

TECHNICAL DATASHEET

PENOSIL Premium Hybrid Airtight Membrane

MS-polymer based liquid membrane for air- and weatherproofing. The product is ready to use and cures in the presence of moisture.

Can be used both, on horizontal and vertical surfaces. After curing, forms a seamless membrane that is completely air- and watertight, while still being permeable to water vapour. Excellent adhesion with many construction materials, e.g. concrete, bricks, PVC, ceramic tiles, metals, bitumen, EPDM, etc.

- Air- and watertight.
- Permeable to water vapour.
- Crack-bridging ability.
- High elasticity.
- Easy and convenient application.
- Nearly no shrinkage.
- Excellent adhesion to wide range of substrates.
- Non-corrosive to metals.
- Can be applied on damp surfaces.
- Over paintable with water-based paints.
- Limited UV-resistance
- Does not contain solvents, silicones or isocyanates.
- Practically odourless.

Fields of application

For air- and weathertight connections, e.g. window/door perimeter joints, under the window/door tin, penetrations through building envelope, etc. Protection against corrosion, moisture and weather conditions of surfaces made of metal, concrete, wood, PVC and other plastics

Application conditions

Usage temperature between +5 °C and +40 °C.

Application instructions

Surface preparation:

The surfaces must be dry, clean from dust, loose particles, and oil.

For sealing door and window joints

Using a caulking gun. Apply the liquid membrane on the joint with a caulking gun and smooth with a putty knife or flat brush so the seamless film is at least 1 mm thick.

Using a pneumatic spray gun. Liquid Hybrid Membrane can be applied by using a pneumatic spray gun, e.g. Cox Jetflow 3 600S. Adjusting the nozzle gives options to apply either as a bead or sprayed as a coating. For spraying, the nozzle is more open and less product is applied. For optimal use, the air pressure should be 4..6 bar and nozzle should be around 75% open. After spraying, if needed, smooth the membrane with a flat brush and make sure the minimum layer thickness (1 mm) is applied.

To ensure air- and weather tightness, the membrane needs to be applied at least 10 mm on the window/door frame, over the cured foam and at least 10 mm on the wall structure (both for caulking and pneumatic spray gun). To avoid mastic splashes on the frame, protect window and door frames with masking tape. The masking tapes should be removed right after application before the product starts curing. If needed, the product should be applied in 2 layers, to ensure seamless and airtight connection.

The curing time before the second layer needs to be 12-24 hours. The final curing time depends on the layer thickness and relative humidity and temperature of the environment.

To achieve the expected results, the building engineering physics requirements for the whole solution must be taken into account, for example the need for a vapor tight layer in the warm layer of the structure.

Sealing various penetrations.

For sealing penetrations and turn-ups, a sealing cuff or reinforcement fabric has to be used. Use a putty knife or flat brush to apply the mastic on the surface, install a sealing cuff or a reinforcement fabric and cover the surface with mastic.

As needed, but we recommend covering the surfaces in several layers. The curing time before the second layer needs to be 12-24 hours. The final curing time depends on the layer thickness and relative humidity and temperature of the environment.

Covering of surfaces.

The surface on which the product is applied should be properly prepared: all kinds of dirt and dust should be removed, surfaces such as metal, concrete and plastic should be degreased.

The product should be applied with a putty knife, brush, special manual or pneumatic gun. In the case of using a gun, the applied product should be evenly spread over the surface of the material with a brush. The use of a gun significantly increases the efficiency of work and reduces the amount of product used per square meter.

The product is resistant to weather conditions immediately after application. The time of complete hardening depends on the thickness of the product layer (on average 2-3 mm per 24h).

Cleaning

Uncured sealant, tools and hands can be cleaned with PENOSIL Premium Cleaning Wipes. Cured product should be removed mechanically.

Technical specification

Property	Unit	Value
Tack free time	minutes	approx. 30
Curing rate	mm/24 h	2-3
Density	g/ml	1,42
Properties of cured sealant		
Water vapour diffusion resistance factor, μ -value		870
Water vapour diffusion equivalent air layer thickness, Sd-value (2 mm thickness layer)	m	1,74
Elongation at break, (ISO 37)	%	550
Modulus at 100% elongation, (ISO 37)	MPa	0,75
Tensile strength, (ISO 37)	MPa	1,70
Hardness (Shore A)		43
Temperature resistance	°C	-40 to +90

The parameters indicated have been measured at +23 °C and 50% relative air humidity.

Colour

Grey

Package

600 ml

Storage conditions

Guaranteed shelf life 12 months from the date of production when stored in the original closed pack to resist moisture, and in a cool and dry place at a temperature of +5 °C to +25 °C.

Limitations

There is no adhesion to PE, PP, PTFE (Teflon®). Due to the wide variety of possible substrates, we recommend a preliminary compatibility and adherence test. If necessary, prime surfaces to improve adhesion.

In contact with bituminous surfaces, the mastics may discolour, due to the bleeding bituminous oils.

Not suitable for expansion joints.

The cured product has limited UV-resistance and should be covered from direct sunlight in 3 months after application.

Although the product can be plastered, we don't recommend the direct plastering on the product in outside conditions, since during building's exploitation the plaster can damage the membrane layer.

Paintability: Cured mastics can be overpainted with water-based paints. Due to the large number of paints and varnishes available we strongly suggest a compatibility test before application.

Safety regulations

Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Keep out of the reach of children. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

More information is available on the product safety data sheet (SDS).

Note: The instructions in the present documentation are based on tests carried out by the manufacturer and are presented in good faith. Due to variations in materials and substrates as well as the various application possibilities that are beyond our control, the manufacturer is not liable for the results achieved. In any case, it is recommended to test the product suitability at the place of application. Manufacturer reserves the right to modify products without prior notice.
This TDS replaces and supersedes all previous data sheets on the same produ