FLEXVERSE®

PRODUCT GUIDE

HYDROPHILIC SWELL BAR

WATERPROOFING SOLUTION FOR CONSTRUCTION COLD JOINTS AND CONCRETE PENETRATIONS

FLEXVERSE®

AT A GLANCE

FLEXVERSE® hydrophilic swell bar is a type of water stop that can be used to stop water ingress through cast-in-place concrete construction joints and penetrations in concrete.

The profile has a unique hydrophilic structure, which has been engineered to swell in contact with water and exert pressure against the ingress inside the structure. This forms an effective sealing system that can bar water entering even through the most microscopic cracks and penetrations.

BRINGING THE BEST TO YOU

Consciously crafted to deliver the most promising solutions, our range of FLEXVERSE® hydrophilic swell bars bring the best of construction technologies.

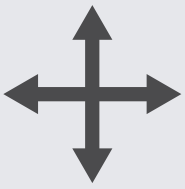
Unique reversible swelling chemistry

Resistant to many chemicals

Tested for long-term reliability

Non-toxic and environment friendly

Easy installation on various substrates



Adaptable to many different detailing tasks

No welding or hardening time required

Works well in combination with other waterproofing systems

ONE PRODUCT...

ADAPTABLE.
MULTIFUNCTIONAL.
EFFECTIVE.

Designed to serve multiple industries, FLEXVERSE® hydrophilic swell bars can seal many types of joints and penetrations against water ingress.

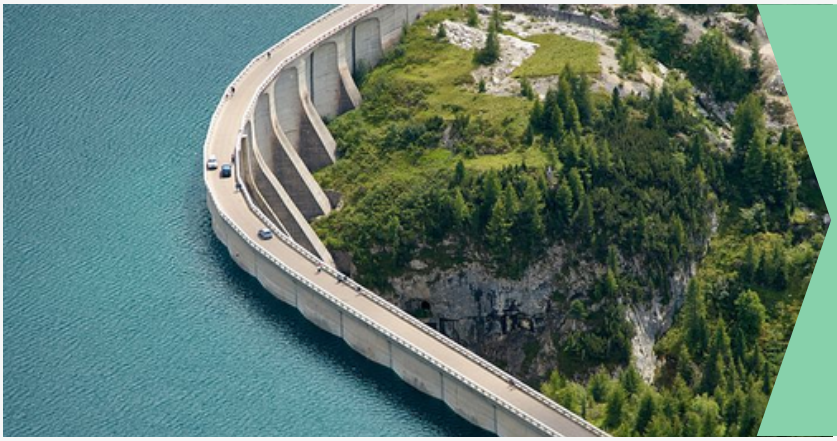
Tunnel structures: railway and underground metro tunnels, highway tunnels, hydropower tunnels, public utility tunnels.

Water and waste water management: water/effluent treatment plants, drains, sewers, culverts, sumps.

...VERSATILE APPLICATIONS

ENGINEERED THOUGHTFULLY,
TO PROVIDE THE FINEST SOLUTIONS IN DIVERSE SECTORS.

Subterranean structures: basements, car parks, diaphragm walls.



Retaining structures: reservoirs, dams, canals, water tanks, swimming pools.

Masonry: construction joints; pipe, steel and pile cap penetrations through walls and base slabs; cable ducts; around all types of penetrations through concrete.

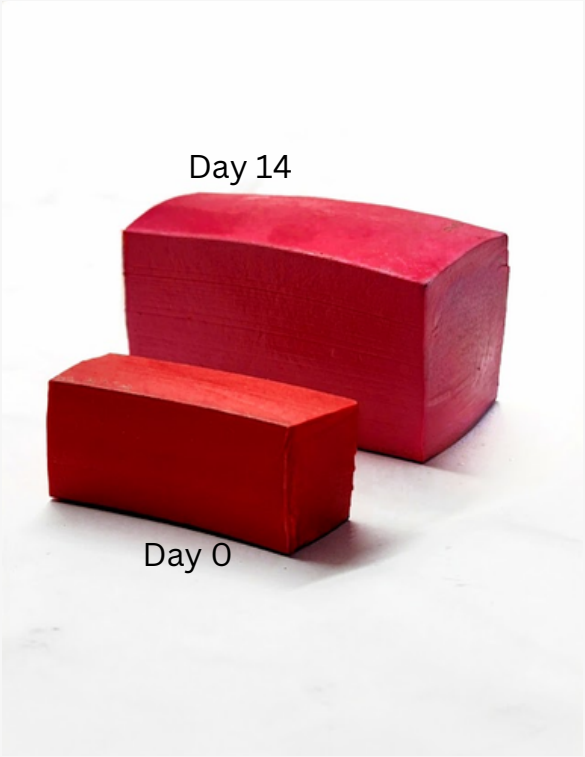
DELIVERING THE LATEST TECHNOLOGY

An effective sealing system...

The FLEXVERSE® hydrophilic swell bar is made of a special hydrophilic material added to a polymer or bentonite base.

When the bar comes in contact with water, it expands uniformly at a controlled rate, increasing in volume by several times.

Once the swell bar reaches its optimal swelling level, the system establishes an equilibrium. In doing so, the FLEXVERSE® hydophilic swell bar seals the construction joint against water ingress, and creates a watertight system that remains potent even in the smallest joint penetrations.



...which is designed to last.

When the swell bar is no longer in contact with water, the compound gradually shrinks, and regains about 80–90% of its original size.

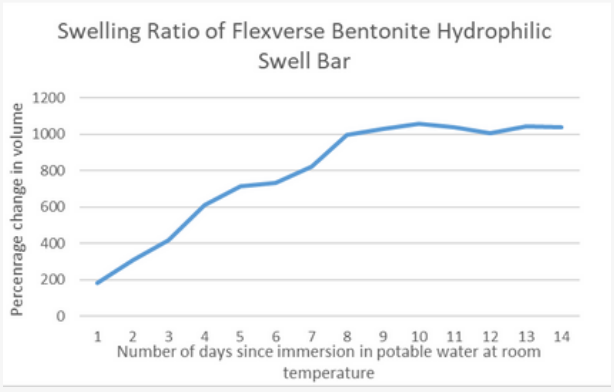
Unlike many other clay- or rubber-based products that are single-use or disintegrate over time, the FLEXVERSE® hydrophilic swell bar boasts a TPE compound, which is constructed for strength or durability. It withstands repeated wet-dry cycles of expansion and contraction over the long term, while maintaining its performance and integrity.

READY FOR ALL CONDITIONS

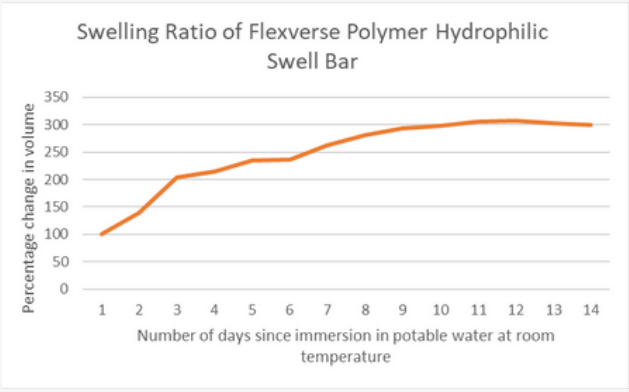
TECHNICAL SPECIFICATIONS

Minimum volumetric expansion (in percentage) Testing method follows IS 3400 (Pt-6):2012 / ASTM D417				
Liquid	**Time elapsed since immersion**	**Bentonite swell bar (FVB series)**	**Polymer swell bar (FVP series)**	**Saline swell bar (FVS series)**
Potable water	24 hours	100	100	100
	7 days	300	250	600
Saline solution	14 days	-	-	100
Note: we can also manufacture the swell bars as per other client requirements or specifications.				

FLEXVERSE® hydrophilic swell bars have been meticulously formulated to expand and contract slowly, so the concrete structure is not disturbed.
Under optimal conditions, the swell bar takes 14 days to reach its maximum swelling capacity after contact with aqueous solutions, or to regain its original shape once removed from liquid contact.



The presence of bentonite catalyses the rate and ratio of swelling, owing to its natural ability to swell when in contact with water or organic molecules. This makes the FLEXVERSE® bentonite hydrophilic swell bar an effective solution at the best price.



A polymer base gives the hyrophilic swell a rugged build with exceptional durability. Ideal for use under the toughest and the most challenging conditions, the FLEXVERSE® polymer hydrophilic swell bar is our premium offering.

Note: the above data are based on tests, which are reliable. However, with continuous R&D, we reserve the right to change the specifications at any given time.

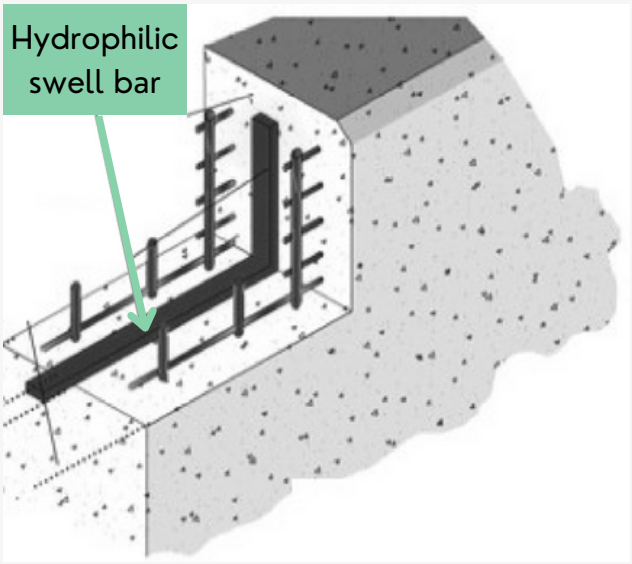
A PROFILE FOR EVERY NEED

FLEXVERSE® hydophilic swell bars are manufactured in a variety of standard dimensions and colours (e.g. red, black, blue, camel, and many more).

FLEXVERSE® Bentonite swell bars	FLEXVERSE® Polymer swell bars	FLEXVERSE® Saline swell bars	Width (mm)	Height (mm)	Packaging (quantity per carton)
FVB-401	FVP-501	FVS-1001	20	25	50 metres (10m x 5 coils)
FVB-402	FVP-502	FVS-1002	20	10	100 metres (20m x 5 coils)
FVB-403	FVP-503	FVS-1003	20	5	150 metres (25m x 6 coils)
FVB-404	FVP-504	FVS-1004	20	20	75 metres (15m x 5 coils)
FVB-405	FVP-505	FVS-1005	20	6	150 metres (25m x 6 coils)
FVB-406	FVP-506	FVS-1006	25	10	80 metres (20m x 4 coils)
FVB-407	FVP-507	FVS-1007	15	10	120 metres (20m x 6 coils)
FVB-408	FVP-508	FVS-1008	25	15	60 metres (15m x 4 coils)
FVB-509	FVP-509	FVS-1009	25	25	50 metres (10m x 4 coils)

Note: FLEXVERSE® swell bars can be customised to meet other dimensional or packaging requirements.

STORAGE AND INSTALLATION GUIDE



Storage: store FLEXVERSE® hydrophilic swell bars unopened in their original packaging in a cool, dry and well-ventilated place.
Shelf life: about 24 months under proper storage conditions.

Surface preparation

Ensure the application surface is clean, dry, and free from dirt, grease and debris. Roughened surfaces offer better gripping.

Application

Secure the FLEXVERSE® swell bar horizontally or vertically on the joint, leaving at least 3-inch concrete coverage on all sides, to allow for safe build-up of expanisonary pressure. Maintain continuous contact with the surface, using suitable adhesives or mechanical fasteners, to prevent displacement, and to maximise sealing capacity.

Completing installation

Concreting should follow at the earliest. Vibrate the concrete systematically to maximise contact with the swell bar, and to obtain an impermeable, void-free concrete.

Guidelines on avoiding and resolving premature swelling

If there is a delay in concreting, cover the bars to protect from premature swelling due to moisture/rain.
However, in case the bars swell before concreting, remove and store the affected bars in a dry place, until they shrink back to about 80–90% of their original size. These can then be reused. Meanwhile, we recommend using a fresh lot, to prevent delays in on-site progress.

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