PLASTIVO 180

PRODUCT DESCRIPTION

PLASTIVO 180 is a two-component, thixotropic and flexible modified polymer waterproof coating with CORE CURING TECHNOLOGY based on highly reactive binders for effective curing even under low temperature conditions and partially damp surfaces.

PRODUCT APPLICATION

For negative/positive hydrostatic pressure waterproofing of wall surfaces or concrete, affected by slight settlements and/or movements.
Particularly suitable for:
• Balconies
• Ledges, concrete gutters, flower boxes (set-up anti-root protection beforehand) and wells
• Tanks, canals, swimming pools and structures designed to contain water, including drinking water
• Reinforced concrete foundation walls of underground premises
• Slabs and structures exposed to contact with water
• Substrates in general, also lightened
• Roofs and screeds temporarily waterproof awaiting definitive works
• All indoor surfaces such as kitchens, bathrooms and showers even if made of gypsum board or fibre concrete
• Protection of concrete from CO_2 penetration, contact with sea water, de-icing salts, aggressive atmosphere, etc.
• Protection of reinforced concrete surfaces with inadequate concrete cover thickness

ADVANTAGES

• Fast curing allowing for short waiting times between the first and second coat and subsequent tiling, even under low temperature conditions (all in 24 hours)
• Effective curing on even partially moist substrates
• Suitable for contact with drinking water
• Anticarbonation protection with ”barrier” function
• Resistant to negative hydrostatic pressure
• Reduced risks caused by after application with rain, fog, other
• Elastic up to -5°C
• Adheres to different types of surfaces (concrete, brickwork, brick, gypsum board, plastic, metal, ceramic, polystyrene, wood, other)
• Reduced environmental impact thanks to the use of raw materials with low carbon footprint and obtained from recycling processes
• Reduced volatile organic compound (VOC) emissions
• The product helps earning points for LEED certification
• Resistant to U.V. radiation

PREPARATION AND APPLICATION The preparation and installation data refer to normal environmental conditions (temperature +20°C;

relative humidity 60%).

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 laitance.
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 or dusty, apply PROFIX 30 primer with a roller, a brush or by spray (see related technical data sheet).
For surfaces not totally dry but in which curing process is completed surface humidity must not be higher than 8% (measured with a Storch electric hygrometer).

Preparation of elements of discontinuity on reinforced concrete structures (positive hydrostatic pressure)
• CONSTRUCTION JOINTS Fill the construction joint between the bed and vertical wall by executing a 3x3 cm fillet with SPIDY 15 quick mortar (see relevant technical data sheet) and, if WT gaskets were not used, seal all horizontal and vertical joints by means of BI FLEX System (see relevant technical data sheet) even where the fillet is present
• SPACERS Remove the spacers on both sides of the wall and plaster with SPIDY 15 rapid-setting mortar
• PENETRATIONS Seal all penetrations (pipes, lighting points, etc.) by means of AKTI-VO 201 mastic (see relevant data sheet)
• JOINTS and CRACKS Fill any structural joints and marked cracks by means of BI FLEX System

Preparation of elements of discontinuity on reinforced concrete structures (negative hydrostatic pressure and for all cases of water retaining structures)
• WATER FLOWS Seal any water inflow with TAP 3/I-PLUG quick-setting mortar (see the related technical data sheet)
• CONSTRUCTION JOINTS Seal all construction joints with BI FLEX System
• JOINTS and CRACKS Seal any structural joints and cracks by means of BI FLEX System
• PENETRATIONS Seal all penetrations, including spacers, pipes and lighting points by means of AKTI-VO 201 mastic

Preparation of elements of discontinuity on balconies and screeds in general
• JOINTS and CRACKS Any deformation joints (expansion and contraction/splitting), construction joints and cracks on the surface must be covered with GARVO joint cover strip (see relevant technical data sheet). Use BI FLEX System in case of structural joints; in case of insulation joints, fill all wall/floor corners with GARVO or AQUASCUD JOIN BT adhesive staff bead (see relevant technical data sheet).
At low-height situations use AQUASCUD JOIN BT or BI MASTIC adhesive mastic (see relevant technical data sheet)
• DRAINS Prepare the connections to the drains by using the relative DRAIN MANIFOLD
• GUTTER In case of metal parapets, along the external perimeter, set up the AQUASCUD LINE draining gutter profile and relative special pieces (see relative data sheet) to finish and protect the tiled edge

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 180 must be applied in two layers with a VOLTECO ROLLER, brush, squeegee or spatula.
Apply the first layer of PLASTIVO 180 on the surface, approximately 1 mm thick (average consumption: 1.5÷1.7 kg/m^2), 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: 1.5÷1.7 kg/m^2) must be applied after at least 2 hours.
In the event of application on horizontal surface with spatula, it is recommended to apply the first coat

with the specific 3.5 mm NOTCHED TROWEL or with NOTCHED SQUEEGEE acting to regulate thickness.
In that case the second coat is applied with the specific ROUNDED PLASTERING TROWEL used to saturate and smooth the serrated surface.
In any case, it is recommended to only apply the second coat when the previous one is dry and hardened.
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
The product can also be applied with a pneumatic pump or plastering machine with levelling lance, taking care to apply a certain amount of pressure with a spatula until a compact surface is obtained (for further information contact Volteco's Technical Service).

Watch the product video
YOUTUBE VIDEO

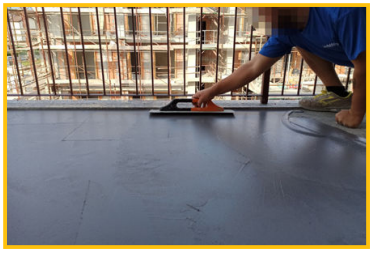
FLEXONET or XNET reinforcement mesh
To improve elastic performance, in case of application in positive pressure (ex. crazing with dynamic behaviour, in roof top pools and structures that are potentially subject to cracking), it is advisable to place the FLEXONET or XNET (see the relative technical data sheets) 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.
At the connection points between horizontal and vertical surfaces, and in any case at the BI FLEX System placed in the construction joints and joints, interrupt the mesh by overlapping it at the edge of the tape.

Curing
When waterproofing foundation walls, let it cure for at least 16 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 16 hours after application.
With low temperatures till +5°C wait almost 24 hours.
When waterproofing structures intended to contain water, allow a curing phase of at least 3 days once the product is applied.
When used in contact with drinking water, wash the surfaces with running water before filling the container.
The curing times can be longer in the presence of a low temperature, high humidity or premature contact with water.

Finishing
When applied indoors, it is recommended to coat the walls with the macroporous CALIBRO (see relative data sheet) as an anti-condensation layer.
It is also possible to complete the finish with X-LIME (see relative data sheet).
Depending on the intended use, the product can be finished either by painting with CRYSTAL POOL or with BI MORTAR RASO SEAL cement-based coating (see method and stratigraphy in the relevant technical data sheets) or with ceramic.
Ceramics must be laid with a large grout gap and C2-type adhesive (preferably with an S1 and S2 deformation class).
Line grouting works must be carried out with CG2 class cement-based grouting mortars.

PLASTIVO 180



References available at www.volteco.com

CONSUMPTION AND YIELD

3÷3.5 kg/m² depending on the roughness of the surface.

PACKAGING AND STORAGE

PLASTIVO 180 is supplied in 20 kg packages (15 kg in powder + 5 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.
Do not apply PLASTIVO 180 on water-soaked surfaces (see application).
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.
Preventively sample check adhesion to different surfaces such as cement, terracotta, brick, gypsum board, plastic, metal, ceramic, polystyrene, wood...
Protect wet product from rain.
Significant condensation may occur in environments with poor ventilation or high humidity.
Do not use PLASTIVO 180 for layers thicker than 1.5 mm.
Finishing with solvent-based paints may degrade PLASTIVO 180, check its compatibility via preliminary tests.
The preparation and installation data refer to normal environmental conditions (temperature +20 °C; relative humidity 60%).

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	Grey powder - white latex
Workability time at +20 °C	20’
Working temperature	-5 °C to +50 °C
Maximum aggregate size	0.7 mm
Specific weight	> 1.7 kg/l
Liquid/powder mixing ratio	33/100

Feature	Test method	Performance requirements UNI EN 1504-2	Declared performance (*)	Certified performance (**)
Bond strength	UNI EN 1542	≥ 0.8 MPa	≥ 0.8 MPa	≥ 0.89 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$^{-0,5}$	≤ 0.1 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 1 - Sd < 5 m	-	Sd 3.2 m
Permeability to CO_2 (equivalent thickness Sd)	UNI EN 1062-6	Sd > 50 m	-	Sd 102 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 1.3 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 3.1 mm

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Feature	Test method	Performance requirements UNI EN 1504-2	Declared performance (*)	Certified performance (**)
Reaction to fire	UNI EN 13501-1	Classification	-	Class F

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

Feature	Test method	Performance requirements	Performance
Crack Bridging Ability (+23 °C)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 0.8 mm
Crack Bridging Ability (+23 °C) (product + Flexonet mesh)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 1.5 mm
Crack Bridging Ability (-5 °C) (product + Flexonet mesh)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 1.5 mm
Initial adhesion	UNI EN 14891 Met. A.6.2	> 0.5 N/mm²	> 1.2 N/mm²
Adhesion after immersion in water	UNI EN 14891 Met. A.6.3	> 0.5 N/mm²	> 0.9 N/mm²
Adhesion after heat application	UNI EN 14891 Met. A.6.5	> 0.5 N/mm²	> 0.5 N/mm²
Adhesion after un/freezing cycles	UNI EN 14891 Met. A.6.6	> 0.5 N/mm²	0.9 N/mm²
Tensile adhesion strength after contact with chlorinated water	UNI EN 14891 Met. A.6.7	> 0.5 N/mm²	0.9 N/mm²
Adhesion after immersion in alkaline water	UNI EN 14891 Met. A.6.9	> 0.5 N/mm²	> 0.5 N/mm²
Crack Bridging Ability (-5 °C)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 0.8 mm
Water impermeabiity	UNI EN 14891 Met. A.7	150 KPa	150 KPa

Feature	Certifying body	Test method	Certified performance (**)
Impermeability in negative pressure (concrete structure Water/Concrete: 0.7)	IMM SA (Switzerland)	UNI EN 12390-8	8 Bar: no passage
VOC content	Eurofins 392-2017-00479601	Directive 42/2004/EC ISO 11890-2 ASTM D 6886-12	1 g/l

Feature	Certification
Suitable for contact with drinking water (Italian Ministerial Decree 174 of 06/04/2004: global transfer)	ELLETIPI Srl Report n° 14743/15
Tanks and water reserves waterproofing approval	SOCOTEC FRANCE S.A Report (ETN): n° 240368080000031 (30/06/2029)
Environmental Product Declaration 0298 (EPD)	EPDItaly 0298 (30/05/2027) www.epditaly.it

PLASTIVO 180 complies with the UNI 11928-1:2023 standard as an in-situ liquid-applied waterproofing product used as a sealing element in a continuous (new or existing) exposed practicable roofing system.

Initial requirements UNI 11928-1:2023

Feature	Test method	Performance requirements	Declared performance
Reaction to fire	UNI EN 13501-1	F	F
Watertightness (water passage with 60 KPa)	UNI EN 1928	No passage	No passage
Water vapour transmission properties	UNI EN ISO 7789	Class	Class I
Direct tensile adhesion, concrete type MC (0.40)	UNI EN 1542	≥ 0,5 N/mm²	≥ 0,8 N/mm²
Impact resistance	UNI EN 6272-1	Class	Class III
Static punching	UNI EN 12730	≥ 50 N	≥ 50 N
Dynamic crack bridging (23 °C)	UNI EN 1062-7	Class B2	Class B2
Dynamic crack bridging at low temperatures (-5 °C)	UNI EN 1062-7	Class B1	Class B1
Slipping resistance	UNI EN 13036-4	Class III	Class III
Capillary absorption	UNI EN 1062-1	W ≤ 0,1 Kg/m²*h$^{-0,5}$	W ≤ 0,1 Kg/m²*h$^{-0,5}$

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Durability UNI 11928-1:2023

Feature	Test method	Performance requirements	Declared performance
Heat ageing resistance 7 days at 70±3 °C (Watertightness)	point 4.1 of EN 1062-11:2003	No passage	No passage
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
Frost/thaw Without thawing salts 20 cycles (Adhesion to substrate)	UNI EN 13687-3	≥ 0,5 N/mm²	≥ 0,8 N/mm²
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
UV (400 MJ/m², 2460 hours) and Spray (492 hours)	UNI EN ISO 4892-3		
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
Hazardous substances			See safety data sheets

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

SAFETY

Refer to the related Safety Data Sheet.

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DOP 0001
EN 1504-2:2005
1370-CPR-1299
PLASTIVO 180
Protection systems of the concrete surface.
Coating against the risks of penetration (PI), humidity control (MC) and increased resistivity (IR)

Reaction to fire: Class F
Water vapour permeability: Class I
Carbon dioxide permeability: Sd ≥ 50 m
Capillary absorption and permeability to water: < 0.1 $kg*m^{-2}*h^{-0,5}$
Adhesion: ≥ 0,8 N/mm²
Thermal compatibility:
• Part 1: Un/freezing cycles: NPD
Crack bridging properties (method A): Class 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

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DOP 0022
EN 14891:2012
PLASTIVO 180
Two-component liquid waterproofing product modified with polymer (CM 01P) for outdoor applications and in pools under ceramic tiles(applied with class C2 adhesive in compliance with EN 12004)

Initial tensile adhesion strenght: ≥ 0,5 N/mm²
Tensile adhesion strength after water contact: ≥ 0,5 N/mm²
Tensile adhesion strength after heat ageing: ≥ 0,5 N/mm²
Tensile adhesion strength after freeze-thaw cycles: ≥ 0.5 N/mm²
Tensile adhesion strength after contact with lime water: ≥ 0,5 N/mm²
Tensile adhesion strenght after contact with chlorinated water: ≥ 0.5 N/mm²
Water impermeabiity: No penetration and ≤ 20 g weight gain
Crack bridging ability under standard conditions (23°C): ≥ 0,75 mm
Crack bridging ability at low temperatures (-5°C): ≥ 0.75 mm
Hazardous substances: See SDS

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LEGAL NOTES

Note for buyer/installer:
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