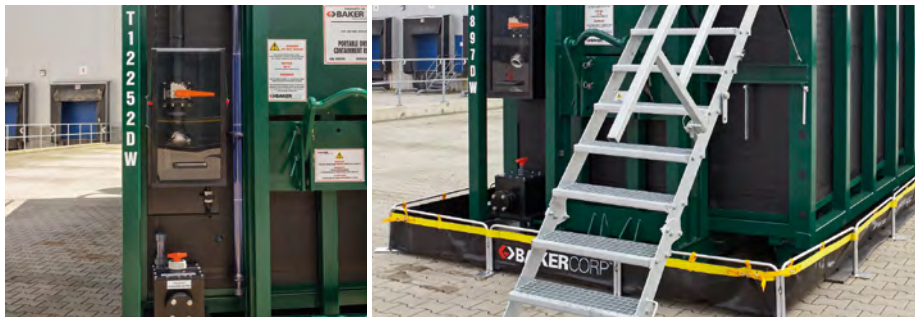


## Transportable double-walled storage container made of SIMONA® PE 100 Twin-Wall Sheets



Top: double-walled storage container made of SIMONA® PE 100 Twin-Wall Sheets;  
bottom left: leakage monitoring unit; bottom right: ladder to the walk-on roof

Roos & Co. Kunststoff- und Metallverarbeitungs GmbH was commissioned by BakerCorp GmbH & Co. KG to design a double-walled storage container for temporary use at various sites. The focus was on ensuring maximum flexibility during inspection and maintenance work. SIMONA® PE 100 Twin-Wall Sheets proved to be the perfect material for this field of application.

### The project at a glance

#### Project

Transportable double-walled storage container  
L x W x H = 6.64 m x 2.24 m x 2.00 m

#### Requirements

- High rigidity
- High dimensional precision
- Resistance to chemicals
- UV stability

#### Client

BakerCorp GmbH & Co. KG, Dorsten, Germany

#### Contractor

Roos & Co. Kunststoff- und Metallverarbeitungs GmbH, Montabaur, Germany

#### Technical consultants

SIMONA AG, Technical Service Centre, Kirn, Germany

#### Individual assessment in accordance with water laws

TÜV Rheinland Industrie Service GmbH, Kunststoff-Kompetenzcenter, Mendig, Germany

#### Products used

- Lengthways-ribbed SIMONA® PE 100 Twin-Wall Sheets, 3,000 x 1,000 x 54 mm
- Roof support section:
- SIMONA® PE 100 AR Sheets
- Roof and base:
- SIMONA® PE 100 Sheets

#### Project duration

1 year



From left to right: interior filled with water for testing; roof made of SIMONA® PE 100 AR Sheets with anti-slip surface on one side; evaluation of the interior after initial use

## SIMONA® PE 100 Twin-Wall Sheets – a tailor-made solution

### Initial situation

For use on a truck, an existing steel construction was to be extended such that the overall storage unit could be transported when empty.

### Requirement

Roos & Co. Kunststoff- und Metallverarbeitings GmbH was tasked with finding a product that would be suitable for integration within an existing steel structure, including leakage monitoring.

Additionally, the material was to have the following properties:

- Low weight
- High UV stability
- High rigidity and stability
- High chemical resistance

### Solution

Lengthways-ribbed SIMONA® Twin-Wall Sheets made of PE 100 were used for this project. SIMONA® Twin-Wall Sheets offer the advantages of high rigidity, low specific weight and good thermal insulation. What is more, they combine the benefits of simple handling and processing, which makes them particularly versatile.

The ridges of the SIMONA® Twin-Wall Sheets were positioned vertically to ensure the best possible structural design for the container and collector. The principle of structural isolation (interior base/ exterior base) was applied when designing the base. The double-walled design with leakage monitoring was achieved by means of a connection with the twin-wall sheets. The structure featured a slanted floor with a leakage detector installed at the lowest point and an inspection unit on the exterior wall. After each cleaning cycle negative pressure is applied for the purpose of ensuring a watertight seal between the container and the collector.

To ensure that the roof of the container is also accessible in poor weather conditions (e.g. rain), SIMONA® PE 100 AR Sheets with an anti-slip surface on one side were used.

### SIMONA® Twin-Wall Sheets

#### Properties

- Low weight
- Excellent chemical resistance
- Very good processing properties
- High rigidity and strength
- High break resistance

#### Fields of application

- Tank construction
- Retaining sumps
- Sound and weather protection booths
- Swimming pool design

#### Product range

- Lengthways-ribbed twin-wall sheets made of SIMONA® PE 100 and SIMONA® PP-H AlphaPlus®, 3,000 x 1,000 x 54 and 58 mm
- Cross-ribbed twin-wall sheets made of SIMONA® PE 100 and SIMONA® PP-C, 2,000 x 1,000 x 40 mm
- TWS corners 45° and 90°
- Flat connectors

### Further information

#### SIMONA AG

Technical Service Center  
Phone +49(0)67 52 14-587  
Fax +49(0)67 52 14-302  
tsc@simona.de

#### Roos & Co. Kunststoff- und Metallverarbeitings GmbH

Am Alten Galgen 9  
56410 Montabaur  
Phone +49 (0) 26 02 1029-0  
Fax +49 (0) 26 02 4000  
info@roos-kunststofftechnik.de