

Backfill materials

Backfilling of a subway tunnel in Berlin Kreuzberg

The challenge

The Dresdner Straße tunnel was a tunnel section of the former AEG line of the Berlin subway that was started in 1914 and completed in 1925 after a long interruption. Due to a route change, the section of the planned subway station "Oranienplatz" remained unfinished and did not go into operation. Instead, it was used by BEWAG (Berlin municipal power utility) as a network station until the 1980s. A main inspection of the tunnel system in Dresdner Straße in 2012 revealed considerable damage. For cost reasons, the deconstruction was carried out with backfilling by RSS® Flüssigboden.



Subway tunnel Dresdner Straße backfilling



Construction project

Berlin, subway tunnel
Dresdner Straße

Builder

Senate Department for the
Environment, Transport and
Climate Protection Berlin

Production of Liquid Soil

Dunkel Baustoff-Recycling-
Zentrum oHG

Construction period

2015

Technical planning

LOGIC Logistic
Engineering GmbH

The solution

The decision was made to deconstruct the structure by completely backfilling it with a temporary flowable, self-compacting backfilling material (liquid soil) in accordance with RAL-GZ 507. The liquid soil was placed in layers by means of concrete pumps via pump lines through the access shafts or previously drilled holes from above through the tunnel ceiling.

Properties of RSS® Flüssigboden

- homogeneous and free of any tendency to segregation
- Diameter of flow: 61-65 cm
- Strength and elasticity in the form of load-bearing capacity or unconfined compressive strength according to technical planning.
- Mix design for pumpable liquid soil with constant volume
- Surface friction τ_{max} after 28 d: $> 5 \text{ kN/m}^2$



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