



HydroBloc® PU 641 + PU 641-T

Highly reactive injection resins with high strength

Injection resins HydroBloc®PU 641 and PU 641-T are both fast reacting 2 component polyurethane systems. Used for sealing injections under high water pressure and for consolidation of brittle structures in tunnelling and mining.

Both components of HydroBloc®PU 641/641-T react directly after mixing in 2 minutes to a tough elastic PUR plastic with excellent adhesion on numerous substrates and high strength. If necessary the reaction time could be shortened down to ≤ 30 seconds through an additional accelerator.

Such resins are suitable for heavy leakages with under pressure rushing water, they are processed with 2 component pumps. Meanwhile the exotherm reaction the volume of the resin increases about 10%. This slight expansion supports the force-it of the injection material between building or rock.

Important ! Reacted material pure or mixed with rock and stone is **cuttable with a TBM without any loss in performance**. An important factor e.g. for injections in tunnel construction.

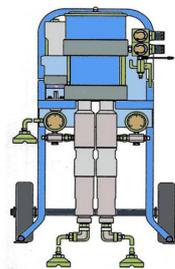
Both materials are different in their flowing ability. HydroBloc®PU 641 is a low viscosity resins and HydroBloc®PU 641-T is shear-thinning appointed. (This is not pasty.)

A shear-thinning adjustment of the resin makes the filling of wide cracks and joints (e.g. Sheet pile walls) or bigger leakages easier because the resin won't flow out uncontrolled.

Processing

HydroBloc®PU 641 und 641-T could be processed with normal 2 component injection pumps. The mixing ratio is 1:1 by volume.

Both resins could be processed under water, this won't influence the correct hardening.



The resin foams* in contact with water, but the volume increase is low and depends on the amount of water mixed in the injection process. The rising foam is hard and closed celled.

Both materials are easy to process if applicated with a 2 component pump. Because of the high reactivity of the resin we recommend the use of a cleaning pump and Hydro-Solv 520 the high efficient security solvent.

* Foam factor approx. 3 to max. 10

Properties	Type	: HydroBloc®PU 641
Chemical Character		: Polyurethane-System made of special polyols and polymer Diisocyanate from MDI-type.
Aspect		: Olive green - brown, transparent liquid
Odour		: Very weak, slightly dull
Viscosity of the product delivered		
- Component A		: Approx. 250 - 350 mPa.s (at 20 °C)
- Component B		: Approx. 250 - 450 mPa.s (at 20 °C)
Density of the product delivered		
- Component A		: Approx. 1,05 gr/ml (at 20 °C)
- Component B		: Approx. 1,15 gr/ml (at 20 °C)
Curing time		: Possible between 15 sec. and approx. 3 Minutes

	Type	: HydroBloc®PU 641-T
Chemical Character		: Polyurethan-System made of special polyols and polymer Diisocyanate from MDI-type.
Properties		: Olive green - brown transparent liquid
Odour		: Very weak, slightly dull
Viscosity of the product delivered		
- Component A		: Approx. 250 - 350 mPa.s (at 20°C)
- Component B		: Approx. 250 - 450 mPa.s (at 20°C)
Density iof the product delivered		
- Component A		: Approx. 1,05 gr/ml (at 20°C)
- Component B		: Approx. 1,15 gr/ml (at 20°C)
Curing time		: Possible between 20 sec. and app. 3 Minutes



**Work safety
Storage
Disposal**

If used as injection resin both materials are as far as possible harmless. We recommend to use always protective clothes and goggles and to work after the regulations of the professional associations for the handling of Polyurethane and the processing of injection resins.

**Accessories
Additives**

The products must be stored dry and cold and be kept out of the reach of children and unauthorised persons. Do not store together with food and beverages. Products are combustible but not inflammable. Minimum shelf life 12 month after delivery, if stored properly and sealed as originally.

The reacted resins are harmless and could be disposed as building rubble. Product left overs should be hardened by mixing with each other. Liquid left overs and containers with liquid material are special waste and must be disposed after the local regulations.

HydroCat®054

Accelerator for faster reaction; Amount 0,1 - 2 %.

HydroCat®055

Super-Accelerator; for extreme fast reactions.

HydroSolv®520

Security solvent. High efficient and environmental friendly cleaning material for PU- und EP-resins. perfectly suitable for equipment cleaning. High flash point, not harmful or poisonous.

HydroMoll®522

Efficient conservation material for PU Pumps and pipes. Combination of solving additives and special weakeners. Can remain in the machine, effectively prevents sticking of valves and seals. Requires no special labelling, no transport restrictions.

**Excavation with
a part-face heading
machine:
With HydroBloc®PU
641 and 641-T
injected mountain
is easily cuttable .**



Picture: RATP

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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passion to invent 