

RSS® Flüssigboden as backfill material

Mining backfill is the placement of materials into underground mines (cavities) to protect the surface. The main purpose of backfilling is to stabilise the existing geological structure. The materials to be used must meet general requirements. They must be minerals and be suitable with regard to construction physics. The RSS® Flüssigboden used for backfilling has properties that can be adjusted depending on the project.

Backfill materials

The RSS® Flüssigboden method, which meets the requirements of the quality assurance according to RAL-GZ 507, is an aid for the production of backfill materials whose properties can be variably and specifically adapted to the requirements of the respective application. Not only can the environmental requirements of the legislator be met, and the physical properties of such a material derived from the application can be ideally adapted to the respective conditions of usage. For the first time, technologically relevant properties of a backfill material produced in this way can now be specifically adapted to the placement conditions of the project. These variably adjustable usage properties and technologically relevant properties are the basis for many new technological and technical possibilities with a high influence on improved economic efficiency.

Since the method also enables the safe and permanent immobilisation of contaminated source materials, backfill materials made from such materials can be used safely to backfill underground cavities, even if the surrounding soils of such installation situations are no watertight layers and groundwater is also present in these layers.

Properties of the liquid soil according to requirements and source material

- The liquid soil must be homogeneous and have no tendency to segregation.
- The liquid soil must retain its required properties even when pumped over long distances. A maximum water retention capacity is required.
- The viscosity must be high enough to prevent segregation and low enough to ensure cavity-free placement.
- Strength and elasticity in the form of load-bearing capacity or unconfined compressive strength according to technical planning.
- Friction coefficients, pumpability, water permeability and other properties according to technical planning specifications. Water permeabilities $< 1.00E-08$ m/s are often required.
- re-use of almost every excavated material possible



Reference projects

Construction project: Dresden, Neustädter Tunnel
 Construction period: 2016
 Builder: Regional capital Dresden
 Production: Flüssigboden GmbH, Eilenburg, Germany
 Planning: LOGIC Logistic Engineering GmbH



Construction project: Berlin, subway tunnel Dresdner Straße
 Construction period: 2015
 Builder: Senate Department for the Environment, Transport...
 Planning: LOGIC Logistic Engineering GmbH

