



# PENETRON®



**INTEGRAL CAPILLARY CONCRETE WATERPROOFING SYSTEMS**

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**Penetron Industry Newsletter**

**June 2006**

Greetings,

With PENETRON distribution established in most parts of the world, ICS PENETRON is launching the PENEBAR program, a range of swellable type waterstops that ideally complements our integral capillary waterproofing systems. Contractors are now able to get a complete concrete waterproofing system from one source, your local PENETRON distributor. The PENEBAR SW range currently includes a rapid expansion waterstop as well as a controlled expansion waterstop and will be expanded in the future to include some very interesting new developments. Watch this space !



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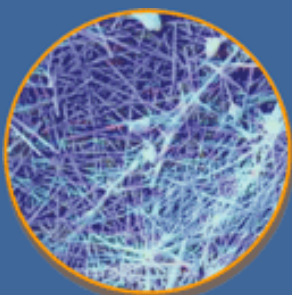
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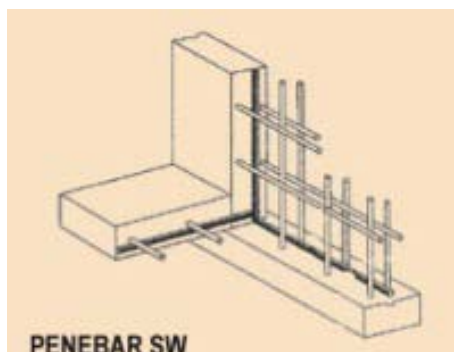
## FAST FACTS

PENETRON ADMIX significantly reduces shrinkage cracking in concrete



## Product Feature - PENEBAR SW


PENEBAR SW waterstops are hydrophilic products that expand when in contact with water. The waterstop is placed in concrete joints and critical areas where water leakage is likely. When water pressure starts, PENEBAR SW will swell and thereby seal the area completely, preventing any leakage through the concrete. Using these products together with PENETRON ADMIX will ensure your structure to remain waterproof for its designed life-span, without any further need for maintenance or repairs.



**PENEBAR SW**



An intricate web of insoluble crystals forms in the presence of Penetron and H2O creating a permanent protective seal

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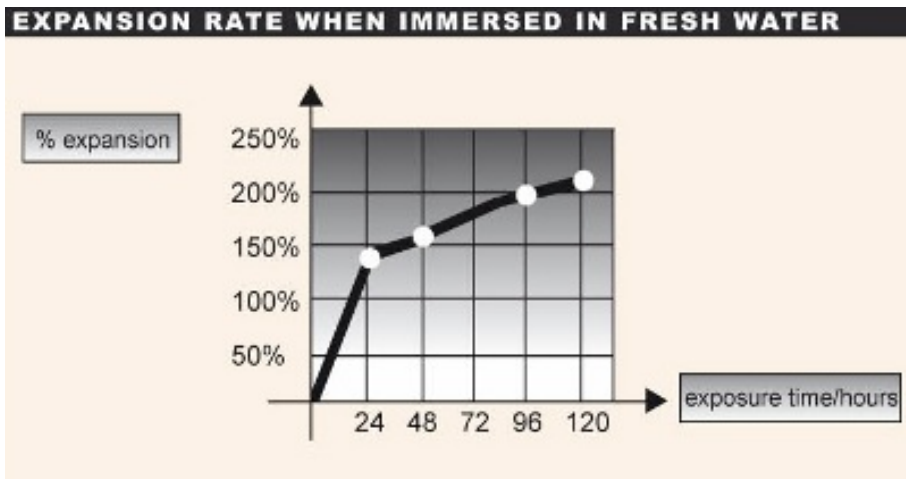
Registered Company



TUV Rheinland of North America

Penetron offers two types of PENEBAR SW waterstops;

**PENEBAR SW-45 rapid** is suitable for use on non-moving 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.

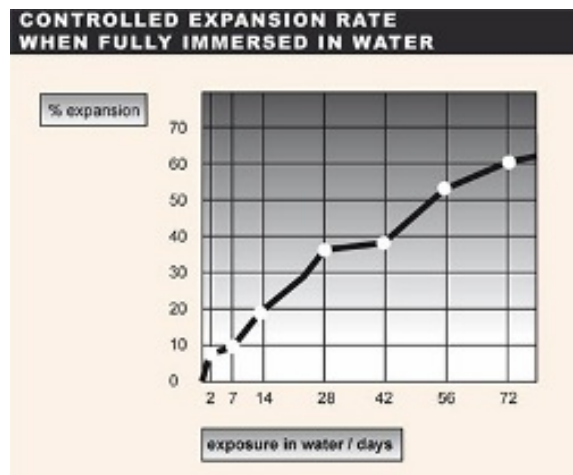


**PENEBAR SW-55** offers a controlled expansion and thereby avoids some of the problems associated with the use of rapid expansion waterstops;

- 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.

- It will not cause excessive internal pressure in the concrete.



**PENEBAR SW PRIMER** is applied to the area where PENEBAR SW waterstops are to be placed to ensure good adhesion.

Inquire with your local PENETRON distributor for further information on the PENEBAR SW product range.



### Surfer's Paradise: Jade Apartments-Northcliffe Terrace- Australia

Jade Apartments is the most recent development directly on the beachfront in Surfers Paradise. It is unique in design as there is only 1 unit per floor and its is elliptical in shape making it a unique building in Australia.

The basement is about 10 meters below water table and made of 50MPa concrete. Penetron Admix was chosen not just to waterproof the basement but mainly due to the resistance it offers against chloride ion penetration in this marine environment.

Over 2000m<sup>3</sup> of Penetron Admix was used in the base slab, lift pits, in-situ concrete retaining walls, podium transfer deck, swimming pools, terraces and even the roof.

Additionally over 1200 metres of PENEBAR SW-55 waterstop was used in construction joints in lift pits, retaining walls, podium transfer deck and swimming pool. The reason for using PENEBAR SW-55 over regular type waterstops was the fact the builder was able to form up the majority of walls without having to pour concrete immediately after the waterstop was put in place. PENEBAR SW-55's ability to get wet without swelling immediately allowed for easier coordination and greater peace of mind for all involved in this process.

The builder, Bezzina Constructions, was very satisfied with the service and performance of the products and awarded PENETRON AUSTRALIA another 2 large scale projects as a result.



### Miami One Shopping Centre - Stage 2, Australia

The excavated area for this project with a 2-level basement had to have hundreds of liters of water pumped out per hour, so a high-performance waterproofing product was top priority for TDM Constructions and the Engineers, Rienmac Pty Ltd.

TDM looked at all systems available and examined PENETRON ADMIX reference projects nearby where the product is performing superbly under very high water pressure. They decided to use Penetron Admix to waterproof over 2000m<sup>3</sup> of concrete and 600m<sup>3</sup> of shotcrete. All lift pits, base slabs and even exposed areas on the podium as well as the shotcreted retaining walls were treated with Penetron Admix.

Furthermore Penetron, Penecrete Mortar and Penepug were used on Stage 1 to repair severe water leaks in the shotcrete and concrete in which another admixture was used.



### Lisbon, Portugal

Campo Pequeno has been a bullfight arena right in the Lisbon city center since the 18th century. The building features neo-Arab style with an area of 5000m<sup>2</sup> and an arena diameter of 80m.

By 1990 the old masonry building needed extensive repairs and renovation. A large basement was added to provide a new commercial area, including an underground car park. About 1,000 m<sup>2</sup> of these basement concrete walls had water leaks. Several tests were carried out successfully and hence the Penetron system was chosen to waterproof the project.



### Grandview Tanks – Virginia, USA

When the City of Harrisonburg, Virginia were looking for the peace of mind that the new tanks they had commissioned to be built would provide many years service, their consulting engineers, Wiley & Wilson, Inc, specified the use of Penetron Admix.

Both the main 5 million gallon tank and the smaller 600,000 gallon tank were prestressed concrete tanks designed and built by The Crom Corporation. Penetron Admix was used in the shotcrete process in the construction of the walls and floors of the tanks.

In addition to providing the concrete with very low permeability characteristics, Penetron Admix provided the corrosion protection needed for the prestressed cables and rebar used in the tank construction ensuring the City of Harrisonburg many, many years of low cost maintenance and trouble free service.



#### Louisiana Immersive Technologies Enterprise (LITE), USA

The Louisiana Immersive Technologies Enterprise (LITE) is an innovative collaboration between government, universities, and industry focused on economic development in Louisiana. The \$27 million facility will house the world's first six-sided, digital virtual reality cube, as well as the world's largest 3-D auditorium. "It will be the largest immersive auditorium in the world." said project architect Charles D. Beazley.

The six-sided total immersive space is three stories high and will utilize six projectors. Visitors enter the space on the second floor and stand on a 10-foot by 10-foot piece of acrylic. The images are displayed on all surrounding walls, including the floor and ceiling, giving visitors the opportunity to look at images in every direction. These advanced visualization environments will be powered by one of the fastest supercomputers in the world.

Penetron was selected to protect the \$12 million dollars worth of computers and advanced technology being used to create this digital environment. Below the technology center runs a maze of concrete ducts and tunnels designed to provide both conditioned air, cabling pathways and access. Penetron was selected to ensure that the environmentally sensitive equipment was well protected from moisture.



### Notice to Readers

You are receiving this newsletter because you have either subscribed or been pre-subscribed by someone in our global network. Many Penetron aficionados have been asking us to regularly update them with project news, new product applications, company news etc. Any suggestions or [feedback](#) you may have is appreciated.

Penetron products are currently available in over 60 countries. Should you wish to be contacted by a local representative and learn how Penetron can solve your concrete problems, please [contact us](#).

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