

Plastimul PU-W

Water-based, highly elastic, polymer-modified, hybrid PU-asphalt membrane for waterproofing

WHERE TO USE

Plastimul PU-W is ideal for application on concrete decks, especially where surface profiles and the presence of services provide detailing difficulties for the use of pre-formed membranes.

Some application examples

- Flat or arched roofs and terraces.
- Pile caps, retaining walls, lift pit walls.
- Bathrooms, wet kitchens, balconies, patios.
- Swimming pool decks and elevated driveway decks.
- Concrete gutters, planter boxes, ledges.

TECHNICAL CHARACTERISTICS

Plastimul PU-W is a single component, water-based, polymer-modified, polyurethane-asphalt hybrid which cures to form a tough and highly-elastic membrane and provides a durable and seamless waterproofing protection for concrete substrates.

When completely dry and fully bonded to the substrate, **Plastimul PU-W** forms an impervious continuous barrier to eliminate migration of water between the membrane and substrate.

Advantages

- Environmentally-friendly and does not emit noxious fumes, being water-based and low in VOC.
- Single-component for easy application by air-less spray, brush or roller.
- Excellent adhesion to prepared substrates.

- Suitable for application on damp substrates.
- Excellent crack-bridging properties.
- Designed for structures subject to cyclic movements.
- Does not sag when applied vertically.
- The coating does not creep under heat.
- Chemically resistant to dilute acids & alkalis.
- Non-toxic.

RECOMMENDATIONS

- Do not apply **Plastimul PU-W** when rain is imminent.
- Allow **Plastimul PU-W** to cure completely cured before covering with impermeable membranes eg. plastic sheets.
- After full cure, protect **Plastimul PU-W** from UV and traffic with a layer of protective screed.
- For roof slab applications, reinforce **Plastimul PU-W** with **Mapetex GRP 225** or **Mapetex Geo 2280**.

APPLICATION PROCEDURE

Substrate preparation

All substrates, whether new or old, must be solid, clean, dry and free of dirt, loose materials, oil, grease, old coatings, rust, mould, and any other material which may affect adhesion. Remove hardened cement droppings and sharp protrusions. Hollows on the surface must be repaired with a suitable mortar eg. **Planitop G40SP**, and allowed to cure.

Pre-treat static and shrinkage cracks with **Plastimul PU-W** extending 80 mm each side of the crack and

allow to cure overnight. Waterproof structural joints with 1.2mm thick **Mapeband TPE** tape bonded in place with **Adesilex PG2 SP** adhesive.

Fill all internal angle junctions with 25 mm corner fillets, using a mortar prepared by mixing **Planicrete SP 1 : 2** with a cement/sand (1 : 1) blend. Allow to cure fully.

Horizontal surfaces must have a slope no less than 1% to facilitate the flow of water into the gutters.

Pre-wet the substrate to saturated-surface-dry (SSD) condition (no standing water) prior to application.

PREPARATION OF THE PRODUCT

Plastimul PU-W is supplied ready for use. However, for easier application, up to 5% by weight of water can be added. Stir thoroughly with a mechanical mixer for about 3 minutes to achieve homogeneity and apply immediately.

For absorbent substrates, prepare a primer coat by diluting **Plastimul PU-W** with clean water 1:3 and mix thoroughly before applying.

APPLICATION OF THE PRODUCT

Plastimul PU-W may be applied by brush or roller or squeegee, semi-stiff bristle broom or with an airless spray.

a) Waterproofing vertical walls (e.g. foundations or basement walls)

Prepare the surface to be treated and then apply **Plastimul PU-W** as follows:

Priming layer : Apply a priming coat and allow 2 hours for substrate saturation before applying the first neat coat.

First & second neat coats : Apply **Plastimul PU-W** at a dosage of 0.50 kg/m²/coat. Allow 8-12 hours for the first neat coat to dry to tack-free condition before applying the second neat coat in a direction perpendicular to the first.

Allow curing for at least 8 hours before installing polystyrene boards or **Mapefoil DPM 250** to prevent mechanical damage to the applied coatings in the period prior to and during backfilling.

b) Waterproofing horizontal slabs (not subject to hydrostatic pressure)

Prepare the surface to be waterproofed, then apply **Plastimul-PU W** as follows :

For absorbent and/or contaminated substrates, apply a priming coat and allow 2 hours for substrate saturation before applying the first neat coat.

Then apply a neat coat of **Plastimul PU-W** at 0.75 kg/m²/coat.

Allow 8-12 hours for the first coat to dry to tack-free condition before applying the second coat in a direction perpendicular to the first.

For repaired crack and construction joint locations on the RC flat roof, it is recommended to install a layer of reinforcement, example, **Mapetex GRP 225** or **Mapetex Geo 2280** on the first coat while the material is still fresh. Press it down firmly with a flat-bladed trowel to make sure it is perfectly wetted. Observe the waiting time before applying the second neat coat of waterproofing, making sure the reinforcement fabric is fully covered.

After the second coat has been allowed to cure for 12 hours, a 24-hour water ponding test is recommended. Lay the protective cement/sand screed within 48 hours after the ponding test.

Cleaning

Tools can be cleaned with water while the **Plastimul PU-W** is still fresh. When hardened, it can only be removed by mechanical means.

CONSUMPTION

2 coats at 0.50 kg/m²/coat for bathrooms, kitchens, balconies, retaining walls.
2 coats at 0.75 kg/m²/coat for RC roof slabs, gutters, planter boxes, elevated driveways decks, swimming pool decks.

PACKAGING

Plastimul PU-W is available in 20-kg pails.

STORAGE

Plastimul PU-W may be stored in its original unopened packaging in a dry place at a temperature of 25°C for a maximum period of 12 months.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Plastimul PU-W does not contain harmful, flammable solvents which are dangerous to aquatic organisms. It is however recommended to use gloves and eyes protection and to take the usual precautions when handling chemical products. For further and complete information about the safe use of our product please refer to our latest version of the Material 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 suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Appearance:	pasty liquid
Colour:	black
Density (g/cm ³):	1.08
Solids content, (%):	approx. 60
Storage:	12 months in its original, unopened packaging.
APPLICATION DATA	
Priming layer for absorbent substrates:	dilute Plastimul PU-W with water 1:3
Waiting time between coats, 35°C (hrs):	8 – 12
Full Cure, 35°C (days):	approx. 1
Application temperature (°C):	min. +10, max. +35
Dosage (kg/m ² /coat):	0.50 - 0.75
FINAL PERFORMANCES	
Shore A hardness (ASTM D2240:05):	57
Elongation at break (ASTM D412-98)(%):	> 800
Tensile strength (ASTM D 412-98)(N/mm ²):	> 2
Crack-bridging (ASTM C 836:00): - No cracking at 2 mm width - No cracks after stretching and closing to a width of 1 mm after 10 cycles.	passed
Tear strength (CNS 6986, CNS 6988)(N/mm ²):	1.08

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

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

**Plastimul
PU-W**



BUILDING THE FUTURE

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