TECHNICAL DATA SHEET

SEMI-PERMEABLE TREATMENT FOR COMBATTING DAMP CONDITIONS. PRODUCING DRY CONDITIONS FROM WET ONES.

PRODUCT DESCRIPTION

Permbloc is a unique water-based, crystallising moisture blocker, specifically formulated for permanently drying concrete and masonry affected by water ingress. It is spray, brush or roller applied to the negative water pressure side of the affected structure, preventing water and moisture transmission even under high hydrostatic pressures. It is effective against water transmission rates of up to 70 g/m² (24 hr) in concrete. At the same time, the applied treatment is vapour permeable for drying condition, preventing unwanted build-up of vapour pressure that otherwise can damage a surface.

Permbloc reduces general water seepage, it is not intended for plugging active leaks from holes and cracks, for example. At the same time, it can be used to focus water for controlled extraction. Seek specialist engineering advice from Epicuro in such cases.

Permbloc enters the material capillaries and uses the available moisture and atmospheric CO₂ to form crystals that are both hygroscopic and hydrophilic in nature. The hygroscopic aspect supports crystal growth, which the hydrophilic property then develops in the direction of the available moisture supply. This means that the water barrier thickens into the substrate, towards the source of moisture. The total barrier achieved depends mainly on the porosity of the treated surface and the volume of product applied. Permbloc cannot migrate completely and disappear through the structure because its crystals are strongly bonded to the lining of the pores in which they develop.

Under prolonged drying conditions and according to the nature of hygroscopic materials, the Permbloc crystals give up their water and diminish in size. This ensures that the surface remains ‘breathable.’ However, growth is restored on the return of a supply of water, reinstating their blocking characteristics. Thus, Permbloc is a permanent treatment for the life of the structure, able to defend against both a fixed head of water or seasonal variations in water level on the positive side.

Permbloc is used for stopping water ingress in tunnels constructed in concrete or masonry. A concrete retaining wall with seeping water is another typical project. Using Permbloc, water ingress through masonry arches can be corrected without affecting their aesthetic value. Damp concrete floors can benefit from its application, enabling screeds, coatings or floor coverings to be installed.

Permbloc uses wet conditions to deliver dry conditions. It overcomes the need to use heaters and dehumidifiers for achieving dry conditions, avoiding delays in drying out projects. Treatable materials include concrete, concrete blocks, masonry, cement-sand mortar, natural cement mortar, plaster, stucco and terrazzo. Projects benefiting from the product application include tunnels with water ingress, damp concrete floors, foundations and slabs, reservoirs, masonry structures, industrial installations, swimming pools, subways, lift pits, basement walls and flooring in underground car parks.

Permbloc can be over treated with Epicuro HBG-HD to keep surfaces clean and dust free. Permbloc is a key element in the Epicuro 'Moisture Blocking Method', which tackles water ingress in a structured manner. This method combines various approaches to remediation to achieve the best outcome.
ADVANTAGES & CHARACTERISTICS

- Resists hydrostatic water pressure.
- Combats high water seepage rates (not leaking holes).
- Semi-permeable (no pressure induced damage).
- Use on concrete and masonry.
- Fills capillary tracts and hairline cracks.
- Compatible with injection resins (contact Epicuro).
- Internal and external application.
- Reduces surface moisture to dry conditions.
- Single component, used straight from container.
- Safe for people and the environment.
- Non-toxic, solvent free and non-flammable.
- Gives way to time and cost savings.

TECHNICAL DATA

- Specific Gravity: 1.09.
- Viscosity: 2.4 cps.
- Freezing point: -4°C.
- Boiling point: 105°C.
- Colour: Clear.
- Odour: None.
- Toxicity: None.
- Fumes: None.
- Flammability: None.
- Cleaning: Water.
- Drying time (25°C): 2-3 hrs.
- No applications: 2-3.

INSTRUCTIONS FOR USE

- Apply using spray, roller or brush.
- Ensure surface is clean and free of paint, sealer, oil, adhesive, curing compound, form release agent and/or anything that will prevent the product penetrating the surface.
- Areas which require cleaning to be cleaned by scrubbing, pressure washing or other methods to remove any surface dust, dirt or other contaminants.
- Permbloc may be applied to damp surfaces as long as no standing water or puddles are present.
- Apply the first treatment at the rate of 5 m²/ltr, keeping the surface wet with product for at least 30 minutes.
- After the concrete or masonry substrate is dry (normally 1 to 2 hours), apply a second treatment at the rate of 10 m²/ltr, keeping the surface wet with product for 30 minutes.
- In severe damp conditions, apply a third application at the rate of 5 m²/ltr, and allow to dry.
- Compatible coatings (contact Epicuro) should not be applied within 1 week of completion of the treatment, first using a brush to remove any surface crystallisation (appearing as a white deposit).
- HBG-HD may be applied after final Permbloc application is dry, first brushing off loose surface crystallisation.
- After the final Permbloc application is dry, the surface can be over-coated with suitable primers and coatings.
- To avoid compatibility failures, it is recommended that Epicuro Ltd be consulted on the suitability of the proposed paint or coating system.

HEALTH & SAFETY

ALWAYS KEEP CHEMICALS OUT OF REACH OF CHILDREN AND ANIMALS

- Eye protection: If there is a real risk of splashing wear protective goggles.
- If swallowed: Do not induce vomiting. Contact a doctor or a specialist.
- Respiratory protection: Under normal conditions of use where adequate ventilation is available, no special respiratory protection equipment is needed.
- Hand protection: Wear gloves.
- Skin protection: No special protective clothing or skin protection is required under normal conditions of use.
CHEMICAL PROPERTIES
A crystal forming solution.

PACKAGING
20 or 208 litre containers.

STORAGE
Store away from frost & heat in a dry place, between 5°C & 30°C.

SHELF LIFE
Provided the container is keep closed whilst not in use, and kept within the recommended storage temperature, the storage life is 18 months.

PERFORMANCE
Permbloc meets or exceeds: ASTM C-666 Freeze thaw testing. NCHP 244 ‘Soak Test’ Rev/ASTM D3359: 31% increase in epoxy adhesion or surface coating. Weathering Test ASTM G-23: Ultraviolet light and water spray exposure had no adverse effect on treated samples. ASTM C-309 Curing type 1, class A Curing temperatures ATEC 25-01831.

CONSUMPTION
Consumption depends on the temperature & porosity of the treated surface. Two applications approximately 0.4 lts/m2. Three applications approximately 0.5 lts/m2.

EPICURO APPROVED APPLICATOR SCHEME
Training in product ‘technology and application’ is provided by Epicuro Ltd.

RECOMMENDATIONS
Do not apply to aluminium, glass, glaze tiles or glazed bricks because crystallisation will occur on the surface. If contact occurs, immediately wash off with clean water. Do not apply to areas previously treated with coatings, curing or sealing agents, unless these have been remove by chemical or mechanical means.

Important: The content of this documentation is based on our experience of the product. Epicuro Ltd guarantees the quality of its products, but expressly declines any liability in the event of failure by the user to comply with the recommendations and conditions of use of said products, notably but not exclusively in the event of incorrect application, application by unqualified personnel, use of products not compatible with Epicuro’s products or bad weather conditions. For further information, refer to the safety data sheet. This sheet was last updated on: 14/04/2014