

VARATHANE 100

POLYURETHANE BASED FLEXIBLE LOW VISCOSITY CRACK INJECTION SYSTEM

DESCRIPTION

VARATHANE 100 is a two part solvent-free, low viscosity high tensile strength polyurethane based system designed to form a strong permanent bond and seal in cracks in dry, damp or wet concrete and masonry.

USES

- ◆ For injecting into cracks for, dry, damp or wet concrete or masonry. Especially as an underlay for poorly ventilated working areas.
- ◆ May be used to form bowl-shaped sealing layers around construction, since it adheres well to sand and concrete (wet or dry).
- ◆ **VARATHANE 100** is designed as a permanent solution to seal and bond cracks in concrete and masonry. Crack widths of between 0.2mm and 10 mm can be treated depending on requirements.

ADVANTAGES

- ◆ Does not attack bitumen, sealing materials and foils modified with Bitumen or **STYROPOR** and **PUR - Foam**.
- ◆ Even underwater, **VARATHANE 100** provides very effective sealing, bonds with the above sealing materials and sealing foils.
- ◆ Low viscosity allows penetration into fine cracks.
- ◆ Good adhesion to dry/wet substrates.
- ◆ High tensile strength, withstands high hydrostatic pressure.
- ◆ Displaces water optimally.
- ◆ Formulated to use in hot climates.
- ◆ Flexible to withstand differential movement.

TYPICAL PROPERTIES

- ◆ **Solids contents (%)** : 100.
- ◆ **Pot life @ 25°C** : 30 to 45 minutes.

- ◆ **Minimum temperature for hardening** : 0°C.
- ◆ **Hardness Shore A** : 60 ± 5
- ◆ **Tensile Strength** : 2.5 N/mm².
- ◆ **Extensibility (%)** : 80.

SURFACE PREPARATION

Clean the surface and remove any dust, unsound or contaminated material, paint, grease, corrosion deposits or algae. The surface should preferably be prepared using high pressure water jetting or light abrasive blasting, followed by thorough washing to remove dust and remaining particles. Dirt alone may be removed with wire brush cleaning, detergent scrubbing or the use of an appropriate degreaser. The effectiveness of decontamination can be accessed by a pull-off test. Blow the cracks and treated surface with oil free air to ensure complete removal of all dust and loose particles. Ensure that the surfaces are blown dry.

FIXING INJECTION PACKERS

The Injection packers or injection nipples shall be inserted into pre drilled holes at intervals along the length of each crack. The distance between each packer will depend upon the width and depth of the crack. Spacing shall be close enough to ensure that the resin will penetrate along the crack to the next point of injection. The surface of the cracks between the packers shall be sealed with **VARAGEL EP**. Both sides of any cracks which go all the way through a wall or slab shall be sealed in this way. **VARAGEL EP** shall be allowed to cure for 8 hours at 35°C. At low ambient temperatures (5°C to 12°C) the curing time will be extended and the applicator shall ensure that the surface sealant has adequately cured prior to continuing. One of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of the horizontal cracks.

APPLICATIONS

Thoroughly mix the entire **Part A** and **Part B** contents for 3-5 minutes preferably by slow speed drill. For part mixes mix 1 vol. of **Part B** with 3 vol. of **Part A**.

- ◆ **VARATHANE 100** can be used:
 - (a) With standard injection equipments with closed containers (pressure pots) capable of working at pressures up to 1 N/mm² (1 bar).
 - (b) With plastic or foil lined cartridges using a hand operated skeleton cartridge gun at low pressures.
- ◆ Following completion of the injection works the injection system shall be allowed to cure for 24 hours and shall be left undisturbed for this time.
- ◆ **FOR FINISHING:** Remove any packers or nipples and make good any holes or void with **VARAGEL EP** and allow to cure. **VARAGEL EP** can be ground off with an angle grinder or softened with a blow lamp and peeled off. Do not allow to burn.
- ◆ When injection foam is needed mix **Part C** with **Part A** + **Part B** in below given proportions. It is advisable to mix **Part C** with **Part A** prior to mixing with **Part B**.

MIXING RATIOS FOR VARATHANE 100 – PART C

	For Flexible Foam	For Rigid Foam
PART A	1 lts.	1 ltr.
PART B	1 lts.	2 lts.
PART C	40 ml	20 ml
Approx. volume increase	4 times	7 times

Actual ratio will vary a little on actual site mixing.

LIMITATIONS

VARATHANE 100 should not be used in the presence of running water.

PACKAGING

VARATHANE 100 : 850 kg & 21 kg pack
VARAGEL EP : 0.75 kg. Pack.
VARASOLVE PS : 5 litre cans.

PRECAUTIONS

CLEANING: Spillages should be absorbed with sand or earth etc. and disposed in accordance with local regulations.

STORAGE: Store in dry conditions upto 10°C-25° C. **Part A** and **Part B** are sensitive to moisture. For this reason the contents of container once opened should be used immediately. Shelf life is 1 year for **Part A** and 6 months for **Part B** in tightly closed original container under dry conditions.

FIRE RESISTANCE

The product is non flammable but will burn in a fire. **VARATHANE 100** and **VARAGEL EP** should be removed from tools, equipment and mixers with **VARASOLVE PS** immediately after use. Hardened material can only be removed mechanically.

HEALTH & SAFETY

VARATHANE 100 should not come in contact with skin and eyes or be swallowed. Avoid prolonged inhalation of the vapours. Some people are sensitive to isocyanates, therefore, protective gloves, goggles and barrier cream should be used. Ensure adequate ventilation and if working in enclosed areas, suitable breathing apparatus should be used. If mixed resin comes in contact with skin, it should be removed with a resin removing cream followed by washing with soap and water. Should accidental eye contamination occur with any of the above products, wash well with plenty of clean water and seek medical advice immediately. If swallowed, seek medical attention immediately. **DO NOT INDUCE VOMITING.** Refer our safety data sheets before using this material.