PALADERI
INNOVAZIONE COSTANTE



TECHNICAL DATA SHEET · PALASTORM

# PALADISP infiltration tanks

Infiltration tank built from slotted steel and polyethylene pipes that stores stormwater and gradually releases it into the ground, recharging the groundwater.

DIAMETERS
**from DN 300 to DN 2400**

INFILTRATION SURFACE
**10 mm holes or 8×40 mm slots along the spiral**

## Technical data

| | |
|---|---|
| Material | **Slotted spiral-wound galvanised steel and polyethylene pipes to UNI 11434** |
| Diameters | **from DN 300 to DN 2400** |
| Infiltration surface | **10 mm holes or 8×40 mm slots along the spiral** |
| Pipeline gradient | **between 0.2% and 0.5%** |
| Configurations | **Horizontal tank or vertical well** |

## Hydraulic invariance

When land is developed, rain that used to infiltrate into the subsoil ends up in the sewer. PALADISP tanks return part of the inflow to the ground: perforated PALADEX elements, laid in a bed of crushed stone, store the excess and infiltrate it into the groundwater, conveying to the network only the volumes it is able to receive.

The advantage of steel and polyethylene technology is that infiltration basins can be built **directly beneath impermeable, trafficable surfaces**. A filter can be placed at the bottom to retain solid particles and preserve the absorption capacity of the soil over time.

## Advantages during installation

- **Installation in a single day**: lightweight pipes and side fill with excavated material, compared with the days needed to assemble and waterproof a modular system.
- **Tank watertightness**: superior to that of a PE membrane, which is delicate at the folds and vulnerable to roots and stones.
- **Direct and indirect savings**: a 15 cm sand bed is sufficient; no blinding, geotextile, membrane or the associated labour.
- **Flexibility**: the drainage pipes withstand ground pressure even in the event of soil movement.

## Benefits for the environment and the community

Infiltration systems reduce the risk of flooding during heavy rainfall, release water in a controlled manner into sewers and watercourses, recharge groundwater and purify the water under aerobic conditions. They enable environmentally sound urban development and sustainable, cost-effective stormwater management.

The PALADISP soakaway well is a slotted vertical element closed at the bottom, discharging water into medium-depth aquifers; the cover is a reinforced concrete slab that distributes loads onto the surrounding ground.

# Frequently asked questions

**What is hydraulic invariance?**

It is the principle whereby the transformation of an area must not increase the flow rate and volumes of stormwater discharged into receiving water bodies compared with the situation before urbanisation. The PALADISP infiltration tank meets it by infiltrating part of the inflow into the ground through slotted steel and polyethylene pipes from DN 300 to DN 2400.

**How long does it take to install a PALADISP tank?**

Installation of the PALADISP tank and side fill with backfill material up to ground level are usually completed in a single working day. A 15 cm sand bed is sufficient, with no blinding concrete, geotextile or waterproofing membrane, whereas a modular system takes several days for assembly and waterproofing.

**How are the pipes of a PALADISP infiltration tank perforated?**

The infiltration surface of PALADISP pipes runs along the spiral, with 10 mm holes or 8×40 mm slots. The infiltration pipeline is laid at a gradient of between 0.2% and 0.5%, on a base of medium-sized crushed stone with coarse aggregate at the sides, so as not to clog the slots.

**What is the difference between a PALADISP infiltration tank and a PALADISP soakaway well?**

The PALADISP infiltration tank is a horizontal line of slotted pipes that infiltrates water into permeable soil layers; the PALADISP soakaway well is a single slotted vertical element, closed at the bottom, that discharges water into medium-depth aquifers. The well is covered with a reinforced concrete slab, not included in the supply, that distributes loads onto the surrounding ground.

**How is a PALADISP infiltration tank sized?**

A PALADISP infiltration system is sized on the basis of the catchment area for the rainfall event and the permeability of the soil. To preserve absorption capacity over time, a filter that retains solid particles can be placed at the bottom; the pipe range runs from DN 300 to DN 2400.

Indicative data, subject to change without notice. The Paladeri technical department is available for sizing and selecting the right solution.

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