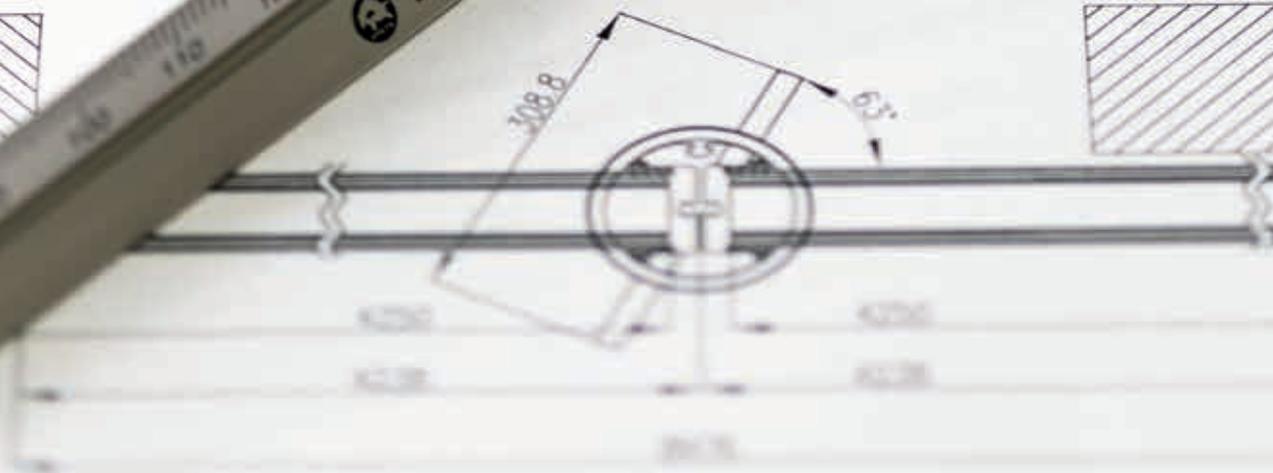


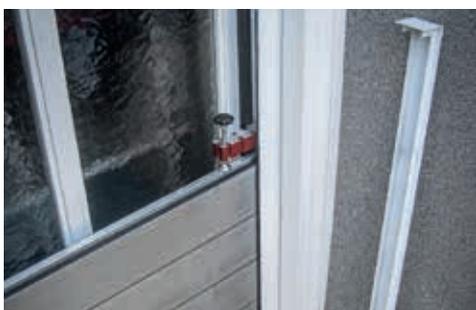


PLANNING GUIDE

PREFA FLOOD PROTECTION SYSTEM



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 Europaverband
Hochwasserschutz e.V.®



EASY | FAST | INDIVIDUAL

Water is an unpredictable natural force. We take flood protection seriously.

Climate scientists expect extreme weather events to increase due to rises in average temperatures. So we should anticipate that serious flooding could occur more often than has been the case in recent decades. Flood protection measures such as dams constructed by public authorities and protective measures taken by individuals are a sensible investment in our future.

At PREFA, we know from our own experience how powerful a flood can be and the damage that it can cause. That's what motivated us—together with our affiliated company, NEUMAN Aluminium Strangpresswerk—to develop a demountable flood protection system made of aluminium. Lightweight yet extremely robust aluminium profiles protect doors, gates, windows and entire areas from penetrating flood water.

THE SYSTEM

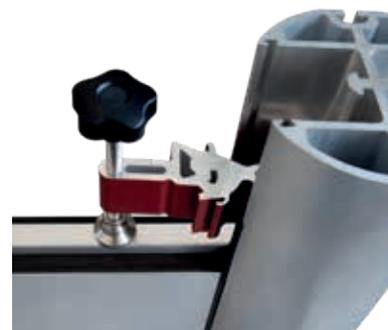
- ! Demountable flood barrier made of aluminium.
- ! The profiles are sealed with special, replaceable foam rubber seals.
- ! Provides protection as soon as the first panel has been installed.

USE

- ! Aluminium barrier panels are pushed into the mounting profiles or uprights (anchored in the ground sleeves) on both sides.
- ! Barrier panels are stacked on top of one another via the tongue and groove system.
- ! The components are fixed at the top by a compression clamp.
- ! The barrier panels fill up as the water rises.

THE POSSIBILITIES

- ! Property and perimeter protection.
- ! The length of the safety barrier can be extended as necessary.
- ! The height of existing protective walls can be increased.
- ! The length of the barrier panels can be individually adapted.



PREFA PROPERTY PROTECTION

PREVENTS WATER FROM PENETRATING THE HOUSE. INDIVIDUAL PROTECTION FOR INDIVIDUAL BUILDINGS.

Water can cause permanent damage in and around the house. Stay one step ahead with PREFA flood protection and use individual systems to protect buildings at risk from penetrating water. The system can be mounted in, behind or in front of, the reveal, and the permanently installed mounting profiles can be colour-coordinated to match your façade.



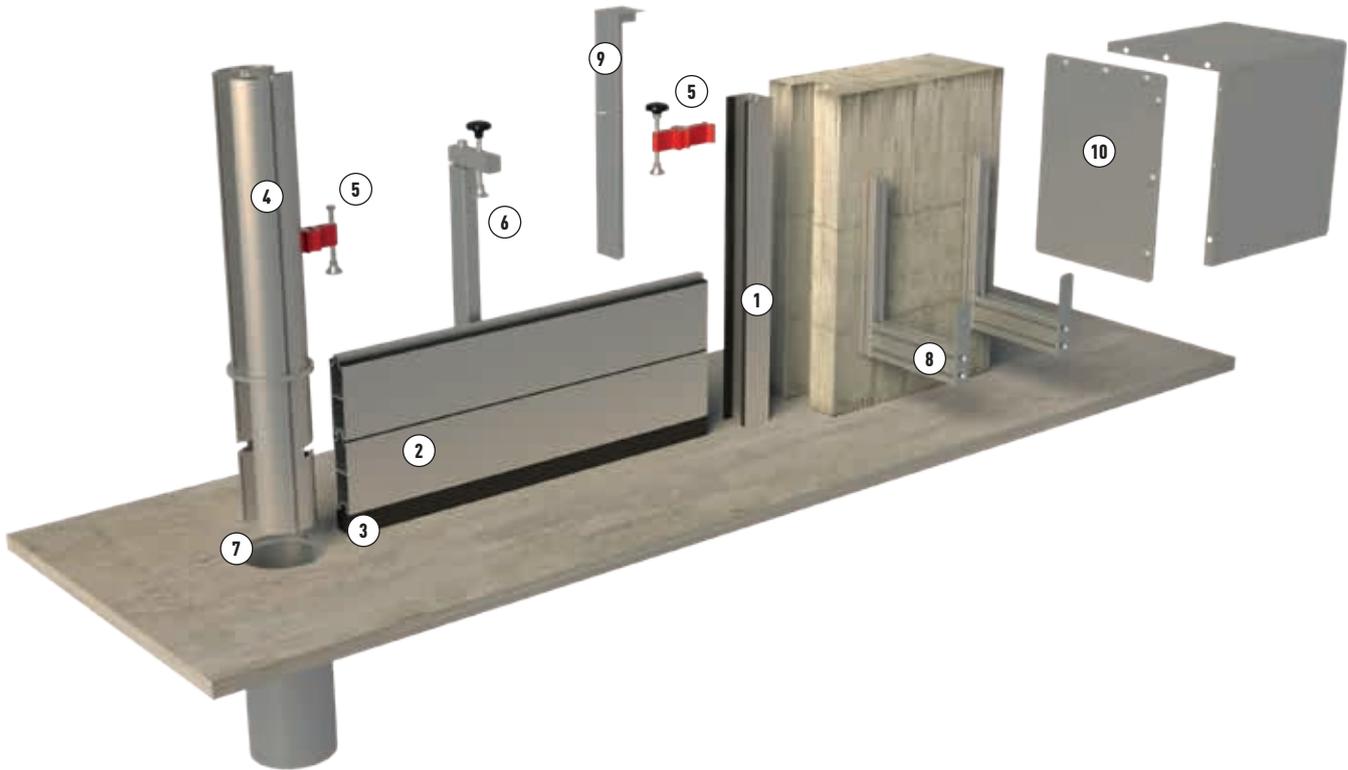
PREFA PERIMETER PROTECTION

SAVVY PERIMETER PROTECTION. FLEXIBLE SOLUTIONS FOR SPECIAL PLACES.

In the event of heavy rainfall, areas (driveways, roads or paths) running alongside rivers and streams often become flooded with water when rivers burst their banks. Through the use of ground sleeves anchored in the ground, the PREFA flood protection system can seal off entire areas of land against flood water. The height of existing dams can be increased, and the safety barrier can be adapted at any time until it reaches the final level of the water.



SYSTEM OVERVIEW



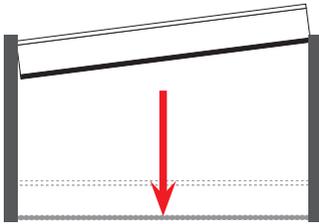
LEGEND

BARRIER PANELS	SYSTEM 25	SYSTEM 50	SYSTEM 80
THICKNESS	25 mm	50 mm	80 mm
WEIGHT (per m)	2.99 kg	5.60 kg / 4.12 kg	7.78 kg
HEIGHT OF BARRIER PANELS	200 mm	150 / 200 mm	200 mm
SEAM	19 mm	15 mm	15 mm

CENTRE COLUMN	
DIAMETER	140 mm / 185 mm
HEIGHT	750-2,150 mm
TYPE (thickness)	50 or 80 mm

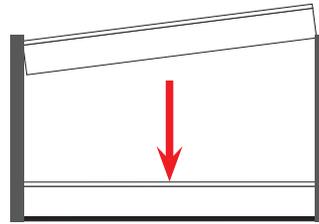
- ① WALL PROFILE**
Permanently built into the masonry or installed in, in front of or behind the reveal.
- ② BARRIER PANELS**
Illustrated here: the lowest barrier panel connected to point 3.
- ③ GROUND SEAL**
Ensures sealing between the lowest barrier panel and the ground.
- ④ CENTRE COLUMN**
In larger areas, these uprights can be used as intermediate columns.
- ⑤ COMPRESSION CLAMP
(with hex-head screw or with star-shaped handle)**
For clamping the barrier panels in place.
- ⑥ RETAINER**
Prevents horizontal and vertical deflection of the barrier panels.
- ⑦ GROUND SLEEVE**
Sleeve fixed permanently in the ground with concrete for inserting the centre column.
- ⑧ WALL BRACKET**
For stacking the barrier panels during storage when not in use.
- ⑨ ANGULAR COVER**
For covering the wall profiles when not in use.
- ⑩ STORAGE CASING**
(individual sections [440 mm in length] are screwed together)

ASSEMBLING THE SYSTEM



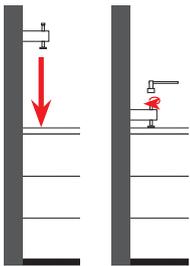
1. INSERTING THE LOWEST BARRIER PANEL

Start by inserting the barrier panel with the ground seal into the base profile from the top. Press down firmly on the barrier panel until the ground seal rests flush on the ground.



2. INSERTING ADDITIONAL BARRIER PANELS

Once the lowest barrier panel is firmly in place and lying flush, continue by inserting the other barrier panels. To do this, fit the panels from above diagonally into the base profile guide as shown in step 1, and press them down until the tongue slots into the groove and the seal fits flush.



3. INSTALLING THE COMPRESSION CLAMPS

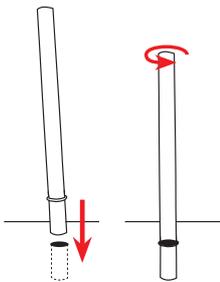
Push the compression clamps with the adjustable foot down into the base profile guide, and press them down until the adjustable foot comes into contact with the first barrier panel.

Then use an Allen key to gently tighten the screw on the compression clamp.



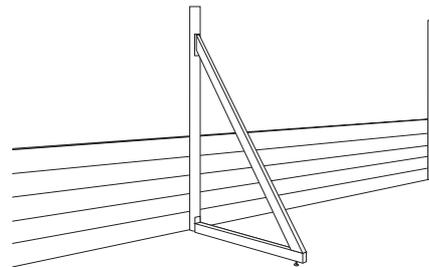
4. OPEN THE GROUND SLEEVE

If you wish to use intermediate uprights for perimeter protection, you must also follow steps 4-6. Unscrew the countersunk screw on the ground sleeve cover plate by approx. one centimetre, pull the cover plate out and remove.



5. MOUNTING THE CENTRE COLUMN

Next, fit the centre column into the open ground sleeve by rotating it. When doing so, make sure that the sealing ring fully seals off the lower end of the column.

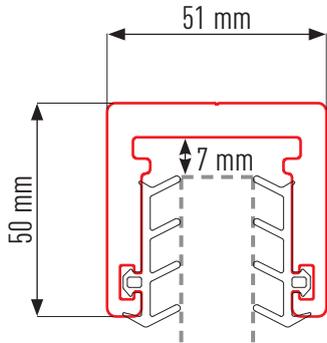


6. POSSIBLE MOUNTING OF AN ADDITIONAL SUPPORT

If the safety barrier exceeds a surface area of 2×2 metres, you need to clarify whether or not an additional support is required (bespoke construction).

DETAILS ABOUT THE SYSTEM 25

U-PROFILE*



U-PROFILE* FOR INSTALLATION IN FRONT OF THE REVEAL

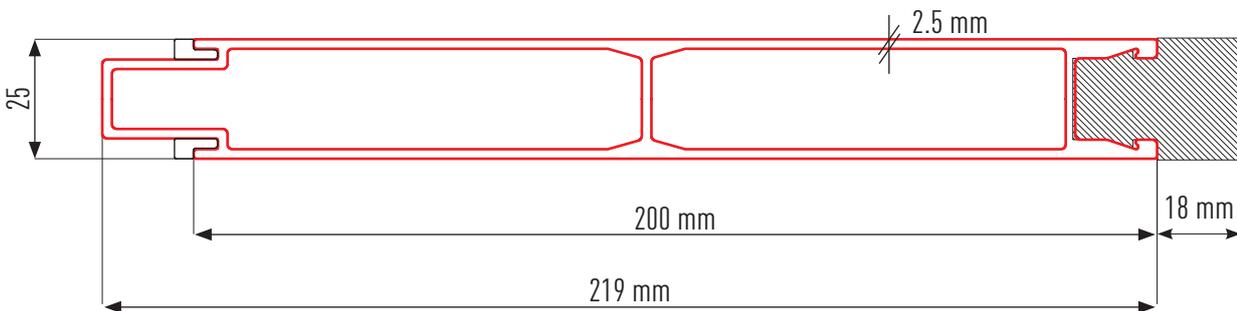


The profiles are screwed onto the masonry using countersunk screws (\varnothing 10 mm). The opening for inserting the screws is sealed off with a plastic cap (included).

U-PROFILE * FOR INSTALLATION IN THE REVEAL

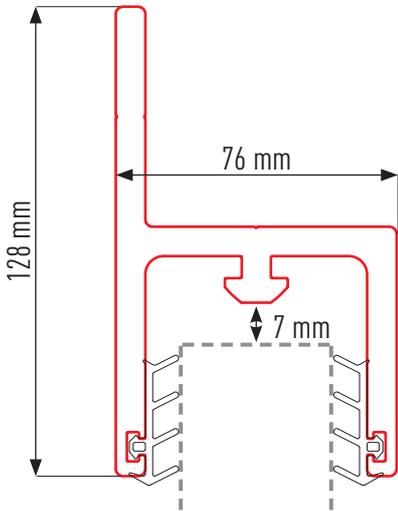


BARRIER PANELS (200 mm)

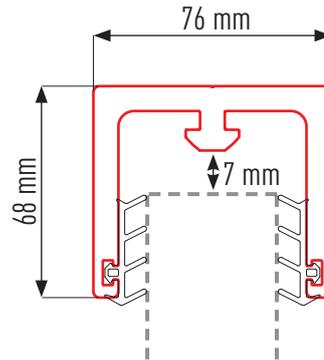


DETAILS ABOUT THE SYSTEM 50

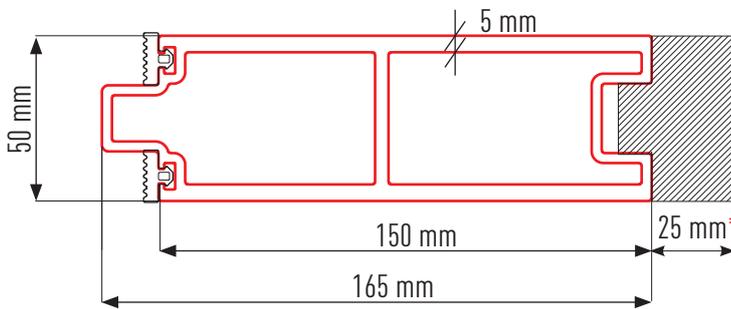
BASE PROFILE*



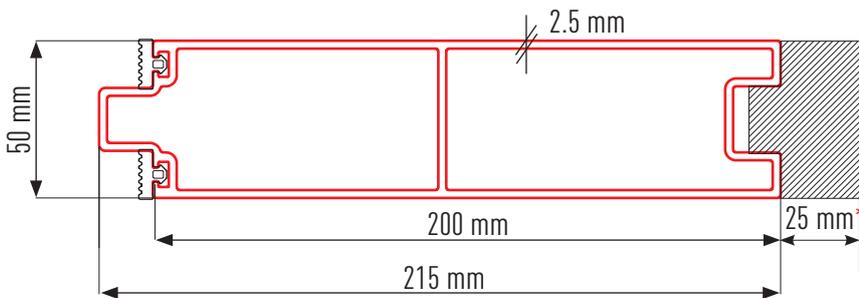
U-PROFILE*



BARRIER PANELS (150 mm)



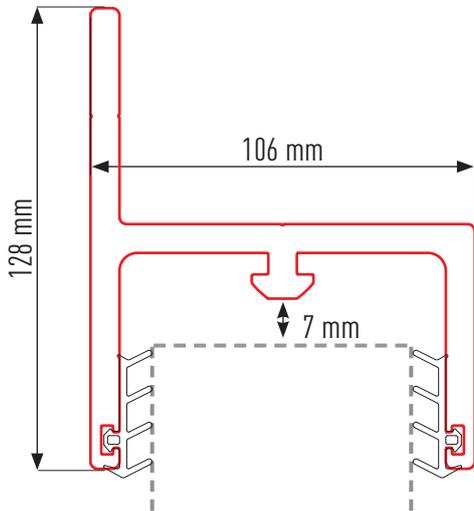
BARRIER PANELS (200 mm)



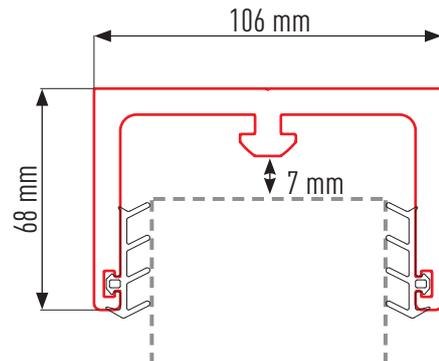
* height of permanent ground seal: 15 mm

DETAILS ABOUT THE SYSTEM 80

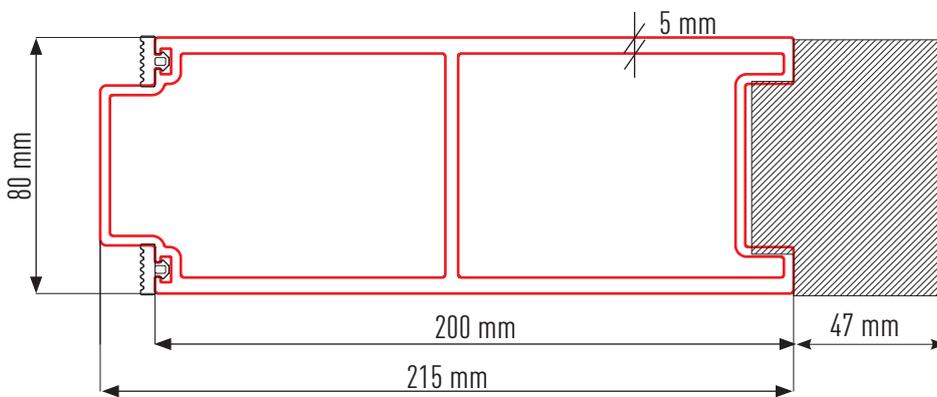
BASE PROFILE*



U-PROFILE*



BARRIER PANELS (200 mm)

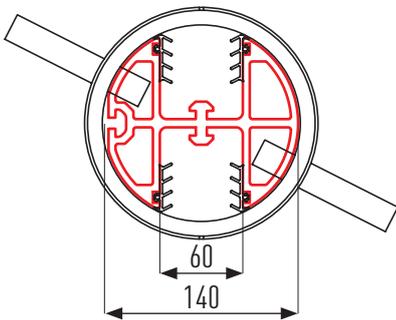
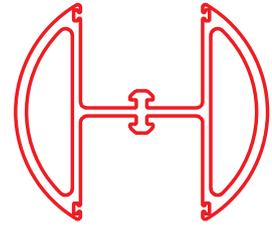
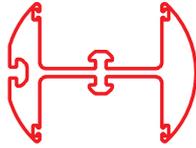
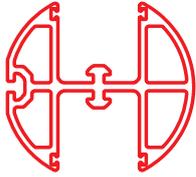


ALL BASE AND U-PROFILES (*) ARE SUPPLIED WITH THE FOLLOWING LENGTHS:

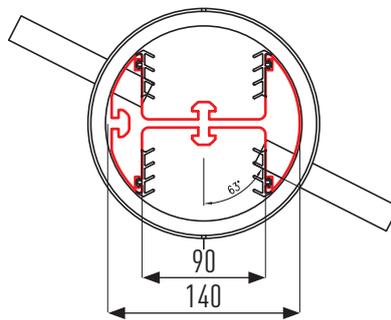
PROFILE OVERVIEW – STANDARD PROFILE							
LENGTHS	SYSTEM 25	SYSTEM 50			SYSTEM 80		
	U-profile	U-profile	base profile	round profile	U-profile	base profile	round profile
750 mm	•	•	•	•	•	•	•
1,350 mm	•	•	•	•	•	•	•
1,750 mm		•	•	•	•	•	•
2,150 mm		•	•	•	•	•	•

Bespoke lengths can be produced on request.

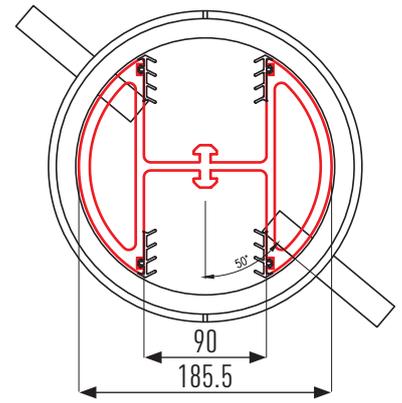
CENTRE COLUMN (ROUND PROFILE)



ROUND PROFILE — SYSTEM 50
(inserted into ground sleeve)

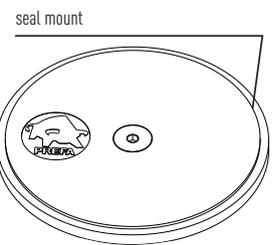


SMALL ROUND PROFILE — SYSTEM 80
(inserted into ground sleeve)

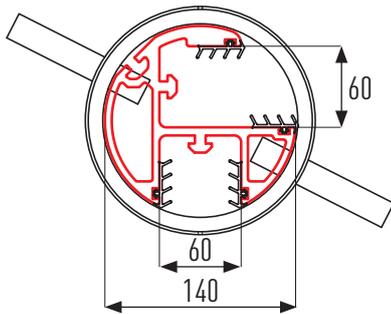


LARGE ROUND PROFILE — SYSTEM 80
50 and 80 Vario
(inserted into ground sleeve)

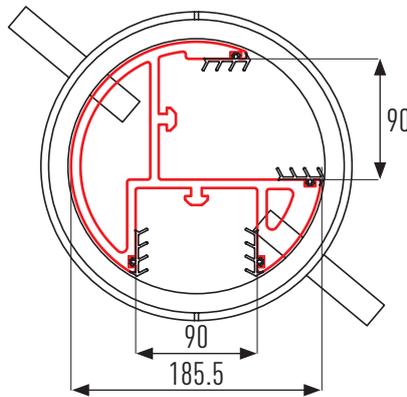
LIFTING AID



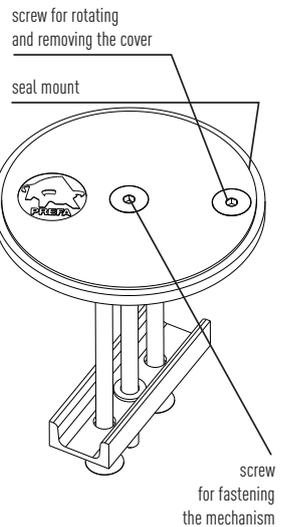
MIRROR INVERSION NOT AVAILABLE

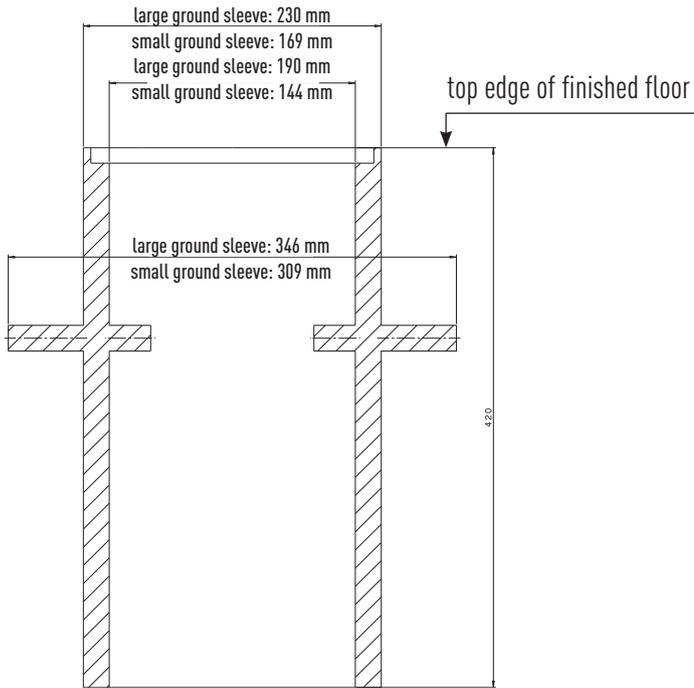


90° ROUND PROFILE — SYSTEM 50

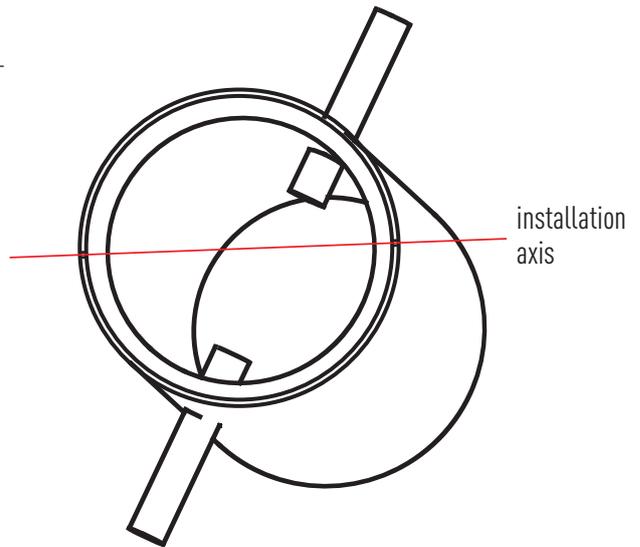


90° ROUND PROFILE — SYSTEM 80

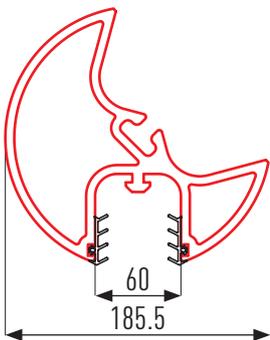




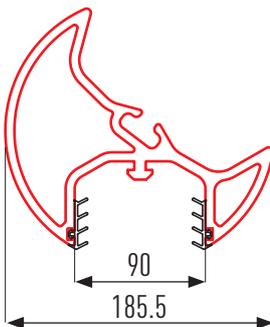
GROUND SLEEVE



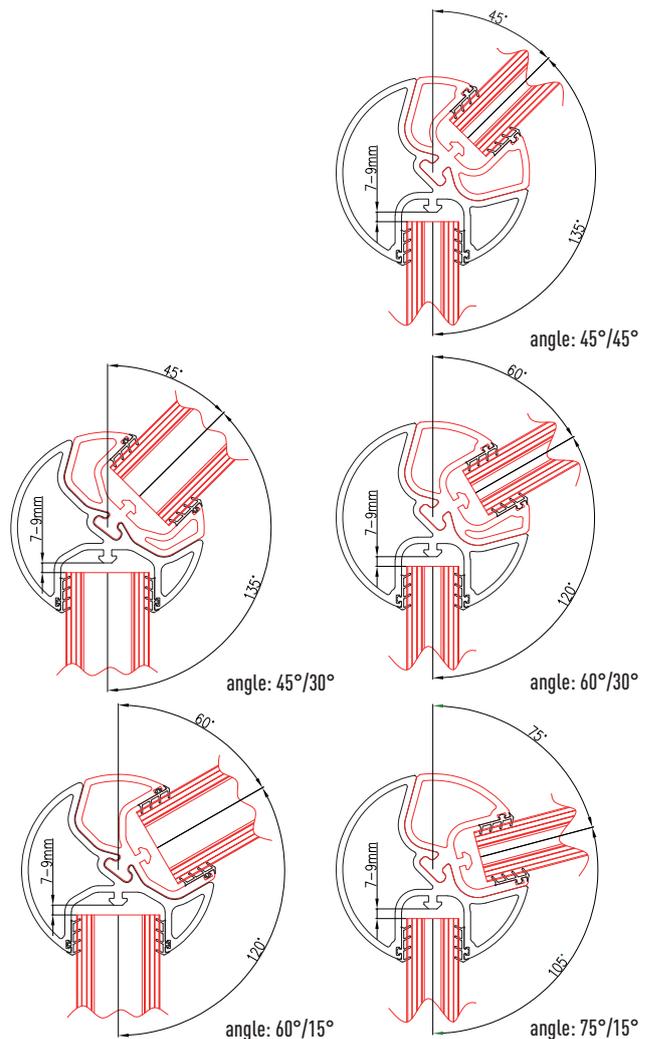
GROUND SLEEVE (isometric view)



ROUND PROFILE 50 (VARIO)



ROUND PROFILE 80 (VARIO)

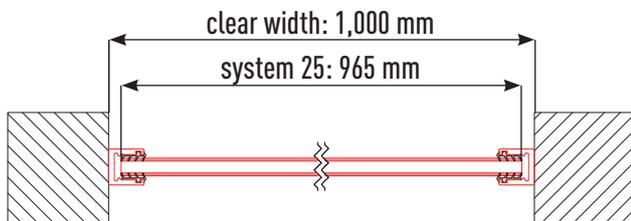


If you have any questions, please contact PREFA application engineering.

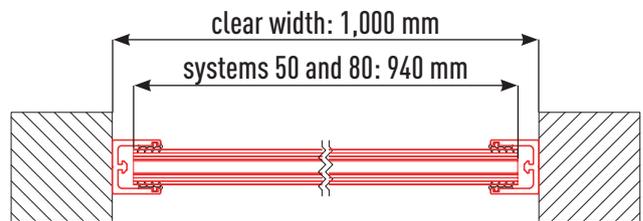
INSTALLATION

IN THE REVEAL

INSTALLATION — SYSTEM 25

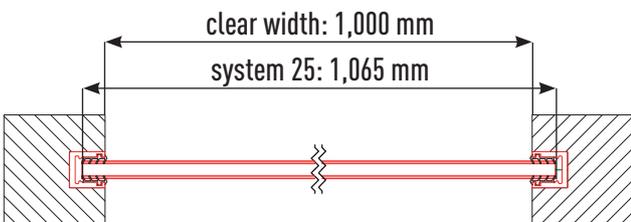


INSTALLATION — SYSTEMS 50 AND 80

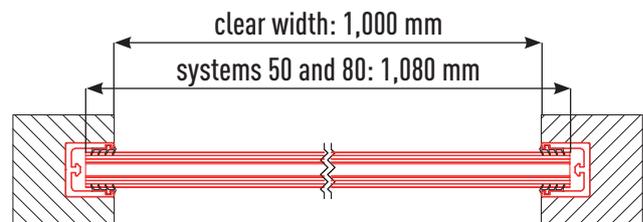


FITTED FLUSH IN THE REVEAL

INSTALLATION — SYSTEM 25

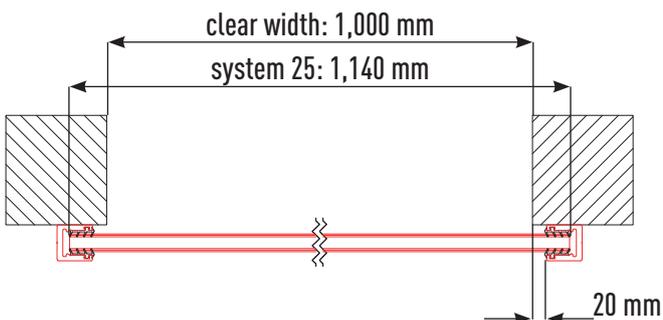


INSTALLATION — SYSTEMS 50 AND 80

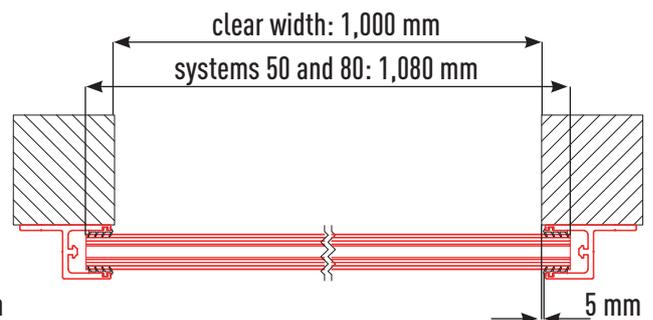


IN FRONT OF OR BEHIND THE REVEAL

INSTALLATION — SYSTEM 25

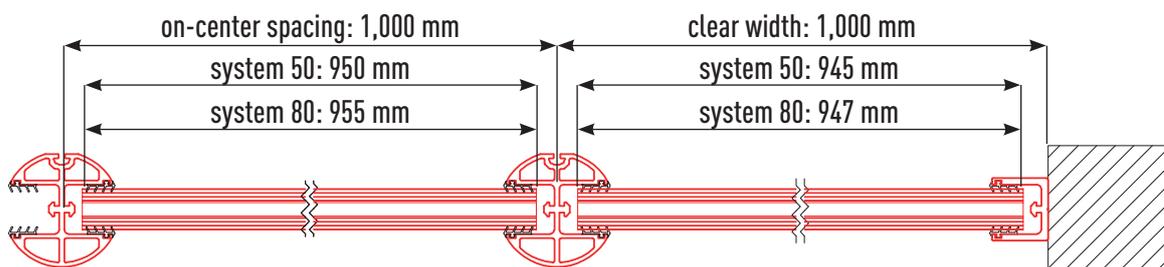


INSTALLATION — SYSTEMS 50 AND 80

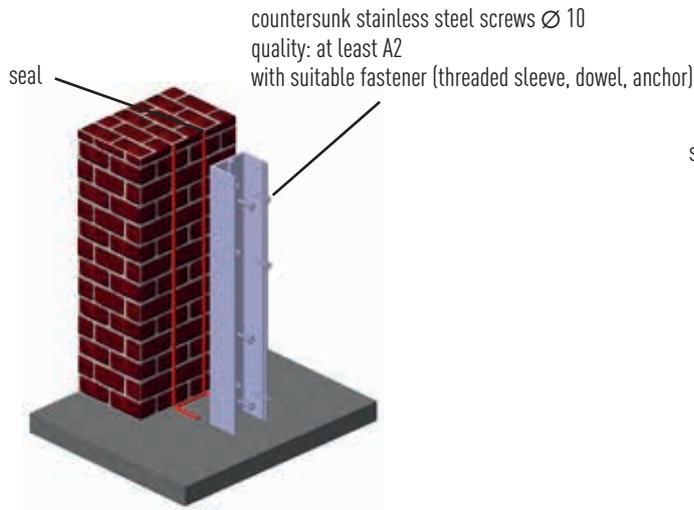


CENTRE COLUMN

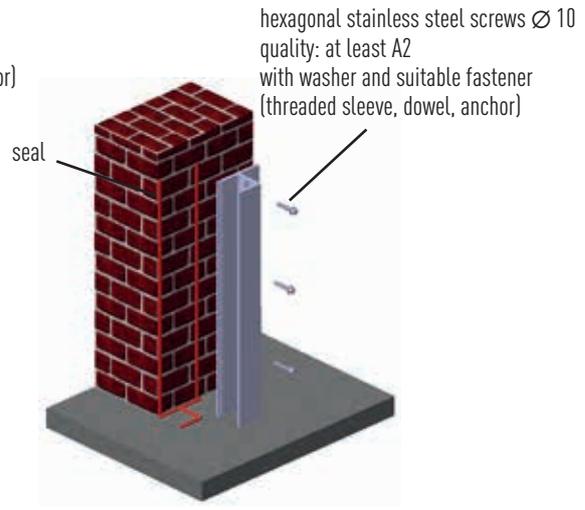
INSTALLATION — SYSTEMS 50 AND 80



INSTALLING THE PROFILES



INSTALLING THE U-PROFILE



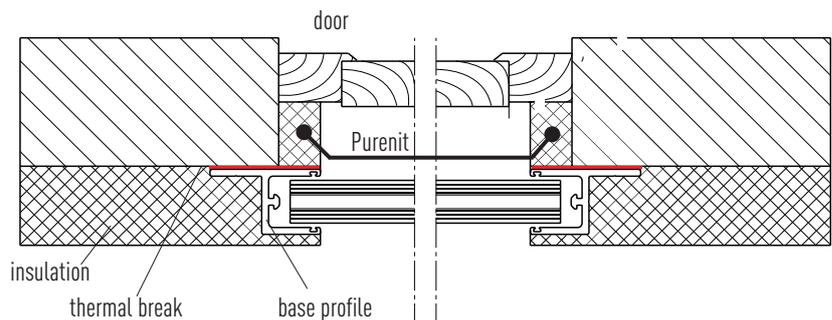
BASE PROFILE INSTALLATION

NUMBER OF MOUNTING HOLES					
LENGTHS	SYSTEM 25	SYSTEM 50		SYSTEM 80	
	U-profile	U-profile	h-profile	U-profile	h-profile
750 mm	4	6	4	6	3
1,350 mm	7	8	6	8	6
1,750 mm		9	8	9	8
2,150 mm		11	9	11	9

INSTALLING WHERE THERE IS FULL THERMAL INSULATION

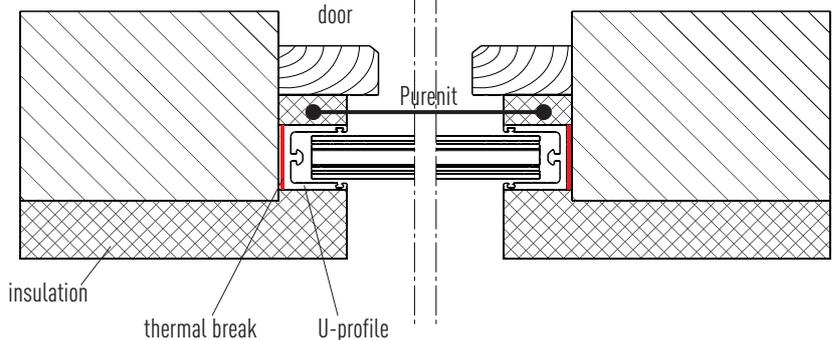
INSTALLING THE BASE PROFILE IN FRONT OF, OR BEHIND, THE REVEAL

- ! Remove the insulation.
- ! Install the base profile.
- ! Replace the insulation.
- ! Smooth down the material and plaster.



INSTALLING THE U-PROFILE IN THE REVEAL

- ! Cut a slit in the insulation.
- ! Mount the U-profile and seal with Thermostop if necessary.
- ! When the barrier profiles are not in use, the slit is covered with the cover profile.



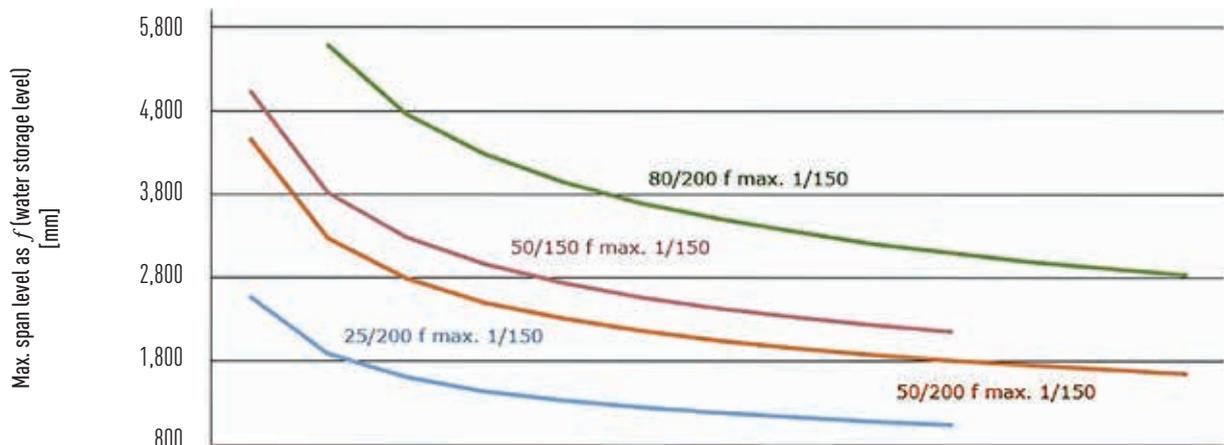
TECHNICAL DATA

BARRIER PANELS	SYSTEM 25	SYSTEM 50	SYSTEM 80
Panel thickness	25 mm	50 mm	80 mm
Weight (per m)	2.99 kg	5.60 kg / 4.12 kg	7.78 kg
Height of barrier panels	200 mm	150 mm / 200 mm	200 mm
Seam	19 mm	15 mm	15 mm

CENTRE COLUMN	SMALL	LARGE
Diameter	140 mm	186 mm
Height	750-2,150 mm	750-2,150 mm

GROUND SLEEVE	SMALL	LARGE
Diameter	170 mm	230 mm
Depth	420 mm	420 mm

Theoretical span length depending on maximum deflection f (water storage level)



Water storage level [mm]	230	430	630	830	1,030	1,230	1,430	1,630	1,830	2,030	2,230	2,430	2,630
Number of barrier panels [200 mm]	1	2	3	4	5	6	7	8	9	10	11	12	13
80/200 f max. 1/150		5,581	4,766	4,284	3,951	3,703	3,507	3,347	3,213	3,098	2,998	2,909	2,831
50/200 f max. 1/150	4,462	3,271	2,793	2,510	2,316	2,170	2,055	1,962	1,883	1,816	1,757	1,705	1,659
50/150 f max. 1/150	5,031	3,817	3,289	2,968	2,744	2,576	2,442	2,333	2,241	2,161			
25/200 f max. 1/150	2,573	1,886	1,611	1,448	1,335	1,251	1,185	1,131	1,086	1,047			



STORAGE

For optimum storage of the flood protection system, we recommend using PREFA's aluminium wall brackets. The barrier panels can be stacked on the wall brackets with the bottom barrier panel at the top of the stack to ensure quick mounting of the system in the event of a flood.

Never allow aluminium to come into contact with aluminium. Use cardboard, plastic or chipboard separating strips to protect the barrier panels from cold welding caused by moisture ingress.

The compression clamps and the ground seal can be stored in an additional compartment or on top of the barrier panels.

MAINTENANCE

Regularly maintain your flood protection system by assembling and disassembling it at least once a year. This will allow you to make sure that you remember how to set it up while also checking that the system is complete and in good working order. After use, clean all seals and treat with silicone spray. Replace any damaged seals.

LIABILITY

PREFA assumes no liability in the event of incorrect installation and/or maintenance, or if accessories are used that are not original parts. PREFA's liability is also excluded for structural defects, in particular non-compliant watertight building materials used on the building, hydrostatic forces and improper handling of components, including damage caused by the mechanical influence of persons or objects. PREFA cannot guarantee absolute protection from damage.

STRUCTURAL SUITABILITY

Caution: prior to installing the PREFA flood protection barrier panel system, first make sure that the building is structurally suitable for mounting the system.

If buildings are protected from flooding by a flood protection system and therefore the flood water cannot flow freely, the water can exert hydrostatic pressure on the building in the form of uplift forces (buoyancy) caused by vertical water pressure and/or pushing forces exerted by horizontal water pressure.

Questions regarding whether, in the event of a flood, a building is likely to be subjected to uplift forces or lateral water pressure and whether or not an area should be allowed to flood, can only be answered on a case-by-case basis by a structural engineer. PREFA assumes no liability for damage caused by hydrostatic forces.



ADVANTAGES OF THE ROBUST PREFA FLOOD PROTECTION SYSTEM MADE OF ALUMINIUM

- ! READY FOR USE AT ALL TIMES
- ! QUICK AND EASY ASSEMBLY
- ! LIGHTWEIGHT
- ! EASY TO STORE

Europaverband
Hochwasserschutz e.V.[®]



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