

Firmly in the saddle – permanently tight service pipe feeds



The above photograph shows the connection of SIMONA® PE 80 external saddles SIMOFUSE® for service pipe connection to the main sewer and a PVC-KG pipe. The photographs below show the components used for the connection to the main sewer as well as the firmly bonded weld connection of the main sewer/external saddle.

During the course of a road reconstruction project, the Idar-Oberstein Town Council repaired a defective reinforced concrete sewer using the partial open-trench method. Thanks to the use of SIMONA® PE 100 pipe modules SIMOFUSE® and SIMONA® PE 80 external saddles SIMOFUSE®, it was possible to lay an absolutely tight and abrasion-resistant pipe system that would remain operational in the long term.

The project at a glance

Project

Rehabilitation of a 140 m reinforced concrete pipeline DN 600 and DN 800 with SIMONA® PE 100 pipe modules SIMOFUSE® including replacement of 20 service pipe feeds for rainwater and waste water with SIMONA® PE 80 external saddles SIMOFUSE®

Requirements

- Permanently tight welded connection of the main sewer and the external saddles for service pipe connection by means of electrofusion welding
- Transition to PVC-KG pipes
- Push-fit socket connection

Client

Idar-Oberstein Municipal Services

General Contractor/Plastics Processing

Idar-Oberstein Municipal Services

Project Planning

Ingenieurbüro Hartmann & Ruess GmbH, Veitsrodt

Technical Support

Application Technology, PM Relining SIMONA AG, Kirn

Products used

- SIMONA® PE 100 pipe modules SIMOFUSE®, 3 m long in d 710 and d 560 mm
- SIMONA® PE 80 external saddle SIMOFUSE® for d = 560, 710 mm connection: service pipe DN 150 mm

Project period

2005



Figs. (from left to right): Welding and feed-in of SIMONA® PE 100 pipe modules SIMOFUSE®, PE 80 external saddle SIMOFUSE® for service pipe connection welded with PE 100 waste-water pipe

SIMONA® external saddle SIMOFUSE® – for simple connection of service pipes using electrofusion welding

Initial situation

A reinforced concrete waste-water pipe, damaged by material cracks and fractures, was reconstructed using the partial open-trench method. As there was a 16 bar mains water supply line in the immediate vicinity of the sewer, it was not possible to repair the sewer by means of pure reconstruction and relaying. SIMONA was asked for a special solution to this problem.

Task

The Idar-Oberstein Town Council was looking for a pipe system for the rehabilitation of the sewer pipe and the service pipe feeds that would offer the following advantages:

- A permanently tight and perfectly flush-fitting welded pipe connection without interfering socket structures
- Uncomplicated connection of service pipes to PE sewer pipes and a standardised transition to the PVC-KG pipes
- Use of a permanently corrosion-resistant and abrasion-resistant plastic pipe system
- Installation of a system capable of bearing a sustained static load
- Maximum cost-effectiveness in relation to transport, laying, operation and maintenance

Solution

SIMONA® PE 100 pipe modules SIMOFUSE® with integral electrofusion joints were welded together and inserted into the old pipe, without interfering socket structures. The old concrete pipe was broken open in the connection areas beforehand to enable subsequent installation of SIMONA® PE 80 external saddles SIMOFUSE® for the connection of service pipes to the previously fed-in PE 100 pipeline using clamping tools. With the help of integral electrofusion joints, the external saddles were welded to the pipeline to produce a perfectly tight flush-fitting connection in accordance with the DVS guideline. Precise connection bore-holes in the PE 100 main sewer enabled the connection of the existing PVC and vitrified clay service pipe feeds through an extended pipe connection using push-fit sockets. The welded pipe system guarantees permanent tightness and functionality. The municipal site management team were particularly impressed with the problem-free handling of the SIMONA system.

SIMONA® PE 80 External saddle SIMOFUSE®

Properties

- Absolutely tight, flush-fitting connection thanks to electrofusion welding
- Variable design for connection to standard pipes, large-format pipes and ovoid pipes
- Easy connection to main sewer and service pipes using open-trench method

Product range

- d 225–560 mm,
- d 630–1000 mm upon request

SIMONA® PE pipe modules SIMOFUSE®

Properties

- Absolutely tight, flush-fitting welding without modification to the external circumference
- Static proof of intrinsic load-bearing capability
- Good hydraulic behaviour thanks to smooth internal pipe surfaces
- Weldable with universal electrofusion control boxes

Product range

- Pipe modules d 180–800 mm
- SDR: 33, 26, 17.6, 17, 11

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