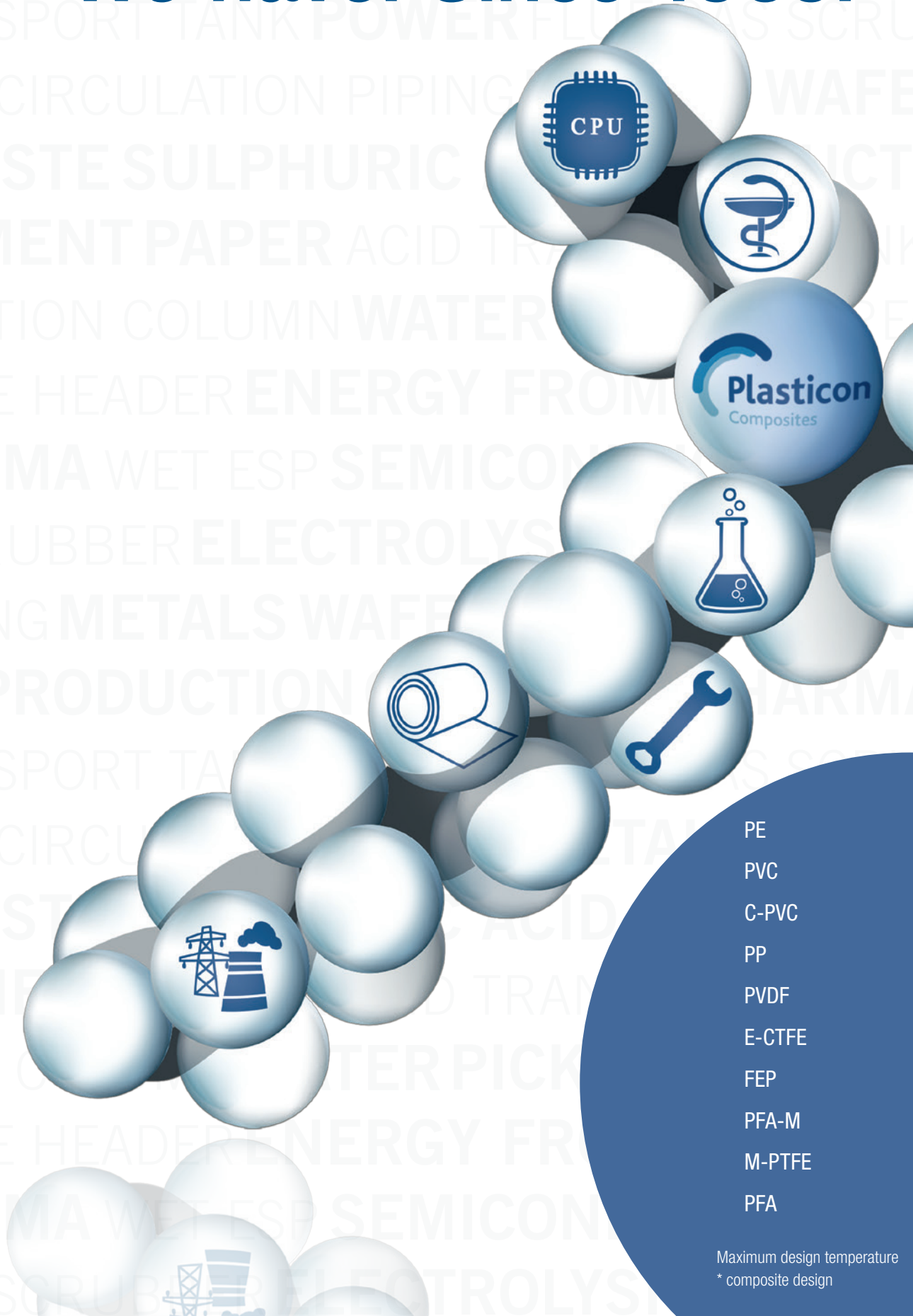


**IINNOVATIVE PLASTIC SOLUTIONS
FOR THE INDUSTRY**



Have you ever thought We have. Since 1969.



- PE
- PVC
- C-PVC
- PP
- PVDF
- E-CTFE
- FEP
- PFA-M
- M-PTFE
- PFA

Maximum design temperature
* composite design

about plastic solutions?



THERMOPLASTICS

- 70 °C
- 70 °C
- 85 °C
- 90 °C
- 120 °C
- 130 °C
- 140 °C *
- 160 °C *
- 160 °C *
- 260 °C

FIBERGLASS
REINFORCED
PLASTICS

FLUOROPOLYMERS

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Storage

Media-compliant storage solutions

Storage tanks which are used in production and further processing of aggressive media need to meet different requirements. Plasticon Composites offers a wide range of solutions for the storage of liquids, gases and solids.

The solutions consist entirely of fiberglass reinforced plastics (FRP) or composite constructions (FRP/thermoplastic or fluoroplastic), depending on the media characteristics. The design is customized to meet the needs of the respective operator and the environment. The storage tanks are manufactured according to the customer's safety requirements as well as the current regulations (AwSV) and standards (DGRL).

The production of tanks with a diameter of up to 8 meters takes place at our workshops. Due to their location, the entire tank can then be transported directly to the installation site by ship. Larger tanks are manufactured at the customer's site.

Storage solutions offered by Plasticon Composites are developed according to all international standards such as DIN, AD N1, ASME and ISO.



Characteristics

- FRP and composite tanks
- Diameter from 0.5 m to 20 m
- Volume from 0.5 m³ to 5000 m³
- General technical approval DiBt
- Individual authorizations in accordance with environmental laws
- Double-wall tanks with leakage monitoring system (LMS)
- Pressure tanks in accordance with DGRL 2014/68/EU



Logistics

Transport of hazardous materials



Tank containers or demountable tanks are used for safe road, rail or water transport of aggressive or ultra-pure media. Quality requirements with regard to the component are very high as hazardous materials are transported via public traffic routes. For this purpose, Plasticon Composites supplies special trailers in composite design (FRP with thermoplastic and fluoroplastic).

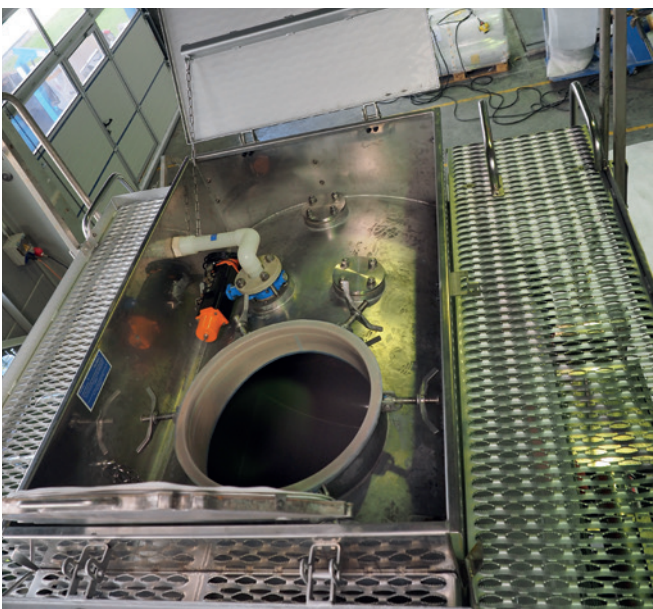
Furthermore, we offer lining of steel tanks and ISO containers. Easy cleaning of the inner surfaces or wetted parts constitute an additional advantage: Empty journeys can be avoided so that vehicle utilization increases.



Plasticon Composites offers regular checks and inspections in order to ensure operational readiness of the tanks in the long run.

Characteristics

- FRP demountable tanks with a tank diameter of 1200 to 1800 mm and shipping volume of 8.3 m³, authorized by the Federal Institute for Material Research and Testing (BAM) and in accordance with D/BAM/1668-0-04/AT
- Manufacturing according to ADR regulations, chapter 6.9
- Lining of steel ISO containers with thermoplastics and fluoroplastics (high purity)



Process Technology Apparatuses

Solutions for process facilities

Plasticon Composites offers apparatuses for the extraction and processing of chemicals; e. g. columns, reactors, agitator vessels, settling tanks, gas coolers, scrubbers and absorbers as well as the related components and additional equipment. These components are designed according to the dynamic and hydrostatic loads that occur in the different processes. They are used in various industries like chemical and pharmaceutical engineering, semiconductor production, refineries and paper mills.

Many of today's Plasticon Composites products are designed to resist highly corrosive media like hydrochloric and sulfuric acid as well as vacuum, high pressures, and temperatures ranging from $-40\text{ }^{\circ}\text{C}$ to $+260\text{ }^{\circ}\text{C}$.

Characteristics

- Process tanks for highly corrosive media
- Fluoroplastic apparatuses for ultra-pure chemicals
- Process columns for the treatment of chemicals
- Individual special designs
- Internals and spray headers
- Lining systems for steel apparatuses
- Pressure tanks in accordance with the Pressure Equipment Directive



Process Technology Piping

Corrosion-resistant piping systems

Piping systems are the connection between storage tanks, apparatuses and other process facilities.

Plasticon Composites manufactures and installs piping systems made of fiberglass reinforced plastics (FRP) as well as thermoplastic-lined FRP pipes (composite pipes) for corrosive and aggressive media like acids, alkaline solutions and chemical intermediate products.

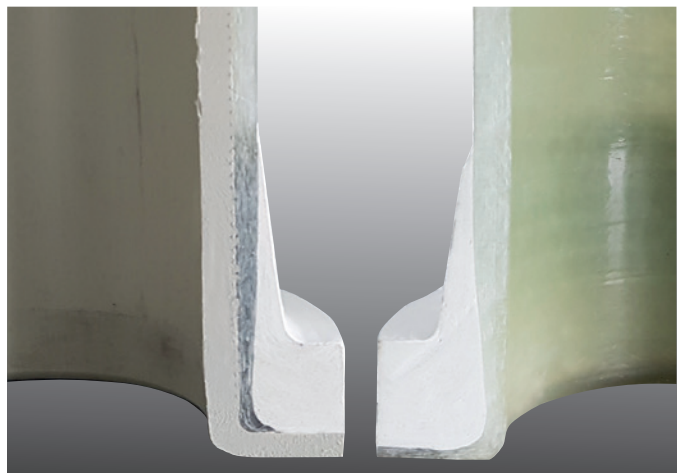
The strength of the FRP in combination with the chemical resistance of the liner provides the customer with an excellent alternative to expensive metal alloys and rubberized steel pipes. Just like vessel and apparatuses the piping systems are custom tailored to the demanded medium, flow rate, pressure and temperature.

Plasticon Composites offers a standardized piping catalog with pipes and components in order to simplify planning processes.



Characteristics

- Pipe types B, D, E in compliance with DIN 16965/966
- Standards: DIN, various company standards provided by the customer, EN-ISO
- DN 25 to DN 3400 as thermoplastic/duroplast or composite pipes, e. g. catholyte and anolyte headers
- Pressure: up to 16 bar
- Temperature range: up to 160 °C
- Delivery of single components (modular system) or prefabricated spools as well as on-site installation
- Plasticon piping configurator



Flue Gas Treatment

Maximum emission protection due to composite constructions

Flue gas ducting, housings, filters and chimneys are subject to particular chemical, abrasive and temperature requirements.

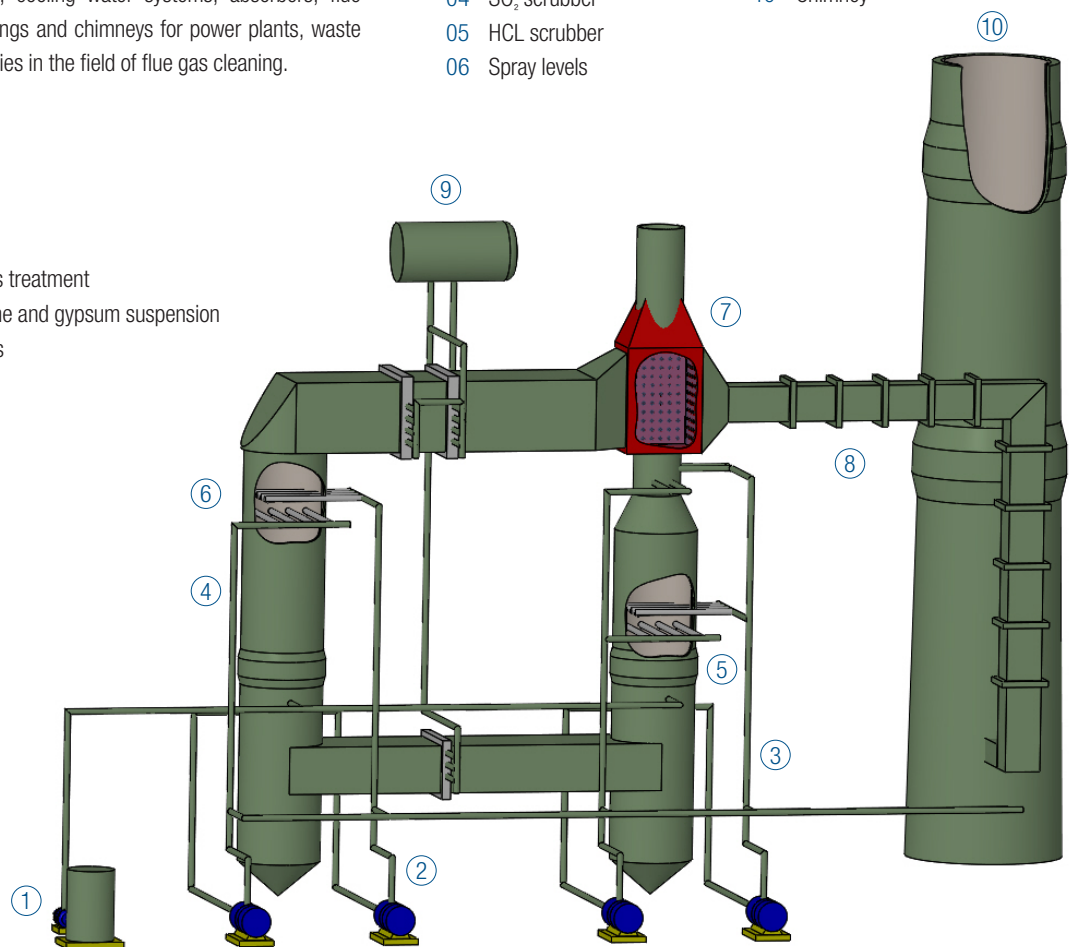
Plasticon Composites offers an extensive range of state-of-the-art equipment for firing systems; e.g. scrubber/spraying systems, wet electrostatic precipitators, recirculation pipes, cooling water systems, absorbers, flue gas ducts, heat exchanger housings and chimneys for power plants, waste incineration and processing facilities in the field of flue gas cleaning.

Characteristics

- Scrubber systems for flue gas treatment
- Storage and processing of lime and gypsum suspension
- Sea water/cooling water pipes
- Wastewater treatment
- Quenches
- Sulfuric acid precipitation
- Wet flue gas desulphurization
- Wet flue gas cleaning
- Recirculation pipes

Flue gas treatment

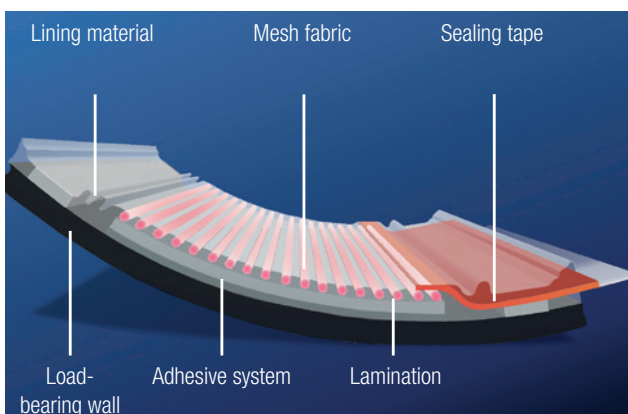
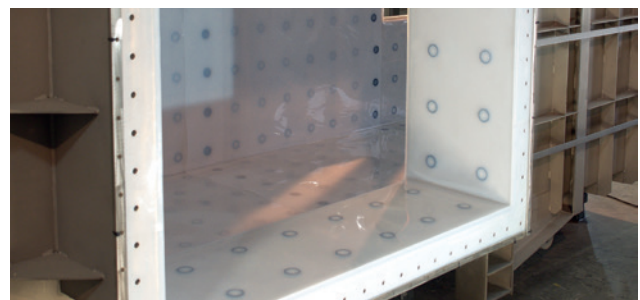
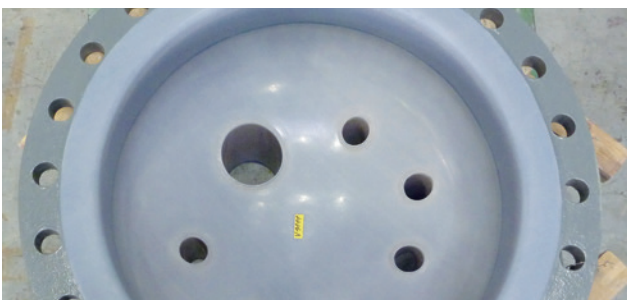
- | | |
|-----------------------------|-------------------|
| 01 Pump storage tank | 07 Heat exchanger |
| 02 Suction/Pressure pipes | 08 Flue gas ducts |
| 03 Recirculation pipes | 09 Emergency tank |
| 04 SO ₂ scrubber | 10 Chimney |
| 05 HCL scrubber | |
| 06 Spray levels | |



Lining Systems

Customized heavy corrosion protection

Highly corrosive liquids and gases take a heavy strain on steel components. Plasticon Composites offers thermoplastic and/or fluoropolymer linings for steel equipment, ISO containers, flue gas ducts, heat exchangers and tanks which are used in numerous industrial sectors, e.g. pharmaceutical and chemical processing, energy production and waste incineration. Plant components can be equipped with a corresponding lining system both in our production and on site. Plasticon offers different loose or fixed lining systems which are used according to the respective application requirements.

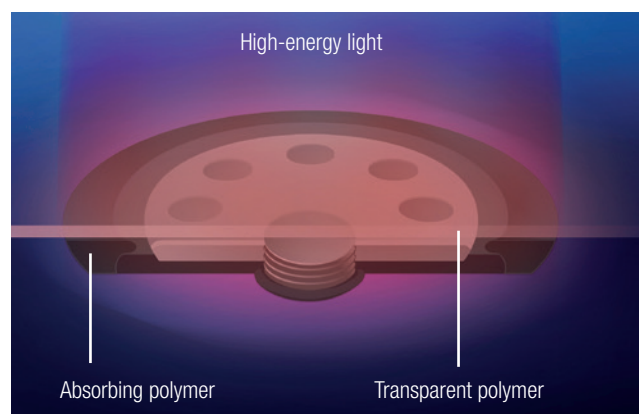


Sheet lining systems: vacuum technology

The lining material is directly applied to the steel component by means of an adhesive system. A complete adhesion is ensured due to vacuum technology. Components with adhered lining systems constitute an advantage as they can also be operated when high negative pressures occur.

Characteristics

- Force-fitting connection with the structural component
- Full vacuum possible
- Corrosion-resistant lining for aggressive media
- Continuous operation up to 120 °C (depending on the choice of material)
- Easier cleansing process
- Application of thick-walled materials



Fixpoint lining systems: Plastlite® technology

During this procedure, the lining material is applied to the steel components through fixed points and welded by means of a patented technology that uses high energy-light. This process allows for a smooth surface of the lining on the medium side so that caking, residue build-up or damages are avoided.

Characteristics

- Maximum operating temperature of the material (PFA = 260 °C)
- Flexibility in terms of temperature fluctuations
- Easier cleansing process
- Better view of the surface and interspaces (optional leakage monitoring)
- No destruction of the liner compared to conventional cap technology
- Reproducible welding due to constant diameters in process control

Inspection and Refurbishment

Preventive maintenance

The material combinations used are subject to natural aging which is encouraged by chemical or abrasive attacks as well as diffusion of aggressive media. This being the case, it is reasonable to use scheduled downtimes for the continuous inspection of plant components. Inspections are also recommended after disruptions.

Inspections performed by our specialized and experienced staff help increase productivity in a sustainable way, avoid expensive and unexpected downtimes, and extend travelling times and operational reliability.

Moreover, inspections make it possible to meet legal requirements resulting from the Water Resources Act or Pressure Equipment Directive.

If necessary, we create profound refurbishment concepts which are realized by our specialists. Adjacent plant peripherals can remain untouched in the course of refurbishment measures so that no additional assembly or disassembly works are required.

This results in time and cost advantages as opposed to new delivery of the concerned plant components.



Inspection services

- Visual control
- Wall thickness measurements
- Barcol hardness test of the resin matrix
- Conductivity measurement of the surfaces
- Spark inductor test for leak testing of welding seams
- Determination of adhesion values at interfaces
- Determination of material properties in own laboratories
- Static proof of stability based on laboratory results
- Preparation of inspection protocols and recommendations

Refurbishment services

- Reconstruction of the load-bearing structure
- Reconstruction of the chemical protection layer
- Repair of thermoplastic linings
- Retrofitting of thermoplastic linings
 - o as complete adhesive variant
 - o as fixed point lining
 - o as sacrificial lining
- Repair works according to inspection report of a notified body (e.g. TÜV)
- Documentation of the performed refurbishment works



Installation and Service

Competent service on site

Plant installation and on-site service complete our range of services with regard to project implementation. Our customer proximity allows us to react in a flexible and fast manner concerning repairs and maintenance of customer production lines and facilities.

Our experienced and qualified employees as well as our in-house quality management ensure that all works are performed in compliance with high quality standards.

Characteristics

- Installation of systems, chimneys and ducts (from 0.1t to 200t)
- Piping assembly/adjustments
- Installation of scrubbers and containers
- Film linings and repairs
- System optimization
- Plastic welding and FRP works
- Maintenance and repair works
- Production and delivery of spare parts
- Creation of installation and repair concepts
- Creation of crane and hoist concepts



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One company, many locations



Plasticon worldwide – your added value

Plasticon Composites has a global network of production sites and sales offices. Customers therefore benefit from the following advantages:

- Pooling of different production sites
- Shorter transport routes and response times
- On-site support in the respective countries of delivery
- Uniform quality standard for internationally operating corporations and plant manufacturers

PLASTICON CENTRAL EUROPE

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– countable advantages for you!



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- Global presence

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Plasticon says Thank You.

We would like to thank all our business partners for their support. We have implemented many successful projects together over the previous years.

We are looking forward to new joint tasks.

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KVG
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The **KVG Kunststoff-Vertriebs KG** is a wholesale company specializing in the distribution of semi-finished products and complete piping systems made of engineering plastics for the chemical industry as well as for apparatus, plant and piping construction.

Our company was founded in the year 1987. Continuous further development with technical progress and precise market knowledge make us an experienced and reliable partner for our customers.

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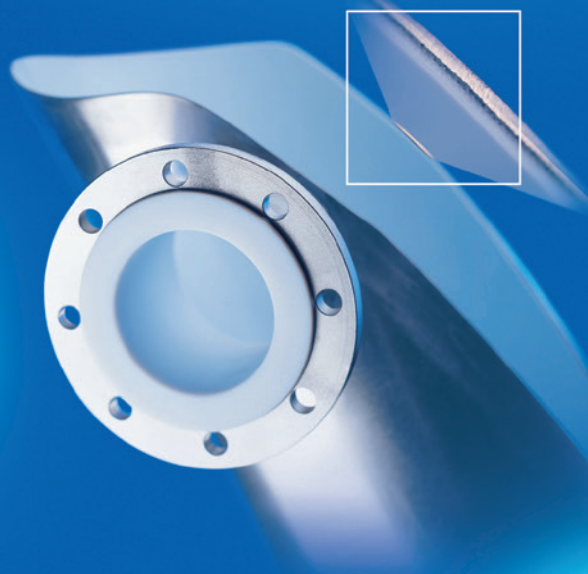
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