



FLEXVERSE

PRODUCT GUIDE



# HYDROPHILIC SWELL BAR

WATERPROOFING SOLUTION FOR  
CONSTRUCTION COLD JOINTS AND  
CONCRETE PENETRATIONS



# AT A GLANCE



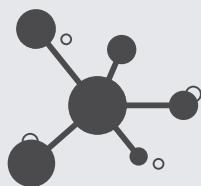
**FLEXVERSE® hydrophilic swell bar** is a type of water stop that can be used to stop water ingress through cast-in-place concrete construction joints and penetrations in concrete.

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



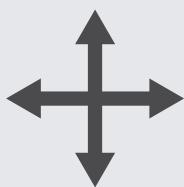
Tested for long-term reliability



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, the FLEXVERSE® hydrophilic swell bar can be used to 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.





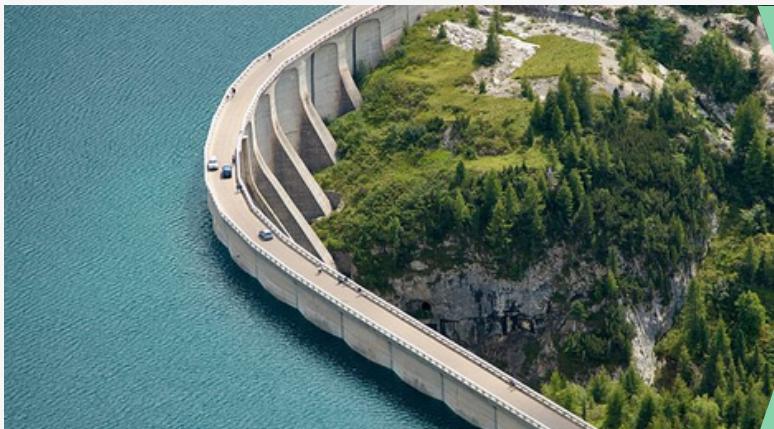
# ...VERSATILE APPLICATIONS



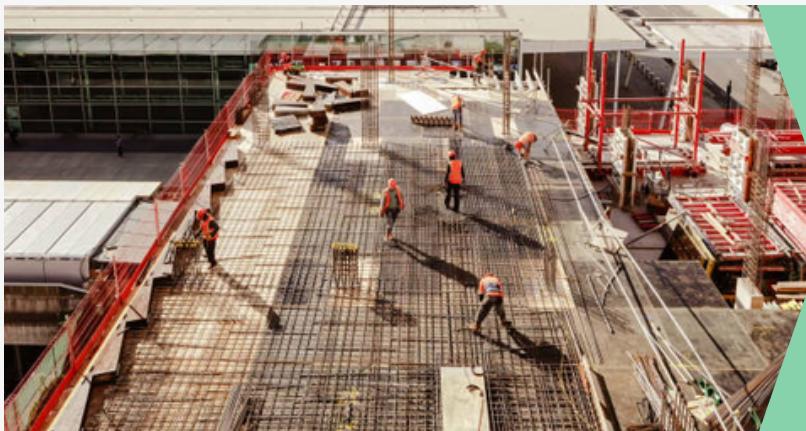
ENGINEERED THOUGHTFULLY,  
TO PROVIDE THE FINEST SOLUTIONS IN DIVERSE SECTORS.



**Subterranean structures:** basements, car parks, diaphragm walls, tunnels.



**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 bentonite clay or an elastomer polymer.

When the compound comes in contact with an aqueous solution, it will expand uniformly at a controlled rate, and enlarge in volume upto several times.

Once the swell bar attains an optimal swelling level, the system will establish an equilibrium. In doing so, the FLEXVERSE® hydrophilic swell bar seals the construction joint against water ingress, and creates a watertight system that is potent even in the smallest joint penetrations.

## ...which is designed to last.

When the hydrophilic swell bar is no longer in contact with water, the compound will eventually shrink back to its original size.

Unlike many equivalent clay based products that disintegrate over time, the FLEXVERSE® hydrophilic swell bar is crafted to have a robust build, and can endure repeated cycles of wet-dry expansion and contraction in the long-run, while retaining its properties.



# READY FOR ALL CONDITIONS

## TECHNICAL SPECIFICATIONS

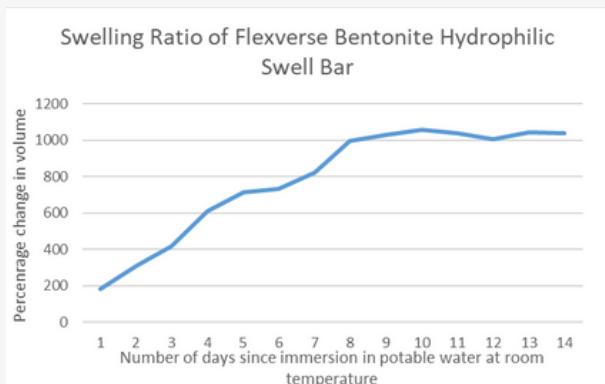
### Minimum volumetric expansion (in percentage)

Testing method follows IS 3400 (Pt-6):2012 / ASTM D417

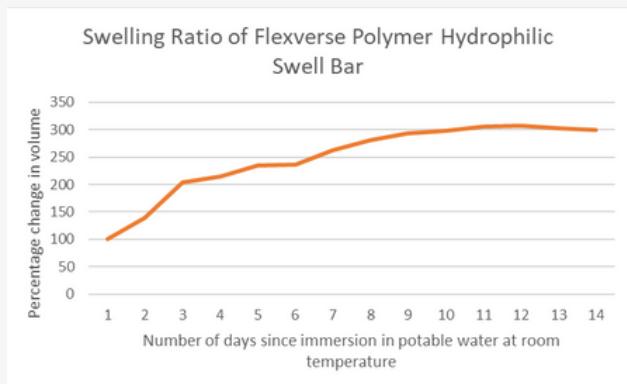
Liquid	Time elapsed since immersion	Bentonite swell bar (FVB series)	Polymer swell bar (FVP series)	Saline swell bar (FVS series)
Portable water	24 hours	100	100	100
	7 days	300	250	600
Saline solution	14 days	-	-	100

Note: we can also manufacture the water 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 hydrophilic 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

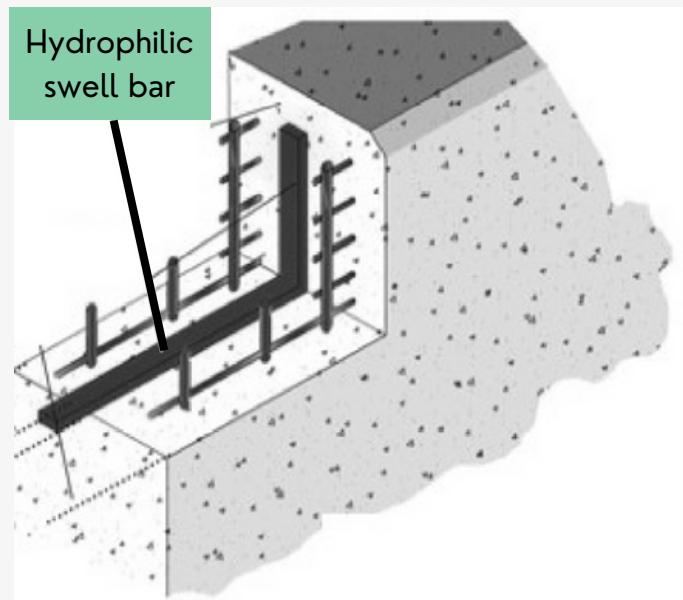
**FLEXVERSE® hydophilic swell bars are manufactured in a variety** of standard dimensions and colours (e.g. red, black, blue, camel, and many more).

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)

The hydrophilic swell bars can be customised in other dimensions/packaging.



# INSTALLATION GUIDE



The FLEXVERSE® hydrophilic swell bar can be secured horizontally or vertically to create a watertight seal in many applications.

## Pre-installation

The FLEXVERSE® hydrophilic swell bar should be stored in a cool, dry and well-ventilated place. Contact with heat, water or moisture should be avoided.

The application surface must be cleaned, free from all grease, dirt and debris, and dried completely. A rough surface is preferred for better gripping.

## Application

The FLEXVERSE® hydrophilic swell bar should be positioned on the joint leaving a minimum of 3-inch concrete coverage on all sides, to allow for safe build-up of expansionary pressure.

Continuous contact with the surface must be maintained to maximise the sealing capacity, and to prevent any displacement. This can be done with the use of suitable adhesives and/or other mechanical fasteners, like nails.

## Completing installation

Concreting should be done shortly after application, to avoid premature swelling.

The concrete around the swell bar should be vibrated systematically to obtain impermeable, void-free concrete in vicinity of the joint, and to maximise contact between the concrete and water bar.



# FLEXVERSE POLYMERS PRIVATE LIMITED

**Registered Office:**  
Inizio 201,  
Cardinal Gracious Road,  
Chakala, Andheri East,  
Mumbai 400 099,  
India.

**Factory:**  
Plot no. C1B/719,  
GIDC Industrial Area,  
Umbergaon,  
Valsad (District) 396171,  
India.

[info@flexverse.in](mailto:info@flexverse.in) | +91 22 28395931/32 | [www.flexverse.in](http://www.flexverse.in)

## ASSOCIATE COMPANIES

**Hitech Rubber Industries**  
*Mumbai, India*  
[sales@hitechrubber.in](mailto:sales@hitechrubber.in)  
+91 9322288578

**Kanta Enterprises**  
*Bengaluru, India*  
[sales@kantaenterprises.com](mailto:sales@kantaenterprises.com)  
+91 80 42033615/41460854