



PC-Swellbar® 100

Hydrophilic swellable joint sealing bar

PC-Swellbar® 100 represents a new generation of high-performance adhesive and non-adhesive expanding tape, formulated from acrylic polymers. This innovative tape expands up to 400% upon contact with water. In its dry state, PC-Swellbar® 100 reverts to its original installation dimensions and can re-expand when exposed to moisture.

Designed for concrete construction, **PC-Swellbar® 100** effectively seals construction joints, including wall-to-base connections, pipe entry systems, and openings at the interface between existing and new concrete. It is capable of withstanding water pressures of up to 65 meters (7.0 Bar) in both ground and saltwater environments.

Ideal for both horizontal and vertical construction joints in cast-in-situ concrete structures and precast elements, **PC-Swellbar® 100** adheres to NSF/ANSI Standard 61 for Drinking Water System Components - Health Effects, ensuring its safety for use in drinking water applications. Consequently, it is suitable for various potable water-retaining structures, such as water tanks, swimming pools, and reservoirs.

AREAS OF APPLICATION

Uses all types of construction joints, pipe and steel work penetrations through walls and floor slabs, around all types of penetrations and connection joints, and construction joints in cable ducts.

Water Retaining Structures:

Water tanks, Reservoirs, Dams, Spillways, Sewage treatment plants, Water treatment plants, Swimming pools, Box culverts Bund walls.

Water Excluding Structures:

Basements, Underground, structures, Tunnels, Subways, Retaining walls, Pits Manholes.

Others :

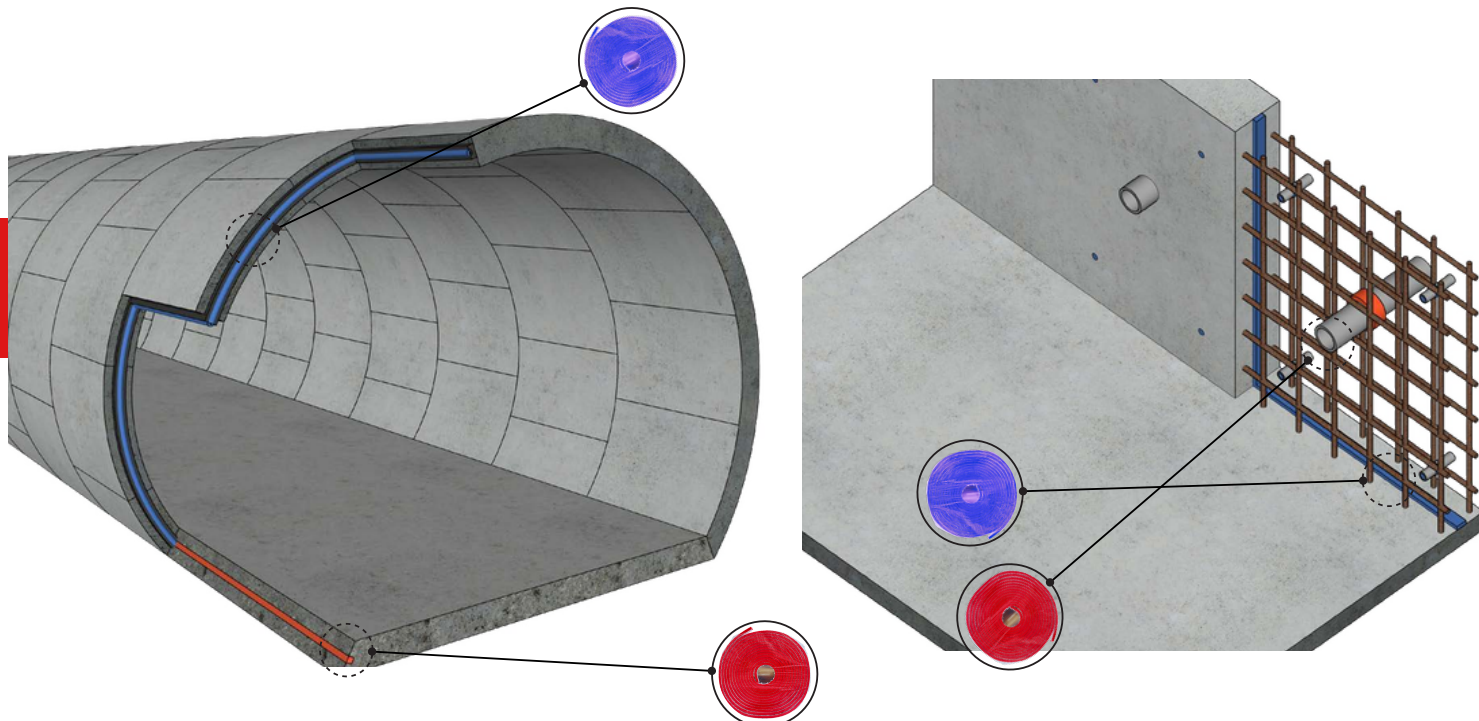
New to old concrete, Poured in-situ construction joints, Roof slabs, Suspended slabs, Above & below-grade precast panels.

TECHNICAL DATA

PRODUCT INFORMATION	
Composition	Acrylic polymer
Size (W x H)	5 mm X 20 mm
	10 mm X 20 mm
	10 mm X 25 mm
Application Temperature	-10°C / 50°C
Service Temperature Range	-45°C to 93°C
Density	1.40 g/cm ³
Specific Gravity	1.25-1.30 (ASTM D71)
Elongation	400%
Swelling pressure	up to > 7 bar
Colour	Red/Blue

ADVANTAGES

- Exceptional sealing capabilities that resist high hydrostatic head pressures, make it ideal for both potable and saltwater environments.
- Creates a permanent and flexible gasket, providing a compression seal inside the concrete.
- Made of high-quality, non-biodegradable chloroprene hydrophilic rubber, ensuring long-term durability and integrity of the joint and structure.
- Can expand up to 400% in water.
- Has undergone rigorous testing and can withstand hydrostatic head pressures of over 65 meters (7.0 Bar).
- Suitable for use in various applications, with a particular emphasis on water-retaining structures that experience direct water pressure against the concrete joint.
- Can be applied directly on smooth and rough surfaces with the recommended adhesive.
- Unaffected by repeated wet and dry cycles, ensuring long-lasting performance.
- Non-toxic, requires no special handling, and can be used in potable water structures.
- Easy and fast to install.
- Suitable for use in both horizontal and vertical construction joints.
- No on-site welding is necessary.
- NSF certified for use in potable water applications.



INSTALLATION

Surface Preparation:

Before installing **PC-Swellbar® 100**, it's crucial to prepare the joints by cleaning them thoroughly. Avoid any sharp protrusions and free-standing water. It's feasible to install the water bars on moist or frozen surfaces. While **PC-Swellbar® 100** is resistant to most typical mold release agents, it's advisable to protect the installed water bar from accidental exposure to form release agents if there is any doubt.

Placing/Application:

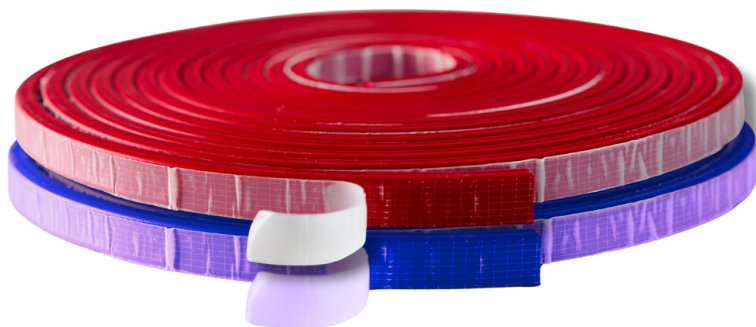
To prepare the surface, place **PC-Swellbar® 100** in the center of the joint for typical joint widths between 200-400mm. For increased safety, thicker walls may require two water bars. The **PC-Swellbar® 100** is affixed to the joint using a special adhesive designed for **PC-Swellbar® 100**. On vertical surfaces, temporarily secure the **PC-Swellbar® 100** to the construction joint using a nail until the adhesive sets.

HEALTH AND SAFETY

In confined spaces or in still air conditions, the use of a ventilation fan or suitable respirator should be used, and the advice and approval of the Site Safety Supervisor is essential. For further information or advice on health and safety precautions, safe handling, storage and correct disposal of products, please refer to the most recent product Safety Data Sheet (SDS), which is available upon request.

IMPORTANT CONSIDERATIONS

Due to expansive forces, **PC-Swellbar® 100** should be both detailed and installed with a minimum 50mm clear cover to the face of the concrete. The expansion rate can vary in salt and contaminated water. Increase cover when using lightweight, low-strength concrete. Not for use where excessive shrinkage of the concrete may occur at the joint faces. Do not stretch the **PC-Swellbar® 100** during installation. Not for use in movement (expansion, isolation and contraction) joints.



STORAGE AND SHELF LIFE

Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates, the product must be stored in an air-conditioned environment. The shelf life is 36 months when stored as above. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

PACKAGING

5 mm X 20 mm
10 mm X 20 mm
10 mm X 25 mm

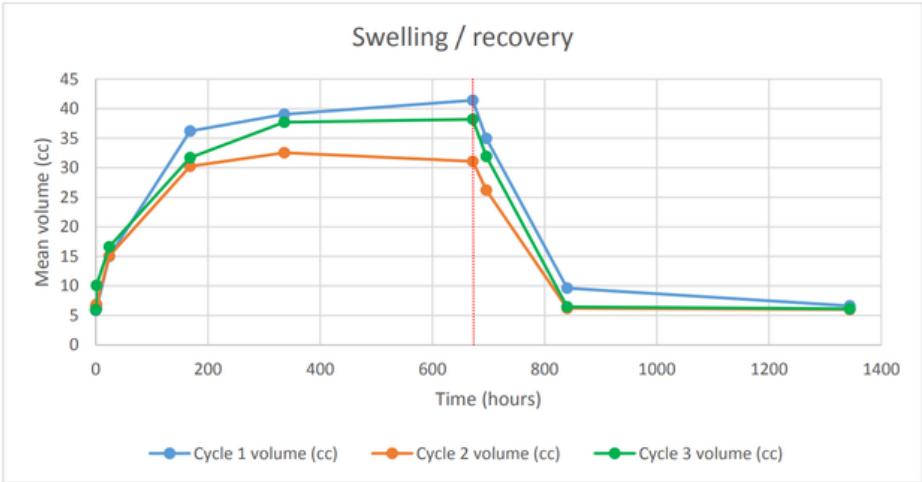
SWELLING CYCLES

Time	Cycle 1		Cycle 2		Cycle 3		Average Change (%)
	Mean Mass (cc)	Change (%)	Mean Mass (cc)	Change (%)	Mean Mass (cc)	Change (%)	
Initial	5.84	-	6.64	13.7	6.02	3.08	8.39
1 hour	6.18	5.82	6.88	17.81	10.07	72.43	32.02
1 day	14.99	156.68	15.07	158.05	16.63	184.76	166.5
7 day	36.19	519.69	30.23	417.64	31.69	442.64	459.99
14 day	39.06	568.84	32.54	457.19	37.71	545.72	523.92
28 day	41.41	609.08	31.07	432.02	38.19	553.94	531.68

RECOVERY CYCLES

Time	Cycle 1		Cycle 2		Cycle 3		Average Change (%)
	Mean Mass (cc)	Change (%)	Mean Mass (cc)	Change (%)	Mean Mass (cc)	Change (%)	
1 day	34.97	498.8	26.22	348.97	31.93	446.75	431.51
7 day	9.63	498.8	26.22	6.08	6.47	10.79	27.25
28 day	6.64	498.8	26.22	3.08	6.14	5.14	7.31

RESULTS (CONTINUED)



Method

The increase in volume was measured when specimens were immersed in tap water at 23°C over a 28 day period. Recovery volume was measured when the specimens were removed from the solution and air dried over a 28 day period. This method was repeated over three cycles.



PC-WC GLOBAL FZ-LLC

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TECHNICAL DATA SHEET UPDATED IN
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TDS/PC-SWELLBAR® 100/24

All technical data in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

The information, particularly the recommendations relating to the application and end-use of PC-WC products, are given in good faith based on PC-WC’s current knowledge and experience of the products when properly stored, handled and applied under normal conditions by PC-WC recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or any other advice offered. The user must test the product’s suitability for the intended application and purpose. PC-WC Global FZ-LLC reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our [website www.pc-wc.com](http://www.pc-wc.com)