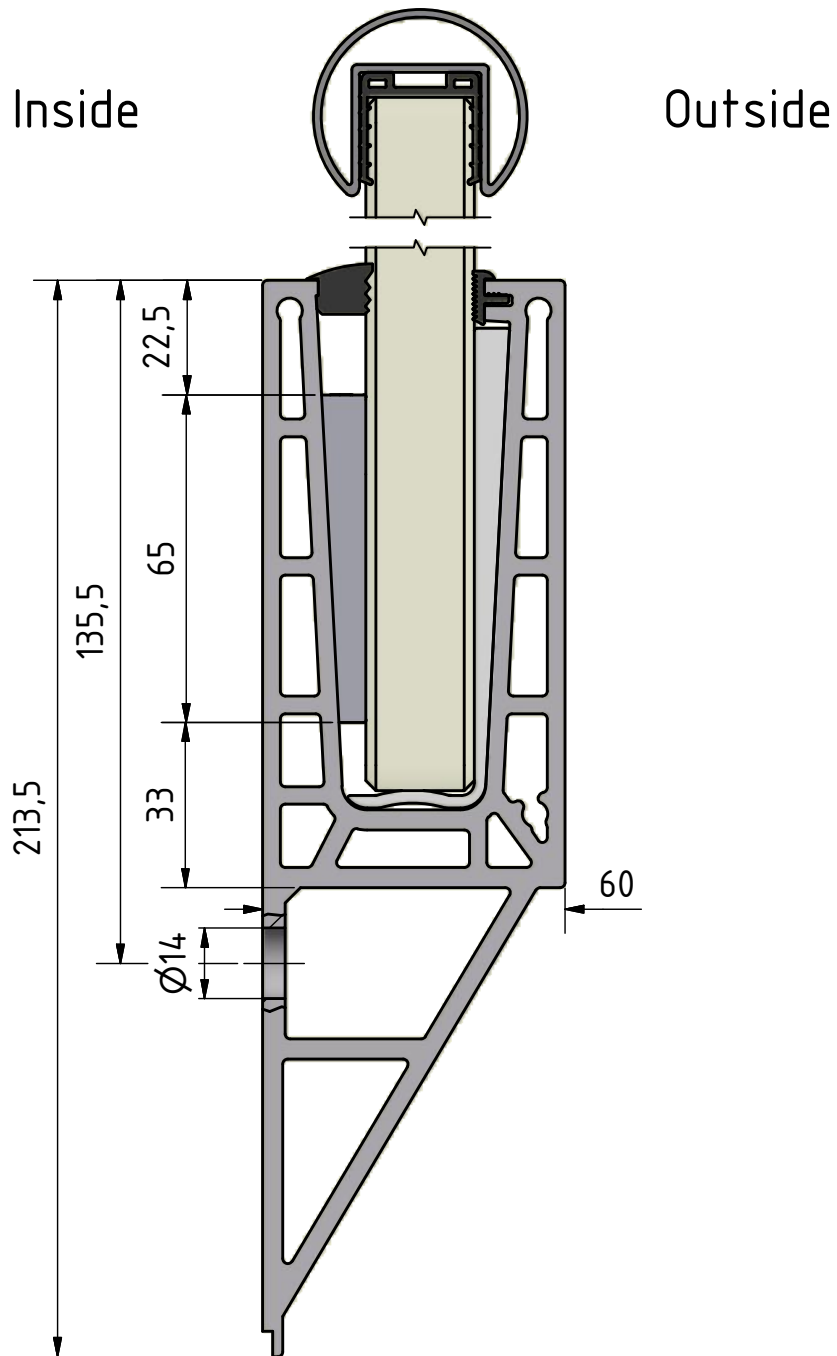


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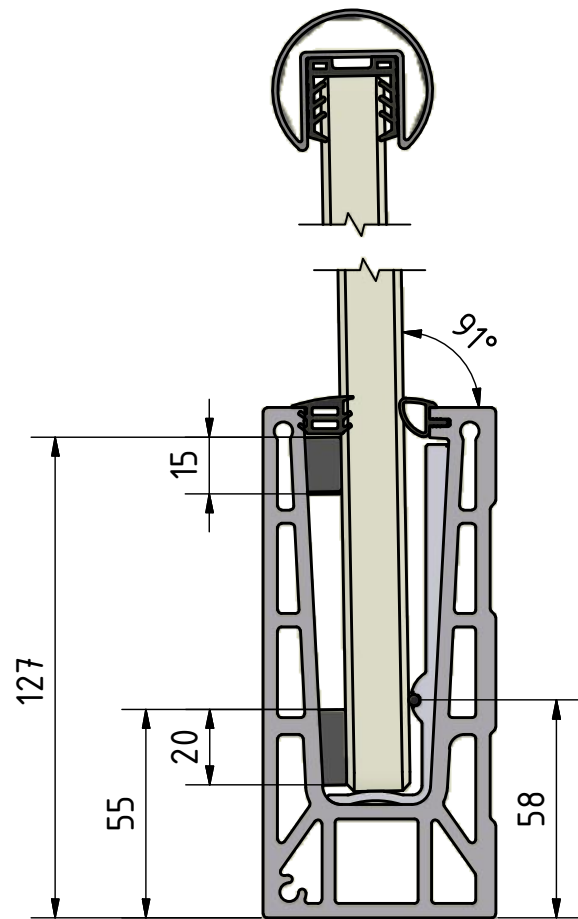
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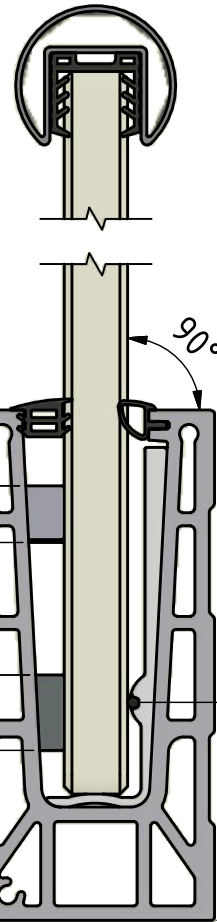


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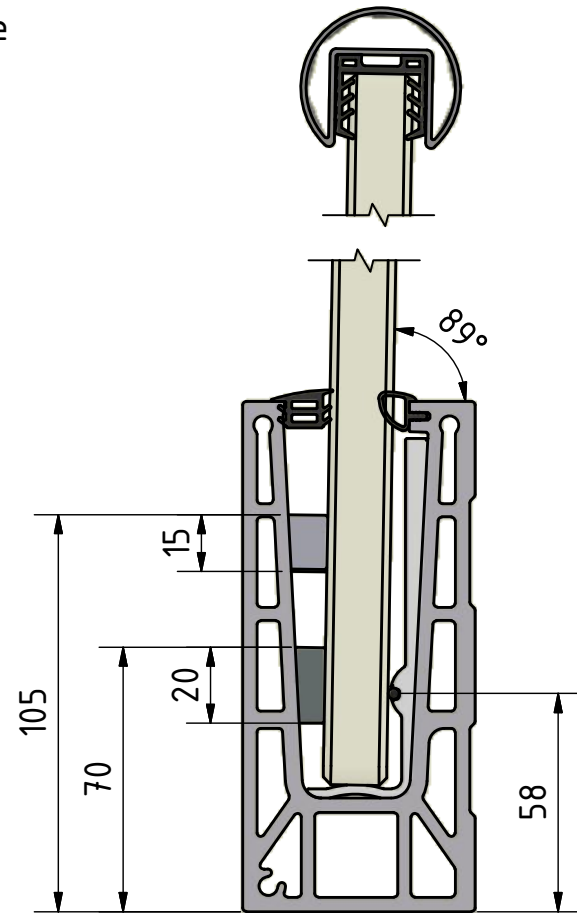
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Inside

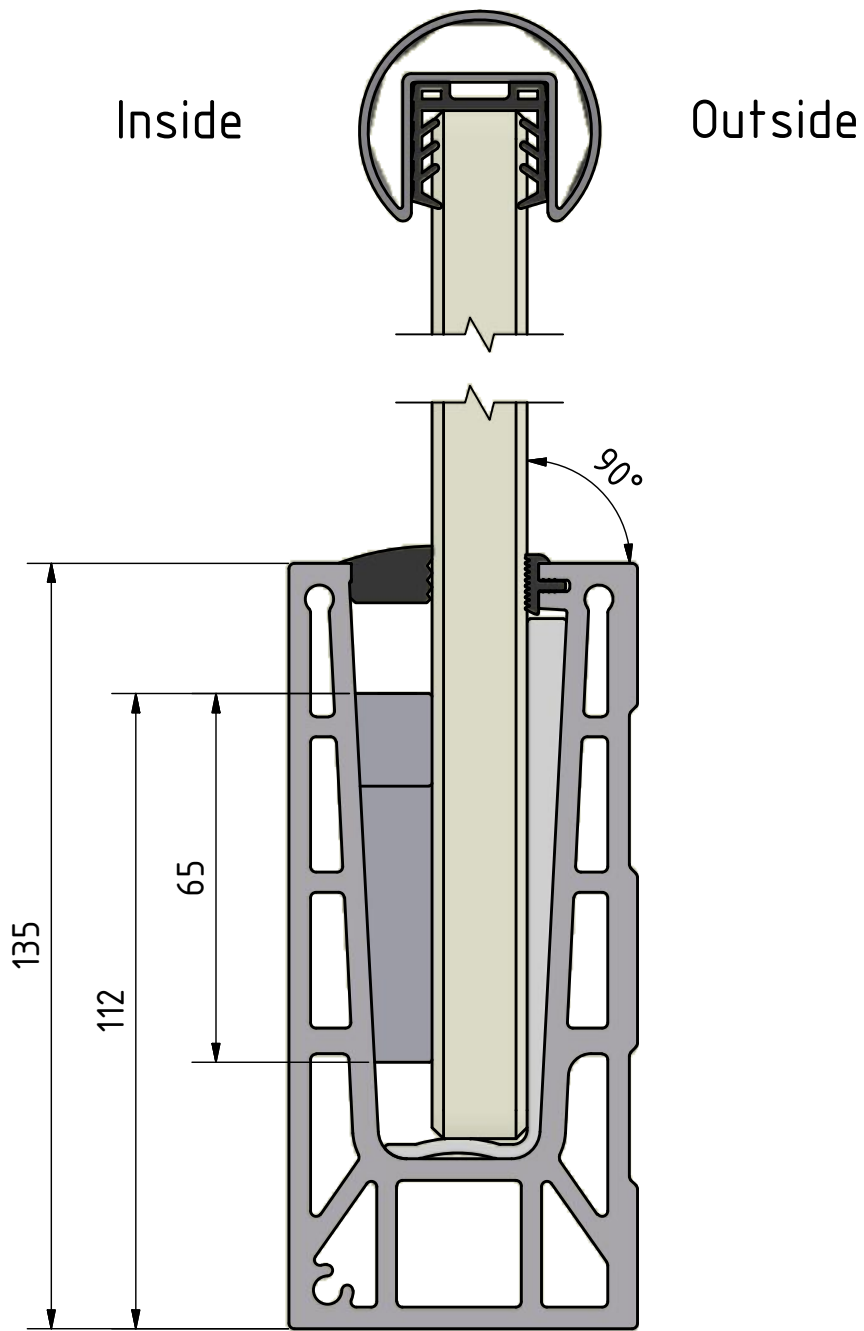


Outside




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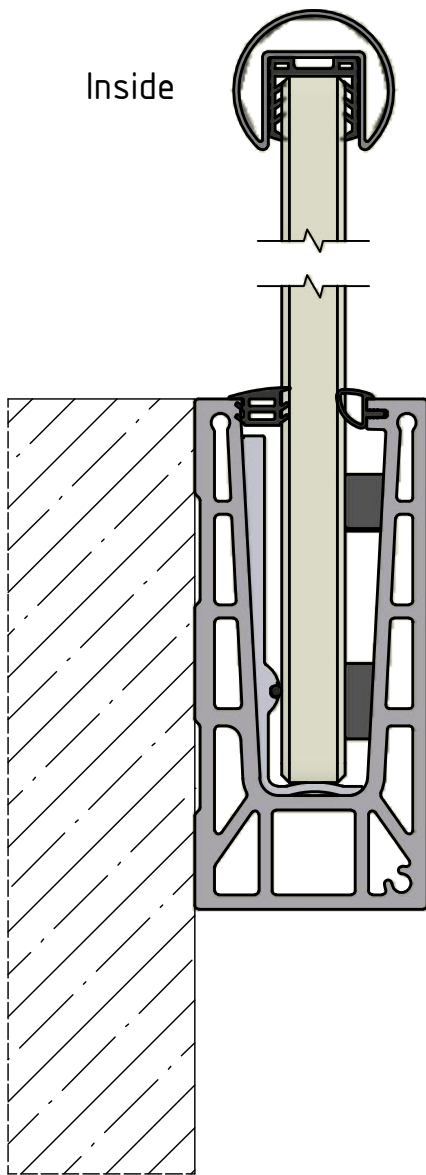


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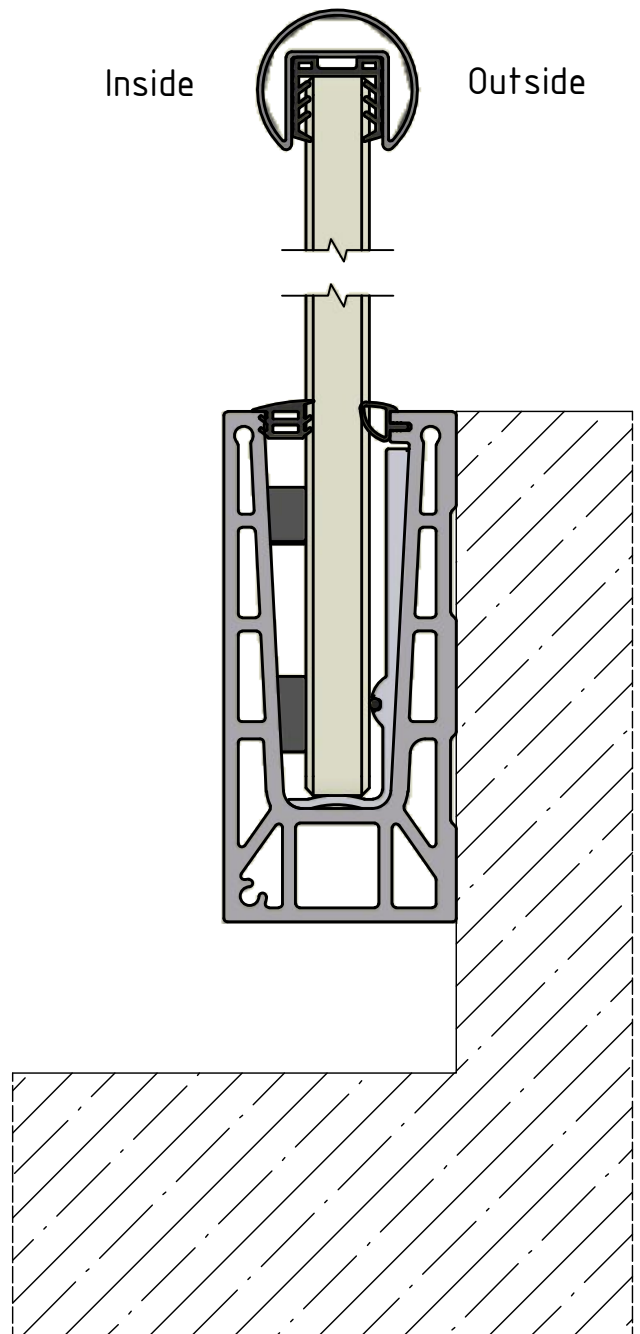
EG Pro Fascia

Inside Outside



EG Pro Inverse

Inside Outside



Article:

MOD:

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Project:

Detail:

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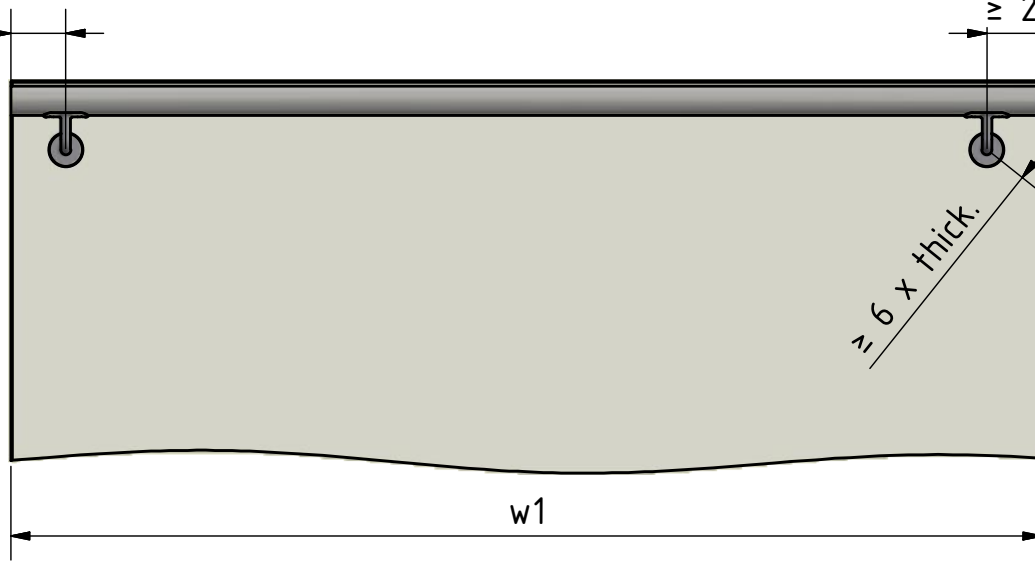
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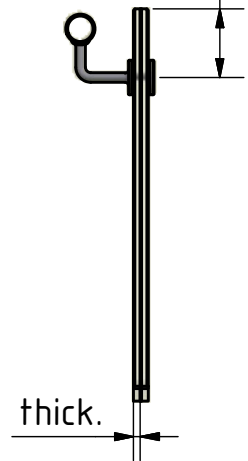
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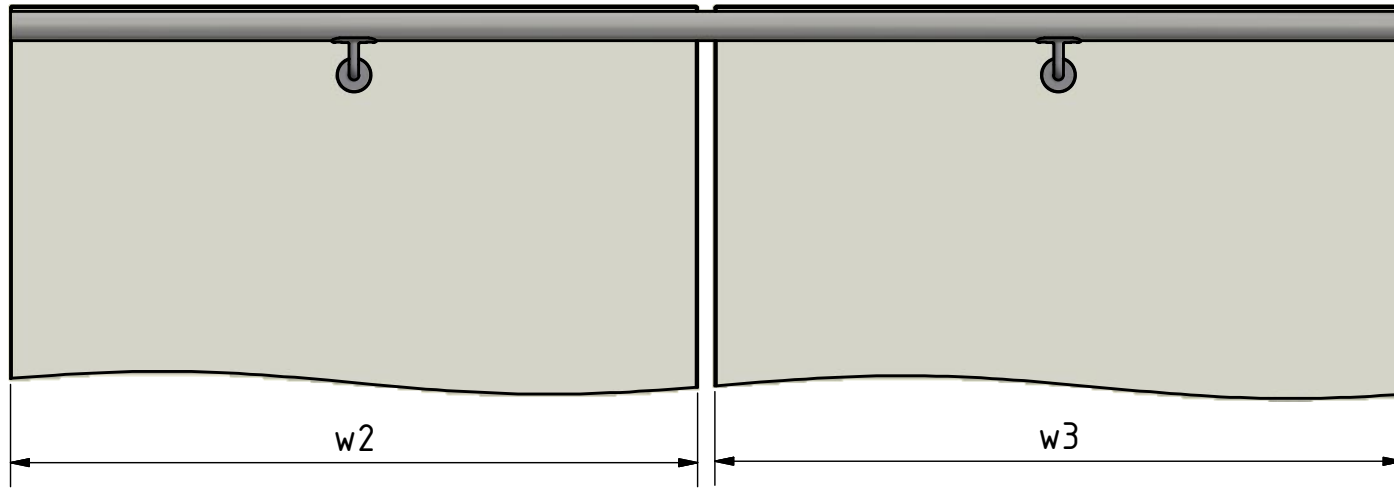
≥ 2 x thick.

option 1

≥ 2 x thick.



thick.



option 2



Scale: 1 : 11 | Weight: N/A | Rev.No.: 0

Material:

Finish:

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Product line:

	Date	Name
Drawn	04.07.2019	chx
Checked		

Description:

General tolerance according

Drawing no.: handrail_fixed_in_glass_op

Project:
 Sheet: 1 / 1 | A4

1	DESCRIPTION	DRAWN	DATE
REV			



GOOD LUCK WITH
YOUR INSTALLATION!

VIEL ERFOLG MIT
IHRER MONTAGE!

SUCCES MET
DE INSTALLATIE!