

WE BUILD RESILIENT CITIES

CUPOLEX[®]
SOLUTIONS



CUPOLEX STORMWATER TANKS

The solution to problems of water shortage or excess through the creation of drivable underground TANKS

PONTAROLO[®]
ENGINEERING



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THE SYSTEM

Cupolex Vasche is an innovative system by Pontarolo Engineering for creating rainwater collection and detention tanks, suitable for both private and public use. Its main applications include slowing down and reducing the volume of water entering the sewage system in case of heavy rainfall, as well as collecting and storing rainwater for later reuse.

The system consists of creating reinforced concrete tanks using Cupolex and Cupolex Rialto forming technologies, with on-site assembly of the system and concrete casting to form the tank. It is a versatile system with no limitation or constraints in design being adaptable to any project need. Tanks can easily become watertight with a compatible waterproofing system. Design can include filtering and inspection systems, and can be adapted to support any type of load, including road loads. First-flush and infiltration/lamination tanks can also be created.

The resulting structures are highly durable and make cities more resilient in responding to water management issues.



THE BENEFITS FOR THE ENVIRONMENT

CUPOLEX VASCHE technology has been engineered to obtain an effective system with low environmental impact.

The system allows:

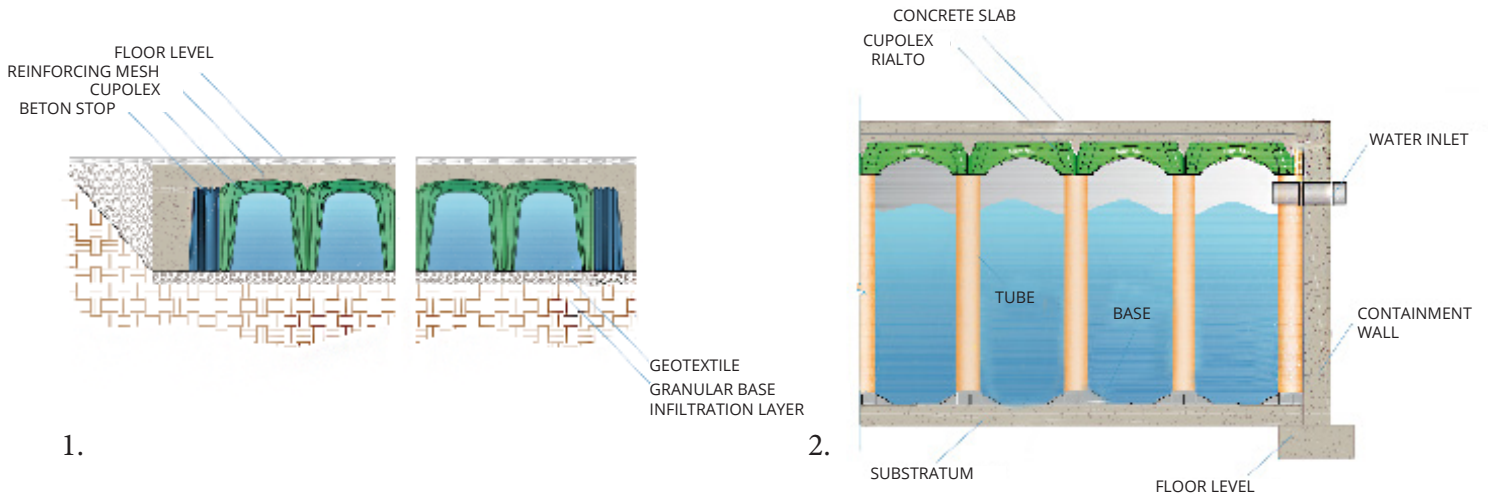
- The lamination of rainwater for greater resilience of the territory;
- The reduction of the risk of network overload during “water bombs”;
- The collection and reuse of rainwater as an alternative to drawing from a well, artesian groundwater or drinking water;
- The supply of aquifers;
- The mitigation of the tropicalization effects of the climate due to global warming;
- Compensation of the drainage capacity of the natural soil, pre-concreting.

ADVANTAGES INCLUDE

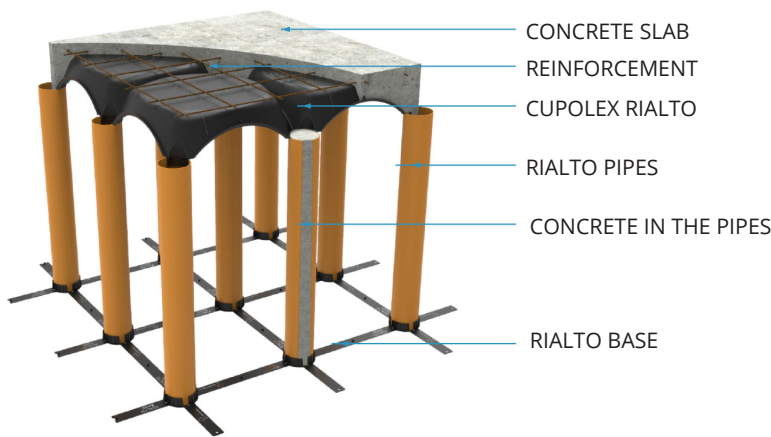
- Possibility to create durable and resilient structures that enhance the client's investment;
- Possibility of creating tanks under public parking lots,
- Possibility to design it as a white tank;
- Tailor-made design;
- Installation under urban pavements or green areas without the need for lifting equipment;
- Economic and quick installation;
- No need for non-woven fabric or geotextiles;
- Design flexibility in terms of layout and height based on project characteristics;
- Possibility of creating surfaces suitable for groundwater infiltration;
- Maximum filling volume with up to 98% empty space;
- Minimal transportation costs due to the unassembled product;
- Possibility to design drainpipes, inspection or maintenance pits in any part of the tank;
- It is also produced according to ISO 9001:2015 quality standards.

HOW DOES IT WORK

CUPOLEX (1) concrete tanks are easily built on site and can be designed with various dimensions in plan and in height up to 70 cm, obtaining a structural and drivable paving. For greater heights, CUPOLEX RIALTO system (2) is used, which allows reaching a height of 250 cm and therefore maximizing the volume of the tank.



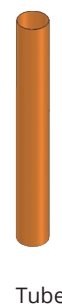
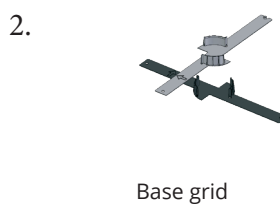
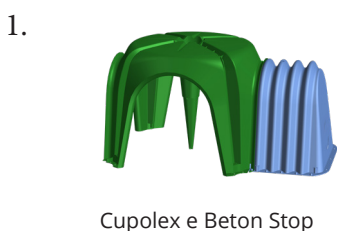
The individual elements fit together and quickly connect to each other forming a load-bearing structure ready for the placement of the concrete.



Applications

- Stormwater capture;
- Tanks for regulating and controlling the outflow of rainwater;
- Accumulation tanks for fire extinguishing systems;
- Lamination tanks for industrial processes;
- Water collection for irrigation systems;
- Infiltration tanks;
- Stormwater discharge;
- Flood-proofing and harvesting;
- Tanks for containing other fluids.

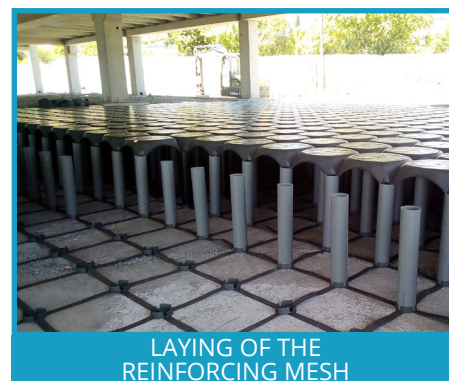
THE ELEMENTS OF THE SYSTEM



INSTALLATION

The installation follows the instructions and the project design according to the purpose of the tank, following this procedure:

1. Excavation and preparation of the substrate according to the project specifications: lean concrete, gravel, beams or slabs (possible waterproofing);
2. Preparation of inlet and outlet pipes according to project specifications;
3. Formation of the containment walls (simultaneous to the slab if the tanks are of limited height);
4. Installation of CUPOLEX system:
 - Laying and connecting the bases
 - Insertion of the pipes on the bases
 - Placement of domes
 - Laying of the reinforcing mesh
5. Pouring of the concrete slab on site
6. Surface finishing, if required
7. Elements can be easily shaped to fit the size of the project.



SPECIFICATION

Formation of a water tank with a capacity of m³, including lean concrete, foundation slab, reinforced concrete containment walls and an upper reinforced concrete slab made with CUPOLEX VASCHE system by Pontarolo Engineering SpA. Price including reinforcement and the placement and finishing of concrete, creation of inspection wells as indicated in the structural design provided by the manufacturer and any other charges and specialist work to ensure completion in a manner consistent with the level of care normally exercised by other skilled contractors in the community (excluding reinforcing steel and the preparation of the base below the forms); onnections and pipelines are not included. MEASUREMENTS: in m³ of water storage capacity.

Price: €/m³

TECHNICAL ASSISTANCE

Our Technical Department is at your disposal to provide you with assistance during the design phase. Send us the plan in .ifc, .pln, .dwg, .dxf or .pdf format to the address assistenza@pontarolo.com.

By visiting the website www.pontarolo.com you can download the DWG and CAD applications of Cupolex and Cupolex Rialto.

The BIM objects of some of our products are also available on www.bimobject.com