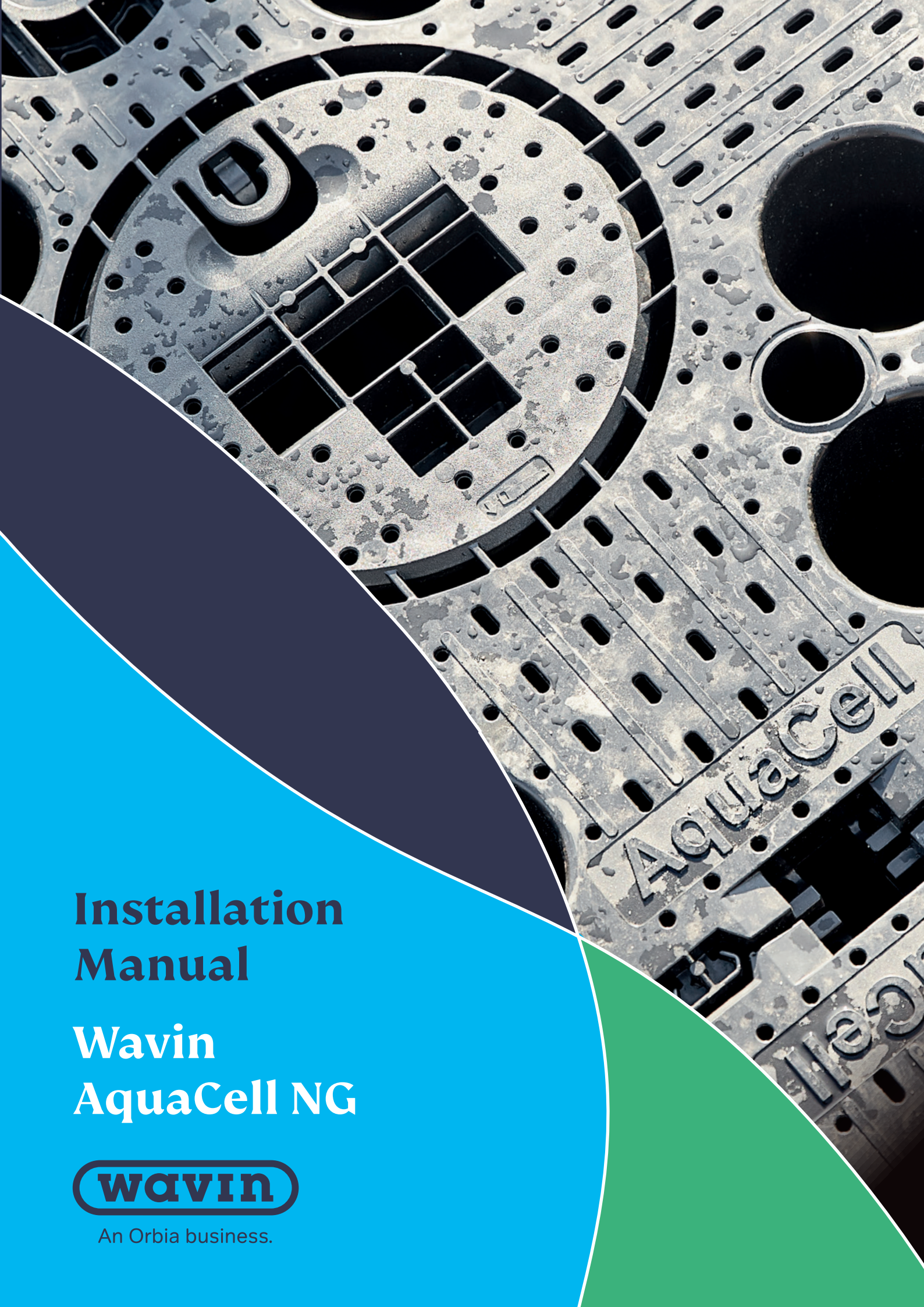


Installation Manual

Wavin AquaCell NG

wavin

An Orbia business.


TWOTWO

Wavin AquaCell NG
1. Instructions for installation

1.1. General characteristics

The AquaCell is a below ground (rain)water storage system which can be used in two different applications namely as an:

1. Infiltration system:

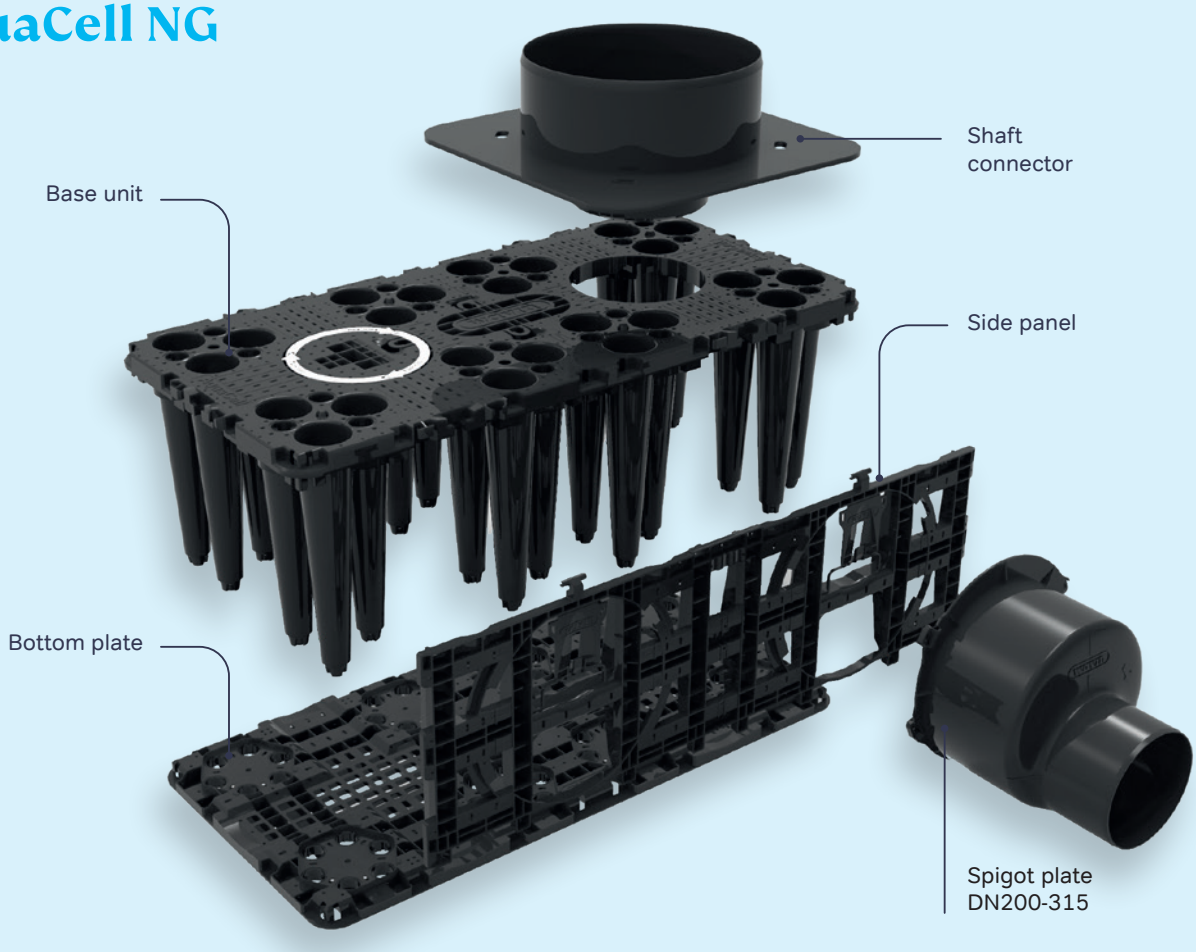
- Objective:
  —temporary storage to allow the gradual infiltration of water into the soil.
- Solution:
  —Wavin AquaCell system wrapped in a geotextile.

2. Attenuation system:

- Objective:
  —temporary water storage and management to return the water to the existing network.
- Solution:
  —Wavin AquaCell covered in a geomembrane seal, which is in protected by a geotextile around it.

SCAN ME
[Installation video]

AquaCell NG



Wavin AquaCell NG
1. Instructions for installation

Properties:

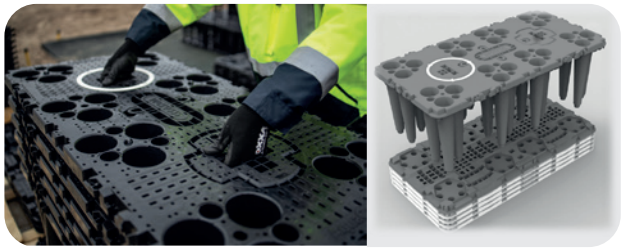
Base Unit	Material	Recycled PP (Polypropylene)
	Dimensions (mm)	1200x600x425 (LxWxH)
	Volume (Gross)	0.288m³
	Volume (Net)	0.275m³
	Void rate	96%
	Weight (kg)	11.4
	Pipe connections	110mm, 160mm, 225mm & 300mm
Bottom plate	Material	PP (Polypropylene)
	Dimensions (mm)	1200x600x35 (LxWxH)
	Weight (kg)	3.6
Side plate	Material	Recycled PP (Polypropylene)
	Dimensions (mm)	1155x373x50 (LxWxH)
	Weight	2.3
DN200-315 Spigot plate	Material	Recycled PP (Polypropylene)
	Dimensions (mm)	360x360x318 (LxWxH)
	Weight (kg)	1.3

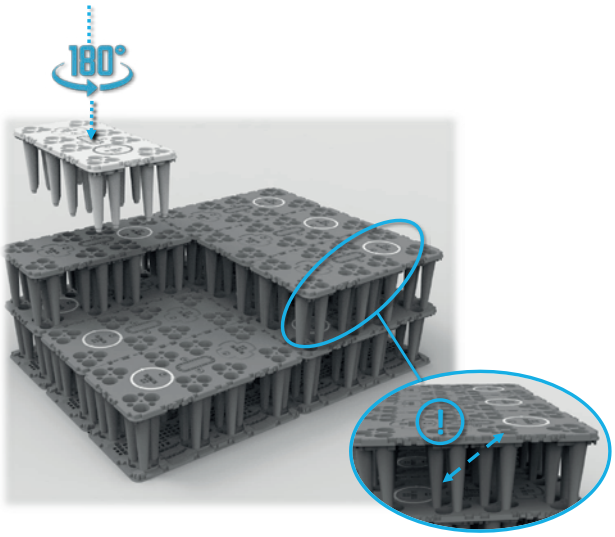
IMPORTANT
Regarding Orientation:

The base unit has a ring on top, which is used for the visual orientation of the product.

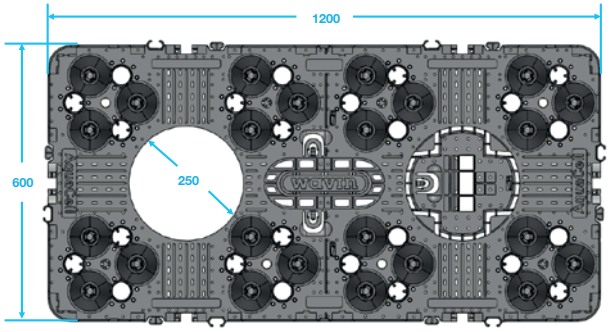
It is important to know that when the circle shape on the top of the unit is positioned above the circle of the unit below, the units will fall into each other, in the same way they are stacked on the pallet.

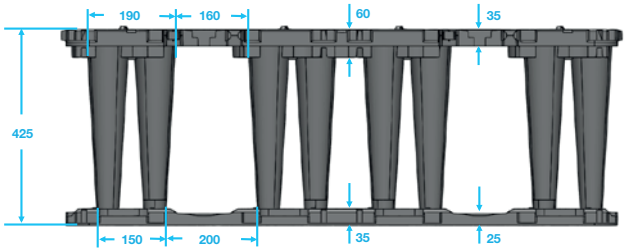
With a multi layer system it is important that all the circles are horizontally in line with each row of units. When installing the layer on top of an existing layer, the circle of the next unit should NOT be oriented directly above the circle of the base unit underneath but in the opposite direction, above the plus.

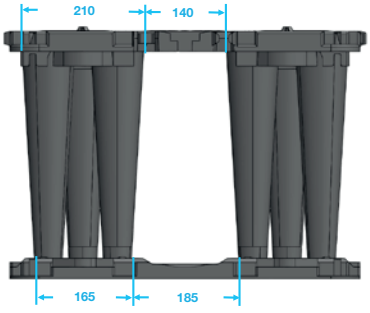




1.2. Dimensions



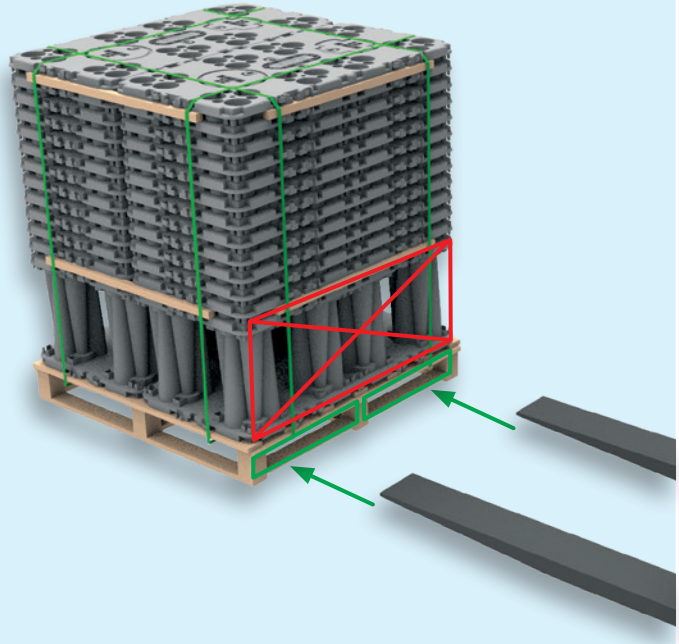




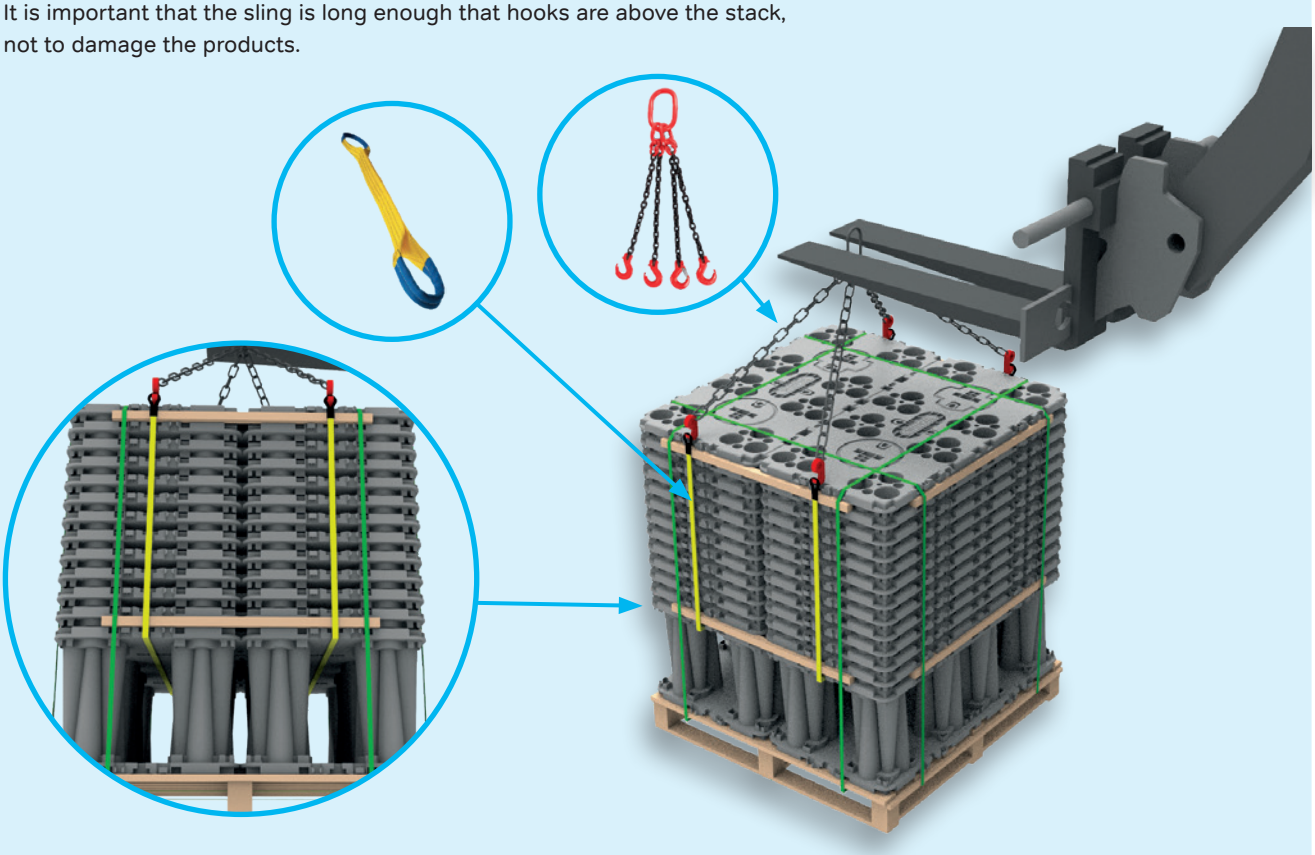
Wavin AquaCell NG
1. Instructions for installation

1.3. Destacking package and handling AquaCell NG

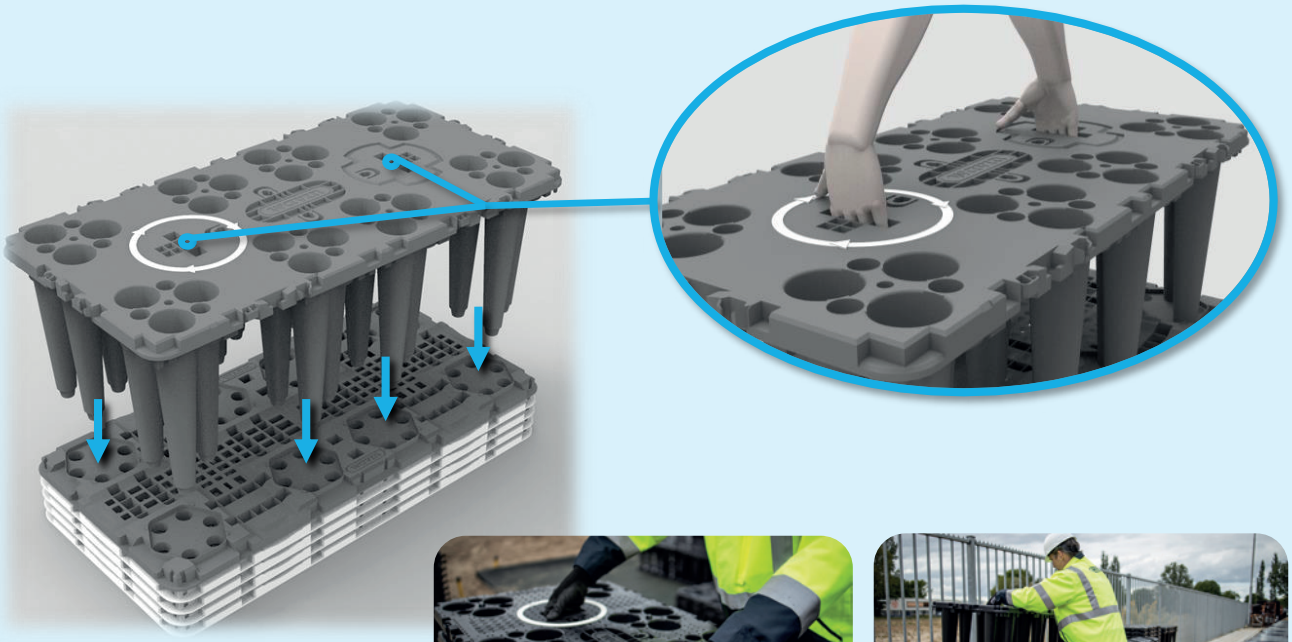
Handling by excavator or forklift:
The AquaCell units are stacked 28 pieces per pallet.
The pallets can be lifted with forks on an excavator or forklift by positioning these forks in the openings of the pallets (see pictures):



Handling with excavator or crane:
The pallets can also be lifted with slings positioned as indicated in the pictures.
It is important that the sling is long enough that hooks are above the stack, not to damage the products.



The AquaCell NG Base unit has a low weight (11.4 kg) and is equipped with integrated handgrips for ergonomic handling.



For dismounting of the bottom layer of the stack pull firmly on one short side of the unit while keeping a foot on the bottom layer.

Wavin AquaCell NG
2. Step by Step installation

For the total installation of the AquaCell NG the following steps have to be performed:

Step 1
Excavate the trench to the required depth ensuring that the plan area is slightly greater than that of the AquaCell NG units.

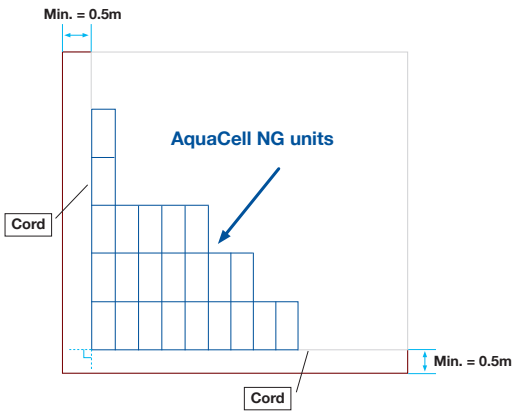
Lay 100mm of suitable bedding material.

Remove protruding (sharp) objects (e.g. stones) which can damage the geotextile/membrane).

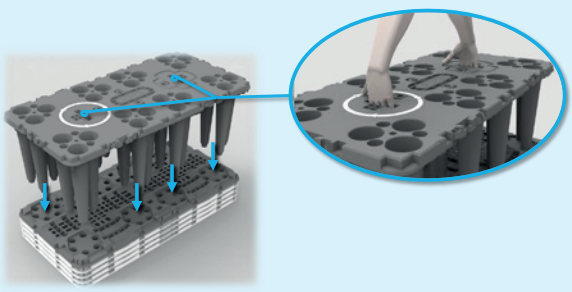
Step 2
Level and Compact.

Step 3
Install the geotextile/geomembrane on the bottom of the trench. Lay the geotextile/geomembrane over the base and the up the sides of the trench.

Step 4
Install and outline (perpendicular) a thin cord to ensure a straight system.

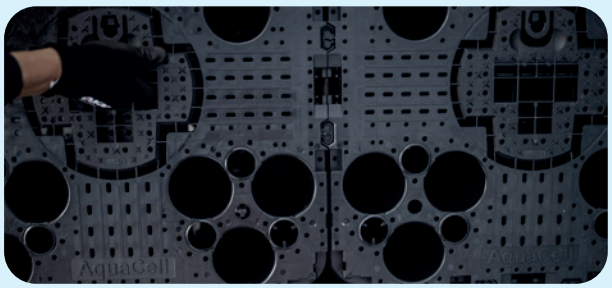


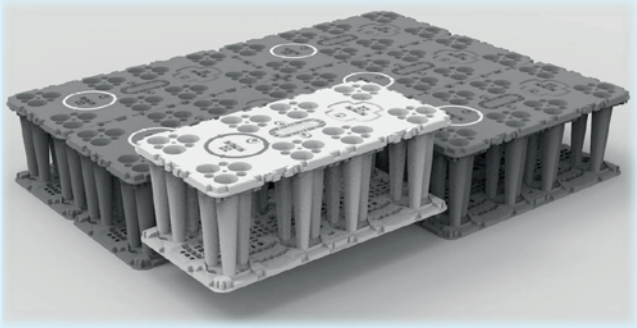
Step 5
Bottom layer: Mount the bottom plate to the AquaCell unit (make sure an audible "click" is heard to ensure a proper connection) and place this unit in the outlined corner on the bottom of the trench.



Step 6a
Bottom layer: Place the next (outer) units (including a pre-mounted bottom plates) next to the installed units by sliding the integrated connectors into each other.

Note: Check the orientation of AquaCell NG (as above).





Repeat this until the full bottom layer is installed.

Step 6b
Vertical inspection: When vertical access through the unit is required, the round plate / "**Circle**" or "**Cross**" on top of the AquaCell NG unit must be cut. The cutting lines are marked by a "hand saw" logo. A saw with a blade length of a least 8cm is required.

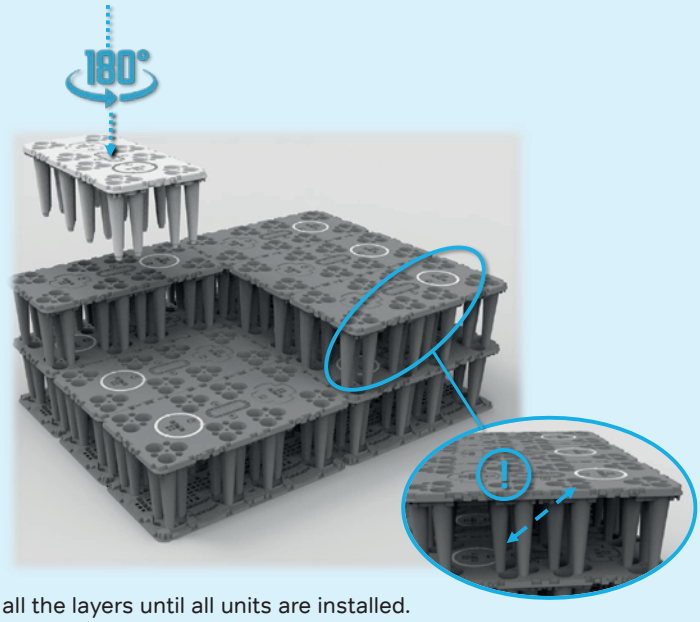
Note: Make sure that the round "circle" plate or "cross" of each unit of each layer below the vertical access is cut.

Step 7
Next layer(s): Mount the AquaCell NG (without bottom plate) directly on top of bottom layer unit(s). Each of the pillars will fall into position and click in the top directly on top of the bottom layer of the unit below.

Note 1: Keep in mind the orientation of the white circle (white circle above white circle is NOT possible!).

Note 2: The integrated connectors will slide into each other (vertically).

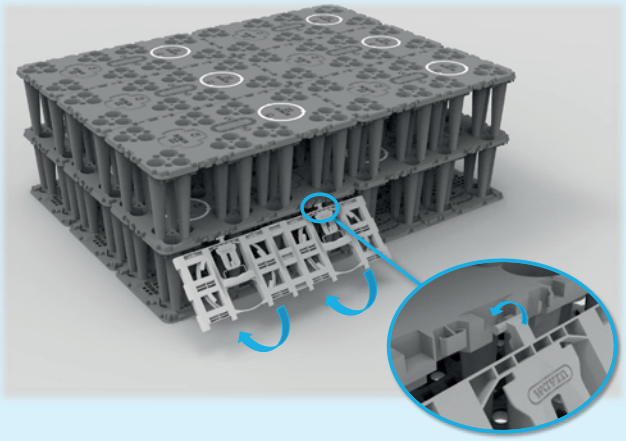
Note 3: It may be necessary to walk on top of previously laid AquaCell NG units. Care should be taken not to damage the edges of the units.



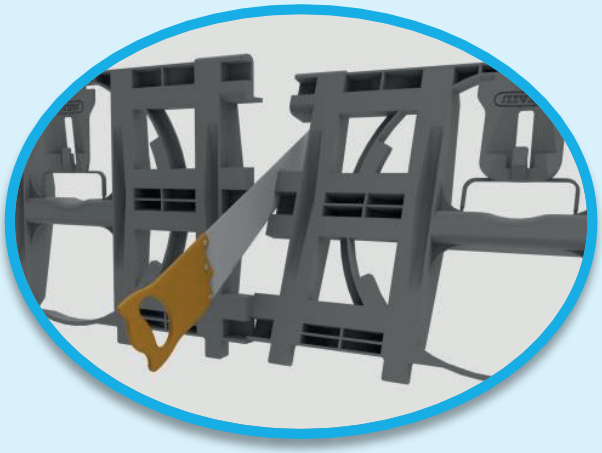
Repeat this for all the layers until all units are installed.

Wavin AquaCell NG
2. Step by Step installation

Step 8
Side panels: The following step is to install the side panels by putting the hinge pins of the side panel into the hinge pockets. Next the panels can be hinged against the pillars of the AquaCell NG unit. The panel will snap to the unit.



Repeat this step until all side panels are installed and the system is fully closed except at the location where the inlet and outlet must be placed.



Note 1: In case of the need of a half sidepanel, the sidepanel must be cut.

Note 2: After cutting there is a left and right version. Be sure that the rounded edge of the half panel is positioned towards the corner of the system (not the cut edge!) or depending on the length of the side, put the half panel in between two uncut panels.

Step 9a

Connection 160mm: Each side panel has two standard DN160 Inlets with integrated pipe stopper.
The two sprues of the pipe stopper can be cut/broken to activate this pipe stopper.

Step 9b

Connection 160mm: Each side panel also has two preformed openings that can be cut by a jigsaw. Next, the Inlet connector with spigot DN200 and DN315 can be connected by positioning and rotating until clicked into place. (Bayonet like).

Wavin AquaCell NG
2. Step by Step installation

Step 10
Wrap the AquaCell NG Structure:
For soakaways - wrap and overlap the geotextile covering the entire AquaCell NG structure.
For attenuation tanks – wrap the geomembrane around the AquaCell NG structure and seal to manufacturer's recommendations**. Then wrap and overlay the geotextile, to protect the membrane.
**The geomembrane should be designed to survive the rigours of construction, this is typically at least 0.5mm thick. Joints should be sealed using proprietary welding techniques.

Step 11
Lay 100mm of coarse sand or non angular granular material between the trench walls and the AquaCell NG structure and compact.

Step 12
If installing integral vertical inspection shafts, directly onto the top surface of the AquaCell NG Tank structure, then the ensure all pre-formed cut out sections are removed (on every level inside the structure).

Install Vertical adaptor within preformed cut out and seal to manufacturers recommendations.

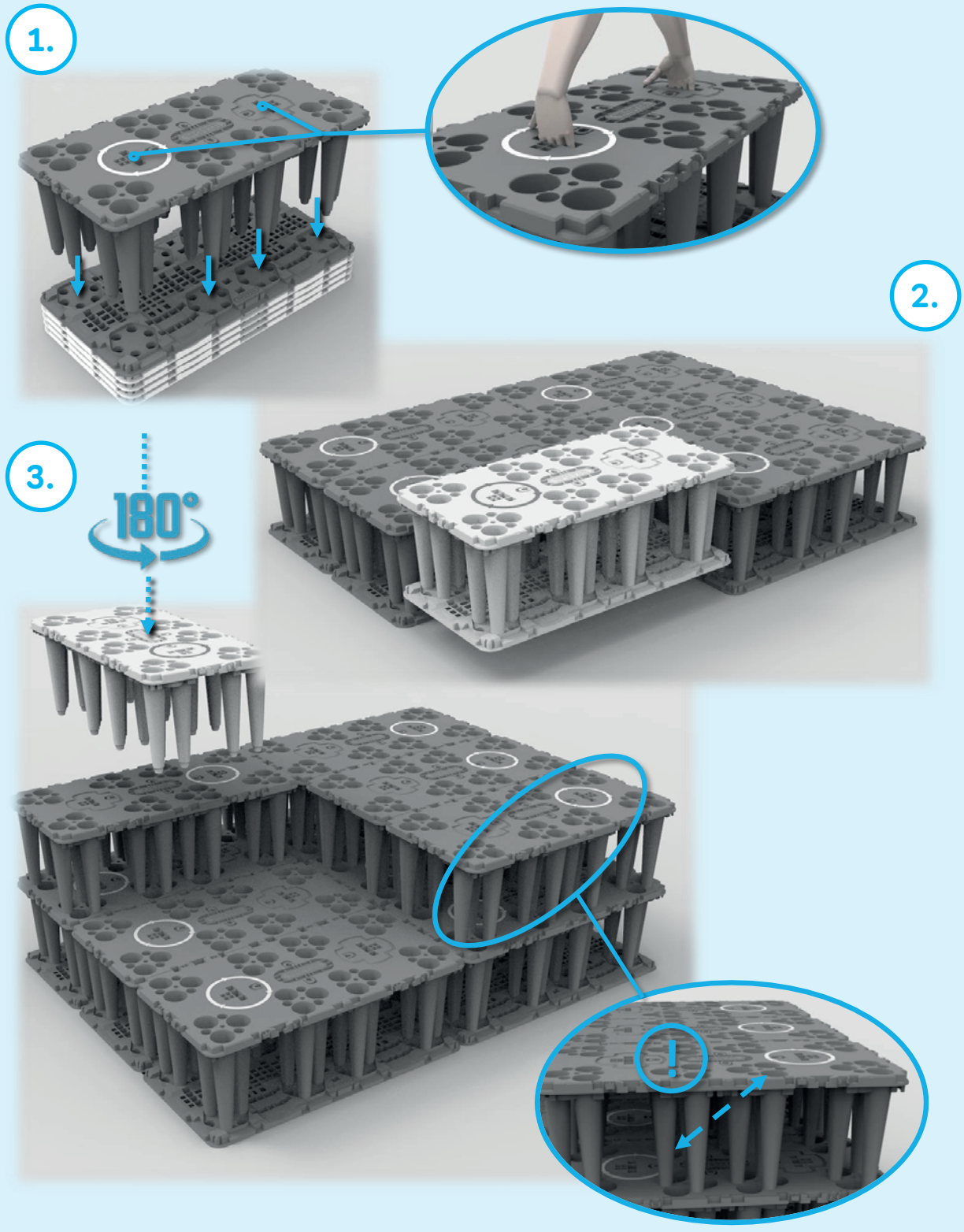
Step 13
Lay 100mm of coarse sand or non angular granular material over the geotextile/geomembrane and compact. Backfill with suitable material.

Construction Loads
Construction plant such as excavators can impose significant loads on any AquaCell NG unit. The following guidelines should be observed:

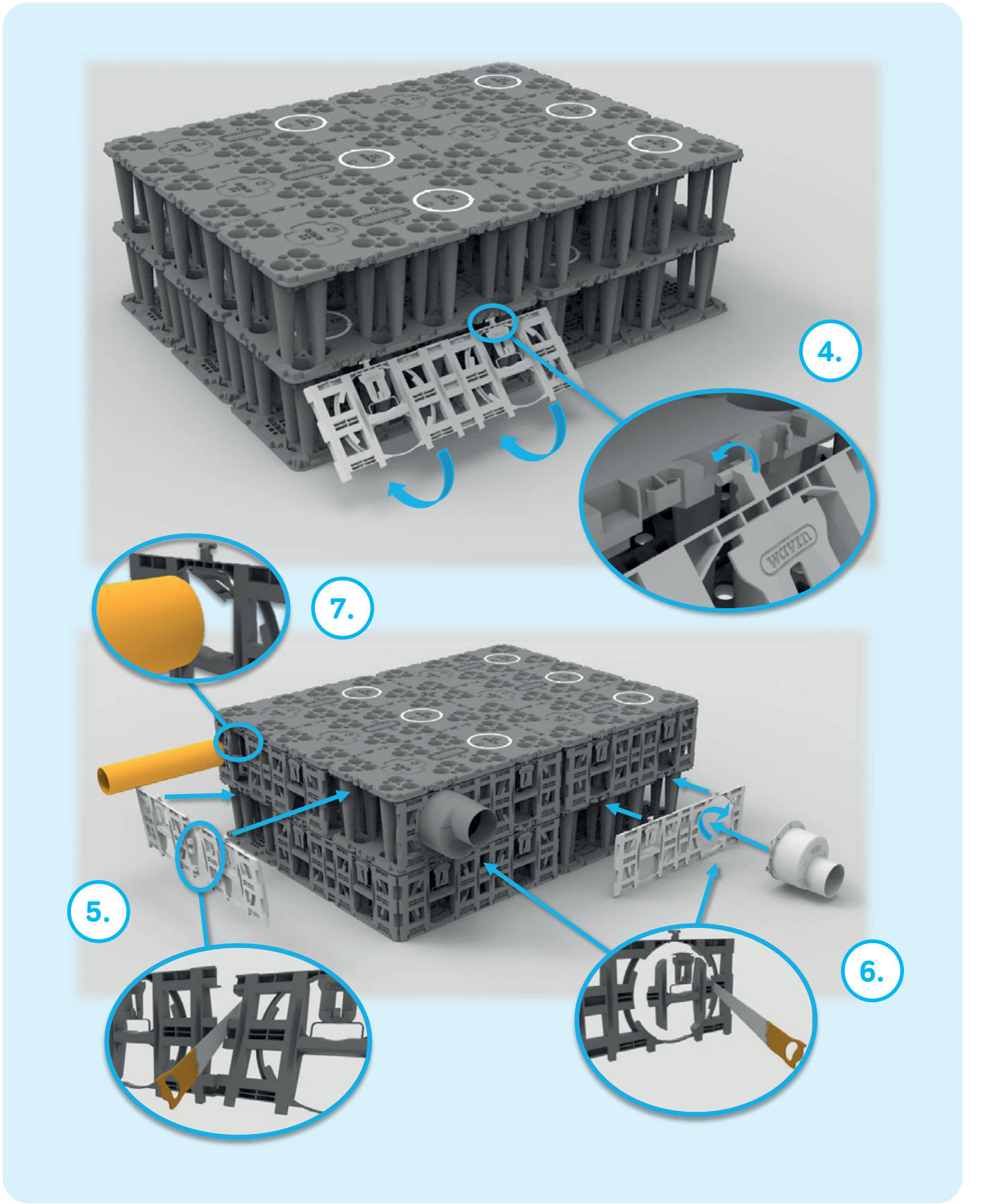
- Tracked excavators (not exceeding 21 tonnes weight) should be used to place fill over the AquaCell units when the geotextile or geomembrane wrapping has been completed
- At least 300mm of fill should be placed before the excavators or trucks delivering the backfill are allowed to traffic over the installed units
- Compaction plant used over the AquaCell NG units should not exceed 2300kg/metre width. This will allow the compaction of Type 1 sub-base in 150mm layers over the units in accordance with the Specification for Highways Works
- All other construction plant should be prevented from trafficking over the system once it is installed and surfacing completed, unless a site-specific assessment demonstrates that is is acceptable
- In particular cranes should not be used over, or place their outriggers over the system

Trafficking by heavy construction plant on site, including mechanical equipment, must be avoided until the minimum cover depth of 1.46 metres is in place.

Wavin AquaCell NG
3. Schematical installation instructions



Wavin AquaCell NG
3. Schematical installation instructions



Contact Information

To discuss your project requirements, please call 01 8020200 or email **projects.ie@wavin.com**

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