Mobile Flood Protection
DPS 2000® - Systematic security
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SYSTEMATIC security

- Patented flood protection system from lightweight aluminium dam beams, which are stacked between aluminium support beams.
- When the water level rises, the interlocking aluminium profiles fill up with water and therefore increase the stability of the wall.
- Length of protection wall unlimited for communal projects.
- Heighten existing protection walls.
- Individual special solutions adapt to every local situation.
Guide rails and anchor plates are embedded in concrete in the foundation to prepare the wall mounting.

During operation the supports will be screwed to the anchor plates.

The dam beams are stacked on top of each other.

**It is NOT necessary to brace the dam beams to each other!**

The dam beams interlock and seal automatically through the patented interlocking system.
At the end the upcoming water will be simulated in the dam beams.

The vertical bracing is performed by wedge clamps... or optionally by tension rods.

Due to the system characteristics horizontal bracing is not necessary.
Stainless steel anchor plates in the foundation as well as lateral wall connection profiles are embedded in concrete as preparation for the system installation.

The drill holes in the anchor plates will be sealed to be weather and vandalism proof. Cover plates in different finishes are available by request.
The anchor plates integrated into a continuous ground rail are provided as standard.
For easier installation the continuous ground rail is supplied as an assembly system – prepared for the final dimensions in relation to the project.

The wall mountings are by request also already soldered onto the rail.

If tension rods are used, the mounting sleeves are also already integrated and do not require additional effort during installation.
During the installation the prefabricated elements will be assembled, aligned, concreted in - finished.

The alignment of individual anchor plates is not necessary. This reduces the costs for the initial installation and increases the fitting accuracy.
Corner anchor plates are feasible at any angle and are also prepared.
The positioning of single anchor plates is of course also possible with DPS 2000.
First the blind screws are removed from the anchor plates.

The support beams are placed and bolted.
After the support beams have been mounted, the dam beams can be inserted easily and quickly.

It is NOT IMMEDIATELY necessary to build up to the complete protection height.

The protection wall can be heightened during rising flood levels.
The installation can be started and undertaken at different locations at the same time.

The vertical braces are fixed after reaching the desired or maximum protection height.
The complete wall is quickly built due to the light system elements made from aluminium.
Aluminium dam beams and support beams are completely dismantled.
If applicable the mobile elements are to be freed of sediments and mud with e.g. a pressure washer.

Clean gaskets and treat with silicon or talc.

A space saving storage of all system components is made easier by corresponding store/stack pallets.
Storage system post pallets:

- The dam beams and support beams are stored on post pallets.
- The dimensions of the empty pallets are 1,500 x 870 x 750 mm, and the pallets are available in galvanised or painted finish.
- The dam beams are stored horizontally whereby the individual layers are separated by e.g. thin wooden or PVC battens to prevent galling.
- The support beams can be stored horizontally or vertically.
- For vertical storage holes will be incorporated into the base plate of the pallet to accommodate the screw joints of the support beams.
System details

DPS 2000® - systematic security
DPS 2000® Aluminium dam beam

- The standard system dam beams only weights 7 kg per running meter.
- During installation the dam beams are stacked on top of each other. Due to the special S shape the dam beams are interlocking.
- The inlaid system gasket consists of EPDM / cellular rubber and can be replaced separately if necessary.
- The low weight of the individual dam beams makes the installation easier – and that with guaranteed statics.
- The shape of the dam beams increases the overall stability.
- The standard system dam beams only weights 7 kg per running meter.
- During installation the dam beams are stacked on top of each other. Due to the special S shape the dam beams are interlocking.
- The patented shape of the dam beams allows a height of 200 mm per beam.
- Because of this the DPS 2000® offers 50 mm more protection height per dam beam compared to simple profiles
- and this at an even lower weight.
- The inlaid system gasket consists of EPDM / cellular rubber and can be replaced separately if necessary.
- The low weight of the individual dam beams makes the installation easier – and that with guaranteed statics.
DPS 2000® Aluminium dam beam

- The ground beam only weights 7 kg per running metre.
- The ground beam is also 200 mm high.
- The difference to the standard dam beams is that the ground beam is solidly powder coated in blue.
- This makes them easier to distinguish during installation and de-installation as well as storage.
A: Systems with simple cross-section profile bear the risk of bursting on first impact.

B: The interlocking DPS 2000® dam beams offer high stability and maximum security against mechanical damages through flotsam as well as against vandalism.
• With simple systems the gasket can be affected if the pressure gets too high.
• Through the shaped profile of DPS 2000®, chambers are created for the gaskets.
• Therefore the gaskets can never get compressed enough to get damaged.
DPS 2000® Aluminium support beam

- Weight only 17 kb per running metre, can therefore be manipulated without the use of a crane.
- Simple handling
- No loose screws
- Bolted from above with continuous rolled thread rods.
DPS 2000® Aluminium support beam

- No metric or fine threads as these are very susceptible to dirt and incorrect handling
- Centring sleeves underneath the support beam make for a quick and easy installation.
The aluminium support beams are generally free standing up to a height of 1.60 m. It depends on the width of the section for larger protection heights, when and which back braces are used.

Also for larger protection heights the back brace for the DPS 2000® only needs to be fitted if the bulkheads are inserted to a protection height of more than 1.60 m.
The wall connection profiles are available in various finishes:

- **Stainless steel wall connection embedded in concrete**
- **...or hot-dipped galvanised steel wall connectors for subsequent installation**
Gaskets

- Application of high-quality EPDM / cellular rubber system gaskets.
- No delicate tube gaskets.

**Dimensions:** Common gaskets only have very small dimensions.

Experience has shown that with larger dimension, problems often occur with the tightness of the system.

**The gaskets of the DPS 2000® system have stood the test of time in terms of dimensions as well as quality.**
Material: Common gaskets are EPDM gaskets (meaning just hard rubber) and can easily slide out of the dam beam and support beam as the receptacle is too large for the gasket.

The gaskets of the DPS system are made of a combination of hard and soft rubber. (Cellular rubber with two different types of shore hardness).
Mounting: The hard part of the DPS gasket is placed into the provided openings in support beams and bulkheads.

The gaskets therefore have a strong hold – without being glued – and can be replaced without the use of tools when needed.
Lip seal: Common EPDM gaskets are simple lip seals i.e. the gaskets are not compressed under higher pressure.

Cellular rubber has the advantage that the gasket can’t be damaged by small stones or sand due to its elasticity. The life expectancy of the gasket is therefore higher.
Security vs. symmetry ?!?
When inserting the dam beams there is no need to observe a water or land side.

- First the ground beam is inserted. This beam is continuously coloured blue for better differentiation.

- All other dam beams can be placed in any order.

- On top of each dam beam a gasket is visible. It doesn’t matter whether this gasket is on the water or land side.
The DPS 2000® aluminium support beams are delivered with 3 screw joints per support beam as standard, to provide double security on the water side for a possible failure. However the support beam profile also allows for bolting with 2 continuous bars...

...or 4 bars

...and by request or requirements also with up to 6 bars.
Town Bingen
• realised in the year 2003
• total 50 m²
Hotel ASTRON Cologne

- realised in the year 2001 for the protection from 200 year Rhine flood in Cologne
- total 102 m²
- protection height up to 2.00 m
- freestanding aluminium support beams up to 1.60 m
- Special features: the support for the railings was incorporated into the ground rails
Town Krakow, Poland
• realised in the year 2000
• total 833 m²
• protection heights up to 1.60 m
• special features: statics available in polish
• cross check
Parkview Home, Edinburgh, Scotland
- Realised in the year 2002
- Width 12.30 m, protection height 1.00 m
- Freestanding aluminium support beams
- Special features: The height transition to the kerb stones was incorporated into the ground rail and the support beams.
Town Wesseling, Swedish Residence
- realised in the year 1999 - total 61m²
- protection height up to 1.20m
- continuously with ground rails
- freestanding aluminium support beams
- usage of tension rods instead of the conventional wedge clamps
Rheinstr. , Bonn
• Realised in the year 1999
• Width 7.20 m, with 90° corner, protection height 2.00 m
• 2.00 m aluminium support beams with back brace
• Special features: The 90° corner was realised here by using welded bulkheads instead of a corner support beam.
• The braces of the support beams are removable and cross each other in the 90° corner.
• Because the bulkheads almost reach the ceiling, the support beams were detached on the land side to enable insertion.
Watershap Peel en Maasvallei, protection for the region of Venlo
• realised in the year 1995- total 897 m²
• protection height up to 3.80 m
• continuously with ground rails
• hot-dip galvanised steel support beams
• special features: the support beams were specially adapted by GOH for the use on a concrete wall
Licensees in the USA  

www.floodcontrolam.com

Installation locations of the DPS 2000® in the USA
Louisville Kentucky USA
• realised in the year 2000
• total 485m²
• protection height 2.10m
Cedar Falls Iowa
• realised in the year 1998
• total 120 m²
• protection height 2.40m
• special features: Accommodation of railway lines
Height transition

Corner formation through dam beams

Height transition through slanting dam beams and angled basis of the support beams
Stability and security:
- Interlocking dam beams offer the highest stability with maximum security.
- The height of the dam beams is a continuous 20 cm
- NO horizontal bracing necessary

Gaskets:
- High quality EPDM / cellular rubber gaskets
- Gaskets are situated in protected chambers
**Ground connection:**
- Prefabricated for exact fit
- Easy installation
- Placing of individual anchor plates possible but not necessary!
- High life expectancy for ground seals
**Intermediate support beams:**

- Bolting with rolled thread rods:
- **No loose screws**
- **No metric threads**
- Dirt proof
- support beams always freestanding up to 1.60 m
- Minimum weight
- Removable additional reinforcements
- Symmetrical finish available
DPS 2000®  Crucial advantages

- Weight optimised and therefore quickest system to install.
- Patented S shaped interlocking mechanism of the dam beams offers the best protection against bursting due to washed up flotsam or vandalism.
- Special largely damage resistant hard-soft-rubber gaskets.
- Practice oriented development of special solutions.
- Frequently tried during use in Europe and the USA.
- Spare parts immediately available.
- Amortisation already during first use!
• We offer you planning and short term delivery of the mobile flood protection system DPS 2000® including the necessary static calculations. Also special solutions for your particular situation will be developed.
• We advise you on efficient storage of the elements, create action plans for installation and instruct the installation team.
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