

NOAQ Boxwall Q&A

What is the damming ability of the Boxwall?

50 cm, to the upper edge of the wall, as indicated by the model name "BW50". Should the water rise further the Boxwall will still be standing, reducing the inflow of water to the intended dry area.

Can a Boxwall be used also in flowing water?

Yes, it can be used to divert fast flowing water in flash floods. Then the individual "boxes" are put directly in the water current, although at some angle against the stream, in order to lead the water to where you wish to get it, where it makes less harm.

How is it anchored?

It is automatically anchored by the own weight of the flood water. When damming water to the upper edge each box is presses against the subsurface by some 200 kg of water. On the undersides of the boxes are a couple of high friction rubber soles that gives a sufficient grip.

What are the dimensions of the Boxwall?

Each Boxwall unit ("box") has the following dimensions:

Length: 705 mm (along the wall)
Width: 680 mm
Height: 528 mm (including the locking mechanism on top of the box)

How many boxes do I need for a certain wall length?

Count on 705 mm for the first box and add 625 mm for each of the following ones. This means that 16 boxes are needed for a wall length of 10 metre.

What's the weight?

3.4 kg per box, which means 5.5 kg per running metre.

How much space does a Boxwall need when stored and transported?

The boxes are stackable. Each new box adds not more than 15 mm (vertical and horizontal) to the pile. This means 26 boxes (16 meters of wall) fit on a standard 800 x 1,200 mm pallet, and 572 boxes (a little more than 350 meters) can be put in a 20' container.

How is a Boxwall built up?

You work from left to right, adding one box at a time to the wall by snapping it to the last one. After having adjusted the position and direction of the wall the boxes are fixed to eachother by using a spring clamp. Finally you may put some weight on the front edge of each box, a sandbag or the like, to secure it somewhat against hard winds.

Is it possible to make curves and corners?

Yes, two boxes can be attached at an angle of $\pm 3^\circ$, which means it can easily follow bending roads. For more abrupt turns there are certain corner boxes, for inward and outward corners resp. They have a built in angle of 30° , which gives a curve radius of only 1 metre. Twelve corner boxes make a circle, and with the inward version it is hereby possible to make a temporary basin, a "Boxpool".

On what surfaces does it work?

The Boxwall is designed for hard and even surfaces like asphalt streets and concrete floors. For uneven and/or soft surfaces there is the NOAQTubewall.

What about uneven surfaces?

"Long wave" undulations is no problem, but if there are abrupt "short wave" irregularities, like potholes, these need to be avoided or evened out in advance.

Why does the surface need to be hard?

The drop in water pressure, from the flood side to the empty space under the box, takes place in a very short distance. If the subsurface is erosive the steep gradient may lead to erosion, which may in turn lead to the failure of the ground on which the Boxwall is standing.

How to cope with kerbstones?

To pass a kerbstone there are certain "gable elements". Two such are put back-to-back, one down on the street and the other up on the sidewalk, and screwed together. The Boxwall is then divided in two, and the two Boxwall parts are connected to each of the gables.

What is the Boxwall made of?

Vacuumformed 6 mm ABS plastic.

Is it reuseable?

Yes, damaged boxes can be shredded and used for new boxes, together with spill from the manufacturing.

Is it vandal proof?

Nothing is completely vandal proof but the Boxwall is very resistant to damage.

What about leakage? Are pumps needed?

A certain amount of water will always leak through and under all freestanding barriers, despite sealing strips. Water will also leak through the ground itself and appear on the intended dry side of the barrier. Therefore one or more pumps are always needed to pump it back. What pumping capacity is needed depends on the wall length and the conditions of the ground. It is also important to make sure to block drainage systems and culverts that may convey water under the barriers into the protected area.

To minimize the amount of leakwater the Boxwall can be covered by a thin liner. A such is available both in long lengths (for boxwalls) as well as in wider formats (for Boxpools).

When should a Boxwall be preferred before a Tubewall?

The NOAQ Tubewall is still the allround barrier working as well on asphalt and concrete as on gravel roads and bumpy meadows. You may regard the NOAQ Boxwall as a special product for the special conditions in urban areas. It is also easier to use for non-professionals, which means the residents of a residential area, the staff of a company and the students of a school can be trusted for the task of building a Boxwall to protect their own facilities.

Is it possible to connect a Boxwall to a Tubewall?

Yes, by letting them overlap, and using the Tubewall's joint cover to cover the connection zone.

Is it possible to connect a Boxwall to a vertical concrete or brick wall in deep water?

Yes, as long as the permanent wall is supporting the end of the Boxwall. When the permanent wall is running in the same, or nearly the same, direction as the Boxwall, there is no problem. If the Boxwall is to be attached perpendicular to a permanent wall you could either use a gable or let the Boxwall swing up 90° against the wall with the use of three inward corner boxes. The connection Boxwall/wall may need some extra sealing. A couple of cell foam strips are enclosed with every order, but a sheet of liner may sometime be a better choice.