IZOMAX® STB PVC-DT

PVC Based, Flexible Waterstop for External Construction Joints in Concrete

About the Product

IZOMAX® STB PVC-DT is a flexible waterstop based on modified PVC with sealing ribs, placed on the outer face of the concrete section on the water-bearing side in construction (cold) joints of reinforced concrete structures. It is used in sections where dense reinforcement prevents an internal waterstop from being placed, or where an integrated solution with external waterproofing systems is required.

Areas of Application

- Joints on the earth side of the raft-foundation-to-wall connection
- External face of successive pour joints in walls
- Sections where dense reinforcement prevents an internal waterstop
- Integrated applications with external waterproofing membrane systems
- External face joints of basements and underground car parks

Advantages

- Easy to install by fixing to the formwork before concreting
- Sealing ribs lengthen the water path
- Works as an integrated part of external waterproofing systems
- 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	Construction joint
Tensile strength (EN ISO 527-1 / -3)	≥ 10 N/mm²
Elongation at break (EN ISO 527-1 / -3)	≥ 200 %
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)
DT 20/5	20	5	1.8	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 placed on the outer face of the concrete section and always on the water-bearing side. On walls it is fixed to the formwork by nailing through the nailing plates; the nail must penetrate no more than one third of the plate thickness and be bent over at approximately 45°. In horizontal applications beneath raft foundations it is fixed directly onto the blinding concrete. Where necessary it must be clipped to the reinforcement at intervals of no more than 25 cm so that it cannot shift during concreting.

Since IZOMAX® STB PVC-DT 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.
- Externally applied waterstops must always be placed on the water-bearing side; they must not be used on surfaces exposed to negative water pressure.
- They must not be cast into the top face of horizontal or slightly inclined elements, as air voids may form.
- They must be protected against mechanical damage during backfilling; fill material containing angular crushed stone must not be used.
- When nailing to the formwork, the nail must penetrate no more than one third of the nailing plate thickness and be bent over at approximately 45°.
- The waterstop surface embedded in the first pour must be cleaned of laitance and dirt before the second pour.

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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