

# HYDRO EXPAND PU

SINGLE-COMPONENT HYDROPHILIC  
POLYURETHANE ADHESIVE AND SEALANT



## DESCRIPTION:

Hydro Expand PU is a single-component hydrophilic polyurethane adhesive and sealant designed for waterproofing construction joints in concrete. When in contact with water it activates and expands, forming a seal capable of resisting hydrostatic pressures up to 5 bar. It can be extruded using standard sealant guns without sagging and cures under the influence of atmospheric moisture or moisture present in the concrete. It is suitable for sealing all types of construction joints, hydraulic joints or penetrations in concrete structures and subsequently expands in the event of contact with water, even in cyclic exposure conditions. Compliant with: LEED iEQc 4.1; SCAQMD Rule 1168; BAAQMD Reg 8 Rule 51

## FIELDS OF APPLICATION:

Hydro Expand PU is an adhesive and sealant suitable for airtight sealing applications even when subjected to hydrostatic or gas pressure. It is designed for waterproofing construction joints in precast or cast-in-place concrete structures in civil and industrial construction. Typical applications include connection joints between existing and new structures, sealing of cracks or construction joints between concrete elements, sealing around pipe penetrations, metal elements or other types of penetrations in walls and slabs, sealing of duct connections, water pipelines, gas pipelines, cable conduits, tunnel segments, manholes and for creating sealing gaskets around reinforcing bars. It is also suitable for bonding bentonite waterstop tapes.

## SPECIAL FEATURES

- Bonds and seals simultaneously
- Can be applied on damp substrates
- Good thixotropy, non-sagging
- Single component, easy and fast to apply
- Excellent adhesion without primer on concrete, plastic, metal and bentonite tapes
- Expands in contact with water
- Expansion rate increasing over time up to 450%, without damaging fresh concrete
- Resistant to hydrostatic pressure up to 5 bar
- Returns to original volume in the absence of water
- Solvent-free



Date 15/10/2025

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PRODUCT SHEET



## TECHNICAL CHARACTERISTICS

Parameter	Result	Standard
Appearance	Thixotropic paste, non-sagging	-
Colour	Beige	-
Chemical base	Polyurethane	-
Curing system	Moisture curing	-
Curing rate (24h – 23°C / 50% RH)	approx. 1.8 mm	-
Shore A hardness	approx. 20	DIN 53505
Specific gravity (23°C / 50% RH)	approx. 1.37 g/cm <sup>3</sup>	-
Skin formation time (23°C / 50% RH)	approx. 120 min	-
Elastic modulus at 100%	approx. 0.34 N/mm <sup>2</sup>	ISO 37 DIN 53504
Tensile strength	approx. 0.6 N/mm <sup>2</sup>	ISO 37 DIN 53504
Elongation at break	approx. 250 %	ISO 37 DIN 53504
Application temperature	from +5°C to +40°C	-
Temperature resistance	from –30°C to +90°C	-

## APPLICATION

Bonding surfaces must be perfectly clean, dry and free from dust and grease. Hydro Expand PU shows excellent adhesion properties without the use of primer on most common construction materials. Nevertheless, preliminary tests on substrates are recommended.

Precast elements treated with release agents other than polyethylene film should be sandblasted or mechanically abraded and cleaned from dust. During the casting of new concrete, proper compaction is required to avoid cavities and honeycombs.

Before casting subsequent concrete pours, allow the sealant to cure for at least 24 hours. To create watertight hydrophilic joints, place the sealant along the centreline of the concrete joint or the elements to be sealed, ensuring continuous and complete contact between the sealant and the substrate. A joint depth of approximately 5 cm is recommended to ensure a solid watertight body resistant to hydrostatic pressure. For deeper cavities or joints exceeding 5 cm, use suitable backing materials (e.g. backing rods).

After curing, the hydrophilic expansion is a gradual and linear process that may require up to 72 hours to reach maximum expansion and will remain stable as long as water contact persists.

When used as adhesive for bentonite tapes, apply the product on both surfaces compensating any irregularities and press the tape onto the concrete ensuring continuous and uniform contact.

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## TOOLS CLEANING AND PERSONAL PROTECTION

Clean tools with acetone or solvent. When the adhesive has not yet hardened it can be removed using paper or cloth. Once cured, the product can only be removed mechanically. Avoid skin contact by using protective gloves made of latex, rubber or polyethylene. If contact with skin occurs, remove immediately and wash with water and soap.

## PACKAGING

310 ml aluminium cartridges – 12 pieces per box

## SHELF LIFE AND STORAGE

Hydro Expand PU can be stored for 12 months in its original sealed packaging. Recommended storage temperature between 10°C and 25°C in a cool and dry environment. Keep away from moisture sources, heat sources and direct sunlight.

## SHELF LIFE AND STORAGE

The information contained in this Technical Data Sheet is based on the best knowledge currently available. However, this document cannot be considered a guarantee of performance or suitability for a specific application.

The final performance of the product depends on many factors outside our control. Users must verify the suitability of the product for the intended application through preliminary testing.

The manufacturer reserves the right to modify the product characteristics and the content of this technical data sheet without prior notice. Users are advised to ensure that they are using the most recent version of the documentation.

ALWAYS CONSULT THE SAFETY DATA SHEET BEFORE USING THE PRODUCT

## LEGAL NOTICE

The information and recommendations given above, although they correspond to our best experience, must in any case be considered purely indicative and must be confirmed by exhaustive practical applications. Therefore, before using the product, anyone who intends to make use of it must determine whether it is or is not suitable for the intended application and, in any case, assumes all responsibility that may arise from its use. Always refer to the latest updated version of the technical data sheet, available on the website [btechitalia.eu](http://btechitalia.eu).



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