



new elevator tank

recovery and reuse of rainwater



- HIGH STORAGE CAPACITY
- VARIABLE HEIGHTS
- HIGH LOAD-BEARING CAPABILITY





NEW ELEVATOR TANK VISION

This is the essential element for the survival of any life form on the Earth. Without water, our planet history would have been different and perhaps it would have never been started. Nature preserved with great efficiency this invaluable good, returning each drop of water to the environment. Urbanization has damaged the natural water cycle: it's time to turn over a new page.

MAN AND WATER, THE SEARCH FOR A MUCH-NEEDED BALANCE: THIS IS OUR AIM

Not only we transform our ideas into innovative and successful products, but also we study and select the right materials to guarantee high quality and respect of the environment.

Polypropylene (PP) is a recyclable material that can be obtained also from the regeneration of plastic waste. Strong and solid, it can easily resist to high breaking loads and abrasions.

Regenerated Polypropylene is a chemically inert material, neutral towards the environment and non-polluting when in contact with ground and water.

Geoplast S.p.A. in Green Building Council Italy.
The eco-friendly network for building

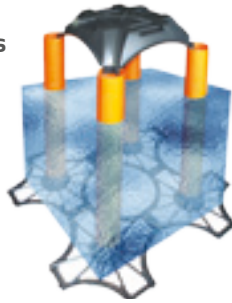




NEW ELEVATOR TANK

THE SOLUTION

NEW ELEVATOR TANK is a system that allows the creation of lightened and poured on-site water storage tanks, heights and size variable according to the design requirements. Not only allows **NEW ELEVATOR TANK** structure, an high resistance to any load and the



place under heavy traffic areas, but also it guarantees a significant storage of water inside it. Moreover, the **GRID**, placed on the base, allows an easy and quick installation of the PVC pipes, keeping a perfect verticality during the pouring stage.

■ RESIDENTIAL AND COMMERCIAL BUILDINGS

■ FACTORIES

■ ROAD INFRASTRUCTURES



NEW ELEVETOR TANK ADVANTAGES



High capability modular system to create storage and lamination tanks



stable

the base grid allows the system to maintain the pillars perfectly vertical to guarantee a high load bearing capability of the slab



quick

The grid allows the system to be placed quicker than any other alternative system. The installation surface guarantees then an high productivity on-site



inspectable

The pillars guarantee the creation of structures like tanks or general upper storeys which are completely inspectable through specific manholes



resistant

NEW ELEVETOR TANK structure allows a perfect cargo-sharing, in order to install the system even under heavy traffic areas



capacity

NEW ELEVETOR TANK allows the creation of high capability storage tanks exploiting a small surface

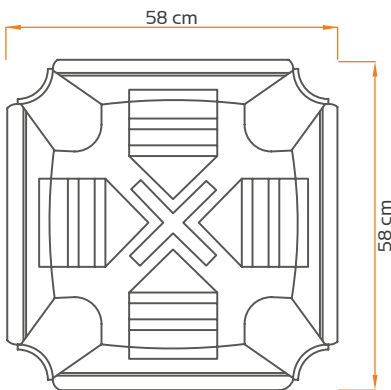
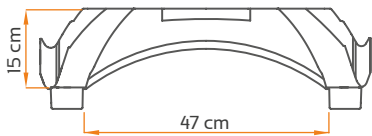


modular

Thank to its modularity, **NEW ELEVETOR TANK**, can easily be installed under curved and irregular surfaces

TECHNICAL DATA

NEW ELEVATOR TANK



Real size (cm)
material
weight (kg)
packaging size (cm)
n° pcs. per pallet

FORMWORK

58 x 58 x 15
Polypropylene
1,50
120 x 120 x 265
225

GRID

58 x 58 x 2.5
Polypropylene
0,70
110 x 110 x 240
310

Real size (cm)
material

PIPE

75 > 200 x ø12.5
PVC

LISTEL

8 x 10 x 100
Polystyrene

LEVEL FILLING CONCRETE CONSUMPTION (m³/m²)

$$0,037 \times (\text{New Elevator Tank height (m)} - 0,15) + 0,030 \text{ m}^3/\text{m}^2$$



The pipe

The supporting pipe is the typical PVC pipe used in the work-site, the external diameter is of 125 mm and the thickness is of 1,8 mm. They are inserted in the base patented grid and once they are filled with concrete they work as structural support for the upper formwork.

THE SYSTEM NEW ELEVETOR TANK

The concept

It is ideal to create storage tanks of different heights and sizes. The product is provided with a formwork, PVC pipes and a patented grid which guarantees the system perfect verticality and a perfect load-bearing capability. The system is modular and consists in the formwork dry application in

order to create a completely walkable and self-supporting foundation, ready for the pour. When the concrete solidifies, it takes the form of **NEW ELEVETOR TANK** creating a supporting and ventilated slab in all directions.

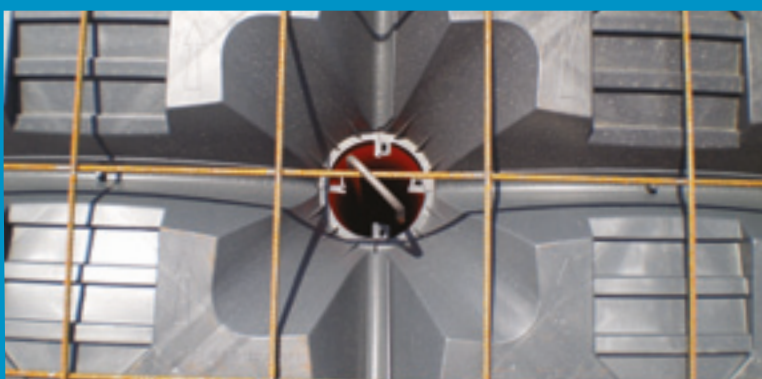


The formwork

It appears like a dome made of regenerated PP, plan dimensions of 58 x 58 cm and heights of 15 cm, provided with lower joints for a perfect hook with the pipes. The dome's geometry allows a uniform cargo-sharing over the 4 pilars, reducing the upper slab thickness.



Reinforcement option



For delicate situations, where the combination between loads and pipes heights is particularly onerous, the insertion of iron elements (bars/forks made of steel) in the pipes, is recommended. This is necessary to guarantee the concrete pillars stability even under the influence of dynamic forces.

CHARACTERISTICS AND ADVANTAGES OF THE GRID

The base grid, essential for NEW ELEVATOR TANK system, is created in regenerated PP and allows the PVC pipe perfect verticality. The grids are hooked together to form a solid base grid that guarantees the structure stability and walkability.



PIPES VERTICALITY

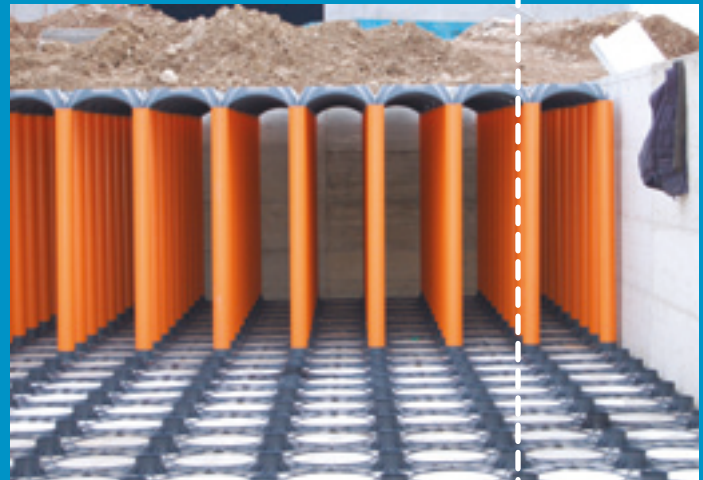
The pilars verticality is guaranteed by the base grid, which is essential because of two aspects:

SAFETY: the perfectly aligned and vertical system guarantees safety and walkability.

BEARING CAPABILITY: it keeps the pilars perfectly vertical, so that the concrete structure will not have any distorting effect that could undermine the system stability.



Typical system without grid



System New Elevator Tank with grid

PRECISION

The hooking between the base grids allows the vertical and horizontal alignment of the system (PVC pipes + formwork) and a high precision during the installation. The grid is very light, easy to cut and to move even in correspondence of walls.



QUICK INSTALLATION

The base grid is an essential plus for the system NEW ELEVATOR TANK. It is an extremely light and space-saving element which can be quickly installed thanks to the specific male/female hooking.

METHOD OF PLACE ON-SITE

The right installation of New Elevator Tank



① STRUCTURE

Creation of the tank foundation and walls. Preparation of the pumping stations, the inspection pits and other hydraulic waterworks.



② GRID

Place of the base grid, essential for the pipes verticality and for the system structural resistance.



③ TUBES

Place of the PVC pipes, in the specific positions in the base grid



④ FORMWORK PLACE

NEW ELEVATOR TANK, placed from right to left, is inserted into the pipes to guarantee a safe walkability.



⑤ COMPENSATION

On the starting sides, where the formwork lays against the retaining walls, the polystyrene lists avoid the concrete dispersion.



⑥ WELDED MESH

Place of the distribution welded mesh following the design specifications.



⑦ PILARS REINFORCEMENT

Insertion of the iron rods in the PVC pipes, hooking them to the welded mesh.



⑧ THE POUR

Once the reinforcements installation is completed, you proceed with the pouring stage from a side to the other, vibrating the concrete adequately.

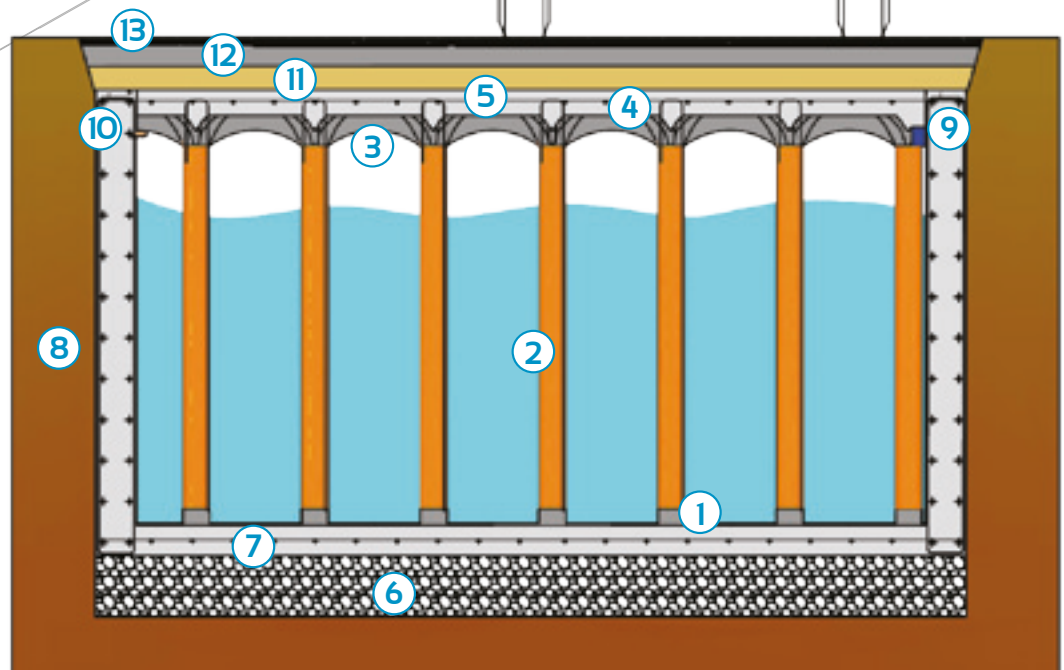
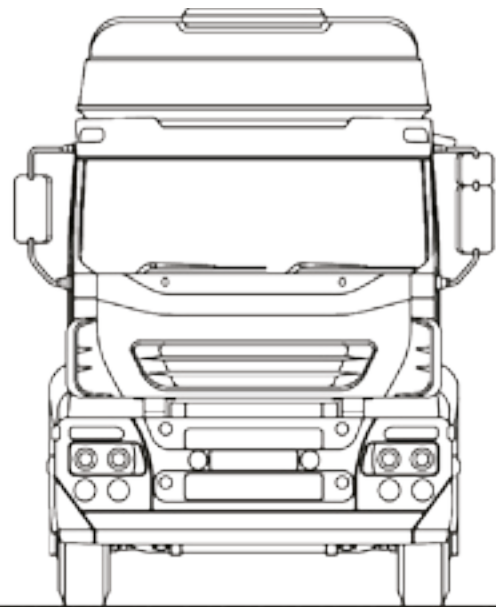


⑨ FINISHING

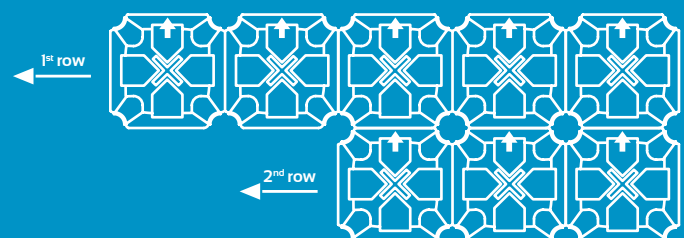
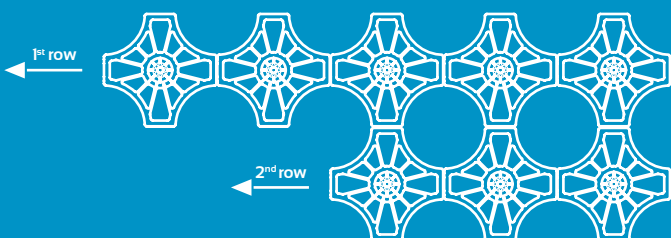
Backfill of the tank and creation of the road package.

NEW ELEVATOR TANK FINISHED SYSTEM

- 1- NEW ELEVATOR TANK GRID
- 2- PVC PIPE
- 3- NEW ELEVATOR TANK FORMWORK
- 4- PILAR'S REINFORCEMENT FORK
- 5- REINFORCED SLAB
- 6- GRAVEL
- 7- FOUNDATION
- 8- RETAINING WALLS
- 9- POLYSTYRENE LISTEL
- 10- SUPPORTING SHELF OF THE CUT FORMWORK
- 11- STABILIZED SOIL
- 12- BINDER ASPHALT



LAYING ORDER



DIMENSIONAL TABLES

In order to quickly size the tank, you should refer to the basin values per unit area that are shown in the table below. The pillars dimensions have already been calculated.

h	BASIN VOLUME		h	BASIN VOLUME	
cm	m ³ /m ²	l/m ²	cm	m ³ /m ²	l/m ²
80	0,626	626	170	1,493	1.493
90	0,722	722	180	1,583	1.583
100	0,819	819	190	1,686	1.686
110	0,915	915	200	1,782	1.782
120	1,011	1.011	210	1,878	1.878
130	1,108	1.108	220	1,975	1.975
140	1,204	1.204	230	2,071	2.071
150	1,300	1.300	240	2,167	2.167
160	1,397	1.397	250	2,264	2.264

The effective storage level is the equivalent of the length of the PVC pipe inserted in the base grid. The height shown in the table is that of the plastic system, that is the sum of the pipe length and of the formwork length (15 cm).

Example of load table for NEW ELEVATOR TANK H150

Type of road load	Overload t	Hood thickness (cm)	Slab thickness Rck300(cm)	Gravel thickness 300(cm)	Ground pressure 300(cm)	Welded mesh mm	Welded mesh (cm)
1 st category	60	15	20	35	0,87	doppia ø 8	20 x 20
2 nd category	45	10	15	30	0,93	ø 8	20 x 20

This table has to be considered only as an example. The values may vary depending on the project.

RESIDENTIAL AND COMMERCIAL BUILDINGS



Buildings protection and water saving

NEW ELEVATOR TANK allows the creation of a lamination tank for rainwater, lightweight and poured on-site. The aim is to prevent the floodings in new urban areas and to respect the local regulations on water discharge in the sewers. As an

alternative, the tank can be used to restore water to irrigate green areas or to create a firefighting water tank in public buildings. This leads to an eco-friendly use of water.

High storage capability
Quick to install
Inspectable



INDUSTRIAL BUILDINGS



Buildings protection and reuse of stored water

NEW ELEVATOR TANK allows the creation of large size lamination tanks for rainwater, in order to prevent potential floodings or to storage high quantities of water that can be used in case of fire or as a water

reserve for production purposes. The structure of the system can resist also to heavy loads and can be installed under operative areas or loading and unloading zones.

High storage capability
Variable heights
High resistance to loads



ROAD INFRASTRUCTURES



Prevention of floodings

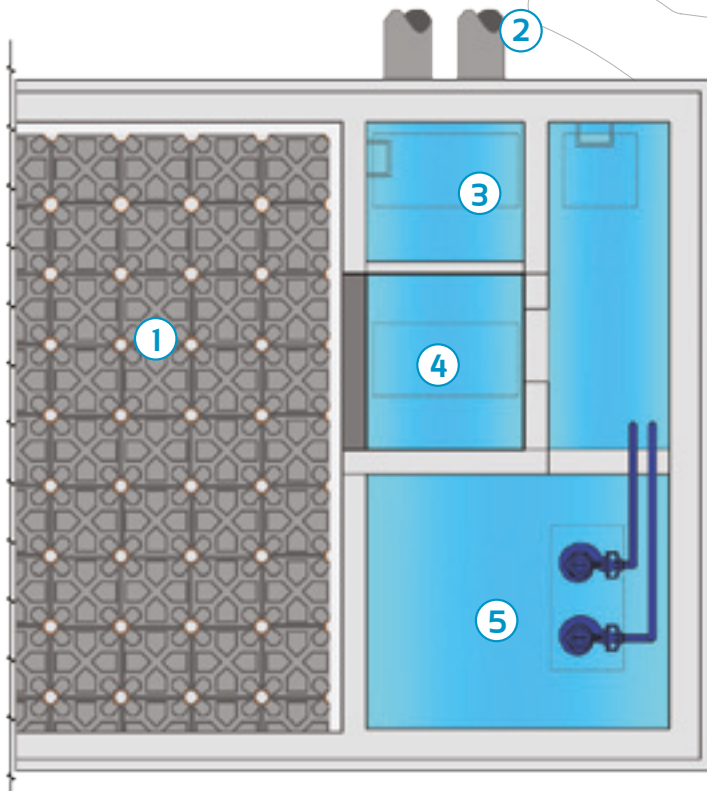
NEW ELEVATOR TANK can be used also to create storage and lamination systems for rainwater in road infrastructures. The aim is the prevention from potential viability inconveniences. The modular structure allows the quick installation of the sys-

tem on irregular and curved surfaces, while the high load resistance allows its installation in heavy traffic areas. The system can be placed also under ramps or elevations thanks to the variable heights of the pipes.

Adaptable to irregular surfaces
High load resistance
Variable heights

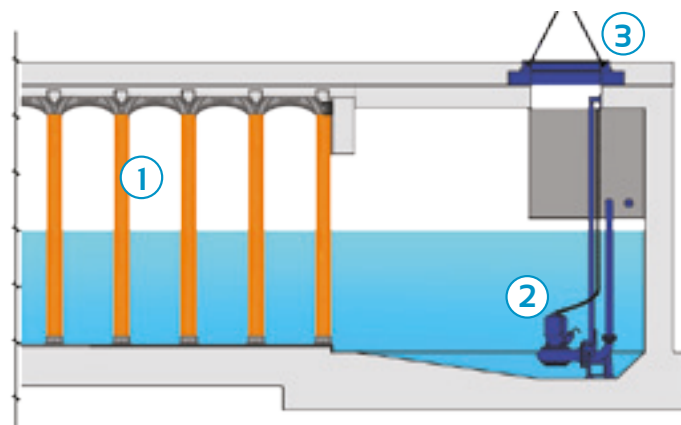


NEW ELEVETOR TANK CONSTRUCTION DETAILS



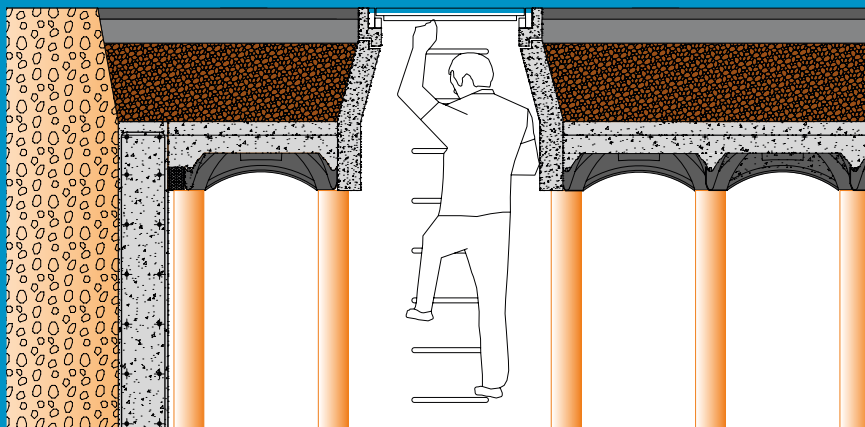
Example scheme
lamination tank

- 1 Tank with **NEW ELEVETOR TANK**
- 2 Pipes for rainwater storage
- 3 Stilling basin
- 4 Spillway
- 5 Elevation
- 6 Discharge to the final receptor
- 7 Emergency discharge



Detail
water lifting station

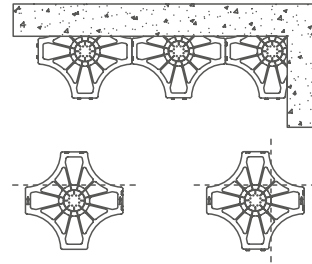
- 1 Sistem **NEW ELEVETOR TANK**
- 2 Submersible pump
- 3 Manhole



Inspection pit

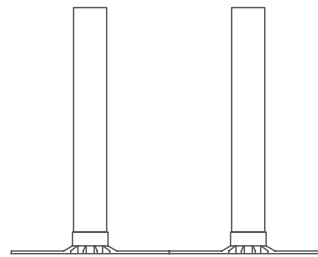
The inspectable pits facilitate the maintenance and the control of underground installations like storage tanks. The distance between the pillars allows to easily transit above the structure and the possible intervention in a subsequent period after the creation of the tank.

INSTALLATION REQUIREMENTS



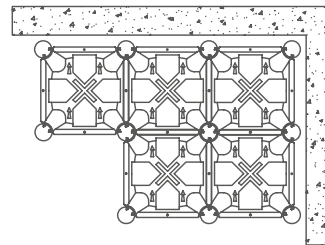
Cut the bases as in the scheme and place the first row against the wall. Place it from right to left.

1



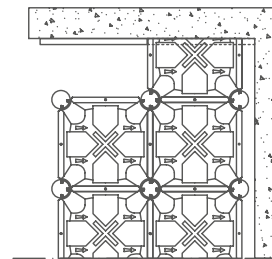
Place the PVC pipes in the bases, exerting pressure in the upper part to obtain a correct hooking.

2



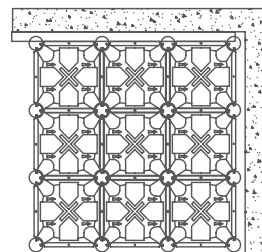
Install **NEW ELEVATOR TANK**, making sure the hooking is perfect

3



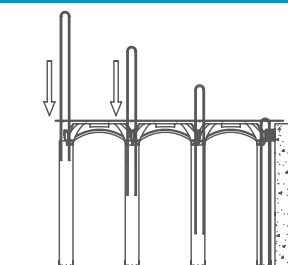
Place the last row of **NEW ELEVATOR TANK** with the dome cut and against the kerb.

4



Place the stoppends against the kerb.

5



Place the welded mesh and the additional reinforced irons in the pillars.

6



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