

CASE STUDY

SPR™

STUTT GART, GERMANY

DN2320/1900 (91.3/74.8 in), 260 m (853 ft)



Rehabilitation with an interceptor beneath the Leuzetunnel. It was the largest diameter ever rehabilitated with the SPR™ Spiral-Wound in Germany.

One of the main conduits of Stuttgart's sewer system running below a tunnel shared by two extremely busy federal roads and almost directly above it a popular open-air swimming pool (Leuzebad): this extreme concentration of infrastructure was the existing situation confronting KMG Pipe Technologies, a member of the SEKISUI SPR Europe, when it tackled a spectacular sewer rehabilitation project.

Its oldest masonry sections date back to 1898. Besides the aging structure, the main problem of the Leuze interceptor was the composition of the water flowing into it at this point. Due to its

location within the lift zone of the mineral springs, the carbon dioxide content is increased. This is extremely damaging to mineral structures and exerted particular strain on the largest width of the main sewer. The dome profile with the dimensions 2320/1900 mm (91.3/74.8 in) was constructed in 1961 and suffered heavily under the acid attack lasting half a century. A further complication in this project was that all three sections to be rehabilitated had different profiles.



Probably the most restrictive factor was the extremely poor accessibility of all sections, whose crown is up to 10 m (32.8 ft) below the surface. In two sections the sewer could only be reached via a 12-metre (39 ft) deep access shaft immediately adjacent to the entrance of the Leuzebad.

The SPR™ Spiral-Wound pipe lining method by SEKISUI SPR Europe – by which a plastic profile strip with key-and-slot joint is unwound into the old sewer – was tailor-made for this rehabilitation project. A standard manhole suffices for the introduction of process engineering equipment and material.

The steel-reinforced plastic endless profile and patented winding frame, specially constructed for the size and geometry of the respective sewer enables not only circular profiles, but also any other special profiles to be wound.

After the installation the created annular gap between the host pipe and the wound PVC liner was filled with a special high-strength grout.

In the long term, the new cement structural is an important operational advantage: the steel reinforced PVC profile protects the old pipe and the inserted annular grout is durable against mechanical wear and chemical attack from the wastewater composition. The annular space grouting will be unassailable from the wastewater side, the carbonated water will not do any further damage to the pipe.

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