



CONSTRUCTION CHEMISTRY

Expanproof* PU

**Liquid applied single component
Polyurethane waterproofing membrane**

Uses

The high elasticity, excellent bond and low water permeability of Expanproof* PU make it ideal for a wide range of waterproofing applications such as basements, Bathroom suspended floors, car decks, roof terraces, balconies, patios, bridges, water retaining structures (not potable water), and inverted roofs. The excellent chemical resistance of Expanproof* PU makes it particularly suitable for tanking applications in areas where aggressive ground water conditions prevail.

Advantages

- One component; ready to apply direct from the can
- Liquid application means details are simplified and there are no joints in the membrane
- Highly elastic, cures to give a permanently flexible resilient barrier
- Excellent adhesion, can be applied to a wide range of Substrates.
- Thermally stable - irreversible chemical cure eliminates melting and flow at high temperature
- Excellent resistance to oxidation and embrittlement

Standard compliance

Expanproof* PU meets the requirements of ASTM C836-84.

Description

Expanproof* PU single component modified polyurethane cures by reaction with atmospheric moisture to give a tough elastomeric waterproof membrane. It is supplied in a single grade to meet all site application methods and requirements.

Chemical properties

Expanproof* PU is unaffected by a range of mild acids, alkalis and water borne salts and is resistant to bio-deterioration.

Properties

Color : Grey/White/Blue/Green

Tack free time @ 25°C : 15 hours

Time to full cure @ 25°C : 48 hours

Typical cured membrane properties (at 7 days)

Elongation

(ASTM D412) : 600 % \pm 20%

Tensile strength

(ASTM D412) : 2 N/mm²

Tear resistance

(ASTM D1004) : 15 N/mm²

Specific Gravity

: 1.32 \pm 0.01

Water vapour transmission

(ASTM E96) : 10.0 g/m²/24 hrs.

Shore A hardness

(ASTM D2240) : 55-60

Hydrostatic pressure @ 5bar (50m)

(BS EN 12390) : No leakage

Solar Reflectance

EN 410 : >75

Bacteria Resistance : No Attack
(ASTM D4299)

Algae Resistance : No Attack
(ASTM G 29)

Chemical Resistance : Sodium NoEffect
 Alkalis NoEffect
 HCL 05% NoEffect

**Extensibility after heat
aging (min. requirement -
extended to 6.4mm
without cracking)**

: No cracking or tearing

Service temperature

(continuous ambient) : -15°C to 60°C



CONSTRUCTION CHEMISTRY

Instructions for use

Preparation

All surfaces to be waterproofed should be sound, clean and dry.

Concrete surfaces should have a light steel-trowel followed by a fine hair-broom or equivalent finish which is dry and free of dust, oil and other contaminants. All high spots should be removed.

All metal surfaces should be made clean of paint, oils, rust and other contaminants. Abrade to expose bright metal then wipe clean with Expanchem Solvent* 102 prior to priming.

Priming

Priming is not normally required on good quality concrete substrates. However, absorbent surfaces such as porous concrete, sand/cement and cement boards will require sealing to prevent absorption of Expanproof* PU. Use Expanprime* PU as a primer on concrete substrates. All metal and PVC surfaces should be cleaned and abraded before priming.

Cracks

All shrinkage and non-moving structural cracks should be pretreated with not less than a 1.0mm coating of Expanproof* PU extending 75mm either side of the crack. Allow to cure overnight before general application.

Application

Expanproof* PU can be applied with a brush, roller, squeegee or airless spray. A minimum of two coats should be applied should be applied. The first coat should be allowed to dry completely before Second coat is applied. The two coats should applied at right angles to one another.

The minimum application life (after opening the pack) is up to 48 hours if stored in closed containers.

Cleaning

Tools and equipment should be cleaned with Expanchem Solvent* 102 immediately after use. Do not use the solvent for thinning except where a sealing coat is required.

Limitations

- Application should not commence if the temperature of the substrate is below 5°C.

Curing and protection

Expanproof* PU membrane must be cured for a minimum of 24 hours @ 25°C before placing protection. Where damage to the membrane is possible (by traffic, backfilling, etc) it should be protected by a cementitious screed or protection boards. A dust coat of cement should be used to prevent adhesion of the membrane to the boards. Where a bond with the topping is not required, a separator sheet should be used.

To prevent damage to the membrane it is recommended that Expanproof* PU is laid in strips of 1 metre width to permit the application of a screed or Protection Board from the uncoated area.

Technical support

Expanchem Fospak offers a comprehensive range of high performance, high quality repair, maintenance and construction products. In addition, Expanchem Fospak offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the world.

Estimating

Supply

Expanproof* PU	: 15 Kg Bucket
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Expanprime* PU	: 15 Kg
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Expanchem Solvent* 102	: 5 liters can
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Coverage

Expanproof* PU	: 1.4 kg/m ² @ 800 microns DFT in 2 coats
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Expanprime* PU	: 5.0 m ² /kg
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Storage

Shelf life

Expanproof* PU has a shelf life of 12 months if kept below 25°C in the original, unopened packs.

Expanprime* PU has a shelf life of 12 months if kept in a dry store in the original, unopened packs.



CONSTRUCTION CHEMISTRY

Fire

Expanproof* PU, Expanchem Solvent* 102 contain flammable solvents. Do not use near an open flame or smoke during use.

Flash points

Expanproof* PU	:	55°C
Expanprime* PU	:	25°C
Expanchem Solvent* 102	:	33°C

For further information, refer to the Product Material Safety Data Sheet.

Precautions

Health and safety

Some people are sensitive to resin systems. Gloves and a barrier cream such as Kerodex Antisolvent, Rozalex Antipaint or Debba-Wet-Work should be used when handling these products. If contact with the resin occurs it must be removed before it hardens with a resin removing cream such as kero cleanse Standard grade Skin cleanser or Rozaklens Industrial Skin cleanser. Follow by washing with soap and water. Do not use solvent. The use of goggles is recommended but should accidental eye contamination occur, wash thoroughly with plenty of water and seek medical advice. Ensure adequate ventilation when using resin and solvent containing materials.

* Denotes the trademark registered.

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