# AQUAPUR

Hydroactive grout for stopping leaks through joints and cracks

## DESCRIPTION

Aquapur is a new Hydro Active injection grout which reacts quickly with water forming foam with good mechanical properties and performance.

## APPLICATIONS

- Water ways.
- Joints in water collectors, canals, etc.
- Underground structures (tunnels, metro, etc.).
- Waterproofing of wells and galleries.
- Waterproofing in digging fronts.
- Waterproofing of cracks in concrete.
- Sealing expansion joints in reservoirs, water tanks, etc.

## PROPERTIES

- Compatible with fissures full of water.
- Hydrolysis resistant foam. Permanent contact with water possible.
- Hydro Active product. It reacts with water, turning into high performance foam.
- It forms stable foam, which effectively acts as a barrier against water.

## CERTIFICATIONS

CE mark according to EN-1504-5 (Injection products for swelling fitted filling of cracks). Certificate No 0370-CPR-2247.

CE

## TECHNICAL DATA

**INFORMATION ON THE PRODUCT BEFORE USE**

| | Aquapur resin | Aquapur accelerator |
|---|---|---|
| **Chemical description** | Aromatic polyurethane prepolymer | Polyurethane catalyst solution |
| **Physical state** | Liquid | Viscous liquid |
| **Packaging** | Metal container<br>200 kg<br>25 kg | Metal container<br>20 kg<br>1 kg |
| **Non-volatile content** | Approx 100% | >99% |
| **Flash point** | >100ºC | >100ºC |
| **Colour** | Brown | Clear yellow |

**Density**

| Temperature (ºC) | Density (g/cm³) | Temperature (ºC) | Density (g/cm³) |
|---|---|---|---|
| 20 | 1.15 | 20 | 1.0 |

**Viscosity**

| Temperature (ºC) | Viscosity (mPa.s) | Temperature (ºC) | Viscosity (mPa.s) |
|---|---|---|---|
| 20 | 60-120 | 20 | 60 |

| | |
|---|---|
| **Resin/Acceleraton mixin ratio** | Recommended<br>Res=100, Ac=4 by weight<br>Res=100, Ac=4 by volume |
| **Colour of mixture** | Dark brown |
| **Mixture properties** | Density and viscosity: |

Aquapur Resin

| Temperature (ºC) | Density (g/cm³) |
|---|---|
| 25 | 1.00 |

Aquapur Accelerator

| Temperature (ºC) | Viscosity (mPa.s) |
|---|---|
| 25 | 500 |

| | | |
|---|---|---|
| **Pot life** | Conditions | Pot life (min) |
| | 20ºC, 100 g | 45 |
| | Once mixed, the product surface will quickly react with air moisture, forming a surface skin. This skin can be punctured, and the fresh inner liquid can be reached and used. This liquid is usable for the pot life stated. | |
| **Foaming ratio** | 1 to 40 (by volume, free expansion) | |
| **Storage** | Keep between 10ºC and 30ºC | |
| **Use before** | 12 months after manufacturing date | |

**INFORMATION ON THE FINAL PRODUCT**

| | |
|---|---|
| **Description** | Semi-rigid polyurethane foam |
| **Colour** | Clear yellow |
| **Density** | 26 kg/m³ (free expansion) |
| **Hardness (Shore)** | 18A (free expansion) |

## SUPPORT REQUIREMENTS

Cracks to be filled must be dust free, with no loose parts. Water inside is needed for a correct foaming reaction.

## RECOMMENDED ENVIRONMENTAL CONDITIONS

High temperature and humidity conditions promote a surface skin formation in the Resin/Accelerator mixture. This hard skin can be punctured to reach the fresh inner liquid, which can be injected as usual. The surface hardened product, however, must be discarded as a waste.

Low support temperatures will slower the foaming reaction. No reaction takes place if in contact with ice.

Recommended support temperature: 5ºC to 40ºC.

## SUPPORT PREPARATION

Some water can be previously injected if not enough water is found inside the cracks to be filled.

## MIXING

Pour the Accelerator component, in the recommended amount into the Resin container (Resin 100/Accelerator 4). No other product must be added, such as water or solvents. Stir and mix at low speed for two minutes.

Keep in mind that, at low temperatures or in contact with salt, foaming reaction may be slower. In this case, a higher Resin/Accelerator ratio is advisable. Maximum recommended ratio: Resin 100/Accelerator 8.

## APPLICATION

Check dosification and mixing by making a small test before starting real job. Use specific injection grouting equipment. Place one-way injectors, in the crack spaced 20 or 30 cm each. Use all the mixture shortly after mixing.

In vertical cracks, inject following an upwards sequence. Use several injectors, starting injection by the lower one and allowing the foam to rise through the upper injector before continuing. Clean thoroughly the machine and hoses after use, with special machine oil or Rayston Solvent. It is recommended to keep the machine filled with these cleaning fluids when not in use.

## RECOMMENDED AMOUNT

Amount to inject is depending on the fissure volume and the amount of water leaked. Ensure sufficient product is injected so that foam is effectively forming and filling all the cavities.

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## FOAMING TIME

Reaction time in dependent on the liquid temperature and the amount of product injected:

At 20ºC, 30 g, 5% water:

- Beginning: 12s after mixing
- End of foaming: 60s after mixing

At 10ºC, 30 g, 5% water:

- Beginning: 25s after mixing
- End of foaming: 70s after mixing

## RETURN TO SERVICE

Usually, foam is finished immediately after reaction and stops the flow of water.

## TOOL CLEANING

Aquapur Resin and Accelerator, before mixing or when the mixture is still liquid may be cleaned with solvent Rayston, acetone or alcohol. Once reacted, the foam cannot be dissolved.

## FAQS

| Problem | Question | Cause | Solution |
|---|---|---|---|
| No foaming, slow reaction | Enough accelerators? Low temperature? | Low temperature | Increase Accelerator ratio |
| Little foaming | Water? | No water in the crack, or mixing difficulties | Ensure wetting with extra water.<br><br>Increase pressure to ensure turbulence and mixing |
| Leak does not stop | Enough foam density? | Little amount injected. Low foam density | Inject higher amounts of product |

## SAFETY

Aquapur contains isocyanates, corrosive amines, and other hazardous chemicals. Always follow instructions provided with the Material Safety Data Sheet. As a rule, provide enough ventilation and avoid contact with skin and eyes. This product is intended to be used only for the uses and in the way here described. This product is to be used only by industrial or professional users. It is not suitable for DIY-type uses.

## ENVIRONMENTAL PRECAUTIONS

Empty containers must be handled taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorized waste manager. If there is some residual product in the containers, do not mix it with other substances without checking for possible dangerous reactions.

## OTHER INFORMATION

The information contained in this Technical Data Sheet, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information. We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests “on-site” to determine their convenience for a specific project. Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.

**This Data Sheet supersedes all previous versions.**

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