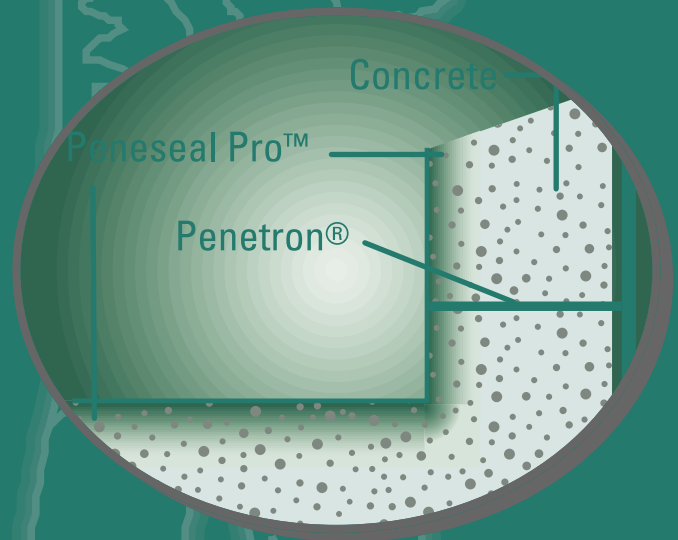




In-depth protection
of areas under
Thermal Stress.

Peneseal PRO™

SUB-SURFACE CONCRETE SEALING & WATERPROOFING MEMBRANE



Peneseal PRO™

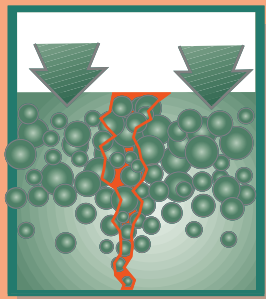
SUB-SURFACE CONCRETE SEALING & WATERPROOFING MEMBRANE

Peneseal Pro™ is a spray applied liquid sealer which forms a sub-surface barrier that protects concrete against water penetration and seals existing cracks up to 2 mm. When sprayed onto a thoroughly cleansed concrete surface, it will react with the concrete to form a sub-surface barrier. This reaction product seals the pores, capillaries and cracks. As long as water is present, the product will remain active and seal future hairline cracks.

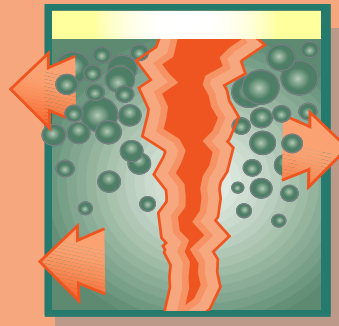
HOW PENESEAL PRO™ WORKS:

1.

Peneseal Pro™ penetrates below concrete surface, creating a sub-surface membrane.



- 0 mm
-20 mm
-35 mm

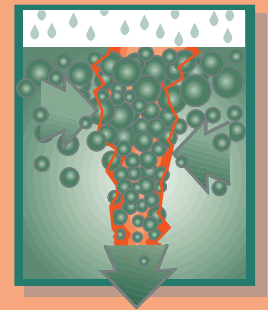


2.

Thermal Stress causes new cracks, creating a waterproofing problem.

3.

Peneseal Pro™ reacts with water and concrete to seal these cracks.



BENEFITS:

- **Seals** existing cracks up to 2.00 mm; New hairline cracks will be sealed on contact with water.
- **Protects** against water, chloride and sulfate ingress; Increases resistance against chemical attack, carbonation and efflorescence. Will resist diluted acid or alkali attack.
- **Sub-surface** nature does not affect bond with subsequent product applications.
- **Increases surface hardness** (approx. 20 mm depth) to 8 on Moh's scale.
- **Simple, Fast and Economical** application compared to alternative membrane systems. Peneseal Pro™ is water soluble & complies with environmental, health & safety regulations.
- **Trafficable** within 6 hours after first water curing without affecting protection. Will not peel or scratch and can be polished. No negative screed necessary.
- **Non-Toxic**—Can be applied to potable water containing structures.
- **Remaining** structural defects can easily be found and repaired.

NOTES:

- Peneseal Pro™ should not be used as a replacement or a solution for poor design, detailing or workmanship.
- Peneseal Pro™ is not suitable for repair of structural or design cracks. For cold joints, expansion joints, penetrations and pour joints, products such as Pencrete™, waterstops, & elastomeric sealants should be applied in addition to Peneseal Pro™. (See back page for details).
- For floor hardening, use Penetron® Liquid Floor Hardener instead.
- Penetron®, not Peneseal Pro™ should be used for negative side waterproofing.
- Peneseal Pro™ can be used on concrete that contains fly ash, slag or silica fume, unless these ingredients exceed 30% of the total cementitious materials in the concrete mix. Before use, try on a small area or obtain concrete mix design. To increase suitability, a calcium treatment may be applied to the surface. This will also increase effectiveness on old and heavily carbonated concrete.
- Large cracks should be ponded with Peneseal Pro™ by creating a small dam.

APPLICATION:

- Surface Preparation:**
- Surface damage, such as honeycombs, voids, etc. must be routed out & repaired with Penecrete™ mortar.
 - Surface should be minimum 14 days old (28 days is recommended), clean, free of dust and dry (no damp areas!)
 - Any formwork oil, curing compounds or previous treatments

should be completely removed.

- Temperature should be between +5°C and +35°C.
- Avoid application when rain is imminent or in heavy wind.
- Old concrete and concrete affected by carbonation may need to be treated with calcium for adequate reaction.

Application Instructions: Always agitate the product before use.

1. Flood cracks with Peneseal Pro™ at approx. 1 Liter/5 Linear Meters.
2. Apply product to surface at the recommended coverage rate. Spray at low pressure and in low wind conditions.
3. When surface is dry to the touch (2-6 hours after application) flood surface with abundant water. If it rains before the product

is dry, a second application is required after drying.

4. 24 hours later, flood surface with abundant water again.
5. Another 24 hours later, flood surface with abundant water yet again.
6. After third flooding, the treated area can be ponded to verify the waterproofing performance.

Coverage: 1 liter to 4-6 sq. meters (4 for rough and porous surfaces, 6 for very smooth, dense surfaces and 5 for normal surfaces) Cracks: additional 1 liter per 5 linear meters.

Equipment: This can range from simple hand spraying equipment for small areas to motorized spray units for large projects. With a simple backpack spray unit, a coverage of 100-150 sqm per hour can be achieved.

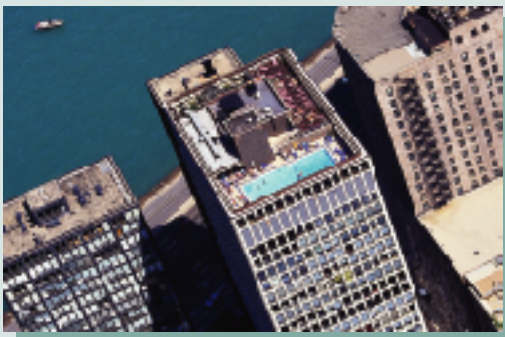
After application, all equipment should be thoroughly cleaned with water. Contact your ICS/PENETRON INTERNATIONAL LTD. representative for details on spraying equipment.



Simple Spray Application

TYPICAL USAGE:

Because of its ability to withstand thermal stress, Peneseal Pro™ is ideal for concrete roofs, podium decks, bridge decks, terraces, traffic bearing structures, runways, driveways, in short, everywhere where concrete is directly exposed to the elements. For below ground projects, Penetron® is the proven system of choice.



Roofs and Podiums



Bridges and Flyovers



Terraces & Outdoor Areas



Building Exteriors



Runways & Driveways

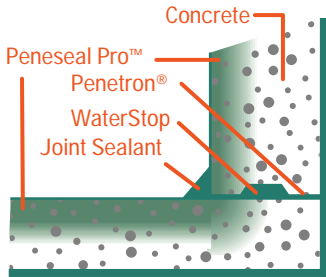


Traffic Bearing Structures

Peneseal PRO™

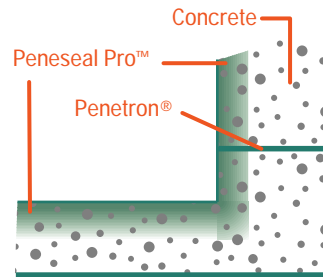
SUB-SURFACE CONCRETE SEALING & WATERPROOFING MEMBRANE

Apart from the standard Peneseal Pro™ application procedures, the following extra measures should be considered during ancillary detailing.



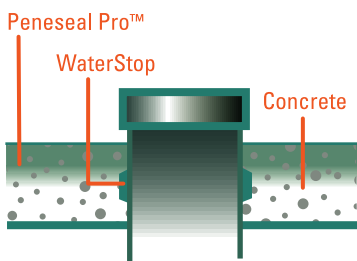
COLD JOINT:

A variety of systems can be used here, including a waterstop, a joint sealant, a reinforced liquid membrane and the Penetrone® system



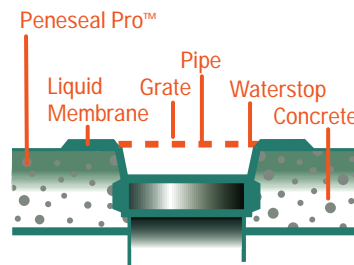
PARAPET UPTURNS:

Apply Penetrone® to cold joint in powder form or as a slurry prior to pouring parapet.



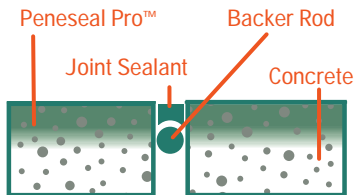
PENETRATION:

Either a waterstop (see graphic) or a reinforced liquid membrane installed around the penetration can be used.



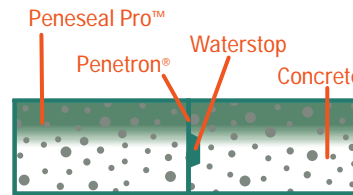
DRAIN:

A waterstop should be installed around the pipe. A liquid membrane should be considered for additional protection.



EXPANSION JOINT:

Follow expansion joint application instructions.



CONSTRUCTION JOINT:

Install waterstop and apply Penetrone® system between pours.

DISTRIBUTOR:

WARRANTY:

ICS/PENETRON INTERNATIONAL LTD. warrants that the products manufactured by it shall be free from material defects and shall conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to ICS/PENETRON INTERNATIONAL LTD. shall be limited to replacement of the material proven to be defective and we shall in no case be liable otherwise or for incidental or consequential damages. ICS/PENETRON INTERNATIONAL LTD. makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied. User shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith.

PACKAGING:

CAUTION:

CONTACT DETAILS:

Packaging: Peneseal Pro™ can be supplied in drums of either 25 or 200 liters.

Color: Transparent

Specific Gravity: Approx. 1.12

Shelf Life: No limit in sealed drums. Keep pails closed and avoid extended exposure to direct sunlight. Do not allow to freeze.

- Non-toxic and biodegradable
- Non-explosive, non-flammable
- No known ill effects if swallowed.

- Avoid skin and eye contact. If contact is made, flush areas with lots of water. Protective gloves should be worn. Breathing apparatus is advised if applied in enclosed environments.

- Do not spray Peneseal Pro™ onto glass, aluminum, wood or painted surfaces. In case this happens, remove the product with water.

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