

The World's First Total Waterproofing Breakthrough Technology + Material

Now in Singapore + Southeast Asia!

TURBO-SEAL



THE RE-NEW WATERPROOFING SYSTEM

- ❖ Turbo-Seal Injection Waterproofing System
- ❖ Poly-AS Waterproofing System
- ❖ Exposed Poly-AS Combined Waterproofing System
- ❖ Expansion Joint Waterproofing System

Re-New Waterproofing System + Turbo-Seal:

The Perfect Waterproofing Solution

Water leakage is a serious recurring problem and the traditional approach from the negative side is, at best, a short term solution. Performance of most waterproofing technologies today falls short of expectations, often resulting in continuing damage and economic loss. The key to perfect waterproofing is to solve these existing problems with the positive approach patented technology from Korea.

Limitations of existing waterproofing technologies

- Lack of responsiveness to the shifting and vibration of structures
- Low/poor bonding in wet conditions or underwater structures
- Low/poor bonding between heterogeneous materials (metals, plastics, concrete, etc)
- High maintenance/repair cost

Truly effective waterproofing

- Tough, elastomeric, flexible and self-sealing accommodates movement and vibration
- Workability in wet conditions, underwater and/or cold environment
- Effective on multiple material surfaces and compatible with other waterproofing products
- Easy maintenance
- Non-solvent material, chemical resistance, durability, stability in a wide range of temperature
- Environment-friendly composition

The RE-NEW WATERPROOFING SYSTEM

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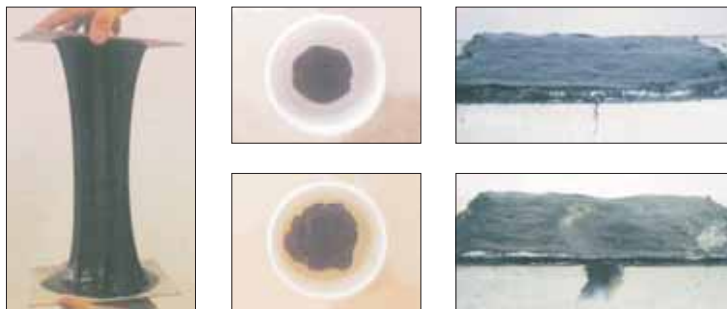


Turbo-Seal: The World's First Multi-Application Waterproofing Material

A new concept in waterproofing material, Turbo-Seal forms a gel that expands and adheres to any leaking area upon contact with water. This gel is formed by combining a polymer resin of rubberized asphalt with special adhesives. It seeks out leaks and expands to repair damaged layers. It absorbs movement and vibration to minimize damage and separation. Turbo-Seal can be applied as a membrane sheet or a repair material in any environment.

Product	Applications	Technique
Turbo-Seal P	Used in a variety of structures above or below grade	Used together with Turbo sheet or board to form a multi-layer composite system
Turbo-Seal R	Repair leaks in above grade structures	Drill down to existing damaged waterproofing membrane. Inject Turbo-Seal-R to the top or bottom of the membrane to restore watertightness
Turbo-Seal U	Repair leaks in below grade structures	Drill down to existing damaged waterproofing membrane. Inject Turbo-Seal-U to restore watertightness on the positive side.
Turbo-Seal W	Repair leaks in masonry walls	Inject the waterproofing material between the masonry walls
Turbo sheet	Architectural and engineering sheets	Used with Turbo-Seal to form a multi-layer composite system
Exposed sheet	Exposed sheet for building rooftops	Used with Turbo-Seal
Re-Joint	Expansion joint back-up material	Inject Re-Joint in the expansion joint unit
Turbo-Seal sealant	Expansion joint leak repair material	Fill the expansion joint unit with sealant

Turbo-Seal



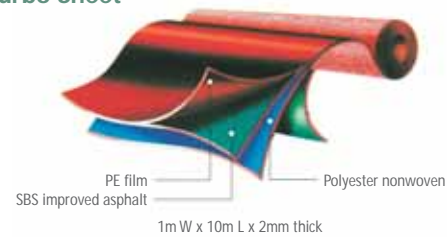
Viscosity (cohesiveness)

Swelling

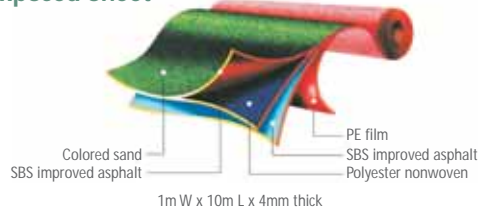
Flexibility

- ❖ Responsive to substrate movement and absorbs vibration due to the gel's flexibility and dampening capabilities
- ❖ Materials are non-degradable and thus maintain a continuous waterproofing layer
- ❖ Not affected by foreign substance, maintaining consistent adhesive, stable waterproof coating
- ❖ Self-sealing and expands upon contact with water
- ❖ Workability in wet conditions or underwater structures

Turbo Sheet



Exposed Sheet



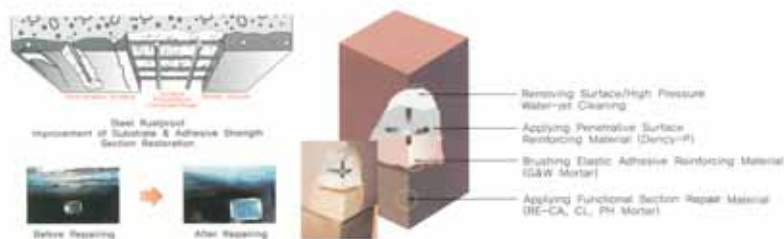
- ❖ Superior tensile strength and tear resistance
- ❖ Superior repetitive fatigue resistance
- ❖ Soft sheet facilitates work on bent parts
- ❖ Excellent viscosity

Re-Form System: Repair, Reinforcing, Waterproofing and Remodelling Materials and Systems

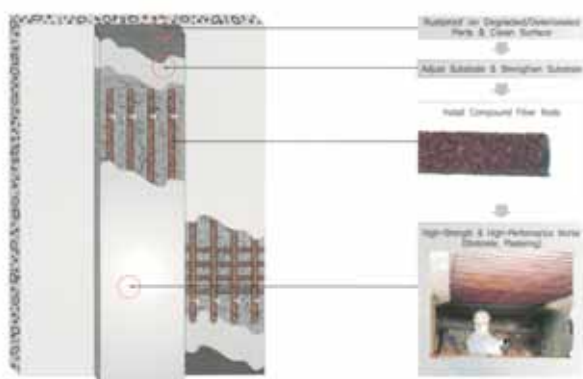
Ask for more information on Re-Form System:

- ❖ Underwater Repair Materials
- ❖ Functional Waterproofing Materials
- ❖ Leakage Repair & Waterproofing Materials

Repair & Reinforcement Method for Exposed Parts



MFRI System



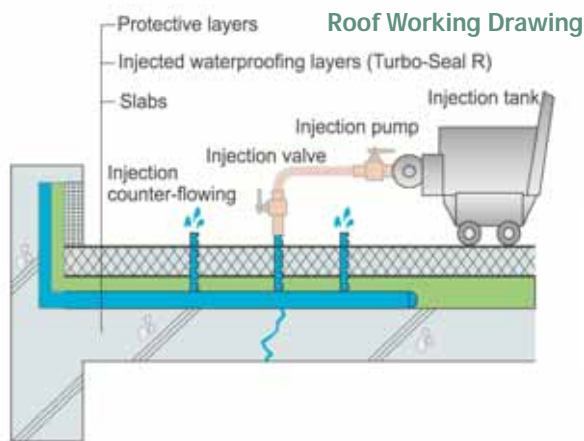
Repair & Reinforcement Method for Underwater and Wet Substrate





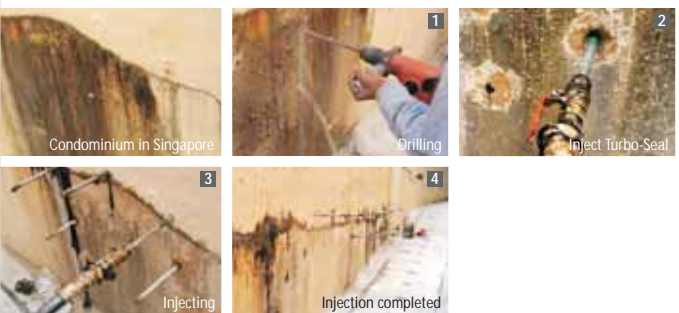
Turbo-Seal Injection System

Drill down to the existing damaged membrane waterproofing layer. Inject Turbo-Seal with its excellent viscosity, expandability, and flexibility into the front or rear of the membrane to repair damage and restore waterproofing.



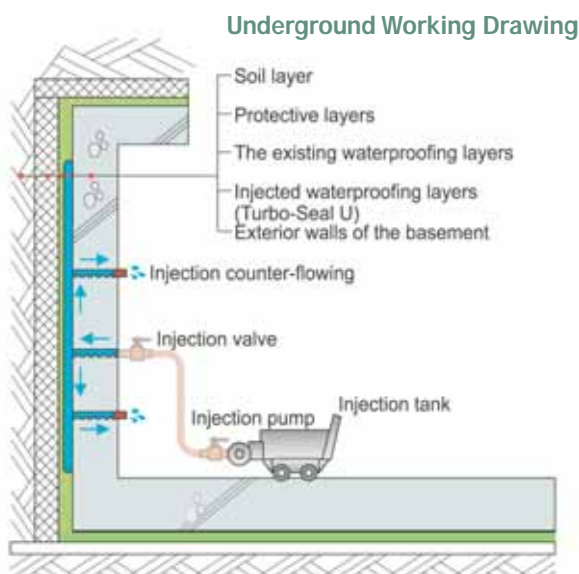
Rooftop Repair Process

1. Drilling
 - ❖ Drill 18mm diameter holes at 1-meter intervals.
2. Installing the injection packer
 - ❖ For most applications, an injection pipe with an outer diameter of 18mm and a packer are used to make an injection opening and inspection holes at 1-meter intervals.
3. Injecting Turbo-Seal
 - ❖ Inject Turbo-Seal until it overflows at the inspection holes.
 - ❖ When Turbo-Seal overflows, close the cap of the injection opening. Insert Turbo-Seal into the inspection holes and continue injection using the same method.
4. Injection completed
 - ❖ After finishing the injection, close the injection opening with the nonwoven polymer mortar.



Underground Repair Process

1. Drilling
 - ❖ Drill 18mm diameter holes at 1-meter intervals from the bottom to the top.
- Installing the injection packer
 - ❖ For most applications, an injection pipe with an outer diameter of 18mm and a packer are used to make an injection opening and inspection holes at 1-meter intervals.
2. Injecting Turbo-Seal
3. Injecting Turbo-Seal
 - ❖ Continue injecting Turbo-Seal until it overflows from the top loophole.
4. Injection completed
 - ❖ After finishing the injection, close the injection opening with the nonwoven polymer mortar.



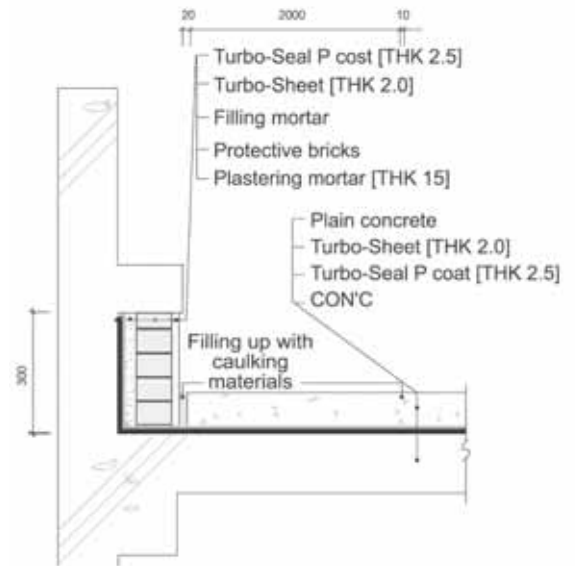
Poly-AS Waterproofing System: Turbo-Seal P + Turbo sheet



This waterproofing method combines Turbo-Seal P, an adhesive and self-sealing waterproofing gel, with the special Turbo sheet to form a multi-layer, compound waterproofing system. This dynamic material repairs ruptures and cracks on existing waterproofing layers and solves the damage with its self-sealing capability. If existing sheet layers are damaged, Turbo-Seal P expands on contact with water and fills in the damaged part of the sheet, effectively stopping water leakage and seepage between the sheet and concrete base surface.

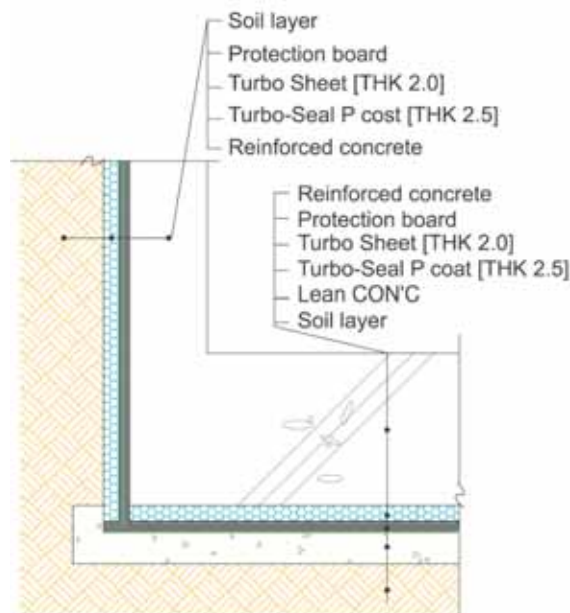
Waterproofing Process For Concealed Roof System

Roof Working Drawing



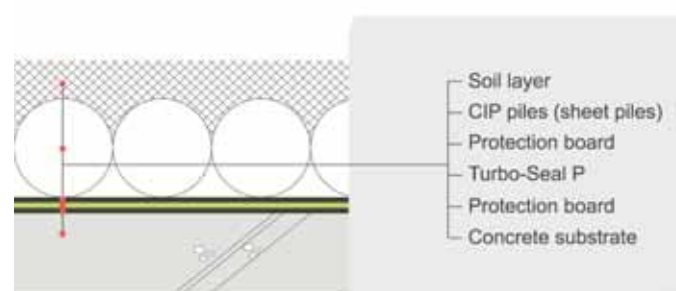
Underground Waterproofing Process For New Projects

Underground Working Drawing



Combined Wall Section

Combined Wall Section Working Drawing

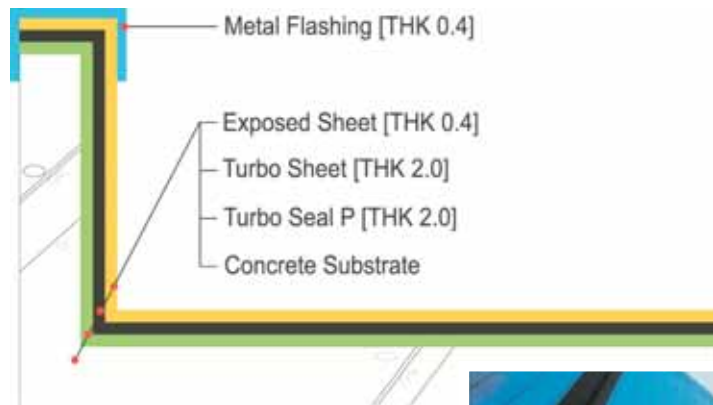




Exposed POLY-AS Combined Waterproofing System:

3-ply exposed system - Turbo-Seal P + Turbo Sheet + Exposed Sheet

This 3-ply exposed waterproofing system combines the self-adhesive Turbo-Seal P, Turbo Sheet and specially heat-treated colored Exposed Sheets.



Exposed POLY-AS Combined Waterproofing Process

1. Surface preparation
 - ❖ Level off projections (2mm or more).
2. Apply Turbo-Seal P
 - ❖ Using a trowel or a push stick, apply a 2.0mm (± 0.5 mm) coating evenly.
 - ❖ Reinforce corners, concrete joints, expansion joints and pipe circumference with a 25cm-wide Turbo sheet.
3. Attachment of the Turbo sheet
 - ❖ Apply the Turbo sheet to areas with ambient temperature of 5°C or higher.
 - ❖ Carefully remove air from inside the sheet.
4. Attachment of the exposed sheet
 - ❖ Attach the exposed sheet, taking care not to allow the sheets to overlap with the connection part Turbo sheets below.
 - ❖ Locate the edge of the sheets at least 30cm from the jointed part of Turbo sheets.

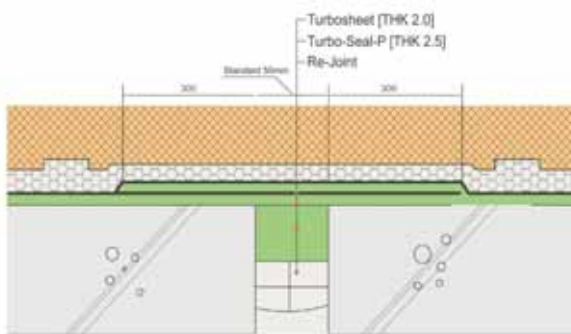
Expansion Joint Waterproofing System



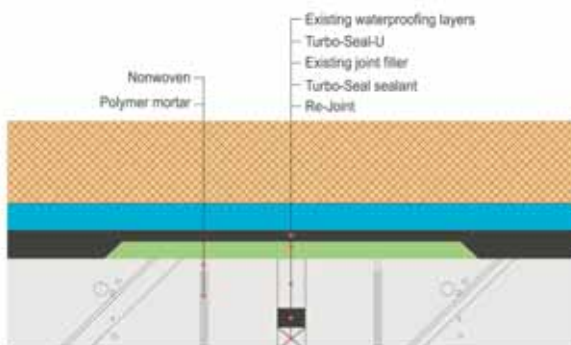
All materials including concrete and waterproofing material have their own coefficient of thermal expansion, contracting and expanding on the central axis according to temperature change. Since the concrete joint that contributes the most water leakage is located at the farthest point from the central axis, it has the largest movement range. Turbo-Seal flexibly responds to these contractions and expansions to stop water leakage.



Roof Working Drawing



Underground Working Drawing



Expansion Joint Waterproofing Process

New Re-Joint Construction

- ❖ Install the rubberized Re-Joint using adhesives.
- ❖ Inject the Turbo-Seal sealant to form a primary waterproofing layer.
- ❖ Apply Turbo-Seal to form secondary waterproofing layers.
- ❖ Install the Turbo sheet to form an auxiliary protective waterproofing layer.

For Repairs

- ❖ Remove the existing filler as necessary to form waterproofing layers.
- ❖ Inject the Turbo-Seal sealant to form a primary waterproofing layer.
- ❖ Install the rubberized Re-Joint using adhesives.
- ❖ Drill holes down to the rear of the waterproofing layer at 1-meter intervals.
- ❖ Inject Turbo-Seal through the injection opening until it overflows at the drilled hole.
- ❖ Inject Turbo-Seal into the wall starting from the bottom.
- ❖ Finish the drilled holes using a polymer mortar.

Re-New Waterproofing System + Re-Form Repair System

Patented, Tested, Proven and Growing



National Museum Rooftop



National Folk Museum Terrace



Cultural Center Terrace



Cultural Center Rooftop



Highway Tunnel



Apartment Rooftops



Apartment Expansion Joint



Apartment Underground Carpark



Sewerage Treatment Plants



Subway Tunnel



Substations Slab



NATM Tunnel



Box-Type Tunnel



Shield Tunnel



Dam



Re-System (S'pore) Marketing Pte Ltd

53 Ubi Avenue 1 #03-28

Paya Ubi Industrial Park

Singapore 408934

Tel: (65) 6748 7262

Fax: (65) 6747 0991

turboseal@re-systemsingapore.com

www.re-systemsingapore.com