GENERAL BUILDING-AUTHORITY
TEST CERTIFICATE (ABP)

EASY GLASS® PRIME

TOP MONTAGE MOD.6960
FASCIA MONTAGE MOD.6961

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Bay 27

General building-authority test certificate

Test certificate number:	**P-2018-3056**
Object:	linearly mounted compound safety glazing
System:	**EASY GLASS PRIME**
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:	24.10.2018
Valid until:	23.10.2023

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 10 pages and 2 appendices.

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 to building regulations list A part 3 - issue 2015/2 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 and 2. 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.

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.

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)		8,00 mm	10,00 mm	12,00 mm
PVB interlayer	mind.	0,76 mm	0,76 mm	0,76 mm
tempered glass (ESG)		8,00 mm	10,00 mm	12,00 mm
total glass thickness		16,8 mm	20,8 mm	24,8 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 2018-3101.

2.3 Use, maintenance and service

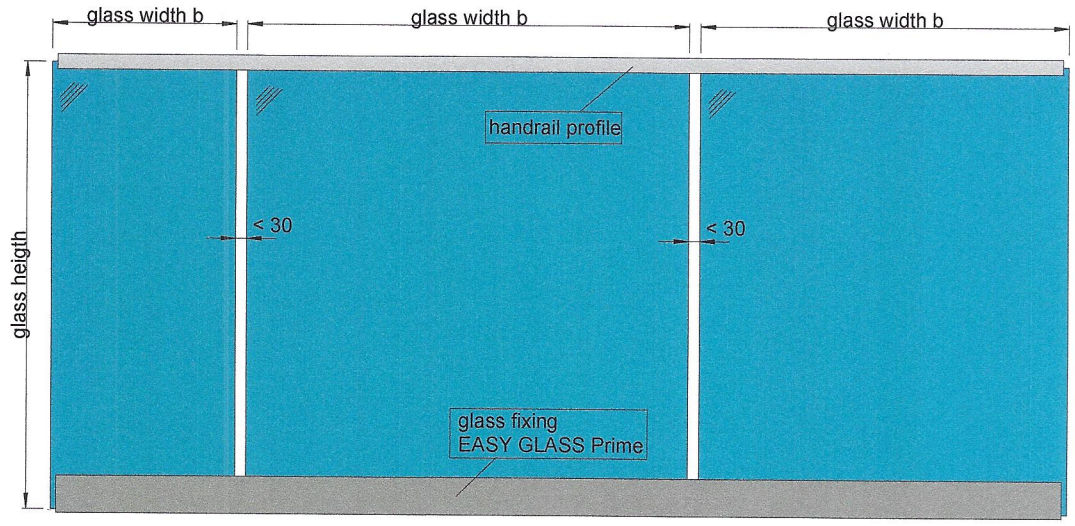
The construction must be mounted and secured using suitable measures in such a way that it meets the specified requirements as barrier permanently. The proof of secure anchoring of the glazing construction at the building must follow the applicable technical building regulations.

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:

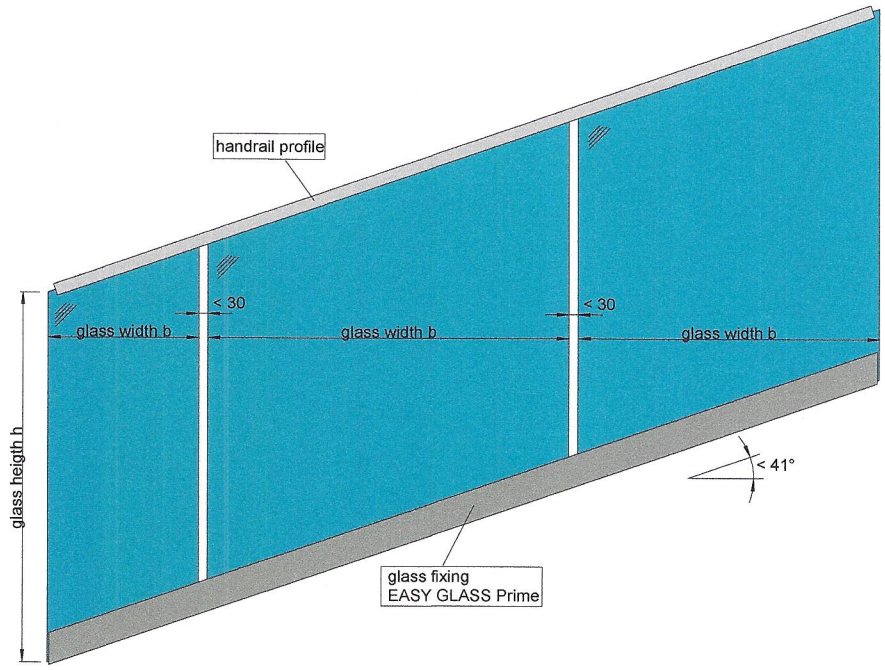


The following dimensions were proven in tests:

Table 1: admissible dimensions for straight installation

glass built up		Glasswidth b [mm] min	Glasswidth b [mm] max	Glassheight [mm] max
1	2 x 8 mm ESG	500	any	1500
2	2 x 10 mm ESG	500	any	1800
3	2 x 12 mm ESG	500	any	1800
4	2 x 8 mm TVG	500	any	1200
5	2 x 10 mm TVG	500	any	1200

Deviations from rectangular shape (flight of stairs):

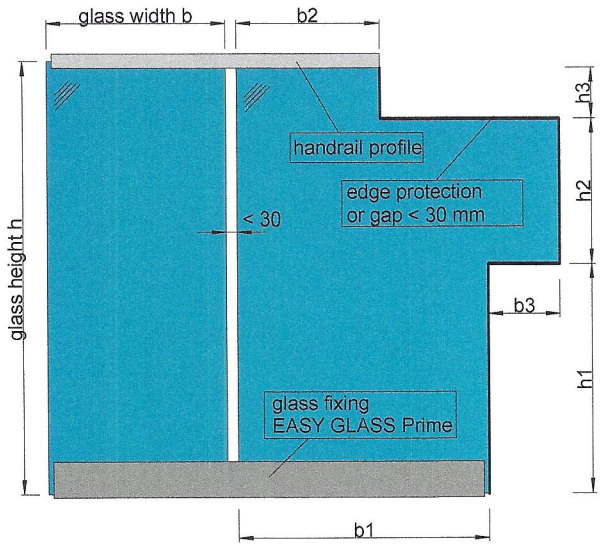


The following dimensions were proven in tests:

Table 2: admissible dimensions for a flight of stairs

glass built up		Glasswidth b [mm] min	Glasswidth b [mm] max	Glassheight [mm] max
1	2 x 8 mm ESG	500	any	1500
2	2 x 10 mm ESG	500	any	1800
3	2 x 12 mm ESG	500	any	1800
4	2 x 8 mm TVG	500	any	1200
5	2 x 10 mm TVG	500	any	1200

Model panel:

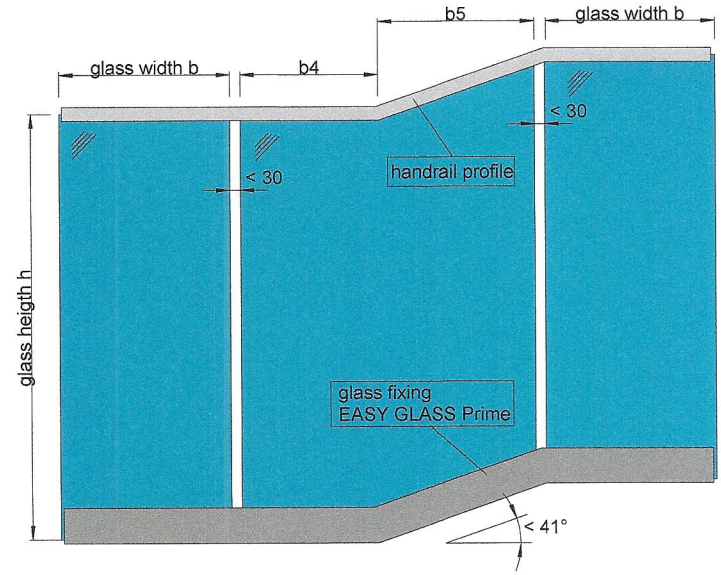


The following dimensions were proven in tests:

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
1	2 x 8 mm ESG	700	any	400	b1 + b3	200	1250	any	any	300
2	2 x 10 mm ESG	700	any	400	b1 + b3	200	1250	any	any	300
3	2 x 12 mm ESG	700	any	400	b1 + b3	200	1250	any	any	300

Transition panel:



The following dimensions were proven in tests:

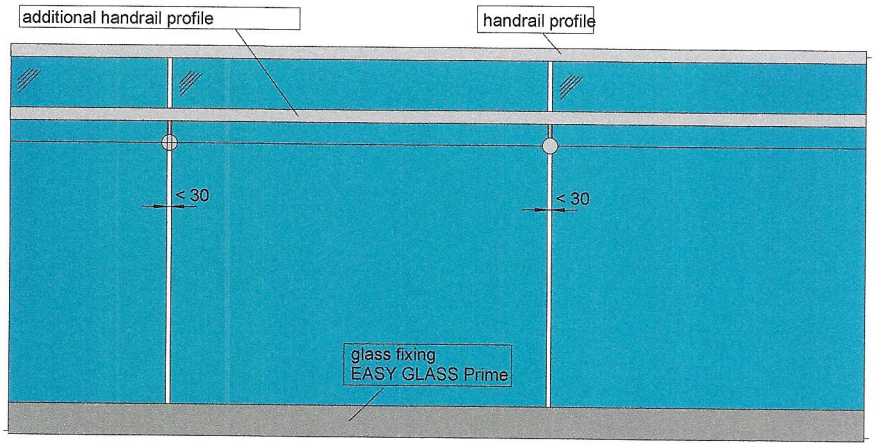
Table 4: admissible dimensions for a transition panel

glass built up		b4 [mm]		b5 [mm]		glass height [mm]
		min	max	min	max	max
1	2 x 8 mm ESG	400	any	460	any	1200
2	2 x 10 mm ESG	400	any	460	any	1200
3	2 x 12 mm ESG	400	any	460	any	1200

Other constructive specifications:

- At least 2 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 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 Regulation List A, B and List C; issue 2015/2

[b] DIN EN 14449; Glass in building - Laminated glass and laminated safety glass

[c] DIN 572, Part 1-2; Glass in building - Basic soda lime silicate glass products

[d] DIN 12150, Part 1; Glass in building - Thermally toughened soda lime silicate safety glass

[e] DIN EN 1863, Part 1; Glass in building - Heat strengthened soda lime silicate glass

[f] DIN 18545, Part 1; Sealing of glazing with sealants

[g] DIN 18545, Part 2; Sealing of glazing with sealants

[h] DIN 18008, Part 1-2; Glass in Building - Design and construction rules

III. Legal basis

This general building-authority test certificate was issued based on section 17 and 19 of the Bavarian building code (BayBO) of 14th August 2017 in conjunction with the Building Regulations List A.

According to § 25 paragraph 2 of the MBO in conjunction with section 23 paragraph 2 of the Bavarian building code (BayBO) of 14th August 2017, an issued general building-authority test certificate is valid in all states of the Federal Republic of Germany.

IV. Instruction on right to appeal

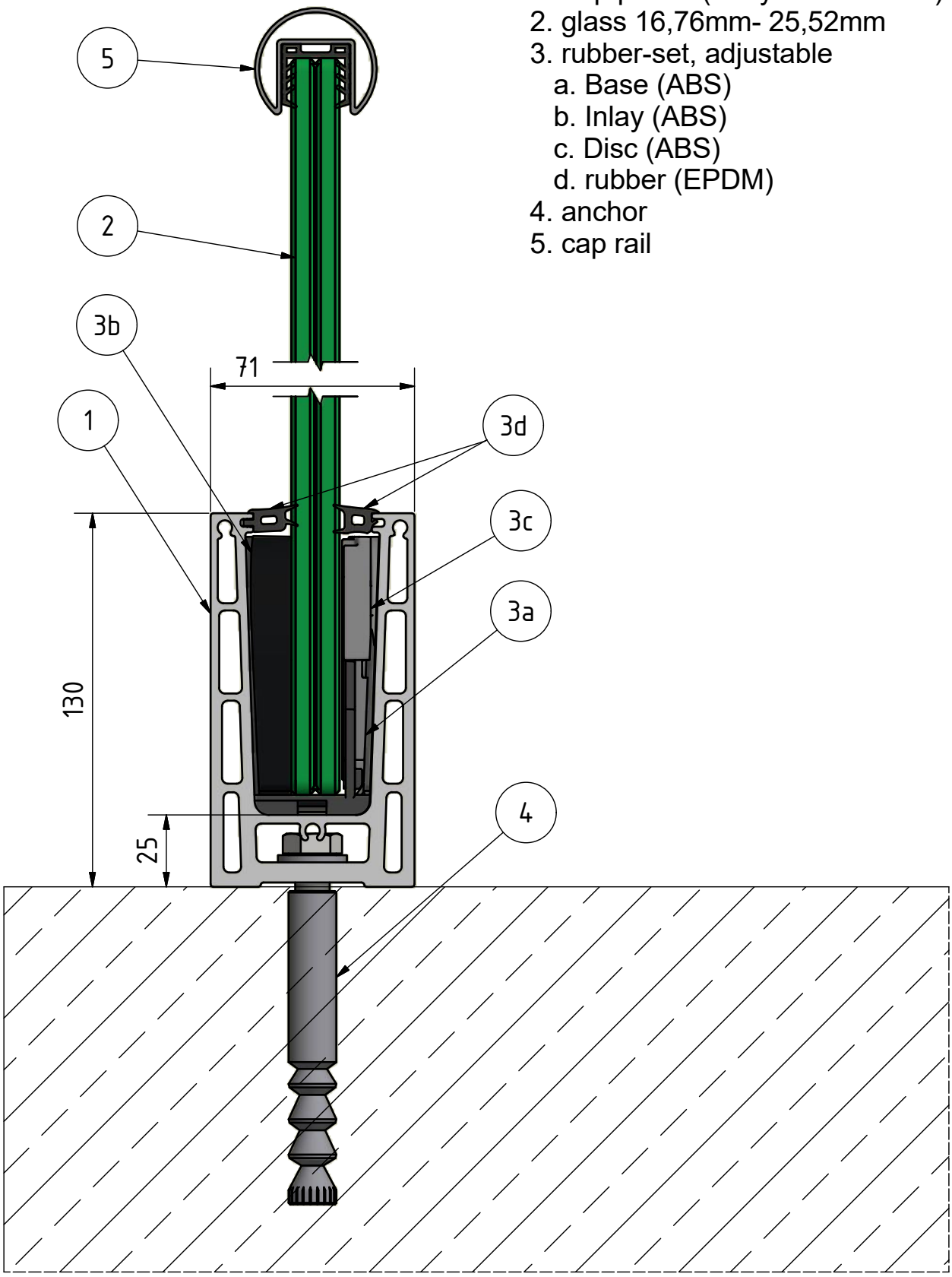
This general building-authority test certificate can be appealed within one month after issue. The appeal must be submitted in writing or for recording at the Labor für Stahl- und Leichtmetallbau GmbH.

Munich, 24.10.2018

For management and administration

Dipl. –Ing. (FH) A. Lorenz

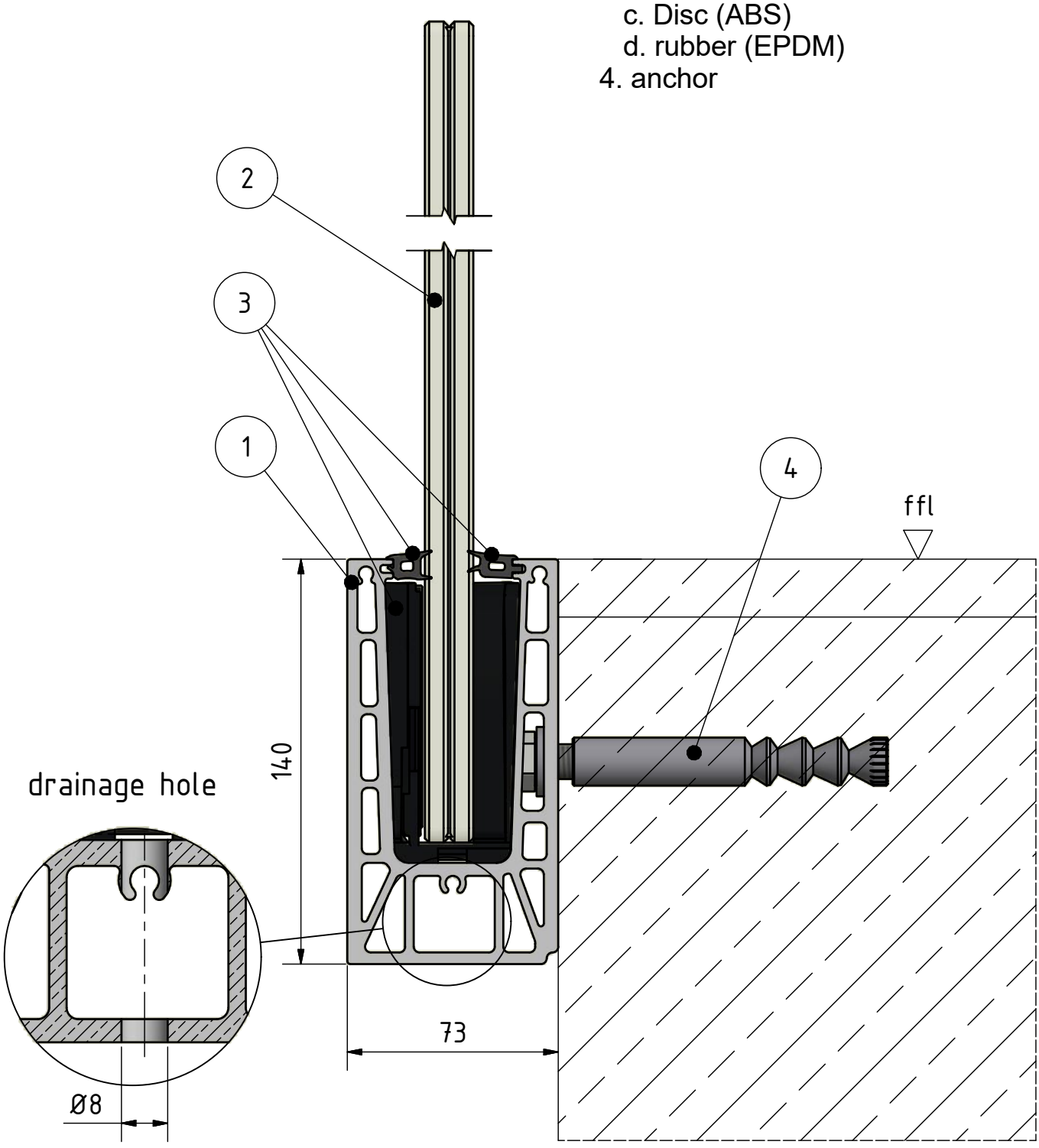
1. Top profile (Easy Glass Prime)
2. glass 16,76mm- 25,52mm
3. rubber-set, adjustable
   a. Base (ABS)
   b. Inlay (ABS)
   c. Disc (ABS)
   d. rubber (EPDM)
4. anchor
5. cap rail



SYSTEM:	**2017-193**
MODEL:	**Easy Glass Prime**
DESCRIPTION:	**Top mount**
DRAWN:	AIG
DATE:	19.07.2018
DRAWING NO.:	Assembly_Top

This detail drawing is for reference purposes only. The installer must check the specifications and details with the local situation and regulations. For further advice and service please contact your nearest Q-railing office.

1. Fascia profile (Easy Glass Prime)
2. glass 16,76mm- 25,52mm
3. rubber-set, adjustable
   a. Base (ABS)
   b. Inlay (ABS)
   c. Disc (ABS)
   d. rubber (EPDM)
4. anchor



SYSTEM:	**2018-199**
MODEL:	**Easy Glass Prime**
DESCRIPTION:	**Fascia mount**
DRAWN:	AIG
DATE:	22.10.2018
DRAWING NO.:	Assembly_Fascia

This detail drawing is for reference purposes only. The installer must check the specifications and details with the local situation and regulations. For further advice and service please contact your nearest Q-railing office.

GOOD LUCK WITH
YOUR INSTALLATION!

VIEL ERFOLG MIT
IHRER MONTAGE!

SUCCES MET
DE INSTALLATIE!