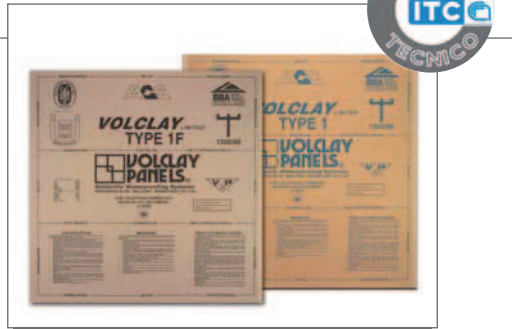


# Volclay Panels VP1 e VP1F



## The product

VOLCLAY PANELS are waterproofing biodegradable cardboard panels, evenly filled with granular natural Sodium Bentonite.



## Fields of application

To protect and waterproof underground, vertical, concrete homogenous structures from constant or fluctuating and percolating groundwater, such as garages, cellars,

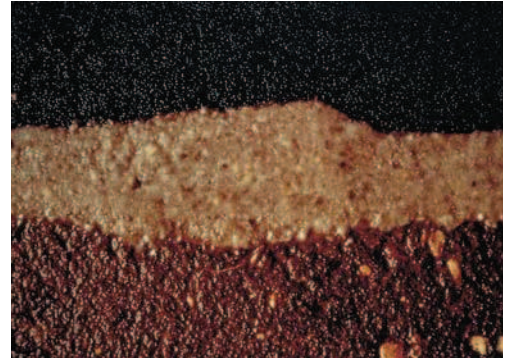
warehouses, safety vaults, taverns, stores, multi-storey car parks, underpasses and tunnels.

Tanking existing structures.





### How it works



When in contact with water, or just simply in contact with the ground humidity, the natural sodium bentonite turns into a waterproof gel through hydration and expands up to 16 times its initial dry volume while remaining in its waterproof gel state. If this expansion is previously contrasted with a concrete casting or a soil surface, this capacity is used to rapidly and independently repair every crack caused by concrete shrinkage or settlement.

When in contact with humidity, the biodegradable cardboard deteriorates, thereby allowing the gel to firmly adhere (overlaps seal) and to the structure, making it evenly waterproof.

### Advantages

- Can be drilled to lay reinforcements or connecting rods;
  - can be cut and shaped to fit the shape of the structure perfectly;
  - automatically and permanently seals the cracks normally caused by concrete shrinkage or settlement;
  - prevents interface transmigration of water phenomena;
  - practical and rapid application, they are simply riveted to the surface;
  - resistant to accidental impact and abrasions. If damage is caused during application, the sodium bentonite putty, BENTOSEAL, is used to repair the damage;
  - practical and rapid preparation of the application surfaces;
  - sun, wind and low temperatures do not affect application and functionality;
  - possibility of repairing and performing maintenance on the waterproofing system
- following application, by means of localised injections of VOLGROUT Sodium Bentonite;
  - it is not altered when in contact with elements normally found in the first groundwater flow;
  - possibility of applying in the presence of water as they resist a few hours without barriers;
  - the small-sized panels can even be used in tight areas.

## Physical and technical specifications

Parameters subject to Company Quality Control	Standards	VP1 Kraft cardboard	VP1F rapid degradation recycled paper
Dimensions		122x122 cm	122x122 cm
Thickness		4,8 mm	4,6 mm
Surface area		1,488 m <sup>2</sup>	1,488 m <sup>2</sup>
Weight		8,09 kg minimum	7,89 kg minimum
K permeability factor	ASTM D 5084	< 2x10 <sup>-9</sup> cm/s	< 2x10 <sup>-9</sup> cm/s
Sodium bentonite content		7,09 kg minimum	7,09 kg minimum
Expansion	ASTM D 5890	> 26 ml	> 26 ml
Liquid limit (according to ATTERBERG)		> 520%	> 520%

Parameters verified by third parties	Certifying Body	Values
Montmorillonite content	Elletipi s.r.l.	> 80%
K permeability factor	F.S.	8,5x10 <sup>-10</sup> cm/s

## Preparation and application

Surfaces that are to be waterproofed can be damp, not necessarily clean but must not have no protrusions, cavities, continuous water flows or surface water.

The panels must be folded and cut according to the undulations of the cardboard.

Transverse cuts must be immediately sealed by wetting the edges of the panel with water.

### Laying the product on vertical surfaces

Remove the formwork spacers by cutting them very close to the wall and plastering them with BENTOSEAL; seal cracks and gravel nests with BENTOSEAL.

To seal all through bodies with AKTIV-VO 201 or WT 102 according to the type and size of the through body.

Reinforce the corner of contact between the vertical and horizontal surfaces with 30 cm wide panel sections. Start applying the panels from the lower part, overlapping the

first vertical row at the fold of the previously applied panels beneath the bed. Stagger the subsequent overlapping rows, paying particular attention to the overlaps. Fasten the panels with nails in the corners and along the overlaps, using the relative Volteco FIX washers.

If the panels start from a surface that is not waterproofed, apply the HYDROBARTUBE curb at the bottom of the panels. Protect VOLCLAY PANELS with 250 g/m<sup>2</sup> polypropylene spunbound non-woven textile. Immediately backfill with homogenous loose soil in layers of 40-50 cm and compact evenly. Complete the application at ground level with a flashing or another suitable system. Before backfilling, replace any damaged panels.



### Warnings

The confinement of VOLCLAY PANELS must be carried out with inert material of adequate thickness and without cavities (vertical surfaces), in order to confine VOLCLAY PANELS as much as possible, thereby providing the system with maximum impermeability.

**N.B.:** Contact Volteco Technical Service for any preventive tests when applying the product in the presence of water with a high salt concentration or polluted ground. All vertical and horizontal construction joints must be sealed with WT 102 and/or RX 101. Every joint (expansion, rotation, translation) must be sealed with the suitable ADEKA KM joint.

### Packaging and storage

VOLCLAY PANELS are packed in pallets of 125 panels, reaching a total length of 186 m<sup>2</sup>. The product must be stored in a dry place.

### Safety

Bentonite is a non-toxic product. Extended contact with skin can cause a drying effect, therefore, it is recommended to use gloves. In case of accidental contact with eyes, wash thoroughly with water and consult a doctor.

This text is a translation and may therefore contain technical and linguistic inaccuracies. Please refer to the Italian version.