IZOMAX® STB PVC-M

PVC Based, Flexible Waterstop for Internal Expansion Joints in Concrete

About the Product

IZOMAX® STB PVC-M is a flexible waterstop based on modified PVC, installed within the concrete section in expansion joints of reinforced concrete structures and designed, through its foldable central section, to accommodate shear movements in particular. It is preferred in joints where differential settlement, seismic action and vertical displacement are expected.

Areas of Application

- Connection joints between building blocks with differing settlement behaviour
- Seismic joints and structures where seismic movement is expected
- Expansion joints in water tanks and treatment plants
- Expansion joints in underground car parks and basements
- Movement joints in canals and culverts

Advantages

- Its foldable central section accommodates shear and vertical movements
- Maintains watertightness under multi-directional joint movement
- Anchoring ribs key the waterstop into the concrete and prevent pull-out
- Can be welded easily and homogeneously on site with heating-element (hot plate) welding equipment
- Produced from high-quality modified PVC for a long service life
- Resistant to ageing, alkaline environments and natural groundwater
- Forms a continuous sealing system with T, L and X junction pieces

Technical Properties

Material composition	PVC – Modified Polyvinyl Chloride
Joint type	Expansion joint
Tensile strength (EN ISO 527-1 / -3)	≥ 10 N/mm²
Elongation at break (EN ISO 527-1 / -3)	≥ 300 %
Elongation at break, −20 °C (EN ISO 527-1 / -3)	≥ 200 %
Tear strength (ISO 34-1)	≥ 12 N/mm
Shore A hardness (ISO 48-4)	75 ± 5
Density (EN ISO 1183-1)	1.27 g/cm³
Water absorption by mass (EN ISO 62)	≤ 1.5 %
Ash content by mass (ISO 3451-1)	≤ 5 %
Softening point	+42 °C – +52 °C
Service temperature range	−35 °C / +55 °C
Standard	TS 3078-1 / TS 3078-2 (DIN 18541-1 / DIN 18541-2)

The values stated above are measured at +20 °C and 50 % relative humidity.

Dimensions

Type	Width (cm)	Thickness (mm)	Weight (kg/m)	Roll Length (m)
M 25/5	25	5	3	20

The values given in the tables are based on our experience and on the correct placement of the waterstop in the concrete. Cross-sections other than those listed can be produced on request.

Junction Pieces

Factory-made junction pieces are available for use at the connection points required for the waterstop to form a continuous system:

- Horizontal and vertical T-pieces
- Horizontal and vertical L-pieces
- Horizontal and vertical X-pieces

Application Instructions

The waterstop is positioned in the middle of the concrete section so that its centre bulb coincides with the joint axis. It must be placed so that one half is embedded in the first concrete pour and the other half in the second. It is secured to the reinforcement through its edge ribs using waterstop clips at intervals of no more than 25 cm. The joint filler board must be placed directly opposite the centre bulb, in contact with the waterstop; no concrete, mortar or filler material may enter the bulb. The foldable central section must be positioned so that it coincides with the joint axis and can open freely under the anticipated movement; the fold zone must not be filled with concrete or mortar.

Since IZOMAX® STB PVC-M waterstops are based on thermoplastic PVC, they can easily be welded at the joints with heating-element (hot plate) welding equipment. The end sections (available for every type) must be fixed in the welding mould and cut precisely. The cut ends must be joined with suitable welding equipment until a molten, smooth PVC surface is formed. Finally, the welding equipment must be removed from the waterstop and the joined edges pressed together firmly. The distance between two welded joints on the waterstop must be at least 50 cm, and the free end length at least 100 cm.

The concrete must be placed from a low drop height and compacted without segregation, so that no voids remain beneath or around the waterstop. The waterstop must be protected against mechanical damage until it is fully embedded in the concrete.

Important Notes

- The welding temperature must be +200 °C.
- The surface must be homogeneous and smooth; the deviation of the edge line over a 1 m length must not exceed 10 mm.
- Dimensions for each product type must remain within the tolerances given in the standard.
- It must be protected from UV (ultraviolet) radiation during storage and application.
- The clearance between the outer edge of the waterstop and the nearest reinforcement must be at least 20 mm.
- The waterstop must be placed symmetrically about the joint axis and fixed to the reinforcement at intervals of no more than 25 cm so that it cannot shift during concreting.
- In horizontal applications it must be installed in a shallow V-shape at approximately 15° so that no air voids remain beneath it.
- The thickness of the structural element must not be less than the width of the waterstop.
- The internal (poker) vibrator must not touch the waterstop or its fixings; a clearance of at least 10 cm must be maintained.
- No concrete, mortar or joint filler material may enter the centre bulb.
- Under the anticipated movement, the joint width must not fall below 15 mm where the nominal joint width is 20 mm.

Storage Conditions and Shelf Life

Store in a dry place, protected from direct sunlight and UV radiation. Product that has stiffened due to freezing must be allowed to soften at room temperature without direct heating. Under proper storage conditions at an average

temperature of +30 °C, the shelf life is 60 months from the date of manufacture. Opened packaging can be resealed and used up to the expiry date.

Safety Precautions

During application, in accordance with occupational health and safety requirements, refer to the Safety Data Sheet (SDS) for the correct use, handling and disposal of the product and for other important product information.

Liability

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

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