

**KUNSTSTOFF
TECHNIK**
Weißbach GmbH



Innovation in Plastics



► Innovation in Saxony

Since 1991 our family-owned company Kunststofftechnik Weißbach has been well known in Saxony for its innovative products. In Gornau 45 employees develop and realize customized solutions made of plastic. In our modern manufacture with a large range of machines we are able to produce individual containers and apparatuses, complete systems, special pipes, various customized fittings as well as armatures and technical parts for the use in clean rooms.

Our long-standing experience and our know-how in treating and processing different plastics allows us to support customers from various industries all over the world, e. g. machinery and plant engineering, the medical and environmental industry, the food industry, the chemical industry, the semi-conductor industry, manufacturers of photovoltaic systems as well as customers from fair construction.

The high quality of our products is attested according to the specification of GEORG FISCHER while the quality of our services is confirmed by the certification according to ISO 9001:2008.

Research and development, modern manufacturing, customized all-in-one solutions made of plastic – that is our expertise.

Eva-Maria Weißbach
CEO

Peter Weißbach
CEO



Sales manager Werner Weißbach with Peter and Eva-Maria Weißbach (left to right)



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► Processing of Semi-Finished Products

We process prefabricated plastic parts from a wide range of materials and surface qualities, forms and dimensions (semi-finished products) into the high-class products you require. We are able to realize all processing steps such as sawing, turning, milling, planing, polishing, engraving, trimming, welding, reshaping, bending and adherence in-house expeditiously without additional transport. Our high level of technical know-how and suitable process technologies enable us to work true to draft with materials that are particularly difficult to handle, such as ceramics, carbon compound materials or glass fiber materials.

Product Examples

Turned and milled parts in 2D/3D, CNC-turned parts, High Speed Cutting (HSC)-milled parts, turned parts made of acrylic, and many more.



Advantages

- Precise end products according to drawing, sample part or CAD data
- Processing of different plastics and special materials
- High technical know-how concerning process technologies and materials
- Modern machinery for all processing variants, e. g. CNC turning and milling
- Storage of raw materials to respond more quickly to customer demands



▶ Container and Apparatus Construction



Modern CNC equipment and varied processing possibilities like bending, trimming, adherence, butt-welding, extrusion welding and warm gas welding allow us to produce containers for every purpose. All thermoplastic materials can be processed.

With specially developed joining and welding technologies we achieve highly stable and long-lasting connections between the individual plastic parts. In the area of water and laboratory technology we deliver technologically mature solutions as well as prefabricated modules for regeneration of resources such as power, water and heat.



Product Examples

Apparatuses, tanks, gas scrubbers, ventilation systems, large filters, fittings, rainwater filters, distributor pipes and many more.

Advantages

- ▶ Individual products in every shape and size
- ▶ Development of own welding and joining technology
- ▶ High level of vertical manufacturing
- ▶ Minimized material costs through computer-based planning
- ▶ Development of special solutions for the environmental industry

▶ Transparent Plastics

Acrylic glass and plexiglass are transparent, lightweight, easily formable and weather-resistant. Moreover, they have a high surface hardness as well as an elegant appearance. These qualities qualify them for application in the industry, e.g. as safety paneling on machines as well as for the production of representative unique pieces as used in advertisement or shop fitting.

Product Examples

Exhaust gas systems, magnetic separators, water galleries, measurement cells, protective hoods, shop fittings, panels, claddings, exhibition models and many more.



Advantages

- ▶ Precise CNC-controlled manufacturing of individual parts or small product runs
- ▶ Versatile processing options such as crack-free bending, clean adherence and high gloss
- ▶ Combination with other materials



► Piping Systems and Customized Fittings

Piping systems in all conceivable types – that is our field of expertise. Short delivery of standard versions or precise custom-fit products such as branches, bends, t-pieces or pipes with any z-measures shorten the installation times considerably and reduce costs. Our in-house development department supports you in complicated projects.

Product Examples

630mm pipes, flared t-pieces, parts of type PN16, special fittings, distributors, PVDF-bends, hoods, pipes with any z-measures and many more.



Advantages

- Realization of individual customer requirements through special machinery, e. g. IR-fusion jointing machines and tube benders
- Short delivery times for finished prefabricated systems such as distributors and pipelines
- Innovative welding technologies for large pipes
- Production of customized components
- Construction and realization from a single source



► Clean Room Technology, Semiconductor Technology and Photovoltaic

We fulfil the highest demands with innovative technologies and motivated professional staff. That is why we can produce high-quality products for the use in your clean rooms. We also deliver individual components and apparatuses for the sensitive areas of semiconductor technology, photovoltaics, medicine technology and environmental technology according to your desired requirements.

Product Examples

Filtration boxes, cabinets, switch boxes and many more.

Advantages

- Individual products according to the requirements of clean rooms
- Compact construction
- Bead-free welding of parts



As we work independently from manufacturers we provide you with highly efficient system solutions for wet-chemical applications in the semiconductor and photovoltaic industry. You profit from our experience in the engineering of complex system as well as process and supply projects.





► Systems Engineering

In order to meet procedural and process-side challenges of different industrial sectors our customers require individual and high quality solutions. Usually, there are no standard products. As a manufacturer of plastic-based special systems we have great expertise in development,

engineering, manufacturing and service as well as extensive experience in the construction of complete systems. These are based on modular plastic components for process and supply projects. The following examples illustrate our innovative approaches.

► Fully Automatic Disinfecting System

Through the precise dosage of a sodium chloride solution, the required amount of chlorine is produced by electrolysis. As a result, the water is disinfected and germ-free; also biofilms in pipes are removed. No additional minerals and salts will be added to the existing supply system. Thus, the longevity of the media transporting pipes is ensured. Other dosing applications are possible.



► Mobile Water Treatment

The mobile and modularly configurable water treatment system was designed to remove solid materials as well as organic and inorganic pollutants. The compact system can be used world-wide in order to obtain clean drinking water.





► Systems Engineering

► Fully Automatic Filter System

Through pumping, circulation and usage particles and suspended sediments are steadily being transferred into the water. Normally, these particles are removed by means of sand filters. However, those filters do not have the required selectivity. Moreover alternative cleaning procedures are frequently connected to high costs. In order to meet these challenges, the absolute filtration was developed.

By means of specially manufactured filters, whose exact pore size is defined during manufacturing, small particles with a grain size of up to $5\mu\text{m}$ can be removed from the water reliably.



► Washing water treatment system

For the treatment of contaminated washing water we developed an innovative approach in collaboration with other companies. The treatment system cleans the water directly on site by means of electrolysis. Thus, the collection and removal of the dirty washing water by special disposal companies are no longer required. The entire volume of the treated process water can be returned to the production circuit. The process heat generated during electrolysis can be used to heat the wash tunnel or other systems. The OH radicals produced in the electrolytic process destroy the hydrocarbon groups in the emulsion drilling fluid as well as other organic components in the washing water.





▶ Modern Manufacture

A wide spectrum of latest machines in our new manufacturing hall guarantee numerous high quality treatments according to drawing, sample part or CAD data. These include sawing, turning, milling, planing, polishing, engraving, trimming, welding, reshaping, bending and adherence.

Moreover, special solutions such as fiber-reinforced or scratch-resistant coated plastics as well as electrical conductive thermoplastics are possible.

Machines

- ▶ Centers for multi-axis machining (3-axis, 5-axis)
- ▶ CNC- turning and milling machines
- ▶ Sheet bending construction with heating element
- ▶ Extrusion welding technology
- ▶ Sheet and pipe butt welding machine, socket welding machine, WNF- and IR welding machine
- ▶ Collaring technology for plastic pipes
- ▶ Heated cabinet
- ▶ Special machine for prototype production
- ▶ Various in-house developments



CNC-Milling Machine



Turning Machine (automatic loading)



WNF-Welding Machine



Butt Welding Machine



Flat-Bed Milling Machine

▶ Satisfied Customers recommend us

Georg Fischer GmbH (CH) ▶ Georg Fischer DEKA GmbH (CH) ▶
 Georg Fischer Rohrleitungssysteme AG (CH) ▶ GLOBAL-
 FOUNDRIES ▶ Maschinenbau Runkel GmbH ▶ SITEC
 Industrietechnologie GmbH ▶ TISORA Sondermaschinen GmbH
 ▶ Akrion Systems Inc. (USA) ▶ Riedel Textil GmbH
 ▶ Siemens AG ▶ Cofely Refrigeration GmbH ▶ inhouse
 engineering GmbH ▶ SIKORA AG ▶ Stäubli GmbH

▶ Optima nonwovens GmbH ▶ ThyssenKrupp Schulte GmbH
 ▶ Dr. Leye GmbH ▶ Nordic Water GmbH ▶ HECHT Tech-
 nologie GmbH ▶ K+S KALI GmbH Werk Zielitz ▶ HO-MA
 GmbH ▶ Lemhöfer Dienstleistungen ▶ MBS – Maschinen-
 bau GmbH ▶ Mechanische Werkstatt Siegfried Frühwein
 ▶ Thies GmbH & Co. KG ▶ KTK Kühlturm Karlsruhe GmbH
 ▶ Ziegler Feuergerätetechnik GmbH & Co. KG ▶ and many more



► **High Quality**

Here at KTW high performance and the fulfilment of contract expectations as well as the compliance with the delivery dates are regarded as an overall task. A good customer and supplier relationship is maintained permanently. The certification after ISO 9001:2008 and the internal check-ups and long-term tests are documentation of the high quality consciousness. The introduction of the Kaizen system of continuous improvement and innovation led to a reinforced employee orientation. We are member of the German Engineering Association. (Verband Deutscher Maschinen- und Anlagenbau – VDMA) Beside the visible “seal of quality” of the renowned association, customers also profit from the know-how of our powerful team. Current research results, trends and new procedures in the field of plastic processing as well as the knowledge of international markets all have a direct influence on the development and production process.

Moreover, Kunststofftechnik Weißbach GmbH is certified as a specialized company according to the Water Resources Law (WHG 19). It verifies our know-how in the particularities relevant to water protection. Furthermore, plastic welders undergo annual certification according to DVS.

Member of:





► Research and Development

KTW's own development department works on innovation and increased efficiency. Thus, it offers competent support in the realization of new ideas to the finished product. The know-how, the in-house design office with computer-aided 3D planning and simulation software as well as the technically and technologically modern manufacture guarantee an integrated and technologically creative approach in terms of research and development. In collaboration with research institutions, colleges and universities KTW works on research projects and applied solution ideas for medium-



sized businesses. Exemplary for the innovative spirit are the diverse solutions in the area of systems engineering, for which among others the pollution of water has been used as a starting point. For instance, the mobile and modularly constructed water treatment plant (DWZ250S), which was designed for drinking water production, removes solid materials from the water while working self-sufficiently. This allows the plant to be used worldwide in various areas: On the one hand in the industrial sector and on the other hand in the case of contaminated water both in disaster areas and threshold countries.

► Rapid Prototyping

With progressive rapid prototyping technology you receive realistic models made of plastic on a scale of 1:1 in shortest time. Numerous further processing options such as grinding, coating, drilling and thread-cutting allow for a detailed reproduction. That way, newly developed products can be checked at an early stage for functionality, dimensional and fit accuracy. Your advantage: You reduce development expenses and avoid faulty batches.





▶ Apprenticeship and Studies

Kunststofftechnik Weißbach GmbH offers apprenticeships to graduates of junior high schools. Here, they work in a team-oriented environment with highly qualified staff and the latest machinery:

- ▶ Machine and systems operator/subject area: metal and plastic technology, training period: 2 years
- ▶ Process mechanic for plastics and rubber technology/subject area: components, training period: 3 years
- ▶ Mechatronic technician
training period: 3.5 years, collaborative training with Bildungs-Werkstatt Chemnitz gGmbH
- ▶ Cutting machine operator
training period: 3.5 years, collaborative training with Bildungs-Werkstatt Chemnitz gGmbH

Prerequisites:

- ▶ Good grades in the high school diploma or "Abitur"
- ▶ Good knowledge in math and science
- ▶ Computer knowledge
- ▶ Interest in technology
- ▶ Communication skills

Throughout the region, we are committed to various pre-apprenticeship projects in educational institutions. Our company supports, for instance, a secondary school in order to give the students an insight into technical occupations. During excursions, internships or special action days, the students can learn about their own strengths and weaknesses and how they relate to the requirements of a specific occupation. The management and staff would like to contribute practically to the work with children and young adults in the region.

As a medium-sized business, we offer interns (male/female) and university students (male/female) the possibility to apply their knowledge. Moreover they are welcome to extend their know-how in the context of a student job, work experience or a final thesis (Bachelor/ Master/ Diploma).



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- ▶ Processing of Semi-Finished Products
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- ▶ Systems Engineering and Automation
- ▶ Piping Systems and Customized Fittings
- ▶ Semiconductor Technology and Photovoltaic
- ▶ Clean Room Technology
- ▶ Transparent Plastics
- ▶ Rapid Prototyping



www.ktw-gornau.de