The project at a glance

**Project**
Construction of a new natural gas pipeline between Grenchen and Arch in the cantons of Solothurn and Bern, Switzerland

**Requirements for the pipes**
- SVGW approval
- High pressure-specific load-bearing capacity
- High abrasion resistance
- Suitability for alternative methods of laying such as horizontal directional drilling (HDD)

**Customer**
Gasverbund Mittelland AG, Switzerland

**Contractor**
SWG Grenchen, Switzerland

**Technical support**
Gawaplast AG, Neuhausen, Switzerland
SIMONA AG, Möhlin, Switzerland

**Products used**
- SIMONA® PE 100 SPC RC-Line Protective-Jacket Pressure Pipes, d 400 mm, SDR 11, yellow with green stripes, PAS 1075 Type 3
- SIMONA® PE 100 RC-Line Pressure Pipes, d 400 mm, SDR 11, black with yellow stripes, PAS 1075 Type 1

**Method of laying**
Wash-boring method, trench cutting

**Project duration**
April to November 2012

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As part of a construction project for a new natural gas pipeline in the Swiss cantons of Solothurn and Bern, utility company SWG Grenchen required robust, pressure-resistant plastic pipes. They had to be suitable both for trenchless and for sandbedless pipelaying. The choices made were SIMONA® SPC RC-Line Protective-Jacket Pipes and SIMONA® RC-Line Pressure Pipes.
SIMONA® Piping Systems for Gas Supply – Simple and Safe

Initial situation
The high-pressure gas pipeline that had been in place between the municipalities of Grenchen and Arch in the Swiss cantons of Solothurn and Bern since 1967 had to be renewed on account of safety aspects. Owing to the demanding installation conditions, the only pipe material deemed suitable by SWG Grenchen was plastic.

Task
Since the route of the pipeline would go under public roads, SBB railway tracks, private properties and the River Aare, the new gas pipeline had to be laid by means of the so-called HDD method (horizontal directional drilling) as well as the trench cutting method. With this in mind, the plastic pipes had to meet the following requirements:

- Excellent bond strength and shear strength between inner pipe and protective jacket for trenchless pipe insertion
- No crack propagation from the protective jacket into the inner pipe
- Extremely effective protection against major physical damage such as notches, abrasion and wear
- High stress crack resistance
- SVGW approval

Solution
In the area of the HDD crossings, SIMONA® SPC RC-Line Protective-Jacket Pipes, d 400 mm, SDR 11, were jetted in place. Since SIMONA® SPC RC-Line Protective-Jacket Pipes offer extremely high resistance to physical damage on account of the pipe jacket being made of modified polypropylene, they are ideal for trenchless methods of pipe insertion. By contrast, the trench cutting method was applied in the sandbedless pipe sections. Here SIMONA® RC-Line Pressure Pipes, d 400 mm, SDR 11, were laid. RC-Line pressure pipes are particularly suitable for this method because of their higher level of protection conforming to PAS 1075 Type 1.

Further information

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