CASE STUDY
SPR™

STENDAL, GERMANY
DN1740/1500 (68.5/59 in), 254 m (833 ft)

The tamped concrete dome profile canalised the water course of the River Uchte in Stendal in 1887.

One of the oldest parts of Stendal's underground infrastructure is the "canalized Uchte". As early as 1887 the River Uchte was canalized by building a dome-shaped sewer under the present-day alignment of Bruchstraße. The sewer was constructed in tamped concrete on a brick foundation. After 130 years of continuous use, however, this structure was fraught with typical problems: the integrity of the concrete was weakened, the walls were becoming porous and no longer water-tight, their surface was disintegrating and they were becoming unstable. The minimum coverage of only 15 cm (5.9 in) in some places caused that the over the decades increased traffic load damaged the dome-shaped pipe.

Due to the unique structural sewer design and the parallel ongoing street facelift as part of the town center redevelopment, only trenchless rehabilitation was possible. In addition Bruchstraße is an archaeologically sensitive site. The solution was the SPR™ Spiral-Wound pipe lining method that rehabilitated direct in the sewer the custom-shaped profile by using the existing manholes without any impact on the road resurfacing work above ground. The rehabilitation project was performed by KMG Pipe Technologies, a subsidiary of SEKISUI SPR Europe.

Therefore a winding machine, installed in the sewer, crawled along the full length of the structure, forming the Spiral-Wound pipe from a street-reinforced PVC profile strip trailing behind it.

The winding frame of the machine was adjusted to the dimensions and cross-section of the structure in advance. The intentionally defined annular space between the SPR™ liner and the old pipe was filled by a high-strength grout. This sheathing gave the new pipe its static quality independent of the old pipe. In a final stage the intake pipes were milled off, flushed and cleanly connected by GRP hand laminate to the inside wall of the new sewer.

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