

PENEBAR SW™

SELF HEALING CONCRETE WATERSTOPS

PENETRON®

INTEGRAL CAPILLARY CONCRETE WATERPROOFING SYSTEMS

T O T A L C O N C R E T E P R O T E C T I O N®

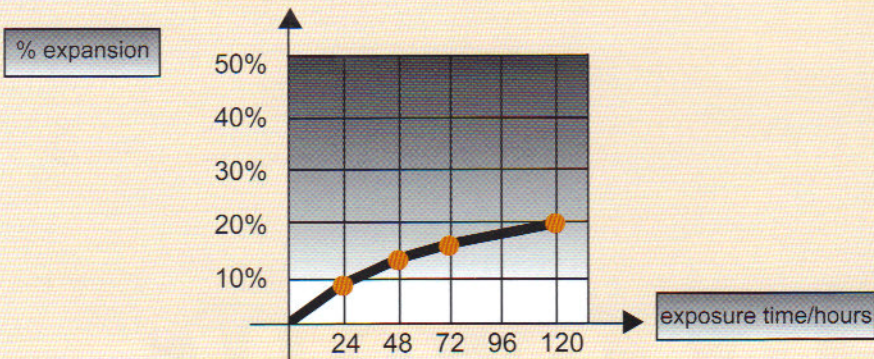
PENEBAR SW-45TM rapid

RAPID EXPANSION WATERSTOP

Penebar SW-45 rapidTM is a concrete joint waterstop designed to expand rapidly when exposed to water.



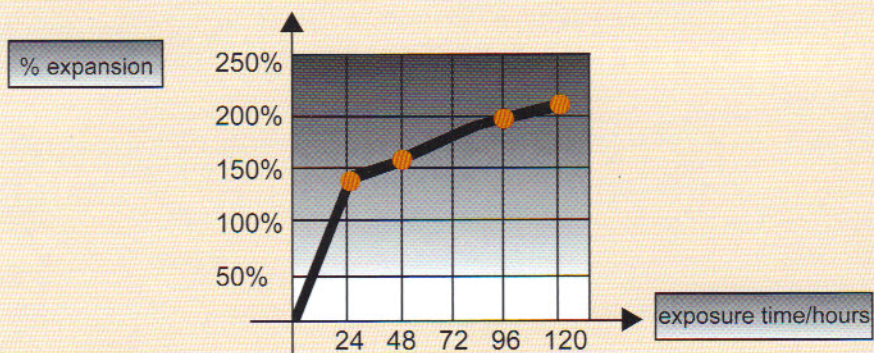
EXPANSION RATE WHEN IMMERSED IN SALT WATER



SALT WATER EXPOSURE RESULTS

- after 24 hours : 8% expansion with no sign of deterioration
- after 48 hours : 11% expansion with no sign of deterioration
- after 72 hours: 15% expansion with no sign of deterioration
- after 120 hours: 20% expansion with no sign of deterioration

EXPANSION RATE WHEN IMMERSED IN FRESH WATER



FRESH WATER EXPOSURE RESULTS

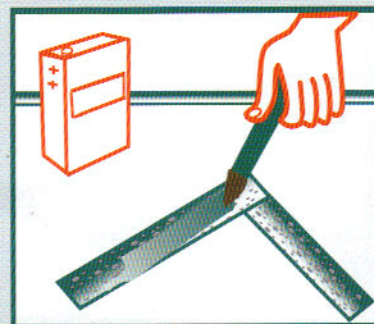
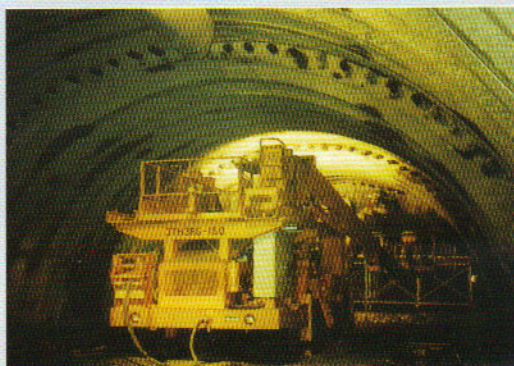
- after 24 hours : 143% expansion with signs of cracking at the edges of the sample
- after 48 hours : 170% expansion with splits starting to show on the sides of the sample
- after 72 hours: 195% expansion
- after 120 hours: 215% expansion and further expansion undesirable

ADVANTAGES

PENEBAR SW- 45 rapidTM is suitable for use on non-moving cold construction joints. The nature of its expansion characteristics makes it a preferred solution for protection of building projects exposed to salt water or high hydrostatic pressure.

TYPICAL PROJECTS

- Base slabs
- Foundations
- Retaining walls
- Water retaining structures
- Tunnels etc.



PENEBAR

PENEBAR SW-55™

CONTROLLED EXPANSION WATERSTOP

Penebar SW-55™ is a concrete joint waterstop that will expand in a controlled fashion when exposed to water. It is a sophisticated water-sealing product that encapsulates hydrophilic materials into a rubber base to create a built-in delay system.

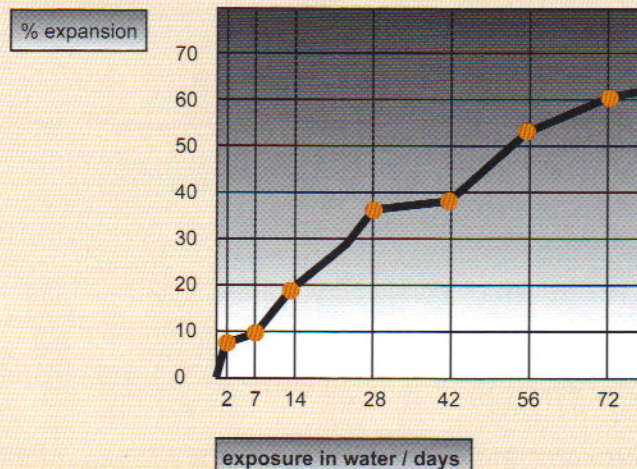


WHAT IS CONTROLLED EXPANSION?

Controlled expansion allows PENEBAR SW-55™ to avoid some of the problems that have been associated with traditional waterstops on many building sites;

- It does not expand prematurely and does not absorb any water from fresh concrete poured against it.
- It will not expand to a point where the hydration process causes it to disintegrate and hence will not be washed away when subjected to a constant water flow
- It will not cause excessive internal pressure in the concrete

CONTROLLED EXPANSION RATE WHEN FULLY IMMERSED IN WATER



ADVANTAGES

- Concrete is allowed to gain full strength before expansion
- Built-in delay system prevents premature expansion
- Can be bedded into wet concrete
- Does not disintegrate over time
- Not affected by repeated wet and dry cycles
- Easy to apply to rough concrete surfaces
- Can be used in horizontal and vertical joints
- No problems with compaction or displacement
- Easy to install
- Non-toxic and does not require any special handling

TYPICAL PROJECTS

PENEBAR SW-55™ can be applied to non-moving, cold joints on all concrete building projects that need protection from moisture ingress, including;

- Underground structures
- Basements
- Precast panels
- Tunnels
- New concrete onto old concrete
- Manholes
- Lift pits
- Retaining walls
- Storage tanks
- Concrete pipe
- Car parks etc.

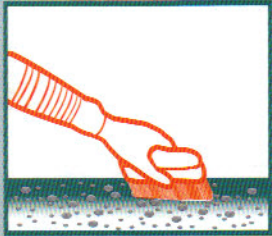
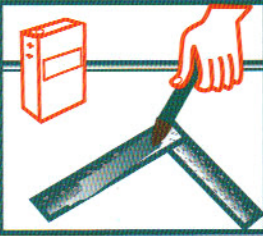
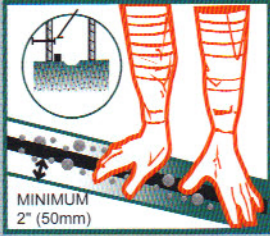
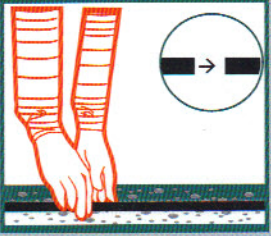
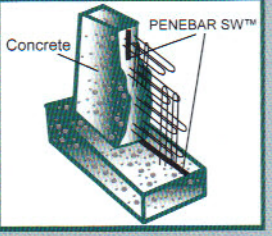
PRIMER™

PENEBAR SW PRIMER™ is suitable for use with both PENEBAR SW-45 rapid™ and SW-55™ a coat of PENEBAR SW PRIMER™ is applied first to the area where the waterstop is to be placed. See back cover for detailed application instructions.

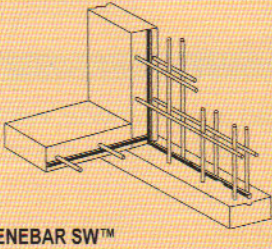


PENEBAR SW™

SELF HEALING CONCRETE WATERSTOPS

<p>STEP 1</p>  <p>CLEAN SURFACE Clean the surface sufficiently to receive the PENEBAR SW PRIMER™.</p>	<p>STEP 2</p>  <p>APPLY ADHESIVE Apply a coat of PENEBAR SW PRIMER™ to the area where the PENEBAR SW™ is to be placed. Application Ratio: 1 gal. (3.78 L) PRIMER™ to 240 m (787 ft) PENEBAR™</p>	<p>STEP 3</p>  <p>PLACE WATERSTOP Using moderate hand pressure with the heel of the hand, press a continuous bead of PENEBAR SW™ firmly into position on the standing structure. Make sure the product has bonded to the primed area.</p>	<p>STEP 4</p>  <p>BUTT COIL ENDS Peel the protective backing from the exposed side of the installed PENEBAR SW™ and tightly butt the coil ends to form a continuous waterstop. Do not overlap coil ends.</p>	<p>STEP 5</p>  <p>POUR CONCRETE Pour the mating structural member into position. Follow standard concrete placing procedures from here onwards.</p>
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- NOTES:**
- Always use PENEBAR SW PRIMER™ to prevent PENEBAR SW™ from moving during concrete pouring. For vertical surfaces, nails may be used to hold the product in place
 - PENEBAR SW™ should be placed at a minimum depth of 50 mm (2") inside the concrete
 - When used on pipes and other structural penetrations, PENEBAR SW™ should be cut to the measured length and placed around the penetration.
 - On rough and irregular surfaces, always ensure that PENEBAR SW™ remains in direct contact with the substrate.

APPLICATION DETAIL:	PHYSICAL PROPERTIES SVB PROVIDE:			CAUTION:	PACKAGING:																	
 <p>PENEBAR SW™</p>	<table border="1"> <thead> <tr> <th>Property</th> <th>Test Standard</th> <th>PENEBAR SW™</th> </tr> </thead> <tbody> <tr> <td>Color</td> <td></td> <td>black</td> </tr> <tr> <td>Specific gravity</td> <td>ASTM D-71</td> <td>1.35 - .05⁺</td> </tr> <tr> <td>Hydrocarbon content</td> <td>ASTM D-297</td> <td>47% min.</td> </tr> <tr> <td>Volatile matter</td> <td>ASTM D-6</td> <td>1% max.</td> </tr> <tr> <td>Penetration, 150gm Cone @ 77°F; 5 seconds</td> <td>ASTM D-217</td> <td>40 - 5⁺</td> </tr> </tbody> </table>	Property	Test Standard	PENEBAR SW™	Color		black	Specific gravity	ASTM D-71	1.35 - .05 ⁺	Hydrocarbon content	ASTM D-297	47% min.	Volatile matter	ASTM D-6	1% max.	Penetration, 150gm Cone @ 77°F; 5 seconds	ASTM D-217	40 - 5 ⁺		<p>PENEBAR SW™ IS NOT AN EXPANSION JOINT SEALANT AND ONLY SUITABLE FOR NON-MOVING CONCRETE JOINTS</p>	<p>Type A :</p> <ul style="list-style-type: none"> • 30m/box = 47lbs. = 21kg • 40 boxes/pallet = 1200m • 10 pallets/20' container = 12000m • Size: 19mm x 25mm x 5m <p>Type B :</p> <ul style="list-style-type: none"> • 24m/box = 21lbs. = 9.5kg • 70 boxes/pallet = 1680m • 10 pallets/20' container = 16800m • Size: 9mm x 25mm x 4m
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Color		black																				
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WARRANTY:

ICS PENETRON INTERNATIONAL LTD. warrants that the products manufactured by it shall be free from material defects and will 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 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.

DISTRIBUTOR:

CONTACT DETAILS:

PENETRON®
INTEGRAL CAPILLARY CONCRETE WATERPROOFING SYSTEMS

ICS/PENETRON INTERNATIONAL LTD.
45 Research Way, Suite 203, East Setauket,
New York 11733, USA
tel: 631.941.9700 fax: 631.941.9777
sales@penetron.com
www.penetron.com