



GENERAL BUILDING-AUTHORITY TEST CERTIFICATE (ABP)

EASY GLASS[®] SMART

FASCIA MOUNT

TOP MOUNT

SMART F

SMART Y

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

Römerstraße 23, 86438 Kissing
Tel.:0049 08233 24699 52 - 2611; E-mail: info@laborsl.de



Bay 27

General building-authority test certificate

Test certificate number:	P-2023-3021
Object:	linearly mounted compound safety glazing
System:	EASY GLASS Smart
Intended purpose:	Barrier according to DIN 18008-4 Administrative instructions Technical Building Regulations for Nordrhein-Westfalen (VV TB NRW) Version 2019/01 Type of construction acc. to C 4.12
Barrier category:	B
Applicant:	Q-railing Europe GmbH & Co. KG Marie-Curie-Straße 8 - 14 46446 Emmerich am Rhein
Date of issue:	20.03.2023
Valid until:	19.03.2028

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 9 pages and 5 appendices.

signiert von: Alexander Lorenz | am: 17.03.2023 | mit:  digiSeal[®] by secrypt

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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 barrier system Easy Glass Smart according administrative instructions Technical Building Regulations for Nordrhein-Westfalen (VV TB NRW) Version 2019/01 distributed 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**.

1.3 Basis of this certificate

Basis for this test certificate are the test reports 2018-3029 and 2018-3122 Rev. 1.

2 Requirements for the design

2.1 Description of the construction

2.1.1 Glass mounting

The glazing is mounted linearly at the lower horizontal glass edge. The admissible mounting profiles are presented in appendices 1 to 4. The clamping of the glass is achieved by inserting plastic wedges. Impacts may occur from both sides of the glass panel.

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. Alternatively, other suitable fastening means can also be used.

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.

As an alternative to the attached profile, the handrail can also be fastened with point fixings as shown in Annex 5.

2.1.2 Glazing

The following glass-built ups can be used:

Glass built up 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	min.	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 built up heat strengthened glass:

		built up 4	built up 5
heat strengthened glass		8,00 mm	10,00 mm
PVB interlayer	min.	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 according to DIN 18008-4 are allowed. The glass and interlayer thicknesses listed above may be exceeded. All Interlayers with an appropriate general building-authority certificate may be used for laminated glass. Tempered glass according to DIN EN 12150 or DIN EN 14179 is allowed.

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. 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 2018-3029 and 2018-3122 Rev. 1.

2.3 Use, maintenance and service

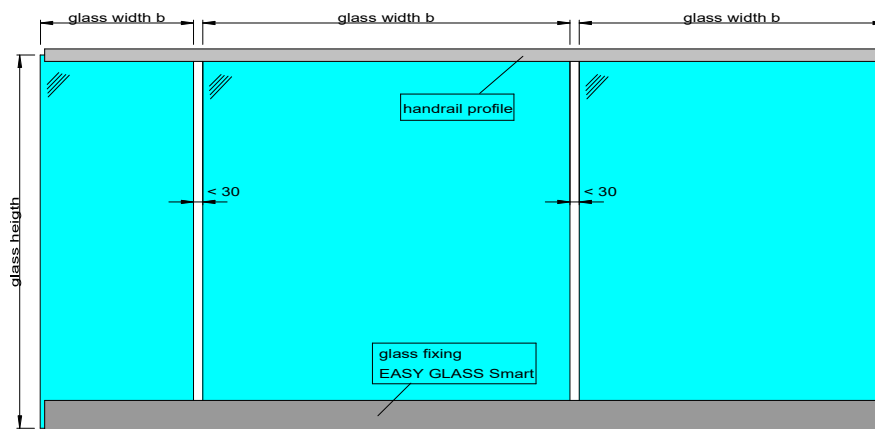
The construction must be mounted and secured using suitable measures in such a way that it meets the specified requirements as barrier permanently. The proof of secure anchoring of the glazing construction at the building must follow the applicable technical building regulations.

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:

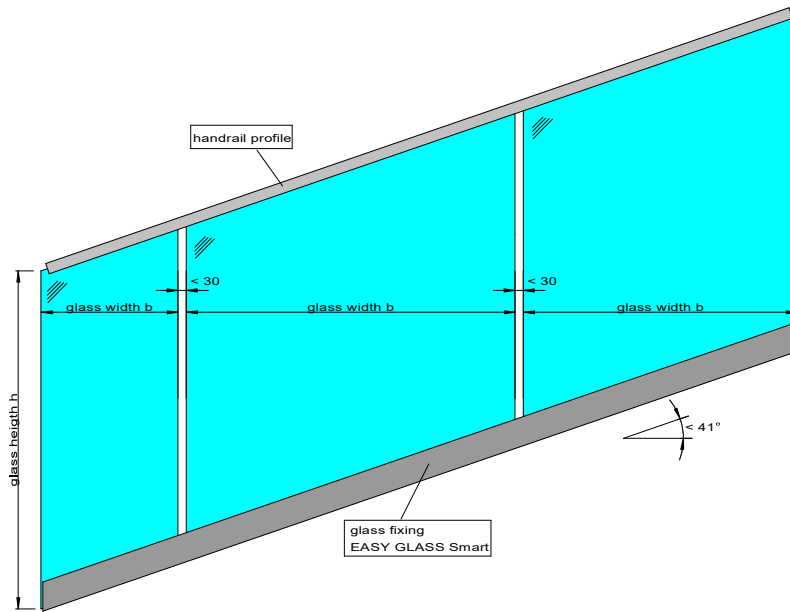


The following dimensions were validated in tests:

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):

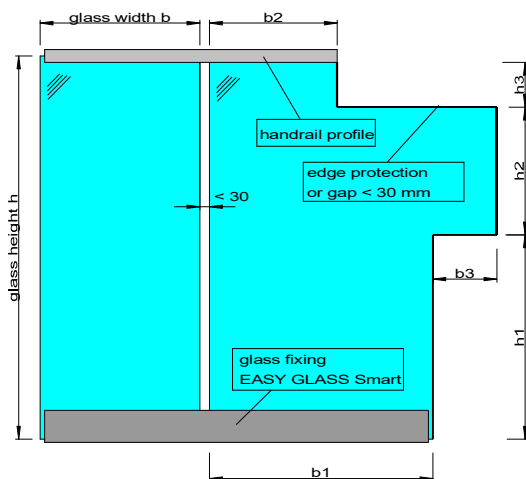


The following dimensions were proven in tests:

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:

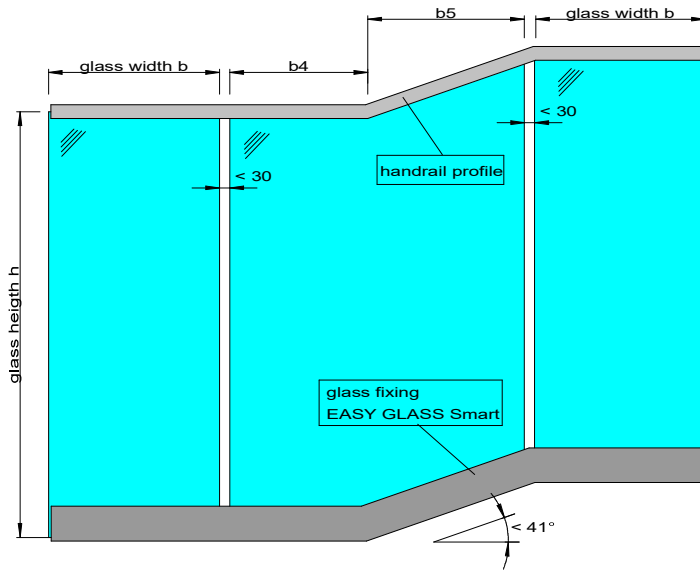


The following dimensions were proven in tests:

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					
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:

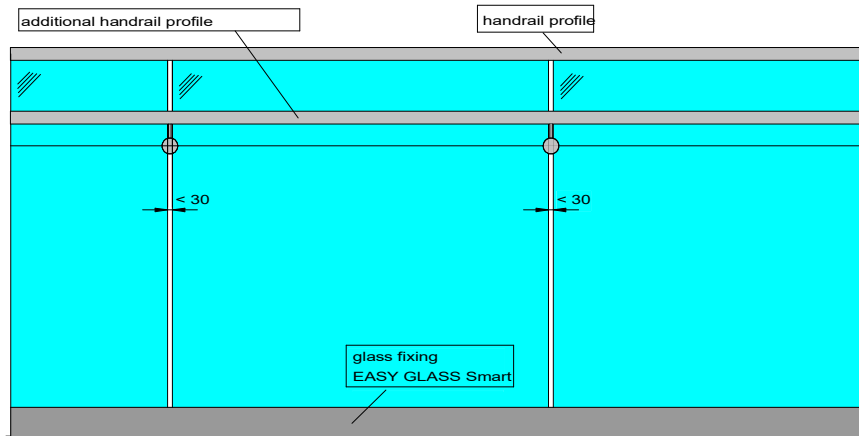
Table 4: admissible dimensions for a transition panel

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

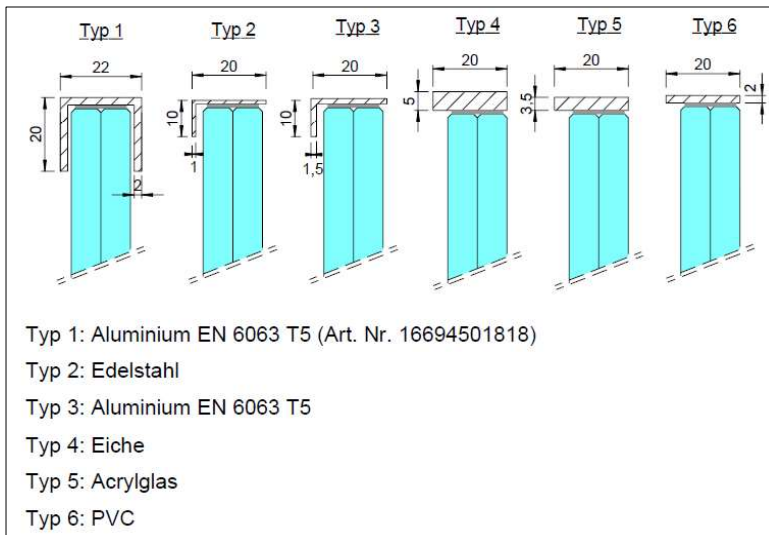
Other constructive specifications:

- At least 2 panels with the smallest glass width must be installed.
- If the handrail is anchored at the end, the glass barrier may also consist of one panel.
- The specifications of Q-railing must be observed for the arrangement of the plastic wedges
- The glass structures listed in Tables 1 to 4 may be provided with a ceramic print if this is oriented towards the interlayer.
- 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



The following types are permitted as edge protection profiles.



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

The design described in this general building-authority test certificate requires a declaration of conformity by the user (contractor) in accordance with Building code for Land Nordrhein-Westfalen (BauO NRW) Fassung 2018/07. In this document, the contractor declares for the client that the described design complies with this general building-authority test certificate in all details.

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 14179, Part 1; Glass in building – Heat Soaked thermally toughened soda lime silicate safety glass
- [g] DIN EN 1863, Part 1; Glass in building - Heat strengthened soda lime silicate glass
- [h] DIN 18008, Part 1-2; Glass in Building - Design and construction rules
- [i] Test report 2018-3029; impact tests according to DIN 18008-4; Labor für Stahl und Leichtmetallbau GmbH from 20.03.2018
- [j] Test report 2018-3122 Rev. 1; impact tests according to DIN 18008-4; Labor für Stahl und Leichtmetallbau GmbH from 11.03.2020

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.

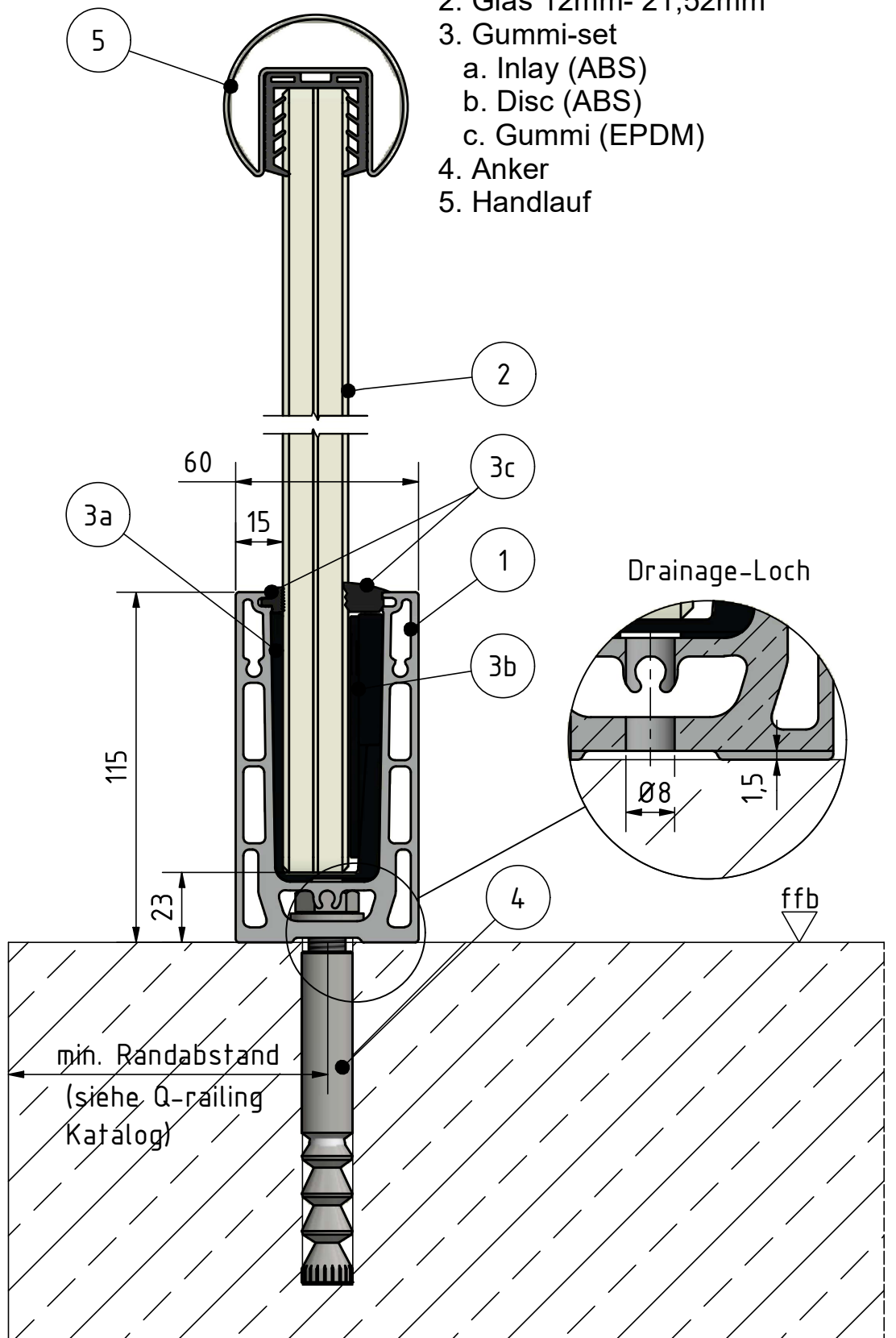
Kissing, 19.03.2023

For the management and administrator



Dipl. -Ing. (FH) A. Lorenz

1. Bodenprofil (Easy Glass Smart)
2. Glas 12mm- 21,52mm
3. Gummi-set
 - a. Inlay (ABS)
 - b. Disc (ABS)
 - c. Gummi (EPDM)
4. Anker
5. Handlauf



SYSTEM: Easy Glass Smart
MODELL: 168210
BESCHREIBUNG: Bodenmontage

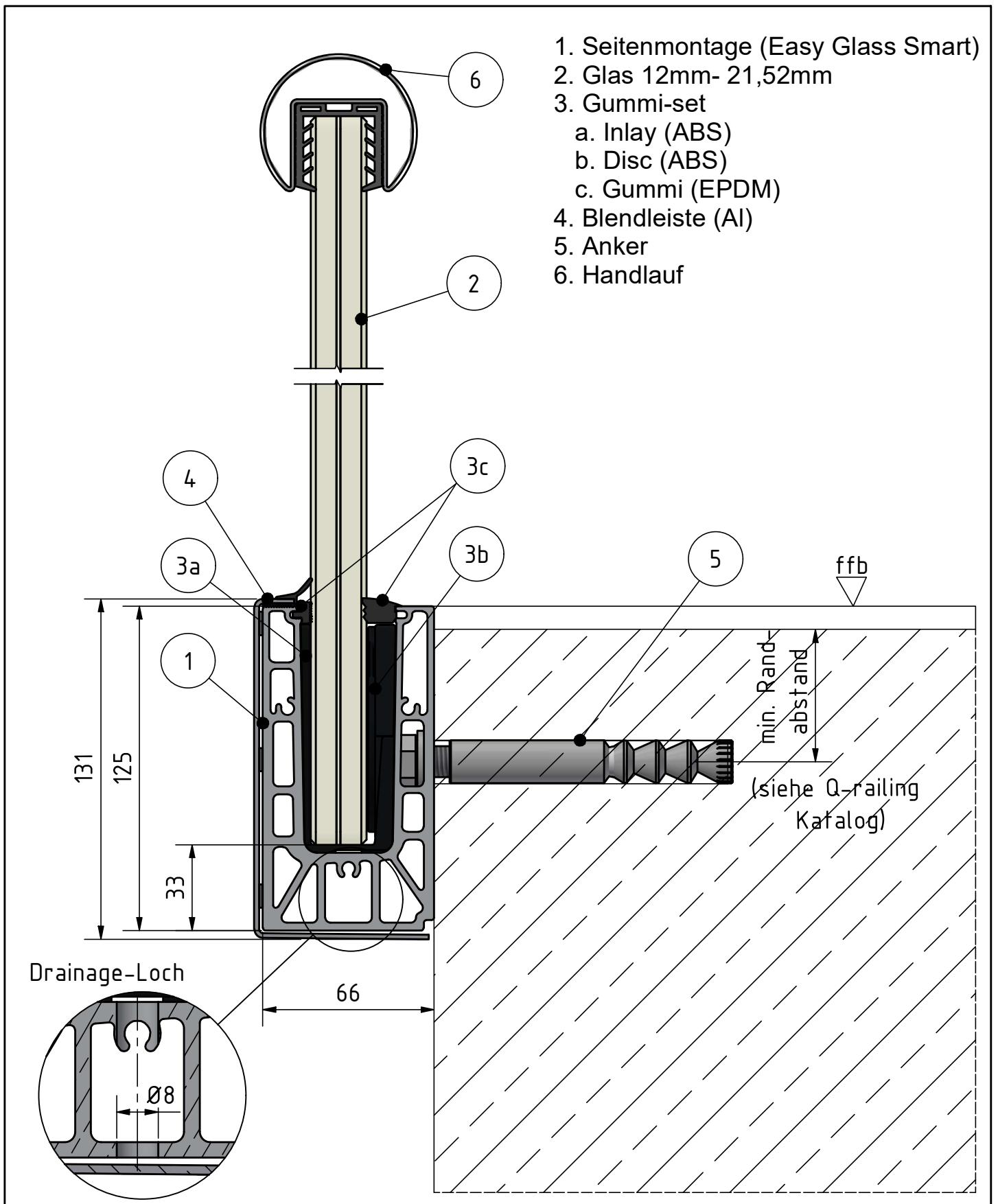
GEZEICHNET: AIG
 DATUM: 22.02.2018
 ZEICHNUNGS NR.: 168210-001_Easy Glass Smart

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Q-railing



SYSTEM: Easy Glass Smart
MODELL: 168230
BESCHREIBUNG: Seitenmontage

GEZEICHNET: AIG
 DATUM: 22.02.2018
 ZEICHNUNGS NR.: 168230-001_Easy Glass Smart

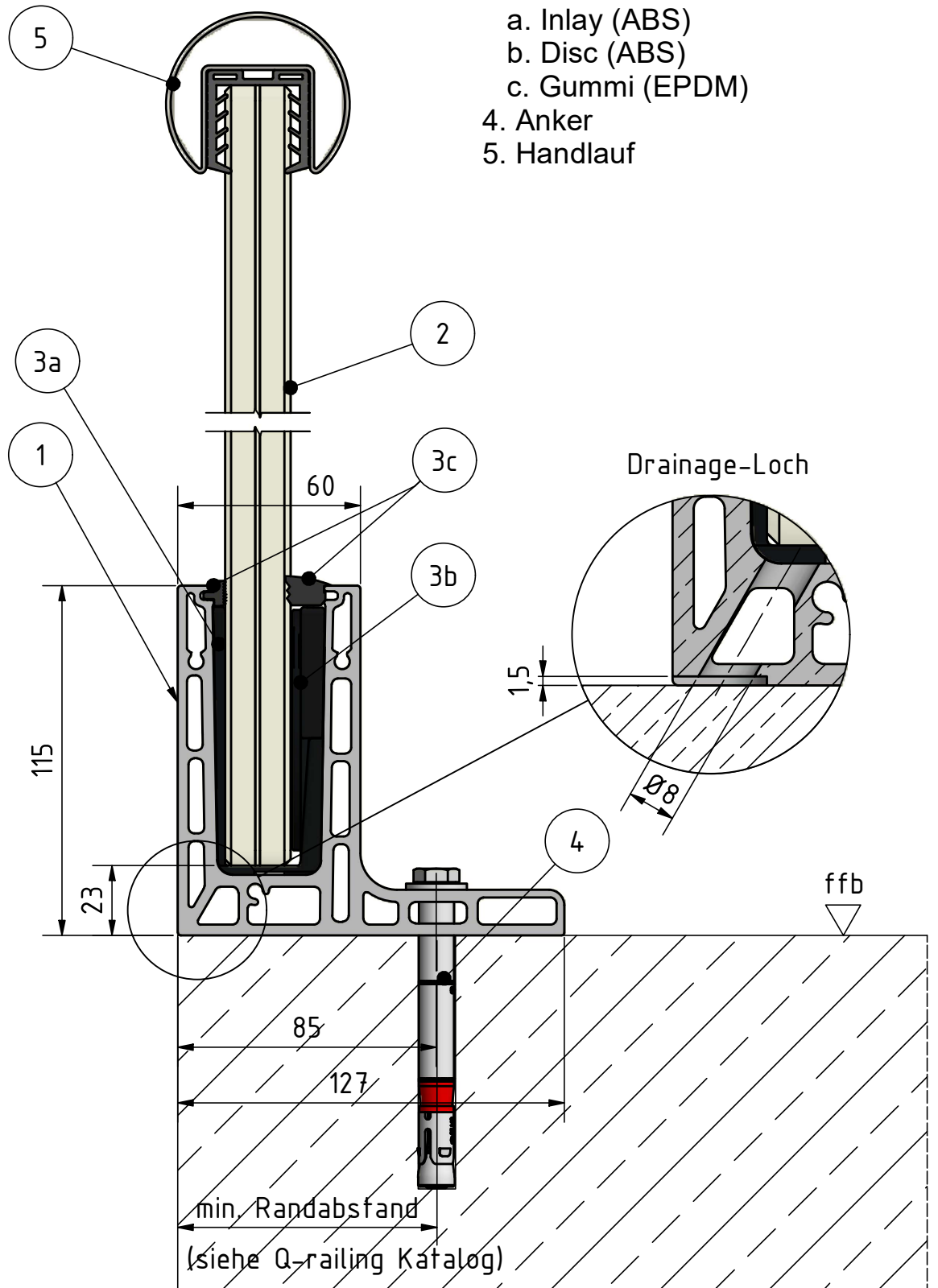
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Q-railing

1. F - Profil (Easy Glass Smart)
2. Glas 12mm- 21,52mm
3. Gummi-set
 - a. Inlay (ABS)
 - b. Disc (ABS)
 - c. Gummi (EPDM)
4. Anker
5. Handlauf



SYSTEM: Easy Glass Smart
MODELL: 168220
BESCHREIBUNG: Bodenmontage, F-Profil

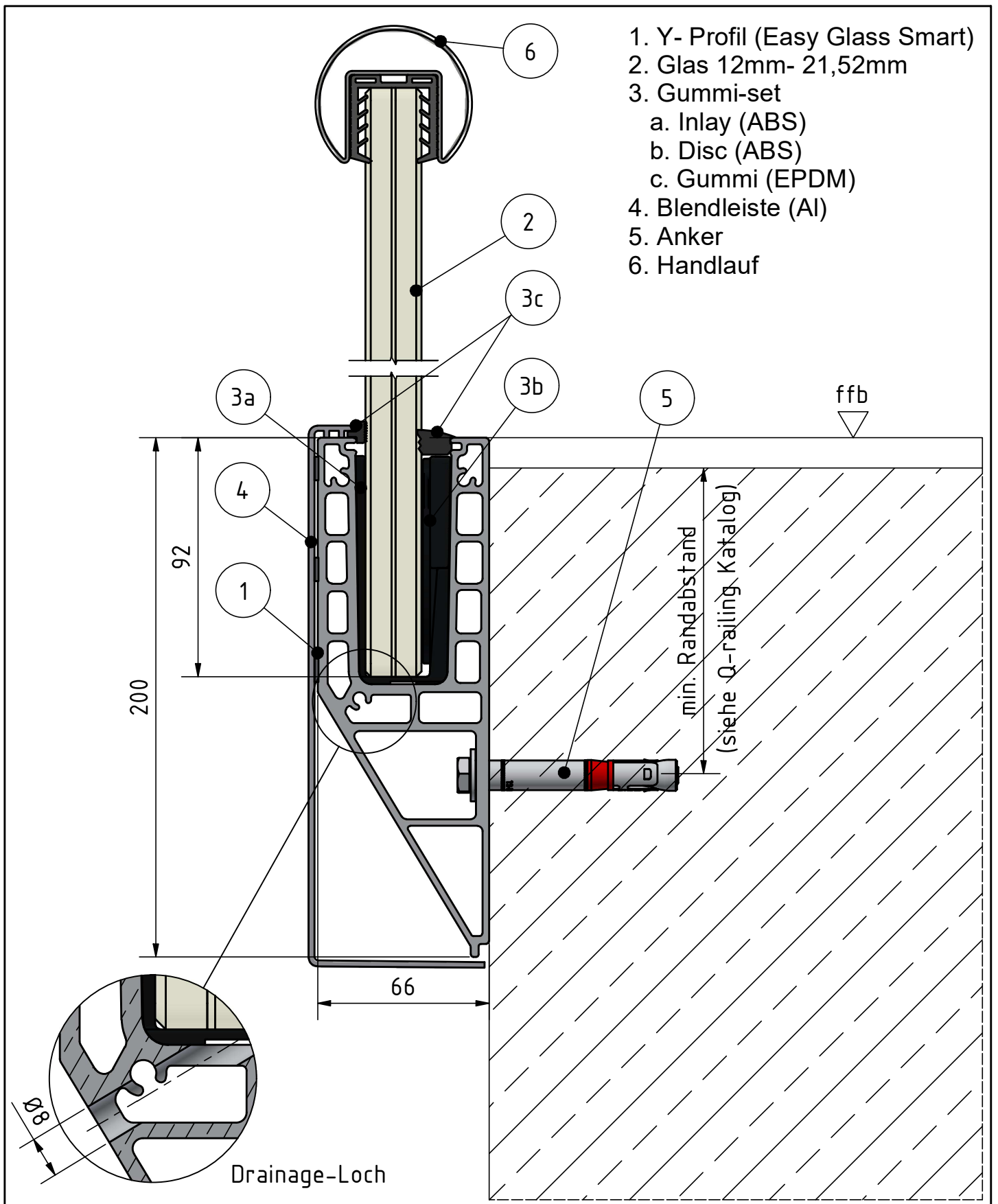
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 ZEICHNUNGS NR.: 168220-001_Easy Glass Smart F

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Q-railing



SYSTEM: Easy Glass Smart
MODELL: 168240
BESCHREIBUNG: Seitenmontage

GEZEICHNET: AIG
 DATUM: 22.02.2018
 ZEICHNUNGS NR.: 168240-001_Easy Glass Smart Y

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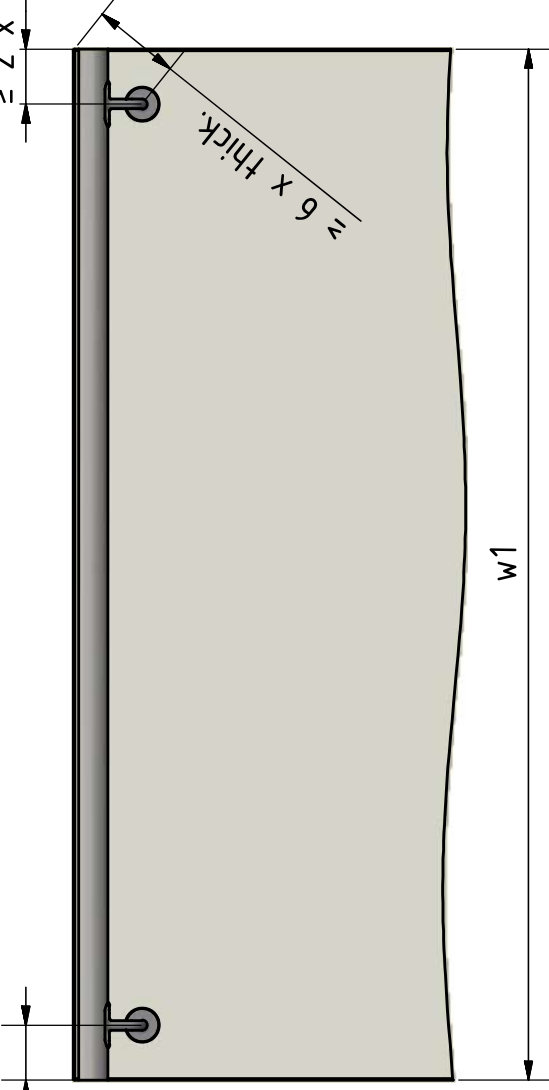
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Q-railing

≥ 2 x thick.

≥ 2 x thick.



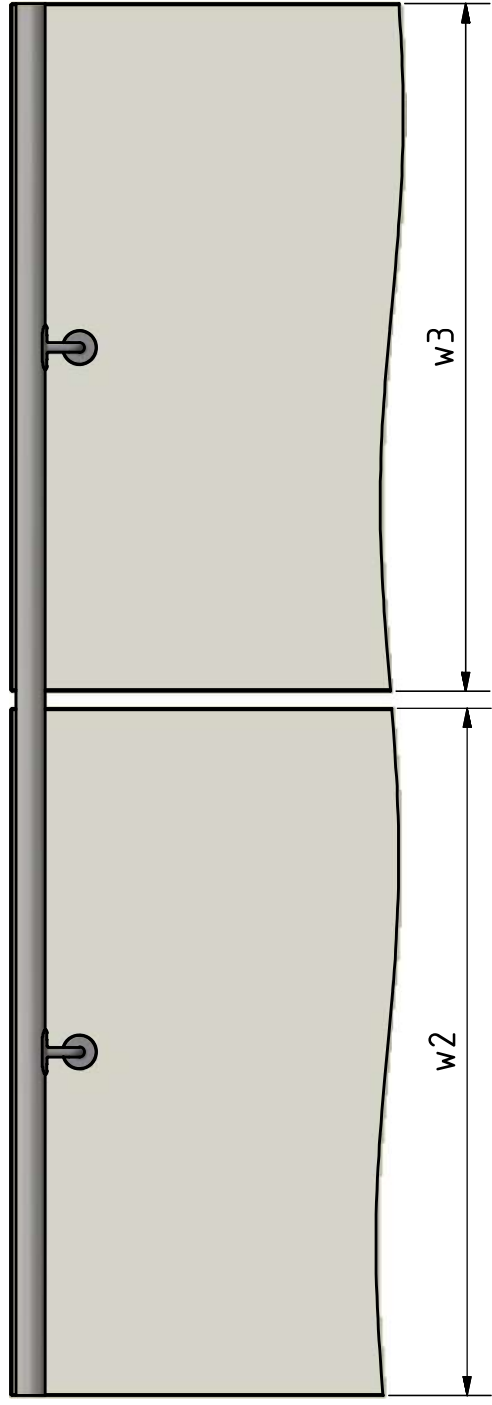
option 1

≥ 2 x thick.



thick.

option 2

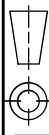


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Drawn	Date	Name
Checked	04.07.2019	chx

General tolerance according

Scale: 1 : 11 | Weight: N/A



Rev.No.: 0

Material:

Finish:

Product line:

Description:

1	REV	DESCRIPTION	DRAWN	DATE
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Project: handrail_fixed_in_glass-op
 Sheet: 1 / 1
 A4



GOOD LUCK WITH
YOUR INSTALLATION!

VIEL ERFOLG MIT
IHRER MONTAGE!

SUCCES MET
DE INSTALLATIE!