



Stabilisation with expanded clay on the B 432 in Ahrensböök



In the Ahrensböök area, the federal road B 432 showed clear signs of settlement – the load-bearing layers had subsided over time, and the course of the carriageway was no longer permanently stable. The cause lay within the embankment itself: insufficiently load-bearing subsoil and a lack of relief in the upper structure.

The decision was made to carry out a complete soil replacement in the affected section – with the aim of stabilising the embankment in the long term while simultaneously relieving the subsoil. The solution: lightweight construction with expanded clay.

Soil replacement with expanded clay – efficient and relieving

Firstly, the existing embankment was excavated to a depth of around three metres. The new structure was then installed step by step in accordance with the “Guideline on the use of expanded clay as a lightweight construction material in earthworks for road construction”:

- 30 cm crushed stone base layer, enclosed in a combination grid, load distribution EP
- 3 layers of 60 cm expanded clay each, enclosed in geotextile (fleece)
- 90 cm superstructure (frost protection + 26 cm asphalt)

The expanded clay was installed layer by layer directly into the excavation, with appropriate compaction. The geotextiles served as separation and filter layers to prevent material mixing and settlement.

FACTS

Project: Road renewal of federal road B 432

Location: Ahrensböök, Schleswig-Holstein

Client: State Road Construction and Transport Authority of Schleswig-Holstein

Contractor: STRABAG AG

Product: 3,460 m³ LECA® 4–8 mm, crushed