

Trenchless Pipeline Renewal with SIMONA® SPC RC-Line Pipes



After the SIMONA® SPC RC pipe had been welded to the towing head it had to overcome a distance of 72 m and a maximum incline of 80%.

In the town of Baden, Switzerland, a drinking water transport and supply pipeline that was over 60 years old was renewed along the same route using the pipe bursting method. The contractor, Brunschwiler AG, a leading civil engineering company specialising in trenchless pipe renewal, required a pipe that would meet the engineering challenges associated with the replacement of the 72 metre section. SIMONA® SPC RC drinking water pipes were identified as the perfect solution.

The project at a glance

Project

Renewal of the existing drinking water transport and supply pipeline in Baden, Switzerland

Client

Regionalwerke Baden AG, Baden

Contractor

Brunschwiler AG, Sirnach

Technical Support

Brunschwiler AG, Sirnach
SIMONA AG Schweiz, Möhlin

Products used

SIMONA® SPC RC-Line drinking water pipes with SVGW approval (blue with green stripes), d = 450 mm, SDR 11

Method of laying

Trenchless pipelaying using the pipe bursting method

Duration of project

July 2011



From left to right: the bursting head, including a new SIMONA® SPC RC drinking water pipe, is inserted into the old pipe. During insertion it destroys the old pipe, displacing it into the surrounding soil, and the drinking water pipe finally arrives in the destination pit.

Pipe insertion using the efficient, environmental friendly pipe bursting method

Initial situation

As part of road surfacing and concrete parapet works in Rütistrasse in Baden, Regionalwerke AG Baden decided to renew the existing drinking water pipe to the reservoir. The pipe was made of grey cast, had a diameter of 400 mm and had been in place since 1950. It had to be laid up a slope with a maximum incline of 80 %.

Task

For reasons of safety, space and cost it was not possible to apply alternative methods of laying, such as horizontal drilling. To ensure efficient, successful project realisation using the pipe bursting method, the pipe material therefore had to meet the following requirements:

- Excellent bond and shear strength between inner pipe and protective jacket
- No crack propagation from the protective jacket into the inner pipe
- Extremely effective protection against major physical damage such as notches, abrasion and wear (PP Protect)

In addition, the period available for renewing the pipeline was only three weeks.

Solution

The pipe used was a SIMONA® SPC RC drinking water pipe, d = 450 mm, with a polypropylene protective jacket. On account of its high level of resistance to physical damage and owing to the enormous bond strength of its protective jacket, this pipe is ideal for a displacement method such as static pipe bursting. With the aid of the efficient, trenchless pipelaying method it was no problem to complete the work within the specified timeframe.

Thanks to good collaboration between all the contractors involved in the project and strict adherence to project planning, the construction project was completed without any complications and to everyone's satisfaction.

SIMONA® SPC RC-Line

Properties

- Excellent bond and shear strength between inner pipe and protective jacket
- High abrasion resistance
- High stress crack resistance
- No crack propagation from the protective jacket into the inner pipe
- High inner pipe resistance to slow crack propagation (PE 100 RC)
- Extremely effective protection against major physical damage such as notches, abrasion and wear (PP Protect)
- Open laying without the need to prepare the excavated soil

Product range

- Pipes



Further information

SIMONA AG Schweiz

Industriezone
 Bäumlimattstrasse 16
 CH-4313 Möhlin
 Phone +41 (0)61 855 9070
 Fax +41 (0)61 855 9075
 mail@simona-ch.com

Brunschwiler AG Bohrungen

Erlimattstrasse 21
 CH-8370 Sirnach
 Phone +41 (0)71 966 1363
 Fax +41 (0)71 966 5305
 info@bohrungen.ch