

IZOMAX® STB-SW

Hydrophilic Thermoplastic Swelling Waterstop

Product Description

IZOMAX® STB-SW is a swelling waterstop based on modified hydrophilic thermoplastic. On contact with water it swells in a controlled manner, filling the joint cavity and preventing water ingress.

Fields of Application

- Construction (cold) joints in reinforced concrete structures. Not to be used in movement (expansion) joints.
- Foundation-to-retaining wall connections
- Pipe and service penetrations
- Water tanks, reservoirs and swimming pools
- Basements, underground car parks and lift pits
- Retaining walls and bored pile caps
- Water treatment plants, channels and hydraulic structures
- Precast element connections

Advantages

- High swelling capacity; $\geq 600\%$ by weight after 7 days in demineralised water
- Retains swelling performance in alkaline and acidic environments
- Dimensionally stable; the swelling-recovery cycle is repeatable
- Applied without welding, heating or special equipment
- Can be bonded to concrete, steel and PVC pipe penetrations

Technical Properties

General Information	
Material composition	Modified hydrophilic thermoplastic
Appearance	Blue tape with rectangular cross-section
Density	$\sim 1.28 \text{ g/cm}^3$
Performance Data	
Swelling capacity (by weight) – demineralised water, 7 days	$\geq 600\%$
Swelling capacity (by weight) – alkaline conditions, 8 days	$\geq 350\%$
Swelling capacity (by weight) – acidic conditions, 11 days	$\geq 300\%$
Resistance to hydrostatic pressure	5 bar (tested up to)
Hardness	35 Shore A
Tensile strength at break	1.5 N/mm^2
Elongation at break	500%
Chemical resistance	Resistant to many chemicals

Application Data	
Minimum concrete cover	100 mm
Overlap at joints	Min. 80 mm
Fixing	Adhesive sealant or swellable sealant
Suitable substrates	Concrete, steel, PVC pipe
Safety Information	
Toxicity	None
Hazardous substances	See SDS

The stated technical values were obtained at +23°C ambient temperature and 50% relative humidity. Swelling values vary with water quality; in saline and mineral-rich water the swelling rate decreases.

Application Instructions

Surface Preparation

The concrete surface must be sound, load-bearing, as even as possible and of closed texture. It must be free from honeycombing, cavities, open cracks, dust and any substances that impair adhesion. Loose laitance must be removed mechanically where necessary. The surface may be damp during application, but standing water must not be present.

Placing the Tape

The tape is laid flat along the joint axis in full contact with the concrete surface. Any void or contamination beneath the tape will create a path for water. Fixing is carried out with a suitable adhesive sealant or swellable sealant, applied as a continuous bed along the joint. The product can be bonded to concrete, steel and PVC pipe penetrations. The tape must be positioned so that it is covered by at least 100 mm of concrete in every direction. It must not be placed close to reinforcement or formwork. Tape joints are made with an overlap of at least 80 mm. Butt joints are not permitted. Full contact between the two tapes must be ensured within the overlap area.

Concrete Pouring

The tape must be protected from rain and water before concreting. Premature swelling causes the tape to lose its function and may crack fresh concrete. The tape is inspected visually before pouring; swollen tapes must not be used and are to be removed from the joint and replaced. Concrete must be placed without displacing the tape and the vibrator head must not come into direct contact with it.

Points to Consider

- Not to be used in movement (expansion) joints; a movement joint tape or a suitable waterstop profile should be selected for such joints.
- Where the minimum 100 mm concrete cover is not achieved, the swelling pressure of the tape may crack the concrete.
- Performance may decrease under permanent contact with aromatic oils, fuels, vegetable oils and strong aromatic solvents.
- In saline and highly mineralised water the swelling rate decreases; the cross-section must be selected according to project conditions.

Storage Conditions and Shelf Life

Store in unopened original packaging in a dry and cool place, protected from frost and direct sunlight. Products that have absorbed moisture or partially swollen must not be used. When stored correctly, the shelf life is 24 months from the date of production.

Safety Precautions

Work clothing and protective gloves complying with occupational health and safety requirements must be used during application. The product is non-toxic; however, care must be taken to protect hands and eyes during cutting. Store out of reach of children. For further information, refer to the Safety Data Sheet.

Liability

Our company is responsible only for the quality of the product. Any use of the product outside the scope of the written technical recommendations, including incorrect application or use under unsuitable conditions, is entirely the responsibility of the user. For further technical information, please refer to the product catalogue or contact our representatives.

Packaging

20 × 5 mm cross-section – 10 m/roll

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