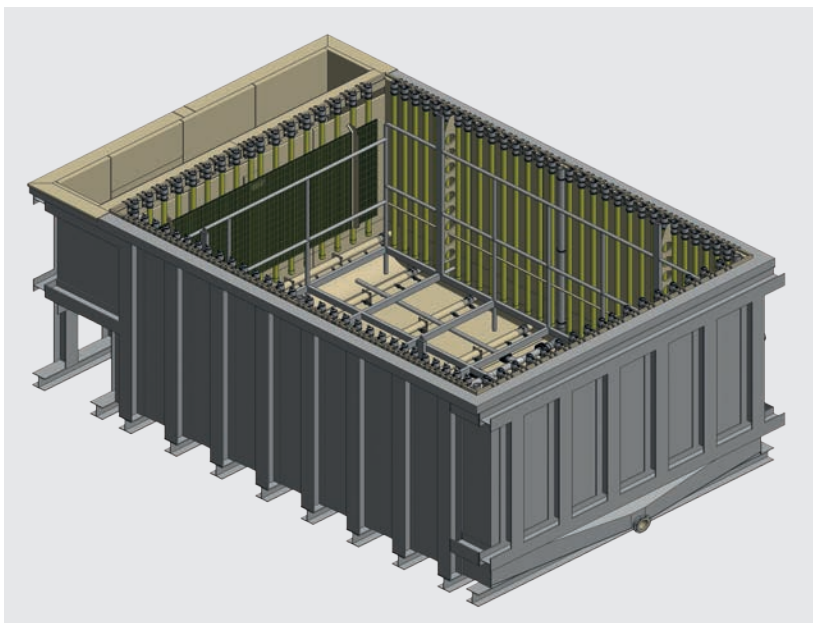


SIMONA® PP AlphaPlus® – The lining material for superior safety in plant engineering



Top: Technical drawing of a CDC dipping plant; bottom left: CDC tank with SIMONA® PP AlphaPlus® liner; bottom right: CDC tank filled with liquid paint

G&H Kunststofftechnik GmbH & Co. KG specialises in the lining of CDC tanks for cathodic dip coating (CDC) of body panels. For the first time in the commercial vehicle sector, an existing steel CDC dipping plant was to be lined with plastic for Claas Selbstfahrende Erntemaschinen GmbH. G&H chose SIMONA® PP AlphaPlus® as a proven lining material for this purpose.

The project at a glance

Project

Lining of a CDC dipping plant with SIMONA® PP AlphaPlus®
L x W x H = 9.32 x 5.74 x 3.96 m

Requirements

- Lining material free from substances detrimental to paint adhesion
- High chemical resistance
- High rigidity and stability
- Long service life
- Easy to process
- Permanently watertight and strong welded connection

Client

Claas Selbstfahrende Erntemaschinen GmbH, Harsewinkel, Germany

Contractor

G&H Kunststofftechnik GmbH & Co. KG, Sprockhövel, Germany

Technical support

SIMONA AG, Technical Service Center

Products used

- SIMONA® PP AlphaPlus® Sheets, 3,000 x 1,500 x 12 mm
- SIMONA® PP AlphaPlus® Pipes, d 125 mm x 11.4 mm, SDR 11
- SIMONA® PP AlphaPlus® Welding Rods

Project duration

2 weeks



From left to right: Lining with SIMONA® PP AlphaPlus® Sheets; nozzle pipes comprising SIMONA® PP AlphaPlus® Pipes; safe welded connections with SIMONA® PP AlphaPlus® Welding Rods

SIMONA® PP AlphaPlus® Sheets, Pipes and Welding Rods for best quality from one source

Initial situation

In cathodic dip coating (CDC) the entire body shell of a commercial vehicle is dipped in a tank of liquid paint to prevent corrosion. For reasons of stability, CDC dipping plants are made of steel. To ensure the necessary electrical insulation of the steel tank from the electro-dip coating, the inside of the tank is traditionally coated with a GRP laminate.

Task

For the first time in the commercial vehicle sector, the existing steel tank of a CDC dipping plant was to be lined with plastic. Two key requirements had to be fulfilled when selecting a suitable lining material. The material had to be free from substances detrimental to paint adhesion and chemically resistant to the dipping paint. A further challenge was presented by the large plant dimensions (L x W x H = 9.32 x 5.74 x 3.96 m). The material therefore had to guarantee ease of processing and provide a permanently tight and strong welded connection.

Solution

The properties of SIMONA® PP AlphaPlus® made it the ideal choice for this application. Thanks to its alpha-crystalline modification, SIMONA® PP AlphaPlus® has improved welding characteristics, higher notched impact strength together with improved rigidity and increased chemical resistance. The fine and stable crystalline structure of the alpha-nucleated material reduces stress cracks. Particularly in critical zones such as weld seams, in which internal or externally applied stresses occur, resistance is increased and the highest level of safety is ensured.

The tank was manufactured by G&H from SIMONA® PP AlphaPlus® Sheets, Pipes and Welding Rods, and inserted as a “loose shirt lining” in the steel tank of the CDC dipping plant. SIMONA® PP AlphaPlus® thus prevailed once again as an alternative lining material against GRP laminate.

SIMONA® PP AlphaPlus®

Properties

- Comprising DIBT-approved PP-H moulding compound
- High chemical resistance
- High toughness and rigidity
- Good stress crack resistance
- Excellent corrosion resistance
- Can be used at high temperatures up to +100°C
- Permanently tight and strong welded connections

Fields of applications

- Chemical tank and equipment construction
- Energy and electrical engineering
- Printing, paper and textile industry
- Mechanical engineering
- Mobility

Range of products

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

Further information

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