



Technical instruction - Product no. 303 - one-minute, and product no. 304 - two-minute

HYDROSTOP-FIX

Fast-setting cement with penetrating additive for stopping water leaks



PRODUCT PROPERTIES

- Stops leaks instantly,
- Good adhesion and plasticity,
- Good strength and freeze/thaw resistance,
- Water impermeable at $\geq 60\text{m}$ of water column,
- Resistance to XA1 and XA2 aggressive water,
- Resistance to pH > 4.5 to 12.5,
- Resistant to household sewage,
- Vapor-permeable,
- Concrete-compatible,
- Single-component for mixing with water.

USE

The **Hydrostop-Fix** fast-setting cements are used for stopping active water leaks in concrete structures in case of:

- contraction cracks in concrete,
- construction joints,
- mount holes,
- leaking concrete surfaces.

Hydrostop-Fix is used for sealing concrete structures subjected to water pressure, e.g. from groundwater flowing into basements, pits and channels, or water leaking out of a filled tank etc. The products are applicable as mentioned above both inside and outside in residential, industrial, public utility, and road/bridge construction. The products are inflammable. At temperatures $< 15^\circ\text{C}$ use of product no. 303 is advised. No. 304 can also be used by divers under water. Both no. 303 and no. 304 are not designed for mounting heavy objects or sealing masonry walls, expansion joints and active cracks.

WORKING PRINCIPLE

Mixed with water and worked into putty-like consistency, the cement is pressed into a hole or a crack. The thick, pliable sealing material becomes warm and starts hardening. Penetrating additives ensure that the seal-to-concrete connection and the surrounding structure are waterproofed. With the recommended depth of the hole/crack in concrete, water impermeability is ensured at approx. 60m of a water column. The cement can also be useful in sealing connections of concrete and synthetic materials (e.g. PVC and PE) as a preparatory stage for **Hydrostop-Elastyczny Zbrojony**. Setting time depends on the temperature of the ingredients, amount of mixing water and ambient temperatures. This instruction gives setting times at 20°C .

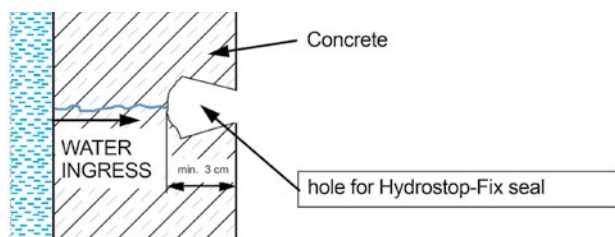


Fig. 1. A dovetail-shaped crack or hole for a shallow seal.

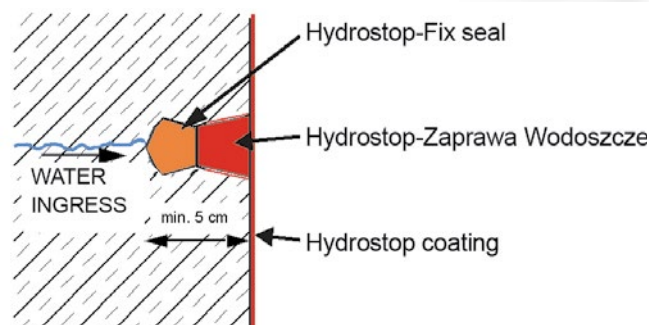


Fig. 2. A deep-set seal.

PREPARATION OF THE SUBSTRATE

The leaking hole or crack should be chiseled out and cleaned if necessary. If water is leaking over a metal rod, the rod needs to be cut at least 3cm below the concrete surface. The enlarged hole/crack should have parallel sides - preferably as shown in Figure 1. Clean the hole with a stream of water. The hole diameter or crack width should not exceed 60mm.

MIXING THE PRODUCT WITH WATER

Wear watertight rubber gloves. Mix a small amount of the cement with water in a half of a rubber ball or another vessel with a similar shape. The water and cement should be worked quickly into a thick putty-like consistency and formed into a sphere or cylinder. Use as little water as possible to obtain the desired consistency. The less water, the more rapid the setting and strength of the seal. **Hydrostop-Fix** should be mixed with water in half the time specified as hardening time, hence for product no. 303 the mixing time cannot exceed 30 seconds. If the water amount turns out to be wrong once mixing has begun, the mixture should be thrown away.

Note: the Fix must be kept in tightly closed packaging if not used, as it absorbs air moisture very quickly, losing its properties.

MAKING A SEAL

Sealing is usually done at least 7 days after the concrete has been curing. If this period is shorter, it may be necessary to make corrections in areas of the highest tension. A minimum layer of the cement is 0.5cm but the user is advised to shape the seals as shown in the drawings.

Making an ordinary seal:

Once the seal starts getting thicker, press it strongly into the gap and - if there is a strong water pressure - hold the seal for about 2 minutes with the hand or a round tool. The ambient temperature affects binding times. In 0 to 10°C use water and the Fix at room temperature; in 25 to 30°C use water and the Fix out of a refrigerator. With notoriously leaking partly filled holes, you can fill/press a dry product no. 303 into the leak while heating the spot with a heat gun.

Stopping holes over dia. 60mm:

Large holes, cracks and passages with flowing water can be closed with impermeable concrete blocks, with **Hydrostop-Fix** used as a bond. In order to prevent excessive accumulation of water it is a good practice to leave a small hole to be vlosed at the end of the sealing work.

Stopping water at high pressure:

Set an 3/8" or a 1/2" insert at the spot of the strongest leak using **Hydrostop-Fix**. Start the sealing where the leakage is weakest. At the end close the insert with a cap and put a 'cap' of **Hydrostop-Fix** over it.

Sealing in structures of low utility requirements:

Put some **Hydrostop-Fix** no. 303 onto your rubber glove and in one fluid movement press the amount against a well-cleaned and dusted surface, holding to prevent the cement from being washed off. The thickness of the layer should be between 0.5cm to 1cm.

Sealing below water table: At depths up to 0.5m holes are sealed like above water table. Places located deeper are sealed by a diver using product no. 304.

Note: Do not press or move a fresh seal, as it will be several hours before it becomes non-brittle.

SUPPLEMENTARY WORK

If the spot sealed is sweating a day after the sealing, a bigger layer can be applied at least 0.5cm thick. If there is a water film on the wall down from a certain height, it often means there is a horizontal crack that needs to be chiseled out and sealed. It is recommended to cover the seals with **Hydrostop-Mortar** and a coating of **Hydrostop-Professional Compond**.

CARE

A set seal needs to be kept moist for at least 5 days by sprinkling with water and placing plastic sheeting over it.

FINISHING WORK

Seals can be covered with ceramic tiles and paints after 1 day of curing provided that the area/room continues to be kept moist. Those materials should only be installed/applied after ensuring that the sealing has been done correctly (e.g. by a water test).

SAFETY PRECAUTIONS

Hydrostop-Fix contains cement clinker and is highly alkaline. It dries and irritates the skin (mucous membranes in particular).

Necessarily wear rubber gloves. Prolonged skin exposure to the product will cause strong irritation similar to that caused by prolonged exposure to washing powder. If the hands have been in contact with the cement for over 10 minutes, wash them in a solution of 1 part vinegar and 10 parts water, rinse with water and rub in an oil-based hand cream.

TECHNICAL DATA

Name and no.:	Hydrostop-Fix 303, 304
Product type:	Fast-setting cement with penetrating additive for stopping water leaks.
Form:	gray powder
Substrate:	concrete, block masonry walls, connection of steel with concrete, provisionally connection of plastics with concrete
Approx. yield:	1kg per 30 dia. 3cm balls, 1kg per 1m of length using a dia. 2cm roller, 2kg/dm ³ for fillings,
Packaging size:	2,5, 25kg,
Dry weight:	1,35 kg/dm ³ ±10%
Volume density when mixed:	2,1 kg/dm ³ ±10%
Water amount for no. 303,304:	1,8g per 10g Fix
Maximum hole diameter/crack width:	60mm
Strength after 6 hours:	≥12MPa (compressive)
Strength after 3 days:	≥20MPa (compressive) ≥4MPa (bending)
Strength after 28 days:	≥30MPa (compressive)
Water permeability after 28 days:	≥0,6MPa
Application temperature:	0°C to 30°C
Exposure class:	XA2 groundwater, household and agricultural sewage, pH 4.5 to 12.5, XD2 chlorinated drinking and swimming pool water, mineral/food/transformer oils, rain/river/lake/irrigation water, wxcept industrial waste aggressive on concrete (for XA2 an additional chemical-resistant layer is required), XC4, XF4
Reaction-to-fire Euroclass:	A1
SCHEDULING:	
From pouring concrete/bricklaying to making seals: when stable, recommended ≥7dni	
Time of mixing with water:	30 seconds for no. 303 60 seconds for no. 304
Binding time at 20°C (materials and ambient):	40 to 120 seconds for no. 303, 60 to 210 seconds for no. 304
Storage time at 95% humidity:	≥5 days
Installation of tiles/insulation:	≥1 day
Covering with moist soil:	≥1 day
Application of hydrophobic paints:	≥1 day
Use before:	1 from production (whole package). Protect from moisture.
Reference documents:	Health safety PZH no. HK/W/0809/01/2011, Technical approval no. AT-15-7076/2006, safety sheet. Document updates at www.hydrostop.eu

Being an excellent waterproofing product, HYDROSTOP has received numerous awards over the years. It was awarded at INBUD '90 (medal), at NOWE MATERIAŁY '92 and ZŁOTA SYRENKA in 1999. In 2003 it was recognized as an eco-friendly construction material. It was also awarded at WPPK in Szczyrk in 2007 and 2011.

HYDROSTOP®

HYDROSTOP Zakład Wytwarzania Materiałów Izolacyjnych.

Information, sales and support:

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Sales include courier delivery or in-store pick-up. The manufacturer guarantees product quality whereas the buyer is responsible for the selection of the product as well as its application and conditions of use. Hydrostop is a trademark protected by the Patent Office. The use of Hydrostop means the Delivery Terms have been accepted. This information is subject to change without notice. Last updated on 20 September 2013.