

HydroBloc® Polygel PU 660

Swellable polyurethane hydro-gel for injections

HydroBloc® Polygel PU 660 is a hydrophilic polyurethane prepolymer. After mixing with water, the product reacts quickly - without any further additives - to form a highly elastic hydrogel. During the reaction, the water is incorporated into the gel structure and cannot be removed (squeezed out) mechanically.

Mechanical properties of the HydroBloc® Polygel PU 660, like stability, pressure and tear strength, are excellent high. The adhesion on mineral surfaces (even on wet concrete) is also excellent.

We recommend to use HydroBloc® Polygel PU 660 for all sealings in durable wet milieu. Typical applications are for example injections for the sealing of joints, cracks and porous structures in civil engineering, tunnelling and mining or for the reconstruction of sewers. For this applications, the product can be used with injection robots or inflatable injection packers, for example according to the CERNE® or POSATRYN® method.

Even direct sealing in strong, fast and under pressure flowing water is possible. HydroBloc® Polygel PU 660 resists to high water pressures by dint of its high elasticity and tear strength.

**Pit construction* in
slotted wall con-
struction:**

**Conspicuous opera-
tions for sealing of
the joints done with
HydroBloc® Polygel
PU 660**



*Köhlbrandbrücke, Hamurg
Picture BBS

Advantages

♦	Very easy to handle
♦	Mixing errors are not possible
♦	Self healing effect due to controlled swelling in water
♦	Free of solvents and environmentally friendly

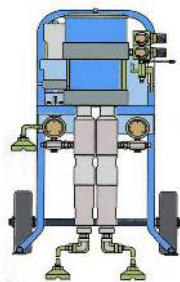
For injection, mix HydroBloc®Polygel PU 660 with the second component (clear water) in ratio 1 : 1 - 1 : 2 (maximum 1 : 2,5). The water is spontaneous getting emulsified. The setting reaction starts immediately, this can be seen at the constant rising viscosity (at first watery thin fluid) of the emulsion.

The gel point is reached after about 50 - 60 seconds. The mixture turned to an elastic gel body, similar to rubber. After reaching the gel point, the setting reaction goes on, measurable by increasing of pressure resistance (for processing practice only of derived interest).

This reaction profile is optimal for most of the typical gel applications. It is possible to accelerate the product for special cases or applications, when a faster reaction time is demanded. Just mix 2% activator HydroCat®613 into the main component. The accelerator shortens the gel time of the mixture for about 25 - 30 seconds.

**Sealed safe with
HydroBloc®Polygel
PU 660:
Chapped and sealed pivot
of a sheet piling**





Injection can be done with commercial fillers, packers, injection anchors etc.. All 2 component injection machines with corresponding delivery volume can be used for processing. We recommend to use a mixing gun or mixing heads with static mixing sections for mixing of the both components (resin + water).

There are no special requirements or constrictions to the machine (materials, gaskets, etc.). HydroBloc®Polygel PU 660 is not corrosive and does not react with metal or plastics.

Clean water will do for rinsing of the mixing unit during intermittents.

Properties

Packaging	: Ready for use
Colour	: Bluegreen, transparent liquid
Odour	: Weak , typical
Density	: Approx. 1,10 gr/ml (at 20°C)
Mixing ratio	: 1: till 1 : 2,5 (with tap water)
Reaction time	: Approx. 60 Sec. on 10 °C water temperature
	: Approx. 45 sec. at 20 °C water temperature
Viscosity	: Approx. 350 +/- 150 mPa.s (at 20°)

Safety

HydroBloc®Polygel PU 660 used according to instructions as injection agent is a harmless substance. We recommend to wear protective clothing and safety goggles. Attend the usual hygienic instructions. Adhere national instructions, for example of employers liability insurance association, for handling and processing with injection agents.



Rinse eyes with a lot of water for about 15 minutes after contact with HydroBloc®Polygel PU 660 and call directly a doctor.

The vapour pressure of the contained isocyanates in HydroBloc®Polygel PU 660 is low. Negative reactions can not be excluded for persons which react allergic by contact with NCO-connections.

Persons with known hypersensitivity against Isocyanate should not work with this product or any product with reactive polyurethane connections.

HydroBloc®Polygel PU 660 is certificated with positive result on KTW-instructions. The product can be used in contact with drinking water.

Storage Disposal

HydroBloc®Polygel PU 660 reacts like all isocyanate with water. Even traces of humidity influence the storage life. Close opened cask tight immediately after opening. HydroBloc®Polygel PU 660, stored dry and cool, is storeable for at least 12 months. Quality and reactivity will not be influenced by storage life. During severe frost, the product can solidify into a wax-like mass. This change can be reversed by careful heating (e.g. in a water bath, not above 50 °C!) without loss of quality.

HydroBloc®Polygel PU 660 is not flammable but combustible. This property must be observed during storage. It must not be stored together with food and must be kept out of reach of children and unauthorised persons.

Reacted HydroBloc®Polygel PU 660 is physiologically completely harmless and must be disposed of like household waste. Product residues can therefore be rendered harmless by mixing with water. Liquid residues and empty containers with liquid adhesions are hazardous waste and must be disposed of according to local regulations for such waste.

Recommended Accessories:

HydroCat®613

A special amine-activator, aligned to ARCAN-PUR-gels (accelerator). Activates the reaction with water. Additional amount of 2% shortens the reaction time (gel time) of HydroBloc®Polygel PU 660 for about 50%.

HydroSolv®520

Highly efficient rinsing solvent for cleaning of PU and PE machines. It is an environmentally friendly safety solvent with high flashing point. HydroSolv® is nontoxic or harmful to health, needs no labelling and has no transport restrictions.

HydroMoll®522

Efficient and budget-priced care and conservation agent for PU- and EP- machines and hose lines. It is a combination of additives and special diluents. HydroMoll can stay in machine after use, it avoids jamming of valves and gaskets. No labelling required.

Addiol®100

A highly efficient fungicide and bactericidal. Addiol®100 avoids fouling of gels with fungus, yeasts and is also effective against dry rot. Also the biological cutback of PU-gels is getting avoided, by addition of Addiol®100 into the B-component (water). Addiol®100 by its own is getting eliminated in biological sewage-treatment plants. Therefore the product can be used in sewage works without any damages at the biology of the sewage-treatment plant.

These technical information describe the present-day state of knowledge these product. They should only inform about the possibilities of application and could not release the applicator of his commitment to check the possibility to use the product for the required application. Information for processing can be found in processing instructions of our product. Information about safe handling can be found in our current safety data sheet.

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ARCAN Waterproof

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passion to invent 