HydroBloc®Integral

Injection resins with one component only

HydroBloc®*Integral* is the brand name for new injection resins for sealing structures - with surprising, hitherto unknown properties and many technical and economic advantages for the user.

Integral ® =
- 1 component only
- no mixing
- no pot life
- no errors
- no problems

The ***Integral***®**-**Products now consist of one component only, so they no longer need to be mixed for processing. Due to the integrated hardener function, they react on contact with the building material and bind faster than most known multi-component resins, even at low temperatures (!).
In the injection machine, however, the resins remain liquid . Restrictions due to the „pot life" and the time-consuming rinsing of the machines during breaks in work are not needed.

Mixing errors are a thing of the past when processing ***Integral***® resins, as well as problems with glued machines and clogged hoses due to non-observance of processing times, too fast reaction at high temperatures, etc. Expensive working time, rinsing agents and solvents are saved; processing becomes much easier and above all safer.

The Integral® resins are used for the sealing of cracks, gravel pockets, construction joints and injection hoses, i.e. for all classic injection applications for which multi-component products were previously common and necessary.

Application:

Sealing of cracks and gravel pockets in concrete by injection with HydroBloc®575 Integral:

The low-viscosity resin easily penetrates even the finest damaged areas and quickly sets in the building material - even in contact with water

HydroBloc®575 Integral

HydroBloc®575 Integral is the standard product of the INTEGRAL® range, a highly elastic, hydrophilic urea resin with very low viscosity. Like all Integral® resins, it has rapid curing and excellent adhesion, even on wet concrete. No foaming on damp substrates or in wet environments (!). Due to the rapid setting reaction, HydroBloc®575 Integral is even conditionally suitable for stopping flowing water - without the usual pre-injection with a foam resin!

IMPORTANT: Hardened HydroBloc®575 Integral is swellable in water. The resin automatically compensates volume changes in cracks and joints - the "Self-healing effect" of our swellable ARCAN resins.

Application:
Sealing a crack in a tunnel with high water flow with

HydroBloc®575 Integral.

Very nice to see:
The set resin solidified into a drop as soon as it came out of the crack.

HydroBloc®-Integral without foam bubbles

HydroBloc®510 Integral

HydroBloc®510 Integral is medium reactive watertsop foam. Like all Integral® resins it hardens only after injection into the building structure. The adhesion to concrete, masonry and other typical building substrates is excellent.

HydroBloc®600 Integral

HydroBloc®600 Integral is highly elastic. The polymer resin is medium viscous and hydrophobic. Like all Integral® resins it hardens only after injection into the building structure. The adhesion to concrete, masonry and other typical building substrates is excellent.
In dry and matt damp substrates HydroBloc®600 Integral cures homogeneously. The hydroactive resin pushes itself even further into structures, cracks and voids due to expansion while curing process

HydroBloc®620 Integral

Hydroactive, tough and low foaming polyurethane resin, low viscosity, solvent-free, pre-formulated ready for use. Due to its typical "***hydroactive effect***", the resin expands during curing to a creamy, fine-celled foam and creeps into the finest gaps and pores (self-injection effect). Active time to setting about 10 minutes. For sealing very damp cracks and construction joints, for gravel pockets and other porous structures. Excellent adhesion to all typical building substrates – even the wet ones.
HydroBloc®620 Integral is no waterstop foam.

IMPORTANT: HydroBloc®620 Integral - like all foam resins - should not be used for injecting injection hoses.

By adding 2-3 percent of the activator HydroCat®577, the resins react faster with water.

Technical information

The Integral® resins cure by a hardener function integrated into the base resin; the reaction is already triggered by traces of water. The water (always) present in the environment is sufficient to start the reaction, both as residual moisture in mineral building materials and as air humidity. Reactivity with water must be taken into account during processing; open containers must always be tightly closed immediately. The machines used must be completely dry. For this reason, never use equipment with which watery or water-containing products were previously processed!

In order to prevent undesired skin or foam formation when the resins remain open for a longer period of time - e.g. in the feed tanks of injection machines - we recommend coating the surface of the liquid a few mm with our care product Hydromoll®522 Care and conservation agent. This product reliably prevents contact of the resin surface with the air. On the other hand, HydroMoll® is compatible with the resins and can be mixed in small quantities with the respective product during further processing without damage.

HydroMoll®522 Care and conservation agent is also an ideal preservative. It protects machines during longer work interruptions - if necessary even for months or years - and effectively prevents valves and hose lines from sticking. For this purpose, the machine and hoses are simply filled completely with fresh **HydroMoll®522 Care** and conservation agent after rinsing with **HydroSolv®520** Cleaner.

Technical Rules Conformity

These Integral injection resins meet the requirements of the current European standard series EN-1504 *Protection and Maintenance of concrete structures.*
Part 5: "Fillers for filling cracks, cavities and voids", paragraph 5.5.3 - Polyurethane based fillers.

In accordance with EN-1504* they are suitable for the following applications:-

- HydroBloc®575 Integral for the swellable and expandable filling of cracks, cavities and voids; Category S.
- HydroBloc®510 Integral for waterstop injections
- HydroBloc®600 Integral for the elastic filling of cracks, cavities and voids.
- HydroBloc®620 Integral for the filling of cracks, cavities and voids.

The standard product of the series, HydroBloc®575 Integral is tested according to DIN-EN 1504-5 by the KIWA Polymer Institute, Flörsheim am Main (test report P-6599-4)

HydroBloc® Integral	Integral 575	Integral 510	Integral 600	Integral 620
Raw material base	PU-Prepolymer	PU-Prepolymer	PU-Prepolymer	PU-Prepolymer
Components	1	1	1	1
Colour	Yellowish	Honey-coloured	Honey-coloured	brown
Odour	weak	very weak	weak	weak
Viscosity 20°C, mPa.s	450 +/- 10	260 +/- 10	220 +/- 10	180 +/- 10
Density, gr/ml	1,3	1,12	1,10	1,10
Max. Swellability in water	> 85 %[1]	does not apply	does not apply	does not apply
Max. Foam volume	non foaming	ca. 3000%	very weak no bubbles	ca. 300% [2]

[1]-After Curing
[2]-Depending on contact with water, before curing

Safety Environmental protection Storage

The **HydroBloc® Integral** products are urea resins and contain polymeric Isocyanate. When used as injection resin according to the instructions, the products do not pose any particular hazards. The protective regulations of the professional associations for the processing of injection resins and the usual industrial hygiene rules for handling reaction resins must be observed. We recommend to always wear protective goggles and gloves during processing and to protect unprotected skin areas with a suitable skin protection cream. Detailed information on safe handling of the products can be found in the current safety data sheets available for each of the products. They should be made available to all those who handle the products.

HydroBloc®575 and HydroBloc®620 have been positively tested in Germany according to the KTW guidelines. The products can also be used in contact with drinking water.

The resins can be stored for at least 6 months in original sealed containers. The HydroBloc® Integral resins are not flammable, but as organic liquids they are combustible. This fact must be taken into account during storage. These products must not be accessible to children and unauthorised third parties. Temperatures above +30° should be avoided. At low temperatures, the viscosity of the products increases and processing becomes more difficult.

Product residues - even in containers - are most easily cured by leaving them open or mixing them with water, damp sand or similar and then simply disposed of as normal building rubble.

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