

Backfill materials

Backfilling of Neustädter Tunnel 2016, Dresden

The challenge

The pedestrian tunnel at Neustädter Markt existed from 1976 to 2016. Its "main tube" connected the Augustus Bridge with the east side of Neustädter Markt. Side entrances to Große Meißner Straße branched off from it. During the 2002 flood, the tunnel disappeared under the masses of water. The underpass was also flooded in June 2013 and remained closed ever since. Due to the risk of flooding, it was decided to deconstruct and backfill the tunnel. Since an open construction method was ruled out due to the heavy traffic on the road, the cavities were backfilled using the RSS® Flüssigboden method according to RAL-GZ 507.



Backfilling with RSS® Flüssigboden



Construction project

Dresden, Neustädter Tunnel

Builder

Landeshauptstadt Dresden

Production of Liquid Soil

Flüssigboden GmbH,
Eilenburg

Construction period

2016

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 from above through the tunnel ceiling by means of chutes and filling funnels through previously drilled holes.

Properties of RSS® Flüssigboden

- Deformation module EV2 on the surface: > 45 MN/m²
- Unconfined compressive strength qu: 0.2 to 0.3 N/mm²
- Water impermeability k: < 1x10⁻⁶ to 1x10⁻⁷ m/s
- Change of volume: < 0.5%
- No shrinkage

