

Plastimul

Bitumen waterproofing emulsion for general purpose use



WHERE TO USE

- Waterproofing foundations.
- Waterproofing bearing walls.

Some application examples

- Cold waterproofing masonry or concrete poured over bare ground.
- Waterproofing flat or curved surfaces on structures below ground level, such as man-made tunnels and underpasses.
- Waterproofing horizontal concrete structures below screeds isolated with PE sheets (in such cases we recommend applying **Mapelastic** on the screed before installing flooring to protect the screed).

TECHNICAL CHARACTERISTICS

Plastimul is a solvent-free paste consisting of selected water-emulsified bitumens, special fine-graded aggregates and admixtures, manufactured according to a formula developed in MAPEI Research & Development Laboratories.

Plastimul's thixotropic consistency makes it easy to use for waterproofing even vertical and sloping surfaces.

When completely dry **Plastimul** forms a waterproof plastic coating that is resistant to re-emulsifying after prolonged immersion in water, even when slightly acid or alkaline, and resistant to aggressive agents present in the soil.

Plastimul meets the requirements for polymer modified bituminous thick coatings, in compliance with EN 15814.

RECOMMENDATIONS

- Do not apply **Plastimul** if the temperature is lower than +5°C or on freezing surfaces or if the temperature is higher than +30°C.
- Do not apply **Plastimul** if it is about to rain.
- Do not dilute **Plastimul** with organic solvents.
- Do not apply **Plastimul** on the surface of containers used for storing edible products.
- Do not use **Plastimul** to waterproof structures in contact with organic solvents or mineral, vegetable or animal fats.
- Do not use **Plastimul** to waterproof structures exposed to UV rays.
- Do not use **Plastimul** to waterproof structures with water under pressure.
- Apply a protective drainage layer to protect **Plastimul** before infilling.

APPLICATION PROCEDURE

Preparation of the substrate

The surface to be treated must be sound and perfectly clean. Horizontal surfaces (which are then buried or

remain below screed level) must have a slope of at least 1% so that water can run off towards the sides or towards drainage points.

Remove cement laitance, loose and crumbling parts and all traces of dust, grease, oil and form-release compounds.

Before applying **Plastimul** on masonry in general (bricks, vibro-compressed concrete blocks, etc.), make sure the surface is sufficiently even. Carefully remove from the surface all traces of mortar protruding from between the bricks or blocks and fill any gaps in the joints with **Mapegrout Fast-Set** rapid-hardening, fibre-reinforced cementitious mortar, **Mapegrout Thixotropic** shrinkage-compensated, fibre-reinforced mortar or **Mapegrout T60** if sulphate-resistant mortar is required. As an alternative, use sand/cement mortar admixed with **Planicrete** latex rubber for cementitious mixes.

Concrete surfaces, on the other hand, must have no uneven areas or gravel clusters. Repair or smooth over any rough areas with the same products from the **Mapegrout** line mentioned above.

Round off all sharp edges on horizontal and vertical surfaces with suitable power tools and blend in the areas between foundations and vertical walls by forming a fillet joint made from the **Mapegrout** product chosen.

Seal any breaks in correspondence with structural joints with **Mapeband TPE** bonded to the substrate with **Adesilex PG4**.

For further details or particular waterproofing requirements please contact MAPEI Technical Services Department.

Waterproofing

First of all, prime the substrate. Dilute **Plastimul** with approximately 45-50% of water and mix until completely blended. Apply the primer by brush, roller or spray. Alternatively, prime the surface with **Plastimul C** diluted 1:10 with water, as indicated in the relative Technical Data Sheet.

Then apply **Plastimul** in two layers, as follows:

- *First coat*

When the primer is completely dry, apply a coat of neat **Plastimul** at least 1.5 mm thick (wet thickness) with a trowel, brush or by spray.

- *Second coat*

Spread on a coat of neat **Plastimul** at least 1.5 mm thick (wet thickness) with a trowel or by spray.

Please note that, to achieve performance levels in compliance with EN 15814

standards (see final performance details in the Technical Data table), at least two coats of product must be applied with a final dry thickness of at least 3 mm.

Protecting the waterproofing layer

When filling the foundation trenches or applying successive protection layers, **Plastimul** must be dry. The drying time varies according to weather conditions, surrounding temperature, level of humidity, wind, the thickness applied and the type of substrate. Before filling in protect the waterproofed surfaces with suitable protective drainage layers (see "Recommendations" section). Only use suitable material for filling in excavated trenches, that is, well assorted material without stones against the protective drainage compacted into a series of layers 40 to 50 cm thick.

Cleaning

Tools can be cleaned with water while **Plastimul** is still fresh. When hardened, it can only be removed mechanically.

CONSUMPTION

Approximately 0.5 kg/m² of diluted product, when used as a primer.
Approximately 1.7 kg/m² per mm of thickness of dry product for a seamless film applied on a flat surface. Consumption is higher if applied on uneven substrates. Please note that, to achieve performance levels in compliance with EN 15814 standards (see final performance details in the Technical Data table), two coats of product must be applied in the thickness indicated in the standards.

PACKAGING

Plastimul is available in 20 and 12 kg drums.

STORAGE

Plastimul must be stored in a dry place at a temperature not lower than +5°C for a maximum period of 12 months.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Plastimul is not considered as dangerous according to the current regulation regarding the classification of mixtures. We recommend the use of protective gloves and goggles and to take the usual precautions for handling chemicals.

For further and complete information about the safe use of our product please refer to the latest version of our Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	paste
Colour:	black
Density (g/cm³):	1.20
pH:	10
Brookfield viscosity (mPa·s):	40,000 (rotor 7 - rpm 20)
Dry solids content (%):	approx. 76

APPLICATION DATA

Application temperature range:	from +5°C to +35°C
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FINAL PERFORMANCE

Main characteristics	Method	Requirements according to EN 15814	Performance results
Static crack-bridging at +4°C:	EN 15812	Class CB0: no requirement Class CB1: no damage to cracks ≥ 1 mm with dry thickness ≥ 3 mm Class CB2: no damage to cracks ≥ 2 mm with dry thickness ≥ 3 mm	Class CB1
Resistance to rain:	EN 15816	Class R0: no requirement Class R1: ≤ 24 h with wet thickness ≥ 3 mm Class R2: ≤ 8 hours with wet thickness ≥ 3 mm Class R3: ≤ 4 hours with wet thickness ≥ 3 mm	Class R2
Resistance to water:	EN 15817	1. No discolouring of water 2. No detachment of reinforcement if dry thickness ≥ 4 mm No change to the material according to EN 15817	1. No discolouring of water No change to the material according to EN 15817
Flexibility at low temperatures (0°C):	EN 15813	No cracking	No cracking
Dimensional stability at high temperatures (70°C):	EN 15818	No slumping or dripping	No slumping or dripping
Reduction in thickness when dry:	EN 15819	$\leq 50\%$	approx. 31%
Reaction to fire:	EN 13501-1	Euroclass	E
Impermeability to water in pressure on a 1 mm open crack:	EN 15820	Class W1: ≥ 24 h at 0.0075 N/mm ² , dry thickness without reinforcement ≥ 3 mm Class W2A: ≥ 72 h at 0.075 N/mm ² , dry thickness with reinforcement ≥ 4 mm Class W2B: ≥ 72 h at 0.075 N/mm ² , dry thickness without reinforcement ≥ 4 mm	Class W1
Compressive strength:	EN 15815	Class C0: no requirement Class C1: 0.06 MN/m ² , with dry thickness ≥ 3 mm Class C2A: 0.30 MN/m ² , with dry thickness with reinforcement ≥ 4 mm Class C2B: 0.30 MN/m ² , with dry thickness without reinforcement ≥ 4 mm	Class C1

Plastimul

suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

LEGAL NOTICE

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effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.

All relevant references for the product are available upon request and from www.mapei.com

