

Partial renovation of a connection sewer at Paradeplatz in Rendsburg

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Rendsburg

Rendsburg is a town on the River Eider and the Kiel Canal in the central part of Schleswig-Holstein, Germany. It is the capital of the Kreis (district) of Rendsburg-Eckernförde





Hidden under the streets in Rendsburg around 250 kilometers of public sewers and pipes, which the water company Abwasserbeseitigung Rendsburg is responsible for the maintenance as cleaning, rehabilitating and constantly expanding.

1° STEP

Cleaning phase of the pipelines and
TV inspections of all 500 meters



2° STEP

Checking the dimensions and the static analysis.

PROBLEM:

18 meters of a rectangular profile measuring 1800 x 1790 mm



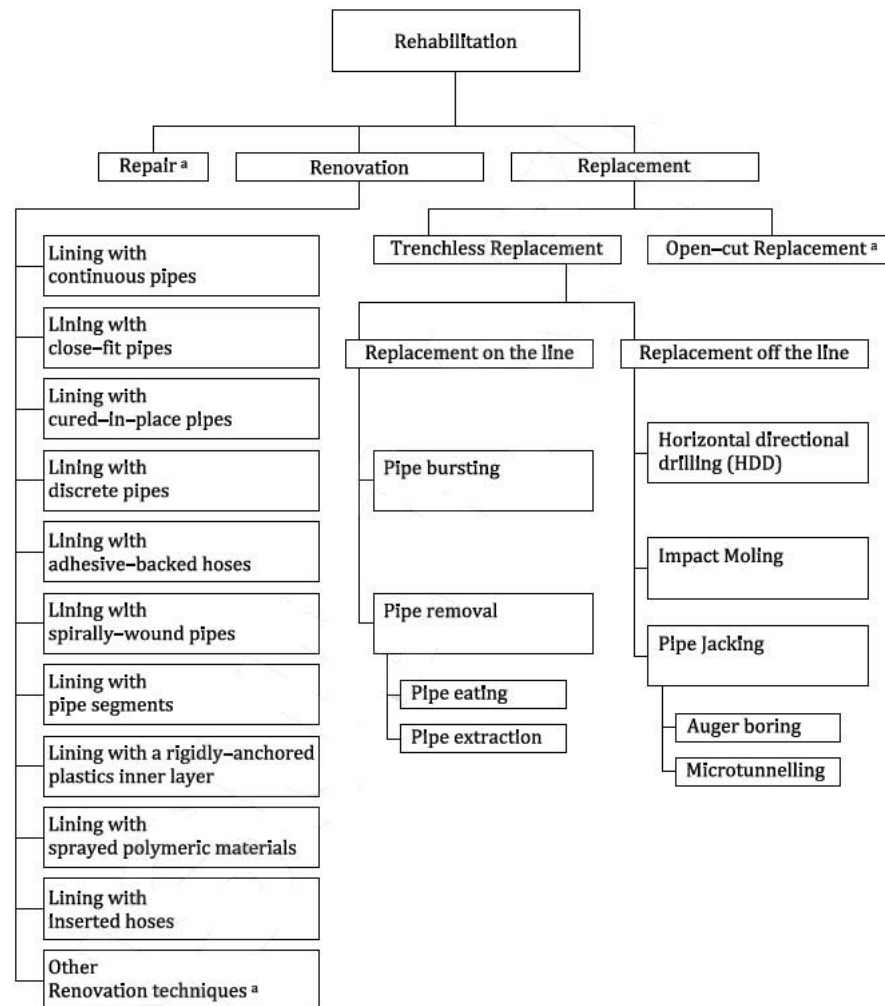
FIND THE BEST TECHNICAL SOLUTION



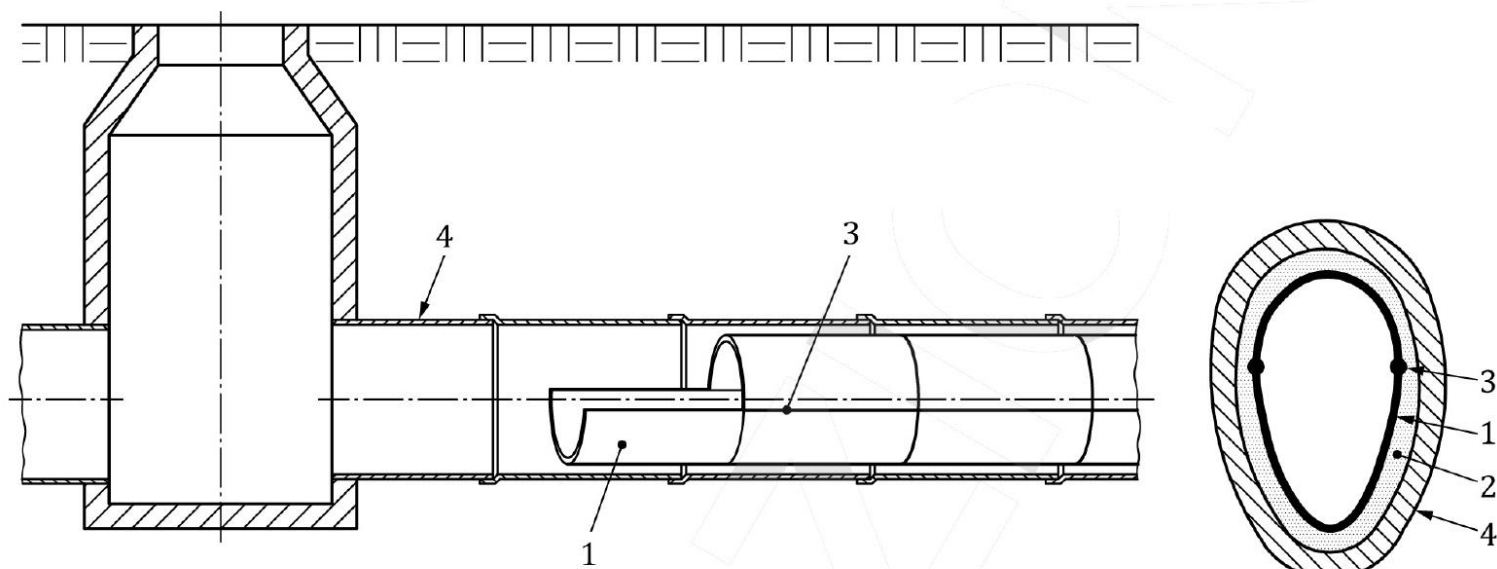
EN ISO 11295

MANY OPTIONS
WHICH FITS BEST?
 NOT ONE SOLUTION FOR ALL PROBLEMS

BUDGET
 SIZE
 REQUIREMENTS
 PROJECT PARAMETERS
 SEWER LAY-OUT



LINING WITH PIPE SEGMENT



Key

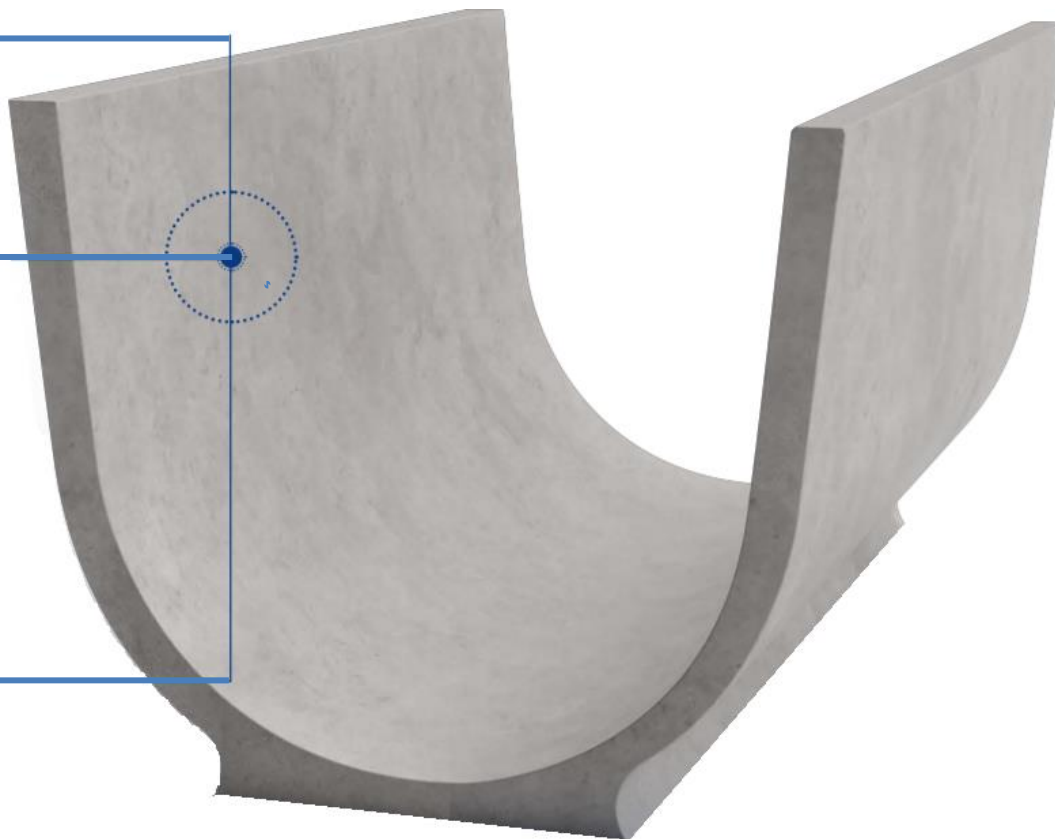
- 1 lining pipe segments
- 2 grout
- 3 longitudinal joints

POLYMER CONCRETE

81% Quartz

13% Polyester resin

6% Additives



POLYMER CONCRETE

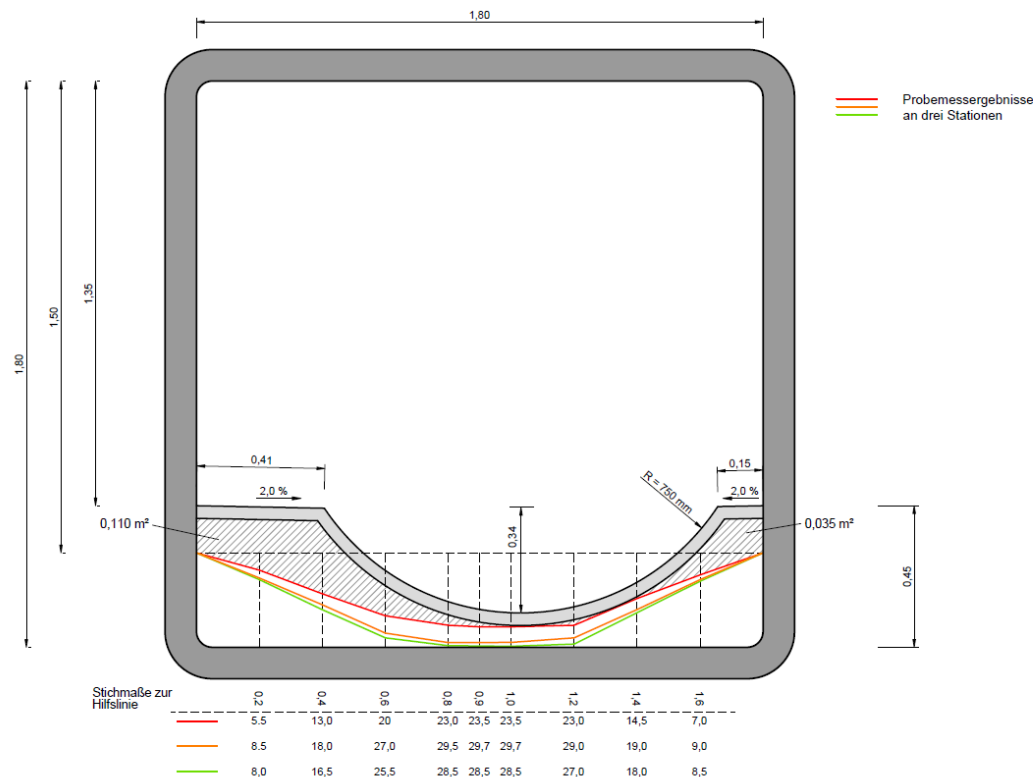
- Casted polymer concrete panels (sliplining technique)
- Quartz with a polyester-based resin
- High flexibility in shape and size
- Highly suited for irregular sewer lines
- Flexibility to installation: provision of backfilling entrances, anchor points, ...
- Adjustable thickness

POLYMER CONCRETE



3° STEP

The final design decision was to provide a 40-mm thick element for the rehabilitation of the bottom and GRP sheet covering of the remaining part. The design office thought of a particular section with the possibility of a walkway for inspection and an acute channel for wastewater. The flexibility in the production of polymer concrete elements made it possible to realise exactly the geometry envisaged by the design office.



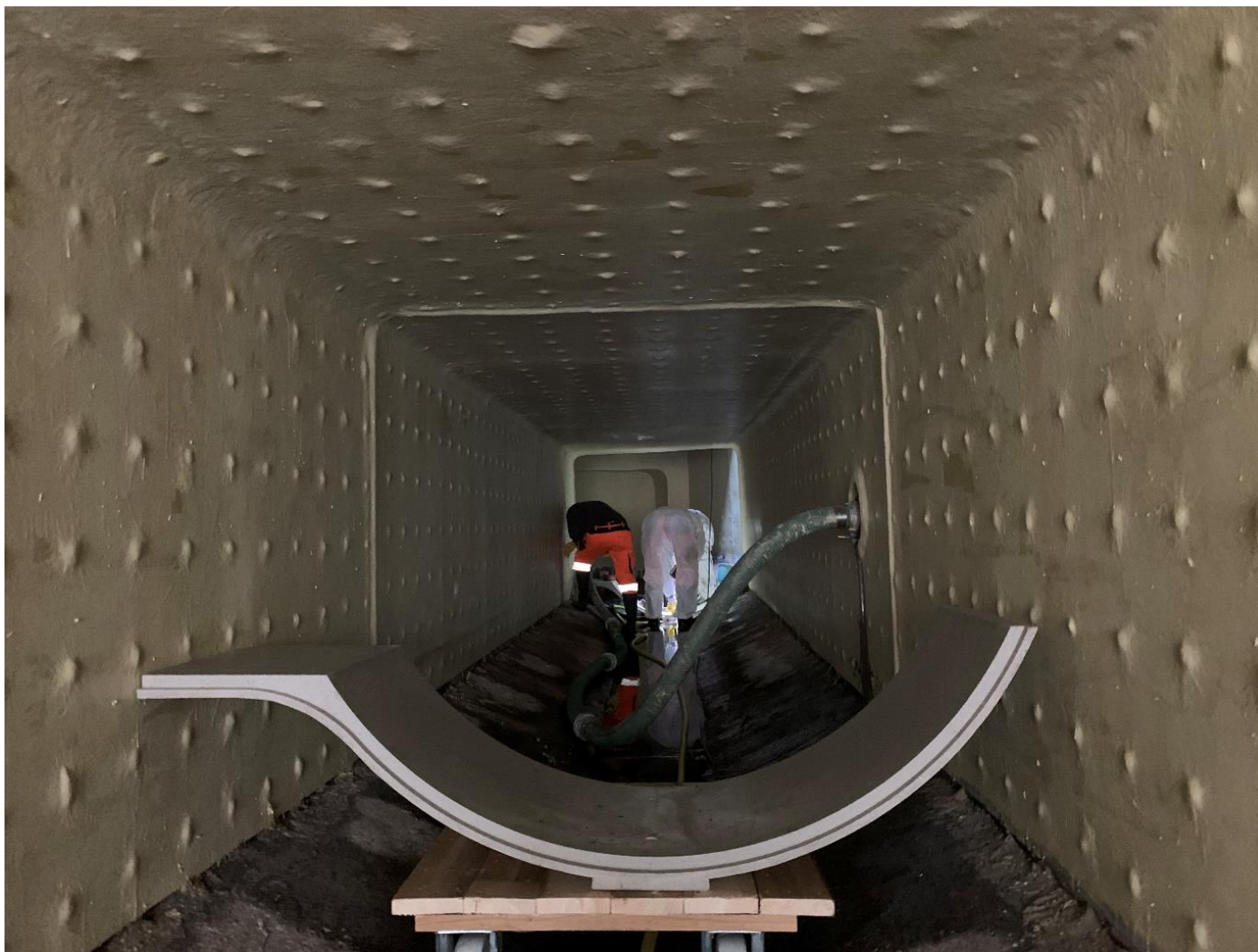
Technical drawing of a curved structural member, likely a beam or arch, showing dimensions and highlighted areas. The drawing includes the following dimensions:

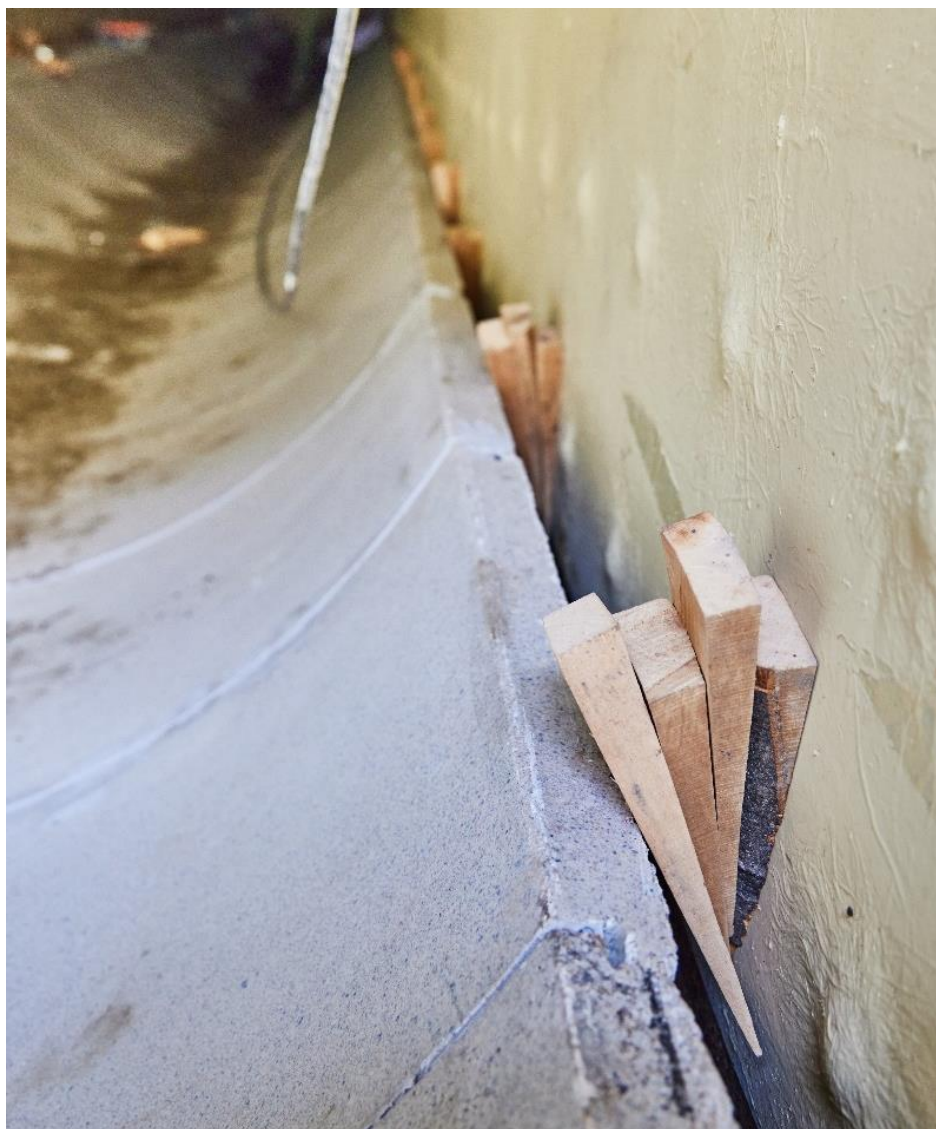
- Overall horizontal span: 1718
- Horizontal distance from the left end to the first highlighted area: 364
- Vertical distance from the left end to the first highlighted area: 40
- Radius of the curve: R150
- Vertical distance from the center of the curve to the second highlighted area: 440
- Horizontal distance from the center of the curve to the second highlighted area: 220
- Vertical distance from the center of the curve to the bottom of the second highlighted area: 55
- Thickness of the member: 40

Two areas are highlighted with blue rectangles:

- The first highlighted area is a rectangular section on the left side of the curve.
- The second highlighted area is a rectangular section at the bottom of the curve.

4° STEP: Installation













THANK YOU FOR YOUR ATTENTION

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