



PLASTIVO 250

PRODUCT DESCRIPTION

PLASTIVO 250 is a waterproof coating featuring high elasticity and versatility of use to waterproof surfaces subject to positive and negative hydrostatic pressure.



PRODUCT APPLICATION

Positive and negative hydrostatic pressure waterproofing of structures made of concrete, cement blocks or mixed masonry, previously levelled with suitable VOLTECO mortars, affected by moderate settlements and/or movements.

Particularly suitable for:

- Walls and foundations slabs and reinforced concrete floors
- Surfaces and structures exposed to contact with water
- Tanks, channels and structures also intended to contain drinking water, reinforced concrete foundation walls, pools, etc
- Garages, cellars, underground structures in general, tanks, channels and pools

ADVANTAGES

- Easy and quick application
- Applicable by brush, roller and spatula
- Excellent impermeability in conditions of positive and negative hydrostatic pressure
- Excellent elasticity
- Adheres to different types of surfaces (concrete, brickwork, brick, gypsum board, plastic, metal, ceramic, polystyrene, wood, other)
- Complete waterproofing cycle within one day
- Low environmental impact thanks to reduced CO₂ emissions, very low Volatile Organic Compound emissions (VOC), components obtained from recycling processes
- The product helps earning points for LEED certification
- Suitable for contact with drinking water
- Suitable for contact with purifier water and domestic wastewater

PREPARATION AND APPLICATION Preparing the surfaces



Verify the structure suitability for the hydrostatic loads; if intended to contain water, perform a preload test.

Remove any dirt, oil, paint and any material or deposit that could compromise adhesion of PLASTIVO by pressure blasting, sandblasting or bush-hammering lightly.

The surface that is to be treated must be solid and perfectly clean from cement slurry.

Repair the surface with suitable VOLTECO mortar if the surfaces are very uneven, have gravel nests or in the case of mixed masonry.

If the surfaces are old and/or dusty or partially soaked with water, apply PROFIX 30 or PROFIX 60 primer (see the related technical data sheets) with a roller, a brush or by spray, ensuring it does not bleed on the surface.

Preparation of elements of discontinuity on the surfaces (positive hydrostatic pressure)

- **CONSTRUCTION JOINTS** Connect the construction joints between the bed and the vertical wall by forming a 3x3 cm fillet with SPIDY 15 rapid-setting mortar
- **SPACERS** Remove the spacers on both sides of the wall and plaster with SPIDY 15 rapid-setting mortar
- **PASSING BODIES** Seal all the passing bodies, including spacers and pipes, with AKTI-VO 201 mastic (see related technical data sheet)
- **JOINTS, CRACKS AND EDGES** Connect all joints, significant cracks with GARVO or BI FLEX joint cover strip, as well as the horizontal and vertical edges (including where the fillet is) if WT 102 bentonite waterstop has not been used

Contact the Volteco Technical Service before intervening on the expansion joints.

Preparation of elements of discontinuity on the surfaces (negative hydrostatic pressure)

- **WATER FLOWS** Seal any water inflow with TAP 3/I-PLUG quick-setting mortar (see the related technical data sheet)
- **CONSTRUCTION JOINTS AND CRACKS** Seal the construction joints and cracks with AKTI-VO 201 mastic and/or BI FLEX system (see the relative technical data sheets)
- **PASSING BODIES** Seal all the passing bodies, including spacers and pipes, with AKTI-VO 201 mastic (see related technical data sheet)
- **JOINTS** Contact the Volteco Technical Service before intervening on the expansion joints

Preparing the mixture

Stir the liquid component in its container, then pour it into a bucket.

Gradually add the powder while continuing to stir.

Use a whip-fitted drill with a low rpm and mix for approx. 3-5 minutes.

The mixture must be smooth and free of lumps.

Application

If PROFIX primer has not been applied, wet the surfaces making sure no surface water is formed.

PLASTIVO 250 must be applied in two layers with a roller or brush.

Apply the first layer of PLASTIVO 250 on the surface, approximately 1 mm thick (average consumption: 1.8÷2 kg/m²), making sure the product penetrates well into the substrate, in order to obtain uniform coverage.

If the roller/brush tends to drag the product, do not add water, dampen the surface instead.

The second layer, approximately 1 mm thick (average consumption: 1.7÷2 kg/m²) must be applied after at least 6 hours (ambient temperature +20 °C; ambient humidity 60%).

In any case, it is recommended to only apply the second coat when the previous one is dry and hardened.

The product can also be applied with a pneumatic pump or plastering machine with levelling wand.

The average thickness of approx. 1 mm per layer must continue to be applied according to the previous layers in applications that require a thickness greater than the standard 2 mm.

Sprayed application

Contact Volteco Technical Service for additional information.

FLEXONET reinforcement mesh

To improve elastic performance, in case of application in positive pressure (e.g. crazing with dynamic behaviour, in roof top pools and structures that are potentially subject to cracking), it is advisable to place the FLEXONET mesh FRESH ON FRESH on the 1st coat, pressing it down with a metal spatula until it is completely embedded.

The edges of adjacent sheets must overlap by 10 cm.

Where the horizontal and vertical surfaces join, make sure the FLEXONET mesh adheres to the horizontal edge of the previously laid GARVO joint cover.

Never fold the FLEXONET mesh vertically, always join it to the GARVO joint cover.



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The FLEXONET mesh must be interrupted in the centre line of the GARVO strip when this covers expansion joints.

Curing

When waterproofing foundation walls, let it cure for at least 24 hours after application before backfilling. When coating the waterproofing with any type of protective layer or finish (ceramic coating, protective screed, plaster, cement-based levelling compound, plastic drainage, etc.), let it cure at least 3 days after application.

When waterproofing structures intended to contain water, allow a curing phase of at least 7 days once the product is applied.

The curing times can be longer in the presence of a low temperature, high humidity or premature contact with water.

Finishing

The product can be finished with CRYSTAL POOL (see related technical data sheet) or ceramics, depending on the intended use.

Ceramics must be laid with a large grout gap and C2-type adhesive (preferably with an S1 and S2 deformation class).

The subsequent finishing plaster must be applied with CG2 class sealant cement-based mortar.

When applied indoors, it is recommended to coat the walls with the macroporous CALIBRO as an anti-condensation layer.

It is also possible to complete the finish with X-LIME.



References available at www.volteco.com

CONSUMPTION AND YIELD

3.5÷4 kg/m² depending on the roughness of the surface.

PACKAGING AND STORAGE

PLASTIVO 250 is supplied in 20.6 kg packages (14 kg in powder + 6.6 kg in liquid).

The product must be stored in a dry place without being exposed to frost and heat (maximum temperature: 40 °C) or direct exposure to the sun before being applied.

WARNINGS - IMPORTANT NOTES

The product is not a vapour barrier.

The product must be used within 30 minutes after mixing.

Do not apply PLASTIVO 250 on water-soaked surfaces; first seal with TAP 3/I-PLUG hydraulic mortar.

Do not add water to the mixture or alter the mixing ratio.

Do not apply the product if the temperature is higher than +30 °C or lower than +5 °C or if it is expected to drop below this temperature within 24 hours.

If more than 28 days have passed since the second coating, an additional layer must be applied to ensure the subsequent coating adheres well.

When installation is performed in closed and poorly ventilated environments, it is recommended to use forced ventilation during installation itself and throughout the curing process.

Significant condensation may occur in environments with poor ventilation or high humidity.

If waterproofing earth retaining walls, it is recommended to protect PLASTIVO 250 with a non-woven application of at least 300 g/m² in weight before backfilling.

Do not use PLASTIVO 250 for layers thicker than 1.5 mm.

Protect wet product from rain.

Finishing with solvent-based paint could cause PLASTIVO 250 to degrade.

Verify compatibility by means of preliminary tests.

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	Grey powder - white latex
Workability time at +20 °C	20'



Specification	Values
Working temperature	-5 °C to +50 °C
Specific weight	> 1.6 kg/l
Liquid/powder mixing ratio	47/100

Specification	Test method	Performance requirements UNI EN 1504-2	Declared performance (*)	Certified performance (**)
Bond strength	UNI EN 1542	≥ 0.8 MPa	≥ 0.8 MPa	1.08 MPa
Resistance to accelerated ageing	UNI EN 1062-11	No swelling	-	fulfilled requisite
Capillary absorption	UNI EN 1062-3	≤ 0.1 kg*m ⁻² *h ^{-0.5}	≤ 0.05 kg*m ⁻² *h ^{-0.5}	0.01 kg*m ⁻² *h ^{-0.5}
Water vapour permeability (equivalent thickness: Sd)	UNI EN 7783-2	Class 2 5 m < Sd ≤ 50 m	Class 2 5 m < Sd ≤ 50 m	Sd = 14.76 m
Permeability to CO ₂ (equivalent thickness Sd)	UNI EN 1062-6	Sd > 50 m	-	Sd = 113 m
Crack Bridging Ability	UNI EN 1062-7 (static method)	A2 > 0.25 mm A3 > 0.50 mm A4 > 1,25 mm A5 > 2.50 mm	-	Class A4 1.6 mm
Crack Bridging Ability (product + Flexonet mesh)	UNI EN 1062-7 (static method)	A2 > 0.25 mm A3 > 0.50 mm A4 > 1,25 mm A5 > 2.50 mm	-	Class A5 3.5 mm
Thermal compatibility Part 1 (adhesion after 50 un/freezing cycles)	UNI EN 13687-1	≥ 0.8 MPa	-	1.12 MPa
Resistance to severe chemical attack - domestic wastewater purifier inlet	UNI EN 13529	-	-	reduction in hardness (Shore A): < 2%
Reaction to fire	UNI EN 13501-1	Classification	-	Class F

Specification	Test method	Performance requirements	Declared performance (*)
Crack Bridging Ability (+23 °C)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 1 mm
Crack Bridging Ability (+23 °C) (product + Flexonet mesh)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 2 mm
Crack Bridging Ability (-5 °C)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 1 mm
Crack Bridging Ability (-5 °C) (product + Flexonet mesh)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 2 mm
Initial adhesion	UNI EN 14891 Met. A.6.2	> 0.5 N/mm ²	1 N/mm ²
Adhesion after immersion in water	UNI EN 14891 Met. A.6.3	> 0.5 N/mm ²	0.7 N/mm ²
Adhesion after heat application	UNI EN 14891 Met. A.6.5	> 0.5 N/mm ²	0.7 N/mm ²
Adhesion after un/freezing cycles	UNI EN 14891 Met. A.6.6	> 0.5 N/mm ²	0.7 N/mm ²
Adhesion after immersion in alkaline water	UNI EN 14891 Met. A.6.9	> 0.5 N/mm ²	0.7 N/mm ²
Waterproof	UNI EN 14891 Met. A.7	150 KPa	150 KPa

Specification	Certifying body	Test method	Certified performance (**)
Impermeability in negative pressure (concrete structure Water/Concrete: 0.7)	IMM SA (Switzerland)	UNI EN 12390-8	5 Bar: no passage

Specification	Test method	Certifying body	Values (g/l)
VOC content	Directive 42/2004/EC ISO 11890-2 ASTM D 6886-12	Eurofins 392-2015-00130901	1,5

Specification	Certification
Suitable for contact with drinking water (Italian Ministerial Decree 174 of 06/04/2004: global transfer)	ELLETIPI Srl Report n° 14065/15
Suitable for use with water in domestic waste water purifiers	ELLETIPI Srl Report n° 14420/15
Suitable for contact with drinking water (Italian Ministerial Decree 174 of 06/04/2004: specific transfer)	CHELAB Srl Report n° 15/000093551
Tanks and water reserves waterproofing approval	SOCOTEC FRANCE S.A. Report (ETN) n° 601R0GAD6427 (31/08/2018)
Waterproofing with negative hydrostatic	SOCOTEC FRANCE S.A.

**Specification**

pressure approval

Certification

Report (ETN) n° 601R0GAD6426 (31/10/2018)

The quoted data are obtained in a laboratory at +20 °C and 60% RH.

* Performance thresholds guaranteed by VOLTECO

** Performance values certified by accredited third parties

SAFETY

This is a non-toxic alkaline product.

It is recommended to use a mask and gloves while working.

Accidental contact with eyes, rinse thoroughly with water and seek medical advice.

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10 0003-CPR-2016/09/01 1370-CPR-1299 EN 1504-2:2005 PLASTIVO 250 Protection systems of the concrete surface. Coating against the risks of penetration (PI), humidity control (MC) and increased resistivity (IR)		15 0023-CPR-2015/03/31 EN 14891:2012 PLASTIVO 250 Two-component liquid waterproofing product modified with polymer (CM 01) for outdoor applications and in pools under ceramic tiles (applied with class C2 adhesive in compliance with EN 12004)	
Reaction to fire: Class F Water vapour permeability: Class I Carbon dioxide permeability: $S_d \geq 50$ m Capillary absorption and permeability to water: $< 0.1 \text{ kg} \cdot \text{m}^{-2} \cdot \text{h}^{-0.5}$ Adhesion: $\geq 0.8 \text{ N/mm}^2$ Thermal compatibility: • Part 1: Un/freezing cycles: $\geq 0.8 \text{ N/mm}^2$ Crack bridging properties (method A): Classe A4 Performance after exposure to the action of artificial atmospheric agents: Test passed Methods of conditioning before testing (7 days at 70°C): NPD Linear shrinkage: NPD Coefficient of thermal expansion: NPD Cross cut: NPD Slip resistance: NPD Antistatic behavior: NPD Adhesion on wet concrete: NPD Hazardous substances: See SDS		Initial tensile adhesion strength: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after water contact: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after heat ageing: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after freeze-thaw cycles: $\geq 0.5 \text{ N/mm}^2$ Tensile adhesion strength after contact with lime water: $\geq 0,5 \text{ N/mm}^2$ Waterproofing: No penetration and ≤ 20 g weight gain Crack bridging ability under standard conditions (23°C): $\geq 0,75$ mm Crack bridging ability at low temperatures (-5°C): ≥ 0.75 mm Hazardous substances: See SDS	

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