

Soil Consolidation

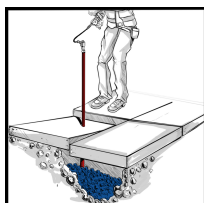
TECHNICAL DATA SHEET

SoilConsolid is a modern, single-component polyurethane injection system (+cat), designed for soil consolidation and the creation of vertical waterproof barriers. Thanks to its exceptionally low viscosity, it penetrates even very dense soils, ensuring durable and effective sealing. SoilConsolid features adjustable reaction times and is applied using a single-component pump, with its action activated upon contact with a moist substrate, making it a versatile solution for soil injection.

Properties

- ❖ SoilConsolid is a one-component injection system based on polyurethane (+cat) that requires water to react and forms a hard, hydrophobic grout.
- ❖ Good chemical resistance to many acids, bases, solvents, and fuels (check chemical resistance list).
- ❖ No shrinkage after curing.
- ❖ Free expansion: up to 2 times.
- ❖ Non-toxic: does not contain solvents.
- ❖ Non-flammable.
- ❖ Excellent adhesion to mineral building materials such as concrete, cement, and brick.
- ❖ Variable reaction time by adjusting SoilConsolid CAT.

Applications



- ❖ The high compressive strength obtained makes it suitable for stabilizing soils, ensuring a compact, durable, and strong substrate.
- ❖ Due to its extremely low viscosity (25 mPas), it can be used to inject very dense soils.
- ❖ The material is suitable for creating horizontal and vertical waterproof barriers in soils.
- ❖ The reaction with water ensures deep penetration into the soil and prevents premature reaction.

Physical Data

Property	SoilConsolid RESIN	SoilConsolid CAT	SoilConsolid Mixture
Color	Brown	Yellow	Brown
Viscosity (20°C)	25 mPas	20 mPas	25 mPas
Density (20°C)	1.1 g/cm ³	0.97 g/cm ³	1.1 g/cm ³
Flash point	>148°C	>148°C	
Storage temperature	Between 10°C and 30°C	Between 10°C and 30°C	

	SoilConsolid Mixture
Min. application temperature	5°C
Expansion Volume	Up to 2 times in volume
Compressive strength (after 6 weeks)	12 MPa
Flexural strength (after 6 weeks)	2 MPa

Resin Preparation

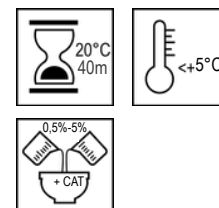
Create a mixture of SoilConsolid RESIN and the appropriate amount of SoilConsolid CAT. Depending on the ambient and structure temperature, reaction times will vary. The higher the temperature, the quicker the reaction time. The amount of water present in the structure will also influence the reaction time of the mixture. The reaction time of the mixture can be altered by changing the SoilConsolid CAT component. The more SoilConsolid CAT is added, the quicker the reaction time. We recommend adding a maximum of 5% SoilConsolid CAT.

Catalyst (%)	Start of Reaction (20°C)	End of Reaction (20°C)
2% CAT	2 min	3 min
1% CAT	5 min	6 min
0,5% CAT	9 min	11 min

Footnote: The table accounts for reaction times and temperature with 10% water added.

Injection Work

- ❖ This product is intended for professional users only.
- ❖ Before starting the injection, an analysis of the object's condition should be carried out.
- ❖ Prepare the pump for application according to the manufacturer's recommendations.
- ❖ The pressure at which the resin is applied depends on the structure and the desired result.
- ❖ Properly drill holes, depending on the work being carried out.



Substrate Preparation

To ensure a good injection using SoilConsolid, a soil analysis must be conducted. Depending on the application purpose (waterproofing, stabilization, etc.), the appropriate injection technique should be applied.

Injection

The SoilConsolid mixture should be injected using a single-component pump. The selected injection pressure should be as low as possible. Start injecting and increase the pressure until you see the resin flow. Injection at low pressure ensures deeper penetration of the resin and complete sealing of the soil.

Cleaning

As long as the components are in a liquid state, the pump can be cleaned using Hamm-pack® Pi-Cleaner. We recommend flushing the pumps with Pi-Cleaner every time there is a stop of more than 15 minutes and at the end of the injection work. Hardened material should be cleaned with a PU solvent. Packers/lances can be removed, and the boreholes can be sealed with a fast-setting mortar.

Storage Shelf Life

- ❖ Store in a dry place at a temperature of 10°C - 30°C.
- ❖ Shelf life is 12 months from the date of production in the original, unopened packaging. Once opened, the product's lifespan decreases rapidly.

Safety

- ❖ Wear protective goggles, gloves, and clothing. Avoid contact with skin and eyes.
- ❖ In case of contact with eyes: rinse thoroughly with clean water and consult a doctor.
- ❖ In case of contact with skin: rinse thoroughly with water. All additional information is available in the product's safety data sheet.
- ❖ The resin may react with water or atmospheric moisture, producing CO₂ gas. This can cause an increase in pressure in a closed package or container that has already been opened.