

Technical Data Sheet

HR SWELL BAR

Hydrophilic Waterstop for Construction and Expansion Joints



Product Description

HR Swell Bar is a high-performance hydrophilic waterstop designed for permanent waterproofing of construction and expansion joints in concrete structures. Upon contact with water, it swells to seal gaps and joints, preventing water ingress under positive and negative hydrostatic pressure. It is ideal for basements, tunnels, water tanks, retaining walls, and other concrete structures exposed to water.

Applications

- Construction joints in basements, foundations, and retaining walls
- Expansion joints in slabs, walls, and bridges
- Tunnels, subways, and underground structures
- Water tanks, reservoirs, and swimming pools
- Any concrete joint requiring hydrophilic sealing

Key Features & Benefits

- Hydrophilic – swells upon contact with water to seal joints
- Permanent waterproofing under positive and negative hydrostatic pressure
- Easy to install into fresh concrete or grooves in existing structures
- Resistant to chemical attack, aging, and weathering
- Reduces risk of water leakage and structural damage
- Compatible with concrete and most cementitious materials



Technical Properties

Property	Typical Value	Test Method
Base Material	Hydrophilic rubber / polymer	
Swelling Ratio	150–300% of original volume	ASTM D471
Color	Blue / Black (depends on batch)	
Density	1.3 – 1.5 g/cm ³	
Hardness	Shore A 50 ± 5	ASTM D2240
Tensile Strength	≥ 5 MPa	ASTM D412
Application Temperature	≥ 200%	ASTM D412
Service Temperature	-20°C to +80°C	



Installation Method

Embedded in fresh concrete /
Grooved joints

Method of Application

For New Concrete:

Fix HR Swell Bar in the joint groove or along the construction joint using suitable fasteners or adhesive. Ensure continuous contact with the substrate to avoid voids. Pour concrete carefully around the waterstop to avoid displacement.

For Existing Joints:

Cut a groove along the joint or crack to fit HR Swell Bar. Clean the groove of dust and debris. Insert HR Swell Bar firmly in the groove. Seal edges with compatible adhesive or mortar if required.

Surface Preparation

- Groove must be clean, sound, and free from dust, oil, or loose particles
- Ensure waterstop is in continuous contact with the concrete surface
- For retrofitting, make sure the groove depth and width match product size

Storage & Shelf Life

- Store in a cool, dry place away from direct sunlight and extreme heat
- Keep away from water and moisture before installation
- Shelf Life: 24 months in unopened packaging

Health & Safety

- Non-toxic and safe to handle
- Avoid prolonged skin contact; wash hands after handling
- Keep out of reach of children
- Refer to MSDS for detailed safety information



Limitations

- Swelling is activated only in contact with water
- Do not install in frozen or excessively wet conditions
- Avoid sharp bending during installation
- Not suitable for joints exposed to aggressive chemicals without protective coating

Disclaimer

The information contained in this Technical Data Sheet is based on laboratory tests and field experience. Actual performance may vary depending on site conditions, substrate preparation, and installation methods. The manufacturer shall not be held responsible for improper use.

