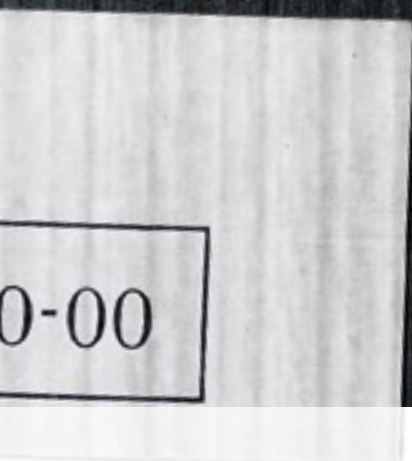




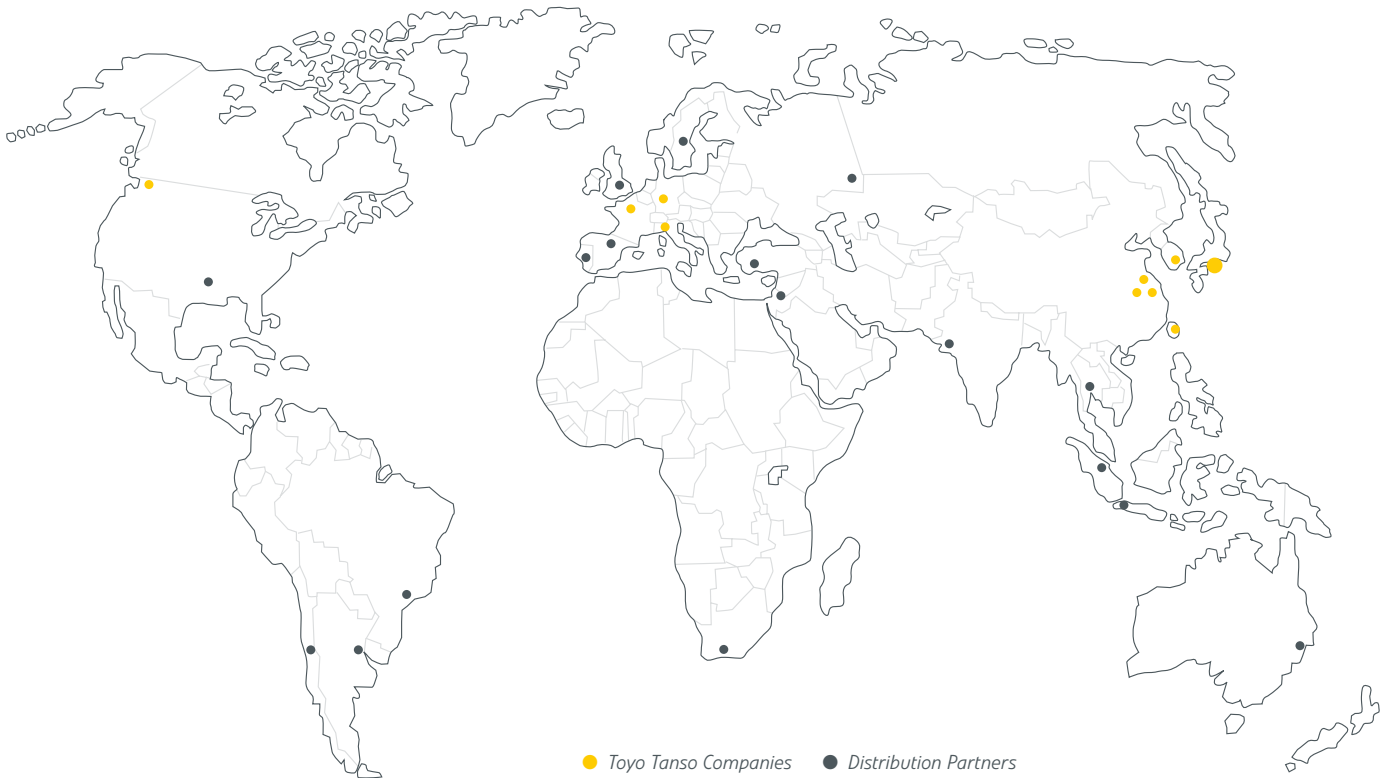
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Ideas for Innovations

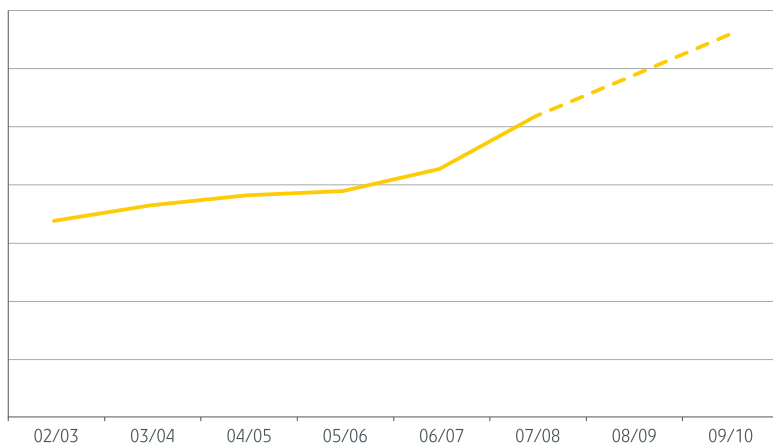




Group of Companies



Sales Development



Events

- 1991: Year of foundation
- 1997: Start of in-house processing
- 2000: Relocation to company-owned building
- 2000: Certification to ISO 9000: 1994
- 2000: Certification to ISO 9000: 2000 & ISO 14001: 1996
- 2006: Initial public offering of Toyo Tanso
- 2007: Commissioning of first high-temperature vacuum plant

Industries (Excerpts)

- Automobiles
- Construction of pumps and seals
- Continuous casting of metals
- Hardening shops and heat treatment
- Medical engineering
- Photovoltaics
- Refinement of glass
- Semiconductor industry
- Spark erosion
- Tool and mold making

Partners

- Fraunhofer Institute
- University of Applied Sciences in Karlsruhe, Germany



Inspiring, fascinating, exciting – graphite is more than just pressed carbon.

Welcome to the future.

Arno Cloos believes in graphite. Being a practitioner, he knows what he is talking about. As GTD's managing director, he is completely committed to making the world a better place by using graphite.



Graphite is one of the most outstanding present-day materials. Its almost unlimited range of possible applications enable us, together with our customers, to shape the future. We interpret our work as an important contribution to implementing ideas and facilitating innovations.

We do not seek short-term business success. Instead, we want to use long-term customer relationships to develop new fields of business. Our position as a niche provider with the background of Toyo Tanso, the global market leader for isostatically pressed fine-grain graphites, gives us flexibility and strength.



Data + Facts

Prolog

Innovation

Supplier

Customer

Employees

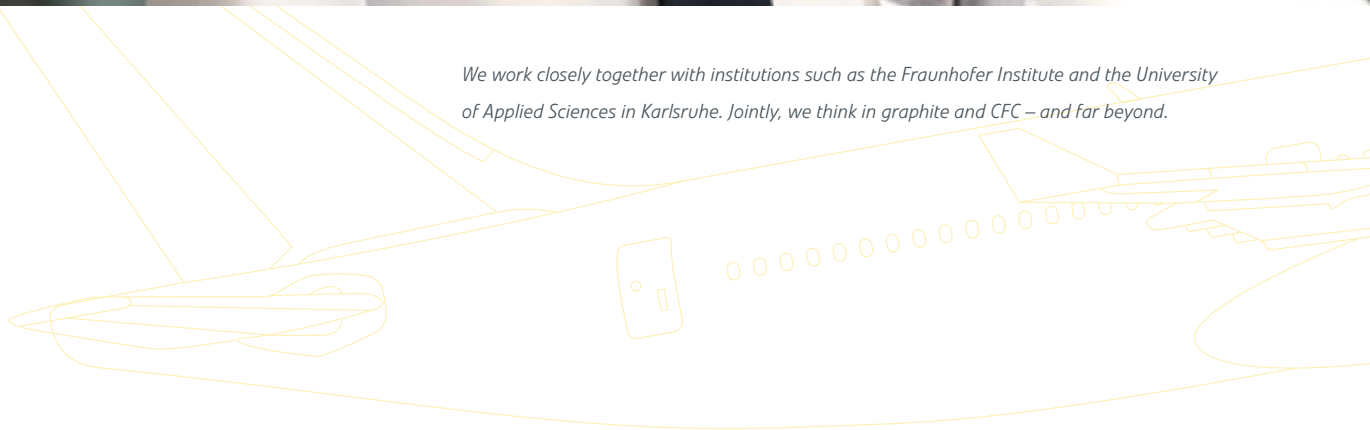
Environment

Epilog

Some ideas form in the mind – with us they are created in a team.



We work closely together with institutions such as the Fraunhofer Institute and the University of Applied Sciences in Karlsruhe. Jointly, we think in graphite and CFC – and far beyond.



Treading new ground should be done together. In cooperation with our customers and partners, we consistently develop new solutions and improve existing technologies. Frequently we set new standards in the market.

Our solutions are as versatile and forward-looking as our customers themselves. They range from medical engineering to the automobile industry and from photovoltaic applications to space research.

The dynamics of our business and the innovation force of our company are tremendous. About 50 per cent of our current sales are based on products which did not even exist a few years ago.



PeroCoat® is a patented innovation developed within our company. This especially robust and efficient carburization protection for CFC and graphite opens up completely new horizons, for instance in the field of high-temperature applications.





Data + Facts

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Epilog

We are not an island – we are right in the middle of things!



In cooperation with the world's largest suppliers of isostatically pressed fine-grain graphites, we have a market position that opens up doors to us and provides our customers with security.



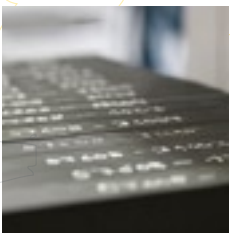
Far Eastern wisdom or Western philosophy – we believe in the power of a community and the achievement of common objectives. We do not consider fair business relationships a luxury and the win-win principle is not a clichè to us, but an indispensable maxim of action.

We always require the best from our suppliers because our quality assurance starts with the order and not with the finished product. Consequently, each graphite block can be fully traced back to its origin.

All participants in the process benefit from this since business operations create the best basis for long-term economic success.



Being part of the international operations of the Toyo Tanso Group, we hold a strong market position and have the best chances of coming out on top in tough and fair competitions.





Data + Facts

Prolog

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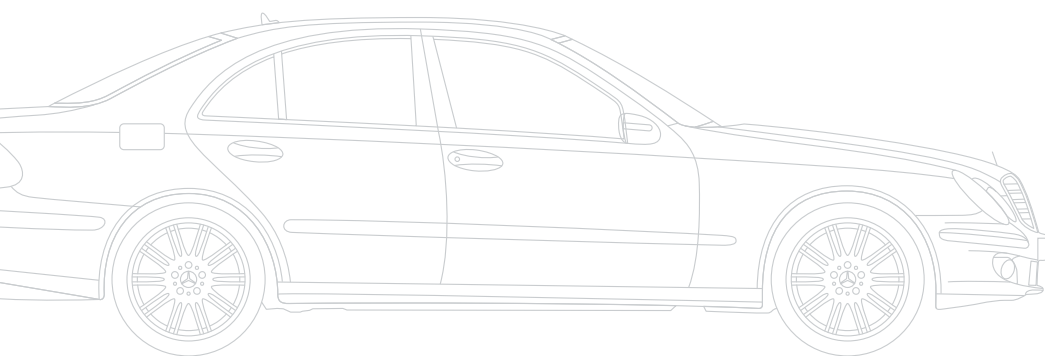
Environment

Epilog

We look our customers in the eye rather than at their name.



This, of course, is only half the truth. The other half means we will do anything to fulfil your orders and requirements in the best way at all times.



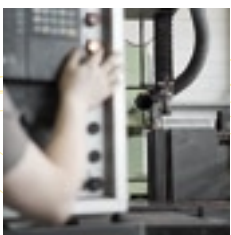
We know who we are and we know what we can do: we offer innovative solutions on fair conditions. Therefore, we talk to our customers about their requirements and objectives at eye-level.

Our solutions help them to improve day by day and to gain a competitive advantage. The quality of our products plays a decisive role and we achieve it through our commitment and longstanding customer relationships. At the same time, we are in a position to adapt to our customers' needs in the best possible way.

However, we are also proactive: a novel CRM program in combination with our ERP/BDE makes our workflow (certified to DIN EN ISO 9001) transparent and easy to understand. This provides maximum planning security for us and our customers as we carefully monitor each stage of a project at all times.



Strictly speaking, we do not like things somewhere in the middle. However, we readily accept the overall grade 'between A and B' in the last customer satisfaction survey.





Data + Facts

Prolog

Innovation

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Epilog

Flexibility is an issue of openness rather than age.



The important thing in a modern company is always to respond to new requirements flexibly and find viable solutions. This, by the way, also applies to our young employees.

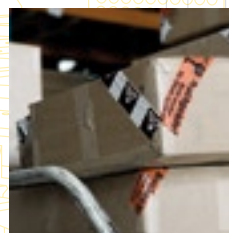
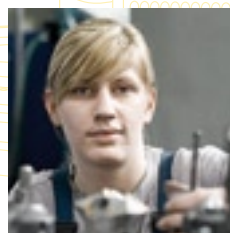
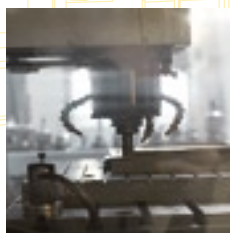
We do not think in terms of human resources that can be calculated according to formulae. We talk about people who make our team a unique and living organism. Each staff member has his or her own priorities and special skills which are specifically promoted and used right from the beginning of training.

We utilize the energy of our young employees and benefit from the knowledge and experience of our old hands.

This leads to a working atmosphere that we are more than proud of and not only manifests itself in the results of the work and many years of employment, but can also be felt directly during a visit to our company.



New team players are not chosen by gender, but by their qualification and whether they fit in with our company. It is quite surprising that this still has to be emphasized in our day and age.





Data + Facts

Prolog

Innovation

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Epilog

I still have a lot of plans – one day I want to have children.



Environmental protection is more than complying with limits and regulations. For us, it means active responsibility of each individual for each individual.



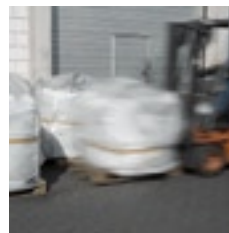
Nowadays a company making a product has to know what the world should look like in thirty or fifty years. Our goal is to combine manufacturing and environmental protection. At each step, we ask ourselves whether it could become a general rule and is compatible with nature. Then we determine how it can be optimized even further.

We want nature to remain as it is. Hence we are certified to DIN EN ISO 14001, of course. We work without toxic substances and produce almost no waste.

We feed 99.9 per cent of all production scrap as pure carbon to another application and thus create the basis for a future worth living.



At our plant production waste is by no means simply waste. We collect carbon dust using an extraction system and resell the recoverable material.





Data + Facts

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Thank you very much for your attention.

Are you inspired?

Are you fascinated?

Are you excited?

We will be glad to tell you more about our ideas and the possible applications of graphite in a personal talk at your company.

We look forward to meeting you!

By the way: every company has a life and soul. We believe that we have several of them. Since we unfortunately cannot show them all, we present on behalf of the others one of our most important persons whom you will meet during a visit to our site.



Jeffrey Tansy has been with GTD for 11 years. Now he manages quality assurance and also guides visitors through the production facilities.



GTD Graphit Technologie GmbH

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D-35428 Langgöns
Germany
info@gtd-graphit.de
www.gtd-graphit.de

Distribution center Vaihingen/Enz

Ziegelgartenstrasse 11/2
D-71665 Vaihingen/Enz
Germany

Distribution center Weida

Hohe Strasse 8
D-07570 Weida
Germany



Portfolio

Range of services

- Design / construction
- Manufacturing
- Processing
- Special and series production

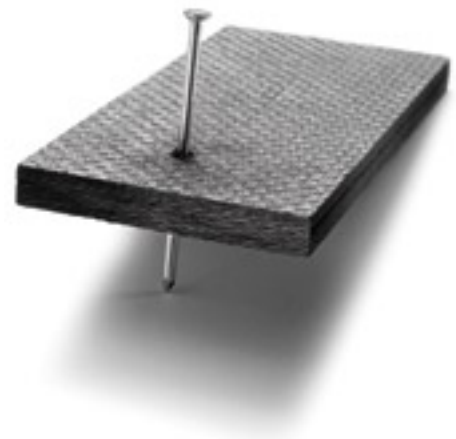


Materials

- Graphite
- CFC
- Carbon-Graphite
- Graphite foil
- Coated graphite & CFC

Advantages of graphite and CFC

- Low density, low weight
- Relatively low expansion
- High temperature and dimensional stability
- High thermal shock resistance
- Easily processable
- Large blocks available
- Variety of grades



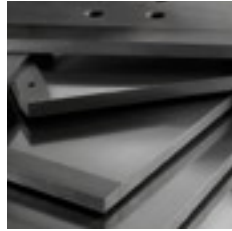
Fields of application

- Bearings and seals
- Carbon brushes & contacts
- Construction of vacuum ovens & heat treatment
- EDM (spark erosion)
- Hot pressing
- Metal casting (continuous casting)
- Photovoltaics
- Refinement of glass, glass industry
- Semiconductor industry

Target markets

- Bearings & sealing rings
- Heat treatment
- Medical engineering
- Photovoltaics
- Semiconductor industry
- Tool & mold making

Examples of applications



From high-volume to special production – our range of products and services is flexible and especially versatile. We look forward to your inquiries.

High-volume production

Bearing of flap for exhaust gas recirculation after the starting phase, can be used for temperatures up to 700°C (1292°F) (major component for complying with the EURO standard).

Series

Graphites for X-ray targets of high-performance X-ray equipment (CT) as well as continuous casting dies for precious metals and copper alloys.

Special production

CFC racks and graphite fixtures enabling automation of heat treatment since no thermal distortion occurs.





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GRADE IG-43

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