SWELLGUARD PWB

POLYMERIC SWELLABLE WATER BAR

hahne SwellGuard PWB is a hydrophilic, polymeric thermoplastic elastomer (TPE) swellable water bar designed for waterproofing and sealing construction joints in concrete structures. The water bar is formulated using a synthetic TPE blend together with hydrophilic components to provide controlled expansion when exposed to water.

When water comes into contact with the water bar, the hydrophilic material absorbs water and expands, helping to seal gaps and restrict the passage of water through concrete construction joints. The polymeric construction also allows the material to release absorbed water and return towards its original dimensions after drying, enabling repeated swelling and recovery cycles.

PRODUCT INFORMATION

Area of Applications

- Construction and cold joints in reinforced concrete structures
- Basements and underground structures
- Water retaining and water-excluding concrete structures
- Water tanks and reservoirs
- Sewage and wastewater structures
- Concrete retaining structures
- Tunnels and underground infrastructure
- Pipe penetrations and other suitable concrete joint details

Features and Benefits

- Hydrophilic TPE technology provides controlled swelling on contact with water.
- High elongation helps accommodate movement at concrete joints.
- Excellent flexibility for installation around typical joint configurations.
- Swelling helps seal and block potential water pathways through construction joints.
- Suitable for use in potable-water exposure conditions based on tested swelling performance.
- Maintains its polymeric structure during repeated wetting and drying cycles.
- Available in different cross-sectional sizes to suit project requirements.
- Easy to install using a suitable compatible fixing method.

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TECHNICAL SPECIFICATIONS

Property	Test Method	Result
Tensile Strength	ISO 1798:2008	≥ 5
Elongation at Break	ISO 1798:2008	≥ 400
Shore A Hardness	ASTM D2240:2015	45 ± 5
Volume Expansion in Potable Water – 1 Day	In-house Test	≥ 100
Volume Expansion in Potable Water – 7 Days	In-house Test	≥ 250

APPLICATION PROCEDURE

Surface Preparation

- The concrete surface at the joint shall be sound, clean, dry and free from dust, laitance, oil, grease and loose particles.
- Remove protrusions and irregularities that may prevent continuous contact between the water bar and the concrete surface.
- Ensure the surface is adequately prepared before installation.
- Where required, repair significant surface imperfections using a suitable compatible repair material before fixing the water bar.

Installation

- Position hahne SwellGuard PWB continuously along the designated construction joint in accordance with the approved waterproofing detail.
- Ensure the water bar is placed in the correct location and remains continuous through the joint.
- Fix the water bar securely using a suitable compatible adhesive or mechanical fixing method appropriate to the substrate and project detail.
- Maintain intimate and continuous contact between the water bar and the concrete substrate.
- Avoid stretching, twisting or excessively deforming the water bar during installation.

Joint Treatment & Continuity

- All joints between sections of water bar shall be treated to maintain continuity of the swelling seal.
- Ensure joints are properly aligned and securely connected before concrete placement.
- Do not leave gaps, discontinuities or loose sections in the installed water bar.
- Corners, intersections and penetrations shall be treated in accordance with the approved project waterproofing detail.

Concrete Placement

- Ensure the water bar remains securely positioned during reinforcement placement and concrete casting.
- Concrete shall be placed and compacted carefully to avoid displacement of the water bar.
- Avoid direct damage to the water bar during vibration and concrete placement.

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PACKAGING, STORAGE AND SAFETY

Packaging

- **hahne SwellGuard PWB** is supplied in rolls of 10 mm x 20 mm / 25 mm x 25 mm and 10 m length, subject to standard packing configuration.

Storage and Shelf Life

- Store the water bar in dry and clean conditions and in its original packaging.
- Protect from direct exposure to water or moisture during storage.
- Protect from chemical contamination, physical damage, ignition sources and open flame.
- Store in shaded conditions away from excessive heat and direct sunlight.
- The available product has a shelf life of approximately 12 months when stored in shaded, controlled conditions of approximately 23–30°C without stress on the packed material.

Safety Instructions

- Wear suitable protective gloves and safety equipment during handling and installation.
- Avoid unnecessary deformation or damage to the water bar during handling.
- Use suitable tools and approved fixing materials for installation.
- Refer to the relevant Safety Data Sheet before use.