



SIMONA® PE Twin-Wall Sheets climb the highest mountains



From top down: The PE tank had to be welded together on site in the room where it was to be set up; swimming pool with overflow channel; the Chalet Hotel Hornberg in Saanenmöser near Gstaad

As part of a refurbishment plan, the Chalet Hotel Hornberg commissioned Fehlmann Wasseraufbereitung AG to build a top-quality indoor swimming pool. In order to temporarily store water flowing from the swimming pool to the water treatment system, a plastic overflow tank was to be used. Schättin GmbH opted for SIMONA® PE Twin-Wall Sheets as a particularly cost-effective solution.

The project at a glance

Project

Design of an overflow tank for a hotel swimming pool

Size of the tank

- Internal dimensions (W x L x H):
3,500 x 1,000 x 1,500 mm
- Maximum quantity of water 5,250 m³
- Feed/discharge lines made with
SIMONA® PE 80 pipes and fittings

Requirements

- High rigidity and strength
- Permanent resistance to swimming pool water at a service temperature of 32 °C
- Good weldability

Client

Fehlmann Wasseraufbereitung AG,
Münchenbuchsee, Switzerland

Manufacturer

Schättin GmbH, Rickenbach,
Switzerland

Technical consultancy

Technical Service Center
SIMONA AG, Kirn

Products used

- SIMONA® PE-HKP (Twin-Wall Sheets with 8 mm outer skins and 19 webs)
- SIMONA® PE-HKP Corner Elements
- SIMONA® PE-HWU Sheets
- SIMONA® PE 80 Pipes and Fittings

Time of project

4th quarter of 2008



From left to right: Prefabricated corners from SIMONA; piping made of SIMONA® PE 80; welded corner element

Light, robust and extremely durable: SIMONA® PE Twin-Wall Sheets (PE-HKP)

Initial situation

The new swimming pool at the Chalet Hotel posed a significant challenge: on account of the small access door, the overflow tank had to be welded together on site in the confined room where it was to be set up in the hotel basement; at the same time, the project had to be carried out within a limited budget.

Task

Fehlmann Wasseraufbereitung AG, who were commissioned to build the swimming pool, awarded the tank and pipe construction company, Schättin GmbH, a contract to make an overflow tank with pipe connections. The tank had to be permanently resistant to chlorinated water and meet several other requirements:

- Rectangular shape due to space available on site
- Light weight for transport into the basement
- High rigidity

Solution

Schättin GmbH opted for the innovative product SIMONA® PE Twin-Wall Sheets. Owing to the high rigidity of the material, there was no need for the usual cross-ribbing and steel sections for reinforcement. The benefits of easier transport into the basement due to the light weight, in conjunction with high strength and good chemical resistance to swimming pool water, proved more than convincing. The flexural strength of PE-HKP (19 webs/8 mm outer skin) is roughly equivalent to that of a SIMONA® PE solid sheet with a thickness of 40 mm. In comparison, the sheet only has half the specific weight, which facilitates transport. The prefabricated corners, bottoms and sides were joined together on site without any difficulty using an extrusion welding machine. The cost benefits of SIMONA® PE Twin-Wall Sheets compared to a conventional cross-ribbed tank design can be up to 30 per cent.

SIMONA® Twin-Wall Sheets (PE-HKP)

Properties

- Light weight
- Excellent chemical resistance
- Very good fabrication capability
- High rigidity and strength
- High fracture resistance
- Many different fields of application

Range of products

- Sheets made of PE, PP, PPs or PP-C in various formats with variable web spacing and different sheet thicknesses
- Corner elements

Further information

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