

NEW ELEVATOR



**PERMANENT CRAWL SPACE FORMWORK,
UP TO 3 M**



NEW ELEVETOR ADVANTAGES



Modular and single-use formwork system for crawl spaces up to 300 cm for the creation of a physical barrier between the ground and the building.

STACKABLE

Unmatched logistical advantages when transporting and storing. At a height of 50 cm, conventional filling requires 50 trucks of filling in comparison to only 1 truck of NEW ELEVETOR.

LIGHTNESS

By far it is the lightest filling solution; the total weight of the cross section is approximately equal to the thickness of the upper slab.

HIGH LOAD BEARING

Countless pillars, arches and domes create the highest load bearing structure.

VOID SPACE

The void space created under NEW ELEVETOR allows an easy installation of electrical as well as mechanical systems. The void space is also perfect to ventilate damp and RADON GAS away from the building.

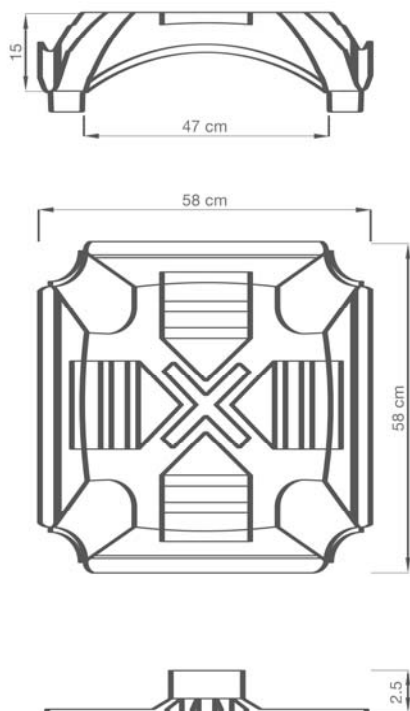
FAST

When compared to traditional systems, it guarantees faster installation times up to the 80% (in respect to the use of the traditional inert materials).

SAVINGS

NEW ELEVETOR system allows savings compared to the use of traditional inert materials, especially in terms of transport and installation.

TECHNICAL CHART NEW ELEVETOR



FORMWORK



GRID

Actual size (cm)	58 x 58 x 15	58 x 58 x 2.5
Material	Polypropylene	Polypropylene
Weight (kg)	1.78	0.52
Package size (cm)	120 x 120 x 265	110 x 110 x 240
No. pieces per pallet	225	310



PIPE



LINTEL

Actual size (cm)	75 > 300 x ø12.5	8 x 10 x 100
Material	PVC	Polystyrene

CONCRETE CONSUMPTION UP TO THE TOP (m³/m²)

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

THE PIPE

The supporting structure consists in a classical construction pipe of PVC with an external diameter of 125 mm and a thickness of 1.8 mm. When the pipes are inserted into the patented base grid and filled with concrete, they support structurally the upper formwork.



NEW ELEVETOR SYSTEM: THE CONCEPT



This system is ideal for the ventilation of reinforced concrete foundation slabs for residential, industrial and commercial buildings. The product consists of a formwork, PVC pipes and a patented grid that guarantees the system perfect verticality in order to ensure a great load-bearing capacity. The system is modular and the formwork can be installed on-site in order to build a walkable and self supporting system which is ready for the concrete pour. When the concrete solidifies, it takes the form of NEW ELEVETOR, thus creating a supporting and completely ventilated crawl space.

FORMWORK

The formwork is a dome made of regenerated PP (polypropylene) with plan size of 58X58 and an height of 15cm, with a bottom click rail to hook it perfectly to the pipes. The dome geometry allows a uniform load-bearing capacity over the four pillars. Moreover, it permits the reduction of the upper slab thickness.

DETAILS AND ADVANTAGES OF THE GRID

The base grid, essential for NEW ELEVETOR system, is made of regenerated PP and allows the perfect verticality of the pipes of PVC. The single grids are locked with one another creating a solid base grid that guarantees the stability and the walkability of the final structure.



INSTALLATION OF NEW ELEVATOR

THE CORRECT INSTALLATION OF NEW ELEVATOR SYSTEM



① GRID

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



② PIPES

Place the pipes of PVC in the base grids.



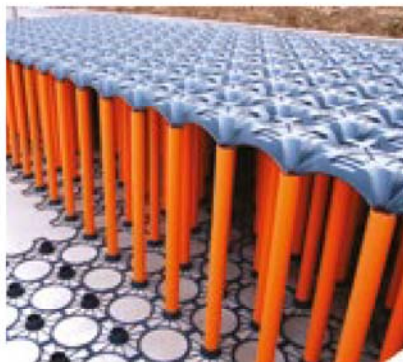
③ FORMWORK

Place New Elevator from right to left and interlock in the pipes to guarantee a safe walkability.



④ COMPENSATION

In the starting sides, where the formwork leans against the wall, the listels of polystyrene avoid the concrete dispersion.



⑤ UPPER MESH

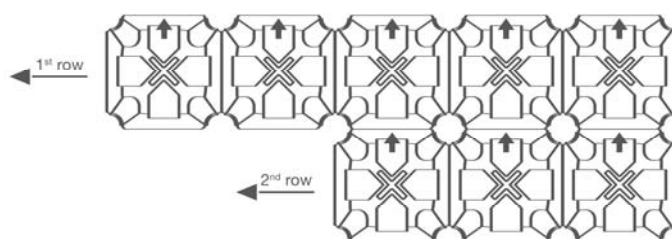
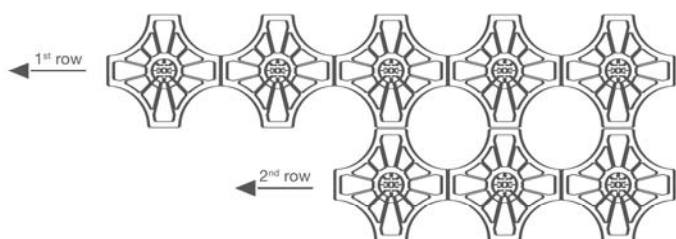
The upper mesh has to be placed right over the formwork or when required by the project over the spacers with an appropriate overlapping.



⑥ CONCRETE POUR

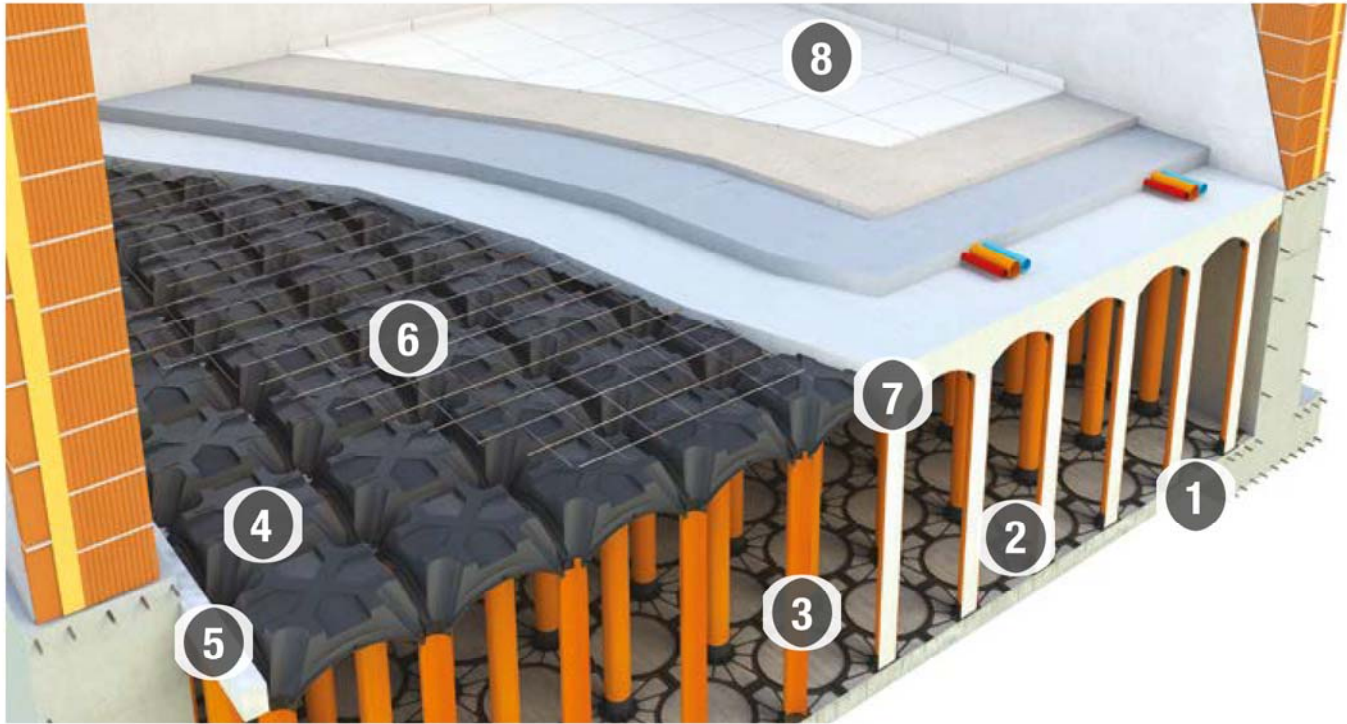
The pour comes after the end of the mesh installation. Pour concrete gradually from a side to the other and vibrate it properly.

LAYING SEQUENCE



NEW ELEVATOR THE FINISHED SYSTEM

The construction of a ventilated crawl space with NEW ELEVATOR requires different stratigraphies depending on the final destination of the building and the working loads. The main sections of a finished stratigraphy with NEW ELEVATOR system are depicted in the following picture:



- ① LEAN CONCRETE
- ② GRID NEW ELEVATOR
- ③ PIPE NEW ELEVATOR
- ④ FORMWORK NEW ELEVATOR
- ⑤ LISTEL
- ⑥ WIRE MESH
- ⑦ FOUNDATION SLAB
- ⑧ PAVEMENT

PRESSURE WHEN IN CONTACT WITH SOIL FOR NEW ELEVATOR SYSTEM*

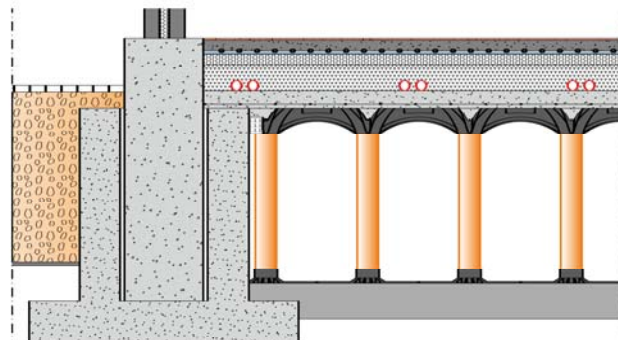
Load daN/m ²	Slab thickness cm*	Reinforcement	Self weight daN/m ²	Concrete thickness (cm)	Pressure from N/m ²	Gravel thickness cm	Soil pressure from N/m ²
1000.0	5.0	Ø6/20x20	323.12	0.00	3.89	0.00	3.89
				5.00	1.20	0.00	1.20
				5.00	1.20	10.00	0.46
				10.00	0.58	0.00	0.58
2500.0	5.0	Ø8/20x20	323.12	5.00	2.47	0.00	2.47
				5.00	2.47	10.00	0.94
				10.00	1.18	0.00	1.18
				10.00	1.18	10.00	0.58
5000.0	7.0	Ø8/25x25	373.12	5.00	4.64	0.00	4.64
				5.00	4.64	10.00	1.76
				10.00	2.22	10.00	1.09
				10.00	2.22	15.00	0.82
10000.0	10.0	Ø10/20x20	448.12	5.00	8.95	30.00	1.09
				10.00	4.29	15.00	1.58
				10.00	4.29	20.00	1.24
				15.00	2.51	20.00	0.91

*It is considered a configuration with New Elevator elements when the legs are placed at a height of 150 cm and 58 cm equidistant from each other. The concrete consumption of the system (without considering a possible slab) can be calculated in this way: 0.037 (height of New Elevator system 0.15) + 0.030 = [m³/m²]. For loads which are different from those listed, please contact Geoplast's technical unit.

**Concrete class C20/25 minimum

LARGE SCALE STRUCTURES

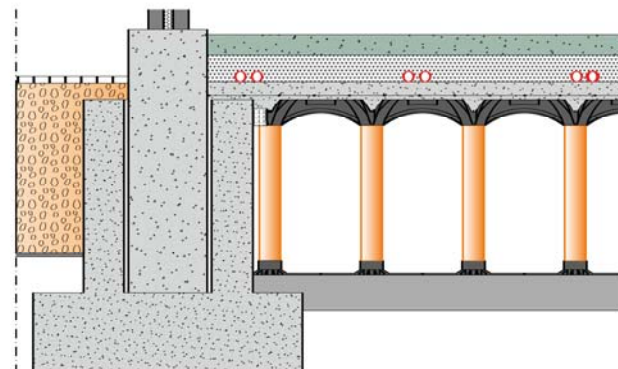
Thanks to its easy installation, with NEW ELEVETOR system it is possible to fill excavations filling and overcoming gaps quickly even in the case of large foundations. With low concrete consumption it creates a slab over pillars that guarantees very high load-bearing capacity and permits the transit of vehicles. Compared to a traditional filling with inert materials, it simplifies the logistics and installation. Moreover, the so created void space can be used for the installation of conduits or the creation of water storage tanks.



Material storage in the construction site

INDUSTRIAL BUILDINGS

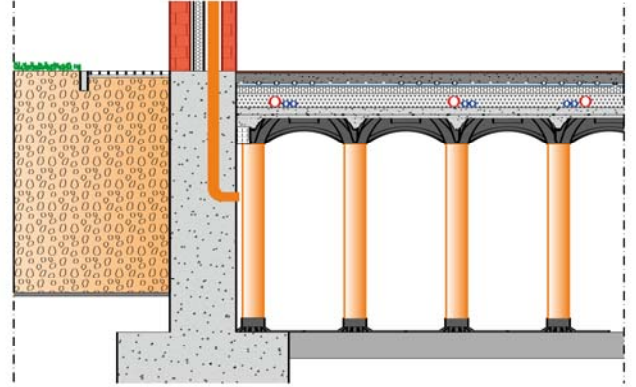
The system allows the construction on-site of high crawl spaces, avoiding having to fill them with inert material and making it possible to use the so-created space for the installation of wires or pipes. The structure of reinforced concrete that can be built with NEW ELEVETOR is comparable to a floor slab supported by pillars. This guarantees an high load-bearing capacity against both permanent and accidental loads, which are typical of industrial environments.



Reinforcement of the pillar with steel forks

RESIDENTIAL BUILDINGS

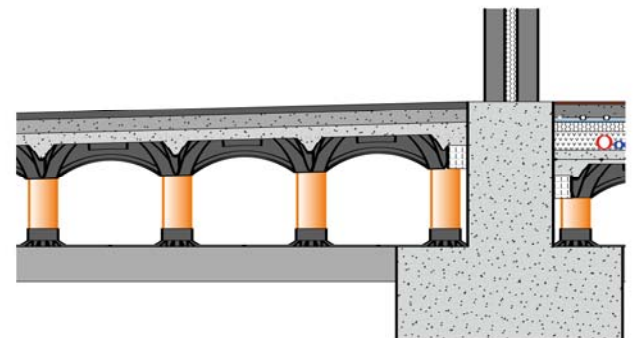
ELEVETOR creates a gap of variable height in order to protect the residential buildings from the rising damp and RADON, a radioactive gas from the subsoil which is harmful to human health. In the case of low load-bearing capacity ground it is necessary to build deeper foundations. NEW ELEVETOR system allows to avoid the filling with inert materials creating a large crawl space that can be used for various purposes.



ACCESS RAMPS

Thanks to its modularity, NEW ELEVETOR system allows the over coming of the level differences, even for the transit of heavy vehicles or trucks. The ramp can be built in two ways:

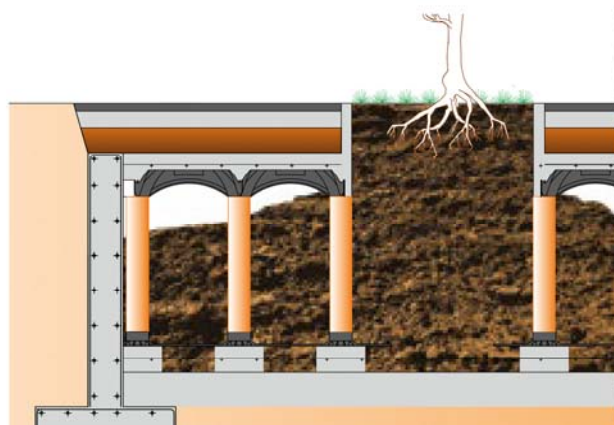
- Inserting the inclined domes in the pipe (inclination up to 5%);
- Shaping the pipes in order to create a step and placing the domes horizontally (step's maximum height: 8 cm); the maximum slope and applied loads must be first arranged with Geoplast Technical Department.



Ramp with finished slope

ROOTS APPLICATION

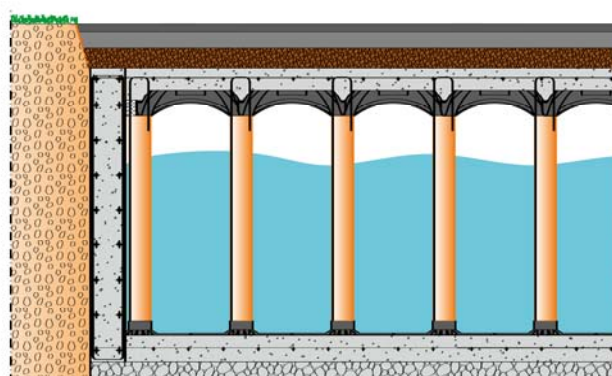
NEW ELEVATOR ROOTS is used to preserve the growth of tree roots along the roadway. Usually, the rooting space is hindered by cables, sewages or road underground layers. All these hindrances steal space to the roots which cause the typical upheaval of the road surface. Our solution considers the use of a slab placed at the top of a column grid in order to let the roots grow between the pipes.



Section of Elevator Root system

NEW ELEVATOR TANK

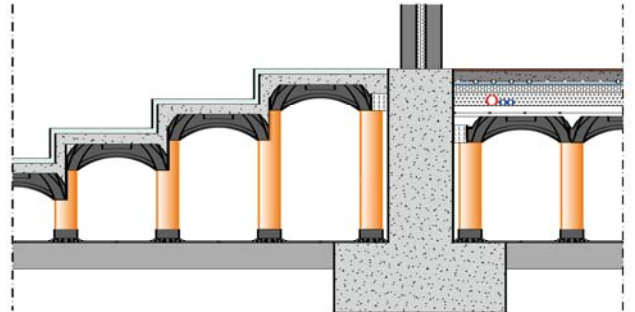
NEW ELEVATOR TANK is the ideal solution for the fast construction of storage concrete tanks of variable height which can be used for the storage of high quantities of rainwater in a small space. The tank can be inspected through a pit that allows cleaning, checking the water level, the system's functionality and the microbiological status of the water.



Rainwater storage tanks up to 300 cm

STEPPED SURFACES

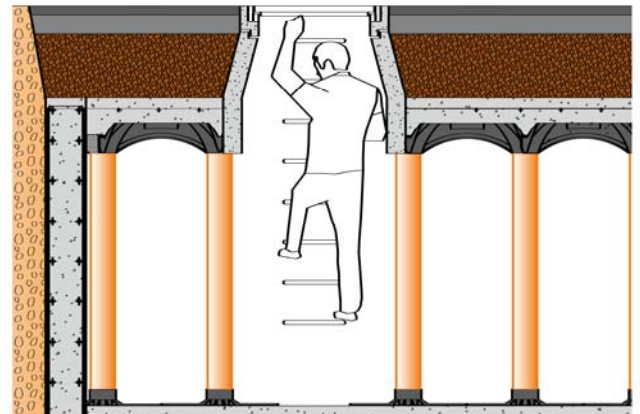
NEW ELEVETOR allows the construction of structures with various levels such as staircases or stepped extensions. The simple and fast installation of the system avoids the filling with inert materials whom would be very complicated to deal with, especially in the contact points between areas placed at different heights.



Detail of the formwork installation

INSPECTION MAN-HOLES

The inspection man-holes facilitate the checking and maintenance of the storage tanks. The gap between the pillars make it easy to move within the structure, thus giving the possibility to inspect the tank even afterwards.



CASE HISTORY



New Elevator Product



Emaar Square, Turkey



New Elevator Product



Gare de Sarcelles, France



New Elevator Product



TRM Inceneratore, Italy