

1 component, solvent free, polyurethane injection system, injected with a two component pump with water as the second component. It produces a tough, flexible polyurethane foam or an elastomeric gel or soft gel, depending on the amount of water added. Possible applications: expansion joints, heavy water leakages, screen injections, ...

APPLICATIONS

PURINJECT 1C HYDROGEL only needs water to achieve the final product like foam or gel, to control the reaction speed and to flush the machine.

- Heavy water leakages**
 Because of the high reactivity in combination with water, PURINJECT 1C HYDROGEL is used for shutting off heavy water leakages (up to 5 m³ per minute). The ratio to be used is 1:1 or pure resin.
- Expansion joints**
 Because of the foaming capability of PURINJECT 1C HYDROGEL, a good flexibility of the end product as well as a good adhesion to the aggregate, it is used for expansion joints. The ratio to be used: PURINJECT 1C HYDROGEL to water 1:4 or 1:5.
- Gel membrane/screen injection**
 Because of the low viscosity of the water/polymer mixture, it can be used as a liquid but solidifying gel membrane applied to the positive side of a concrete structure from the negative side; ratio to be used PURINJECT 1C HYDROGEL to water 1:10. The gel mixture will fill the voids from the aggregates (like sand etc.) behind the wall to avoid that water will come into the wall construction. The procedure is drilling through the wall and pumping the PURINJECT 1C HYDROGEL-water mixture via packers.
- Masonry walls/screen injection**
 Because of the low viscosity in combination with a relatively long pot life the PURINJECT 1C HYDROGEL can be used in masonry walls as a vertical barrier to fill the voids/joints in masonry walls to avoid that water comes through the voids to the surface of the wall. Ratio to be used PURINJECT 1C HYDROGEL to water 1:12/13. The procedure is drilling holes to 80 % of the wall thickness or until 5 cm from the back of the wall and pumping the PURINJECT 1C HYDROGEL-water mixture via packers in the wall.
- Gel encapsulation**
 Because of the low viscosity in combination with a good adhesion PURINJECT 1C HYDROGEL can be used for the gel encapsulation method where voids are filled with a jelly material (e.g. delaminated concrete slabs etc.). The ratio to be used PURINJECT 1C HYDROGEL to water 1:10.
- Oakum technique**
 Because of the reactivity with water the PURINJECT 1C HYDROGEL can be used for the activated oakum technique where oakum or any other kind of carrier material is soaked in pure PURINJECT 1C HYDROGEL. The oakum and the PURINJECT 1C HYDROGEL are applied into any void where small water leakages can be a problem (pipe outlet through walls etc.).
- Injection hoses**
 Because of the low viscosity in combination with a relatively long pot life the PURINJECT 1C HYDROGEL can be used for injection hoses being installed in new structures for immediate waterproofing or for later waterproofing. The ratio to be used PURINJECT 1C HYDROGEL to water 1:12/13.

TECHNICAL DATA

Colour	Dark brown
Specific gravity	1.10 - 1.12 g/cc
Viscosity at 25°C	600 - 800 mPa.s
Storage Stability in well-sealed drums	Min. 12 months

All information is given in good faith and without any warranty. The application, use and processing of these products are beyond our control and therefore entirely your responsibility. Established liability if any, through bad application or any other reason, for any damages, is always limited to the value of the goods supplied by ADCOS nv. The products and systems are manufactured under total quality management (01/06/2016)

HOW DOES PURINJECT 1C HYDROGEL WORK?

PURINJECT 1C HYDROGEL consists of a MDI based, solvent free, isocyanate component and will only react when it comes in contact with water:

- at a ratio from 1:1 to 1:3 (polymer to water) forming a tight, impermeable, elastomeric foam.
- at a ratio 1:3 to 1:8 (polymer to water) forming a tight, impermeable, elastomeric gel.
- at a ratio 1:5 to 1:12 (polymer to water) forming a very tight, impermeable, elastomeric or soft gel.

Properly applied, PURINJECT 1C HYDROGEL adheres to the surface and forms a high resilient, tough, rubbery gasket that immediately stops the water.

OPERATIONAL DATA

To prevent condensation on the liquids at the start of work, the temperature of the components should be at least as high as the ambient temperature. All opened drums of PURINJECT 1C HYDROGEL should be purged with dry nitrogen and capped when not in use. Depending on the situation PURINJECT 1C HYDROGEL can be pumped by the use of a single component injection pump equipped for higher pressures to withstand the water pressure or in case water is used as the second component, PURINJECT 1C HYDROGEL should be pumped with a two component injection pump with variable ratio. After the injection is completed, the pump must be cleaned with water first and cleaned with PURCLEAN.

APPLICATION PRESCRIPTIONS

Ratio HYDROGEL/water	Cream time	Gel time	End product
1:1	20 - 30 sec	50 - 60 sec	Strong foam
1:4	60 - 80 sec	110 - 130 sec	Strong gel
1:5	80 - 100 sec	120 - 140 sec	Strong gel
1:10	3 - 4 min	6 - 8 min	Gel
1:12	4 - 6 min	14 - 16 min	Gel
1:15	14 - 16 min	35 - 40 min	Soft gel

The times were measured at 20°C. To check the reaction, we advise the free foaming conditions. Add water, according to the recipe, to the PURINJECT 1C HYDROGEL and mix. To measure the cream time, the gel time and the rise time use the following procedure:

- The start time (point 0) is the time after the water is added and mixing starts.
- The cream time is the time at which the mix starts foaming.
- The gel time is the time the material is no longer able to flow.
- The rise time is the time where no further expansion is noted.

PACKAGING

Metals drums of 10 kg or 25 kg.

STORAGE

To avoid problems, it is very important to understand that these materials are both temperature and moisture sensitive. Therefore, materials should be stored in an area with temperatures not exceeding 30°C or not lower than 10°C. All partially used drums should be covered by nitrogen and re-sealed to prevent the ingress of moisture.

SAFETY AND HEALTH PRECAUTIONS

Do not breathe dust/fume/gas/mist/vapours/spray.
In case of inadequate ventilation wear respiratory protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
For more information, consult the safety data sheet.

For detailed information and advice, consult our technical staff.