

Murrthal waterworks – SIMONA® PPH AlphaPlus® pipes and fittings



Top left: ventilation and deaeration line, neutralisation tank
Bottom left: sludge water line, ultrafiltration unit
Right: circulation line, neutralisation tank

As an α -nucleated homopolymeric polypropylene (PP-H), SIMONA® PP-H AlphaPlus® is predestined for use in waterworks. The fine crystallite structure of the material has a particularly positive effect on the surface roughness of the internal pipe surfaces carrying the media. This greatly reduces pipe friction and minimises pressure losses. In addition, the extremely low surface roughness is a key quality criterion when it comes to mitigating the risk of adhesion to the inner pipe surfaces and thus contamination of drinking water. These properties also proved to be a compelling proposition for our partner Keller Industriemontagen, who opted for SIMONA's PP-H AlphaPlus® products, among others, when selecting materials for the project.

The project at a glance

Project

Over a construction period of three years, the Murrthal waterworks was created on a site spanning approx. 2,200 m². The project was implemented by SIMONA AG's long-standing partner Keller Industriemontagen GmbH, Durmersheim.

Requirements

- High chemical resistance
- High impact strength
- Efficient processing/machining
- Long service life
- Suitable for use in drinking water installations

Client

Zweckverband Wasserversorgung
Nordostwürttemberg, Crailsheim

Contractor

Keller Industriemontagen GmbH,
Durmersheim

Technical support

SIMONA AG, Kirn, Germany

Products used

SIMONA® PP-H AlphaPlus® pipes and a wide range of fittings for installation in waterworks.

Principal dimensions:

Pipes and fittings:

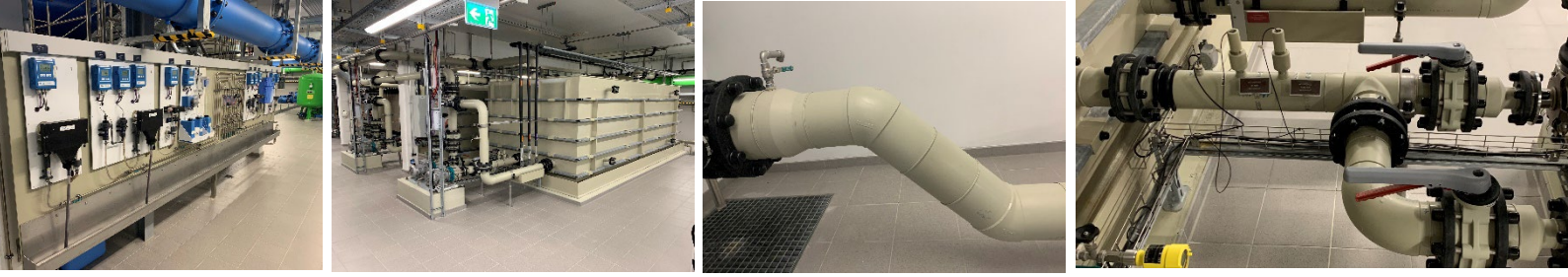
d 20-280 mm, SDR 17.6

Sheets:

4000 x 1500 x 10 mm

Duration of project

3 years



SIMONA offers a wide range of materials for pipe system assembly and tank construction. Find out more at www.simona.de/anwendungen

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Initial situation

Zweckverband Wasserversorgung Nordostwürttemberg (NOW) made the decision to treat and (partially) soften raw water from approx. 60 wells and springs at the Murrthal waterworks in compliance with the latest technical and ecological standards. Alongside an ultrafiltration system to reduce and eliminate turbidity, microplastics and pathogens, the installation was also to include activated carbon filters for the purpose of dealing with residues of pesticides or pharmaceuticals. The CARIX (CARbon Dioxide Regenerated Ion EXchanger) method was to be used for water softening. This was to be complemented by a UV disinfection system for additional safety.

Task

Particularly exacting standards had to be met by the pipe systems as part of the construction of the new waterworks. In addition to excellent durability and low incrustation, the pipe system had to be suitable for use in drinking water installations.

Solution

The SIMONA® PP-H AlphaPlus® pipes and fittings and SIMONA® PP-H AlphaPlus® sheets were delivered to the production facility of Keller Industriemontagen GmbH, Durmersheim, for prefabrication as well as directly to the construction site for pipeline installation. The diameters of the PP-H AlphaPlus®-100 pipes ranged from 20 to 280 mm in SDR 17.6.

Together with matching SIMONA® PP-H AlphaPlus® fittings such as tees, bends, reducers, stub flanges and loose flanges, SIMONA was thus able to provide a complete pipe system for the ultrafiltration plant, the neutralisation tanks and the connecting lines for the various treatment stages. As the components come with potable water approval according to KTW and NSF61, they are the perfect choice for this application.

SIMONA® PP-H AlphaPlus® sheets were also used in a variety of applications for the attachment of measuring equipment. After a construction period of three years, with a total investment of around 14.2 million euros (net), the new Murrthal waterworks was finally ready to go into operation. The waterworks is capable of producing around 6.9 million litres of drinking water per day.

SIMONA® PPH AlphaPlus®

Properties

- Produced from DIBt-approved PP-H moulding compound
- High chemical resistance
- Extreme toughness and rigidity
- Good stress crack resistance
- Excellent corrosion resistance
- Very low risk of particle and bacteria build-up due to ultra-smooth surfaces
- Operational capability at high temperatures of up to +100 °C
- Permanently tight, high-strength welded joints

Fields of application

- Chemical installations
- Water and wastewater technology
- Renewable energy

Product range

- Extruded and pressed sheets
- Twin-wall sheets
- Solid rods
- Welding rods
- Pipes
- Fittings
- Valves

Further information

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