

PLASTIMUL HIGH FLEX PLUS

Multi-purpose, ready-to-use, water-based
bituminous waterproofing membrane



WHERE TO USE

- For waterproofing:
 - roofs;
 - foundations.
- Protecting metal surfaces such as gutters.

Plastimul High Flex Plus is suitable for application on:

- concrete and cementitious screeds;
- existing bituminous membranes;
- metal.

ADVANTAGES

- Innovative water-based formula resistant to UV rays; can be left exposed after application.
- Ready-to-use.
- Highly flexible with excellent crack-bridging properties.
- Versatile: easy to apply with a trowel, roller or by spray.

TECHNICAL CHARACTERISTICS

Plastimul High Flex Plus is a solvent-free paste made from water-emulsified graded bitumen according to a formula developed in MAPEI Research & Development laboratories.

Plastimul High Flex Plus has a thixotropic consistency and is easy to apply on sloping and vertical surfaces.

Once fully dried, **Plastimul High Flex Plus** forms an elastic, waterproof coating which can remain exposed to UV rays after application and which does not re-emulsify after being immersed in water for long periods of time.

Plastimul High Flex Plus meets the requirements of EN 15814 for polymer-modified bituminous thick coatings used for the waterproofing of below-ground structures.

Thanks to its radon gas diffusion coefficient of $6.98 \cdot 10^{-13} \text{ m}^2\text{s}^{-1}$, **Plastimul High Flex Plus** is also certified for use as a passive barrier to radon gas.

RECOMMENDATIONS

- Do not apply **Plastimul High Flex Plus** if the temperature is lower than +5°C or on frozen surfaces.
- Do not apply **Plastimul High Flex Plus** if it is about to rain.
- Do not dilute **Plastimul High Flex Plus** with organic solvents.

- Do not use **Plastimul High Flex Plus** to waterproof structures in contact with organic solvents or mineral, vegetable or animal fats and oil.
- Do not use **Plastimul High Flex Plus** to waterproof structures with water in counter-pressure.

APPLICATION PROCEDURE

Preparation of the substrate

The surface to be treated must be sound and perfectly clean. Horizontal surfaces must have at least 1% slope so that water flows towards the edges of the waterproofed area or towards guttering and downpipes.

Before applying the product on the surface of concrete, remove all cement laitance and crumbling material and any trace of dust, grease and stripping oil. There must be no uneven areas or gravel clusters on the surface. If the surface needs to be repaired or skimmed, use mortar from the **Mapegrout** range.

Round off any sharp corners on the edges of vertical and horizontal surfaces with a power tool and create fillets in the corners between horizontal and vertical surfaces with a product from the **Mapegrout** range, or apply **Mapeband SA** self-adhesive butyl rubber tape with non-woven fabric backing.

Seal structural joints with **Mapeband TPE** bonded to the substrate with **Adesilex PG4**.

Before applying **Plastimul High Flex Plus** 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** quick-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.

Existing bituminous membranes must undergo hydro-jet to remove any oil, grease, dirt in general and any other material or substance that could affect adhesion of **Plastimul High Flex Plus**. The membrane must be perfectly dry before inspecting its surface and any damage in the membrane, such as blistering, tears or detached areas, must be removed and repaired before applying **Plastimul High Flex Plus**.

Metal substrates must be dry-sandblasted to a grade SA 2½ finish (according to Swedish Standards). If it is not possible to use dry-sandblasting equipment, clean the surface with tools with a scraping or hammering action.

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

Application of the product

The product is supplied ready-to-use, but mixing before use is recommended to ensure it is perfectly blended.

Before applying **Plastimul High Flex Plus** on concrete or masonry, after preparing the substrate as specified, apply a coat of **Plastimul Primer** bituminous primer or **Plastimul C** concentrated bituminous emulsion diluted 1:10 with water to even out absorption of the substrate.

Then apply two layers of **Plastimul High Flex Plus**, in two coats, with a brush, roller, trowel or by spray at a rate of 1.5-2 kg/m².

Protecting the waterproofing layer

When used to waterproof foundations, before backfilling trenches or applying a protective layer or coating over the membrane, **Plastimul High Flex Plus** must be completely dry. Drying times vary according to weather conditions, surrounding temperature, level of humidity, wind, the thickness applied and the type of substrate.

Before backfilling, protect all waterproofed surfaces with suitable, protective drainage layers. Only use material suitable for filling in trenches, that is, well assorted filler material without stones, which should be placed against the protective drainage layer and compacted into a series of layers 40 to 50 cm thick.

CLEANING TOOLS

Clean tools used to prepare and apply **Plastimul High Flex Plus** with water before the product hardens. Once hardened, it must be removed by mechanical means.

CONSUMPTION

Approx. 1.5-2 kg/m².

In general, the indicated consumption rate is for a seamless film on a flat surface and could be higher on uneven sub-layers.

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

10 kg buckets.

STORAGE

Plastimul High Flex Plus may be stored for 12 months in its original container.



SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Instructions for the safe use of our products can be found on the latest version of the Safety Data Sheet, available from our website www.mapei.com.

PRODUCT FOR PROFESSIONAL USE.

TECHNICAL DATA (typical values)			
PRODUCT IDENTITY			
Consistency:		paste	
Colour:		black	
Density (g/cm³):		1.20	
Dry solids content (%):		approx. 65	
Brookfield viscosity (mPa·s):		47,000 (rotor 7 - 20 rpm)	
APPLICATION DATA			
Application temperature:		+5°C to +35°C	
Resistance to rain at +23°C and 50% R.H. (hours):		8	
Waiting time between first and second coat at +23°C - 50% R.H. (hours):		24	
Ready for use at +23°C and 50% R.H. (hours):		48	
Service temperature:		-20°C to +180°C	
MECHANICAL CHARACTERISTICS			
Elongation at failure (ISO 37) (%):		> 700	
Main characteristics	Method	Requirements according to EN 15814	Plastimul High Flex Plus 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 CB2
Resistance to rain:	EN 15816	Class R0: no requirement Class R1: ≤ 24 h with wet thickness ≥ 3 mm Class R2: ≤ 8 h with wet thickness ≥ 3 mm Class R3: ≤ 4 h 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 2. No detachment of reinforcement if dry thickness ≥ 4 mm 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	≤ 50%	approx. 45%
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 W2A
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 C2A

Load according to DIN 18533	Wet thickness (mm)	Dry thickness (mm)	Consumption (kg/m ²)
W1-E: Moisture from the ground only	4.8	3	5.8
W4-E: Rainwater or rising damp on walls in contact with the ground	4.8	3	5.8

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 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

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The most up-to-date TDS can be downloaded from our website www.mapei.com.

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