



PRECISION IS AN OBLIGATION



magic of precision



The DURAN GROUP

There are good reasons for getting to know us.

As a leading manufacturer of borosilicate glass the DURAN GROUP operates on a global basis as a skilled partner in assisting its customers to use laboratory glassware in accordance with their precise requirements. Renowned companies on every continent place their trust in the quality of our products and in the creativity of our staff.

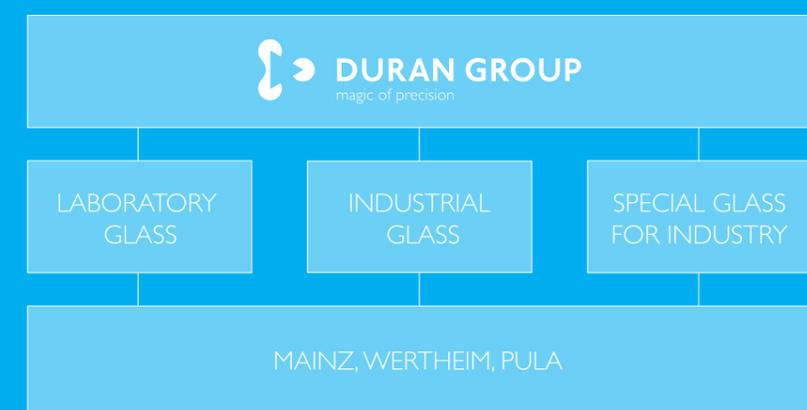
We work in close dialog with our customers to create GROUP solutions which comply with our customers' individual wishes and enable them to handle precise applications in the widest variety of areas.

Countless industries make use of our skills, which have grown from many decades of experience in the manufacture of laboratory glassware, to ensure their success.

Precision glass hollow ware is, together with many other applications, an important material in the small electrical appliance industry.

The DURAN GROUP has at its disposal comprehensive know-how in processing glass tubing with minimal tolerances and can provide all the manufacturing processes from a single source.

DURAN GROUP. Magic of precision.



THE KEY TO THE SUCCESS OF THE DURAN GROUP

The consistent application of quality management standard ISO 9001:2000.

Benefits for our customers

- Clear customer orientation to achieve customer satisfaction
- Successful product marketing for the early recognition of customer wishes and market trends
- Ambitiously defined objectives
- Objective-oriented approach to problem-solving

Management guidelines

- Clear formulation of responsibilities
- Clearly arranged and optimized information flow
- Uniform document structure with formulation of document control and responsibility
- Process map
- Organization chart
- Process sequences / procedure instructions
- Instructions
- Working documents
- Rapid and understandable decision-making ability

Safeguarding our resources

- Professional competence of all staff
- Education and training system to ensure high efficiency
- Safeguarding material and human resources
- Buying-in activities in partnership

Optimization of our processes

- Defined realistic objectives
- Effective development processes as the basis for successful product implementation
- Optimized production planning and success-oriented production with effective quality inspection
- Professional warehousing, transport and dispatch skills

Our improvement management rules

- Review with formulation of correction and improvement measures respectively
- Education and training system to ensure high efficiency
- Internal audit system as the basis for improvement management

Preservation of a healthy environment

- Creation of the necessary infrastructure and working environment
- Environmentally conscious behaviour

QUALITY WITHOUT COMPROMISE.

Consistent quality management ensures success in the future, too.

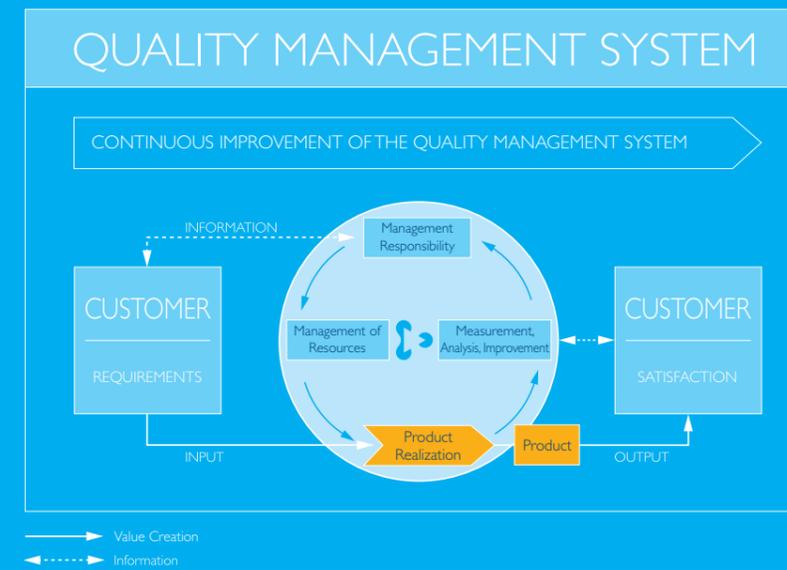
In our areas of business we aim to expand our economic success through market leadership with excellent products plus top quality logistics and service.

This objective can only be achieved by process-oriented thinking, planning, behaviour, by measuring what we do, and by improving our performance on a continual basis.

It is our aim to make the status quo measurable through self-assessment with a view to deriving new ambitious objectives from it which call for a high degree of ability and present a challenge.

We have a management system that contains quality throughout all its functions: from the customer inquiry via order processing and delivery through to feedback from the customer.

And in everything we do, customer and staff satisfaction plus the maintenance of our environment are important factors that we strive to improve at all times.





PRECISION IS AN OBLIGATION.

Welcome to the DURAN GROUP!

Ever since Otto Schott invented borosilicate special glass in 1887, the SCHOTT Group, which was the origin of the DURAN GROUP, has grown and grown. The DURAN GROUP combines the strengths of a great history with the visionary spirit of the founder of borosilicate glass technology, Otto Schott. His achievement not only laid the foundation stone for the success of the DURAN GROUP, it also revolutionized modern chemistry and made

it possible to carry out a wide range of analytical procedures that would previously have been unthinkable. DURAN® glass has proved itself over the last 120 years not only in laboratories but also in industry and the home.

Unique precision in the manufacture and processing of DURAN® is the basis of our product philosophy and the guideline for our everyday dealings. We offer our customers the flexibility of

a medium-sized company coupled with comprehensive know-how gained from many years of experience. This combination results in solutions for complex special applications which expand the radius of scientific possibilities and improve our quality of life. Just cast an eye over our leitmotif "magic of precision" and see how it is reflected in the company and the products of the DURAN GROUP.

Dr. Otto Schott
The inventor of borosilicate glass 3.3

DURAN GROUP MILESTONES



INNOVATIONS ARE A TRADITION WITH US. AND HAVE BEEN FOR MORE THAN 120 YEARS.

At the interface between a successful past and a trend-setting vision.

The success of the DURAN GROUP and its products is inextricably linked with the chemist, glass technologist, and visionary Otto Schott. As early as 1879 the systematic melting trials that he carried out in his own laboratory were instrumental in setting glass manufacture on a scientific footing. What interested him particularly was the interplay between optical properties and the materials used. Schott made contact with the physicist Ernst Abbe in Jena who, at the same time, was a partner in the Carl Zeiss workshop for precision mechanics and optics.

The success story began its run: Only five years later Otto Schott and Ernst Abbe together with Carl Zeiss founded the "Glastechnische Laboratorium SCHOTT und Genossen" (SCHOTT and Associates Glass Technology Laboratory) which later traded as "Jenaer

Glaswerk SCHOTT & Gen." (SCHOTT and Associates Jena Glassworks). New types of optical glass plus heat resistant and chemically resistant borosilicate glass, which was later to make history under the name DURAN® in the glass industry, were developed here.

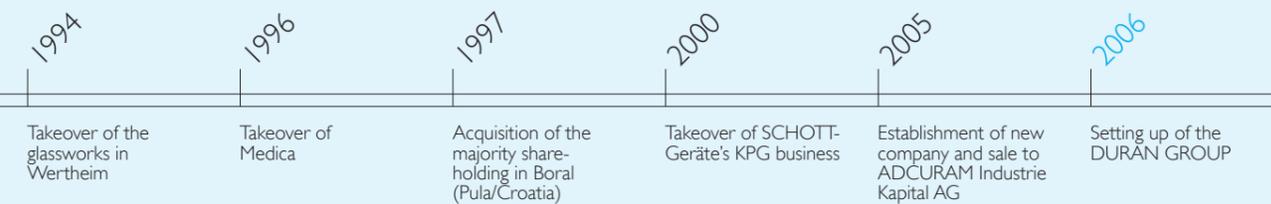
After the Second World War, American troops moved specialists to Mainz in the legendary "Odyssey of the 41 Glassmakers," which was the foundation stone for today's globally operating DURAN GROUP.

The DURAN GROUP based in Mainz, Wertheim, and Pula/Croatia has at its disposal the complete value creation chain from the melting process right through to precise forming and processing techniques. We have the optimum organization in our three fields of business – laboratory glass, industrial glass,

and special glass for industry – based on decades of experience with the material DURAN®. This ensures our success in the markets relevant for us and ensures that our customers' expectations are met to their full extent and at all times.

Development departments in the chemical industry, companies in biotechnology and the food and drinks industry, and quality assurance laboratories worldwide put their trust in DURAN GROUP products.

DURAN®: a unique material which, because of its outstanding properties and our precision processing honed to perfection, is playing an essential role in major industries today - a material with enormous potential for the innovations of tomorrow.





Ralph Müller
Machine operator

OUR BRAND IS LIVING. AND LIVING MEANS CHANGE.

Consistent strategic realignment sets the tone of our image.

The DURAN GROUP is at an important point. With the split from SCHOTT AG and the decision to realign our business strategy, we are facing up to the challenge of deliberately meeting international competition. Our growth strategy rests on the values of our brand promise: agile, interconnecting, and fascinating. The umbrella of the DURAN GROUP covers the skills of its three business groups – decades of experience are coupled with our concrete vision for the future: close customer relations with a high degree of individuality.

Just like the company, the brand is also changing in order to survive in the future as a valuable seal of quality in the competitive environment. This change has been consciously introduced with the conception of a new image. The new brand is a link to our customers and an important feature of competitive differentiation acting as a visible sign of our clear promise to all who put their trust in the products of the DURAN GROUP: magic of precision.

This promise stands for the excellent quality of our products, which are produced by the know-how of our staff coupled with state-of-the-art manufacturing technology.

The capability to use ordinary sand and other components to develop special glass products with high dimensional accuracy and extraordinary product properties borders on magic!

Our umbrella brand



Our product brand





LABORATORY GLASS

OPTIMUM PRODUCT PROPERTIES FOR USE IN THE LABORATORY

It was only the invention of DURAN® by Otto Schott that enabled scientists to push out the frontiers of chemistry and achieve results that had previously been unattainable. The special composition of DURAN® makes it possible to achieve maximum possible chemical resistance, minimal thermal expansion, and, thus resulting, high resistance to thermal shock. This optimum physical and chemical performance makes DURAN® the obvious choice for use in laboratories.

INDUSTRIAL GLASS

PRECISION AND VARIETY FOR A WIDE RANGE OF APPLICATIONS

Fully automated manufacturing processes and machinery developed in-house enable us to comply with customer requirements on an individual basis. Our customers involve us from the earliest stages of development and planning. Unique production technology opens up applications for DURAN® industrial glass in the small electrical appliance industry, in mechanical and chemical engineering, in the lighting industry, and in many other areas of day-to-day demand.



SPECIAL GLASS FOR INDUSTRY

PRECISION AND VARIETY FOR CUSTOMER-SPECIFIC APPLICATIONS PLUS MOUTH BLOWN SPECIAL ITEMS

The product range in our Special Glass for Industry division is as extensive and individual as our customers' requirements. Using machinery developed in-house, a wide range of customer-specific special items is produced, sometimes in short runs.

By applying an extremely high degree of processing precision, we can achieve tolerances with glass in the μm range, which otherwise are only possible when dealing with metals. Applications for DURAN® special glass for industry are to be found in the laser and electrical industries, mechanical and chemical engineering, in the lighting industry, and in the housewares industry.

Using the unique suction feeder technology coupled with the traditional know-how of experienced glassmakers, we guarantee made-to-measure solutions in optimum precision and quality for mouth blown special items.

OUR SUCCESS RESTS ON PRECISION. AND PRECISION IS THE RESULT OF COMPREHENSIVE COMPETENCE.

The DURAN GROUP – everything from a single source.

As different as our three divisions – Laboratory Glass, Industrial Glass, and Special Glass for Industry – may appear in the complexity of their make-up under the common DURAN GROUP umbrella, there is in fact a common basis: our staff utilize globally available technical know-how in dealing with the DURAN® material and the processing methods relevant to it. Through our extensive expertise in melting technology we have set standards in the field of borosilicate glass 3.3. In addition to the manufacture and marketing of laboratory glassware, the DURAN GROUP also performs a wide range of logistics

functions. Our products travel efficiently and rapidly from our fully automated high bay warehouse (with space for 22,000 pallets) to their destinations worldwide.

It is not just the best technological prerequisites, though, that contribute to the DURAN GROUP's long-lasting success, but also the special input and extraordinary commitment of our highly experienced staff. It is they in the first place who guarantee the precision, the quality, and the sheer joy of innovation in every DURAN GROUP division – yesterday, today, and tomorrow.



LABORATORY GLASS

Fully automatic flask production

TOP QUALITY FOR ALL STANDARD SOLUTIONS AND FAR BEYOND.

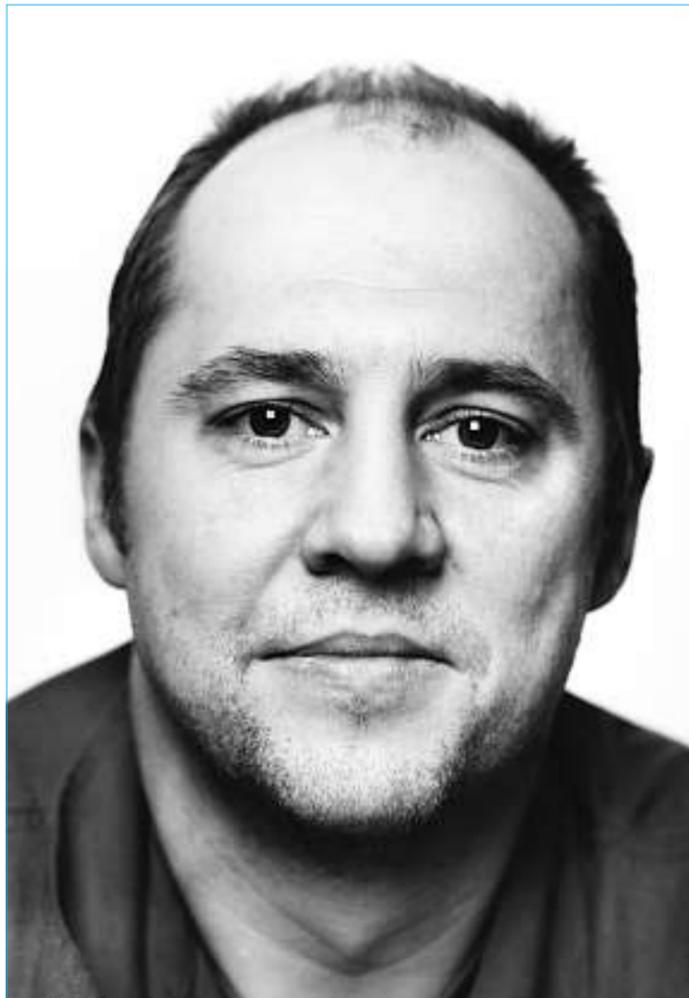
Our unique manufacturing competence is trusted by customers worldwide.

As the inventors of DURAN® glass we have extensive experience of the requirements of our customer groups. Standard items such as Erlenmeyer flasks and beakers have an equal place in our extensive product range as do complex system solutions for the pharmaceutical and biotechnical industries. As a result of our close cooperation with a variety of industries and leading international institutes, we are continually developing our product range to meet the requirements of our markets.

With more than 5,000 different standard items and a wide range of customer-specific special items we cover a broad spectrum of applications. In addition, there is an international team of glass technology experts available to tackle cross-border and costly project work.

In addition to commercially available finished products, our range includes an extensive variety of semi-finished products for further processing of borosilicate glass. With this concept we ensure that glass specialists worldwide can concentrate on the development of new products and applications and can take advantage of our extensive range of DURAN® semi-finished products using standard components. In this way our customers benefit from the high status of our production technology.

In addition to the magical material glass that forms the basis of our work, we see the consistent use of ISO standard 9001 (Quality Management) as the key to our success. The DURAN GROUP fulfills all the requirements of this internationally recognized standard.



Thomas Kaiser
Shift Manager



Dubravka Grujić
Measurement Technician

PRECISION IS OUR PASSION. DOWN TO THE SMALLEST DETAIL.

Every item of DURAN GROUP laboratory glassware is a little masterpiece: made from the magical material DURAN®, worked by experienced hands in costly process stages and to tolerances unattained anywhere else in the industry. It is the passion for precision and the obligation to a great brand that motivates our staff to contribute their know-how to the manufacture of laboratory glassware of the highest quality.

Our renowned internationally operating customers benefit from this passion.

They can rely on the DURAN GROUP's proven competence in laboratory glass manufacture and glass working. In addition, there is an experienced project team available for processes that go beyond standard applications and this guarantees the competent execution of customer-specific solutions.

To progress the development of innovative manufacturing processes and products, we consistently enhance our skills through training sessions, ongoing education programs, and - above all - through discussions with our custom-

ers. This is reflected for example in manufacturing processes such as rotary blowing and the press-blow method which go much further than the standard processes used in the industry in general. Processes developed in-house and with appropriate patent protection for processes such as the manufacture of hand-made laboratory glassware plus large volume items up to 50 liters capacity underline our outstanding position as a competent manufacturer of laboratory glass products.



Glass bulb on the blowing machine
shortly before the mould is closed





INDUSTRIAL GLASS

Coffee carafes on the way through the annealing oven -
the annealing process increases thermal strength

WE OPERATE RAPIDLY AND FLEXIBLY. FROM PRODUCT DEVELOPMENT TO DELIVERY.

Continuity as a success factor in dynamic markets.

Reliability is the basic prerequisite for doing justice to the requirements of our industrial glass customers on a long-term basis. Short product development times, short product life cycles, and the desire for a long-lasting high level of quality are the characteristics of a market that demands rapid response and flexibility coupled with high quality. Our Industrial Glass division is perfectly organized both technically and structurally to ensure the success of our customers on a long-term basis. Our customers, who include manufacturers of sophisticated branded products such as Philips, Braun, and Melitta, have found a dependable partner in the DURAN GROUP. Thanks to excellent engineering skills, we ourselves produce complex glass items from DURAN® - a competence that justifiably merits the "Made in Germany" seal of quality.

And what marks us out as ideal part-

ners of the small appliance industry? An extensive melting capacity is available at our Mainz base, which means that long production runs are also possible. In addition to rotation blowing and press-blow production of glass for the various branches of industry, we have a wide range of highly developed technology at our disposal such as enameling glass, gluing-on of plastic fittings by automatic machines developed in-house, and multicolor printing using special printing machines. Together with the know-how of our staff in every division we are able to supply technically complex and sophisticated process stages from a single source. In the case of our extensive export business, we involve our international project team. Working jointly with experienced colleagues in Asia, America, and Europe, we guarantee the highest level of reliability of supply – totally irrespective of where in the world.

YOU COME ACROSS OUR PRODUCTS EVERY DAY. EVERYWHERE IN THE WORLD.

It was as long ago as the turn of the last century that heat resistant and thermal shock resistant borosilicate glass started its conquest of the world. In the course of industrialization it began to be used in such things as gas street lamps. Today our products are to be found as thin-walled blown glass cylinders in camping and kerosene lanterns. DURAN® kettles and coffee carafes offer a number of benefits as alternatives to plastic products – and more than 300 million have been manufactured in the last 20 years! We supply glass components for coffee machines used in both the home and catering establishments. There is

every probability that you make your coffee in a glass coffeemaker carafe made by us.

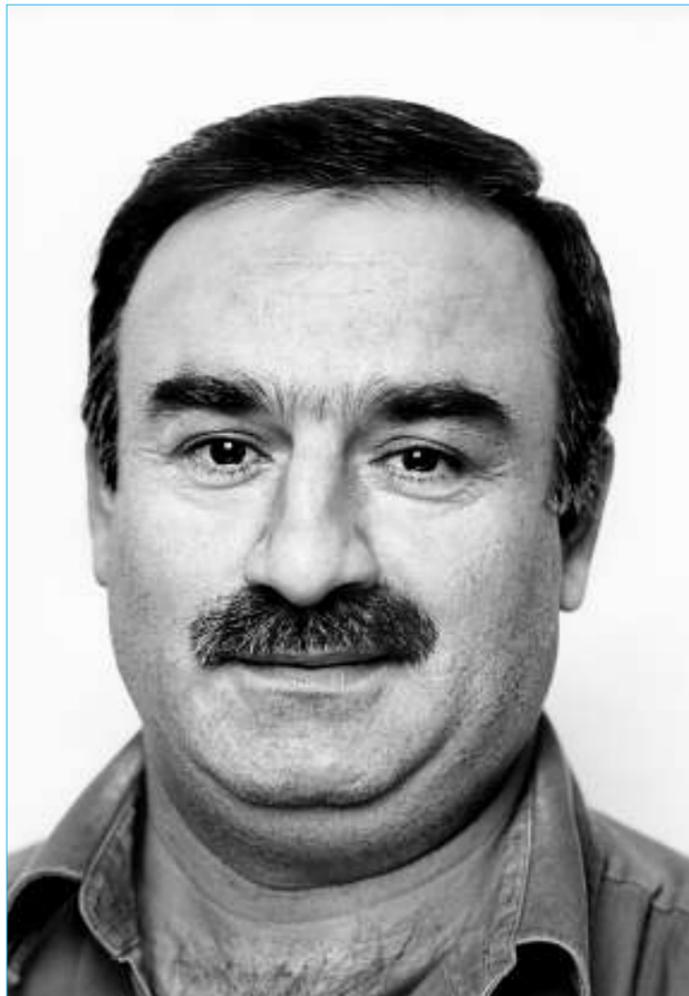
Coffee pots are made in a wide variety of different shapes – depending on what the customer wants: cylindrical, bulbous, or conical. Individually shaped spouts, individual printing and gluing-on of handles, and pouring rings make it possible for the small electrical appliance industry to achieve innovative design options. DURAN® has no effect on taste and it is physiologically harmless which makes it the obvious choice for this type of use.



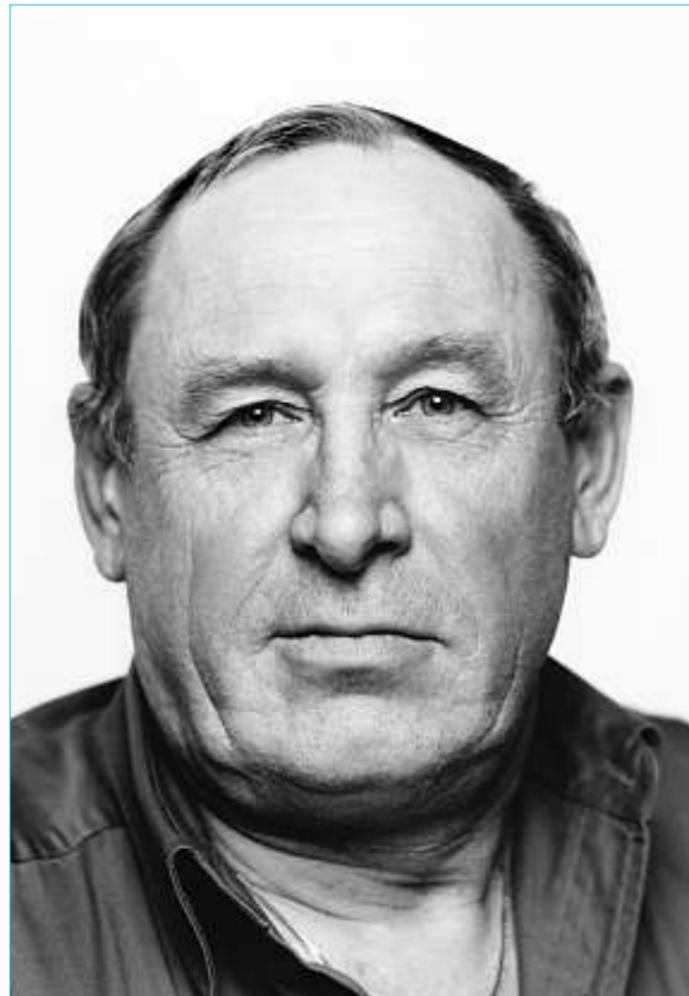
DURAN GROUP

magic of precision

Hüseyin Dogan
Selector



Robert Mehl
Selector



Petromax lantern with DURAN® bright light cylinder



SPECIAL GLASS FOR INDUSTRY

Shrinking down precision bore glass tube
with tolerances in the μm range

GLASS IS OUR MATERIAL. WE LOOK ON EVERY NEW SHAPE AS A CHALLENGE.

Maximum precision in series and individual shaping.

Special glass for industry is one of the most demanding areas for the glass industry worldwide. Absolute precision, from series production to the single hand-made item, is only possible on the basis of comprehensive craftsman's know-how coupled with computer-supported manufacturing systems. In order to achieve low tubing reworking tolerances and to comply with the individual guidelines of our customers, we have concentrated our core competences on high-precision manufacture and the further processing of special glass products at our factory in Wertheim.

A wide range of industries – for example the laser and mechanical engineering industries, manufacturers of X-ray equipment and transmitter tubes, measurement and analytical equipment in medical, biological, and chemical applications plus the paper industry – have a high

demand for precision-manufactured and individually post-processed glass products. In addition to use in classical X-ray equipment, glass bulbs from the DURAN GROUP are making innovative medical investigative methods possible for the first time in areas such as mammography and computer tomography which would be unthinkable without the precision of the glass parts manufactured by us. In this connection many other glass types with special properties are being used in addition to DURAN® glass. Using state-of-the-art measuring systems, we ensure that the tolerances on shape and position comply with our customers' sophisticated specifications. Generations of DURAN GROUP staff have built up a knowledge base that enables us today to expand the frontiers of glass forming ever more widely: What seemed impossible not so long ago is now perfectly feasible.

OUR SKILLS GROW EVERY DAY. AS DO THE TASKS WE FACE.

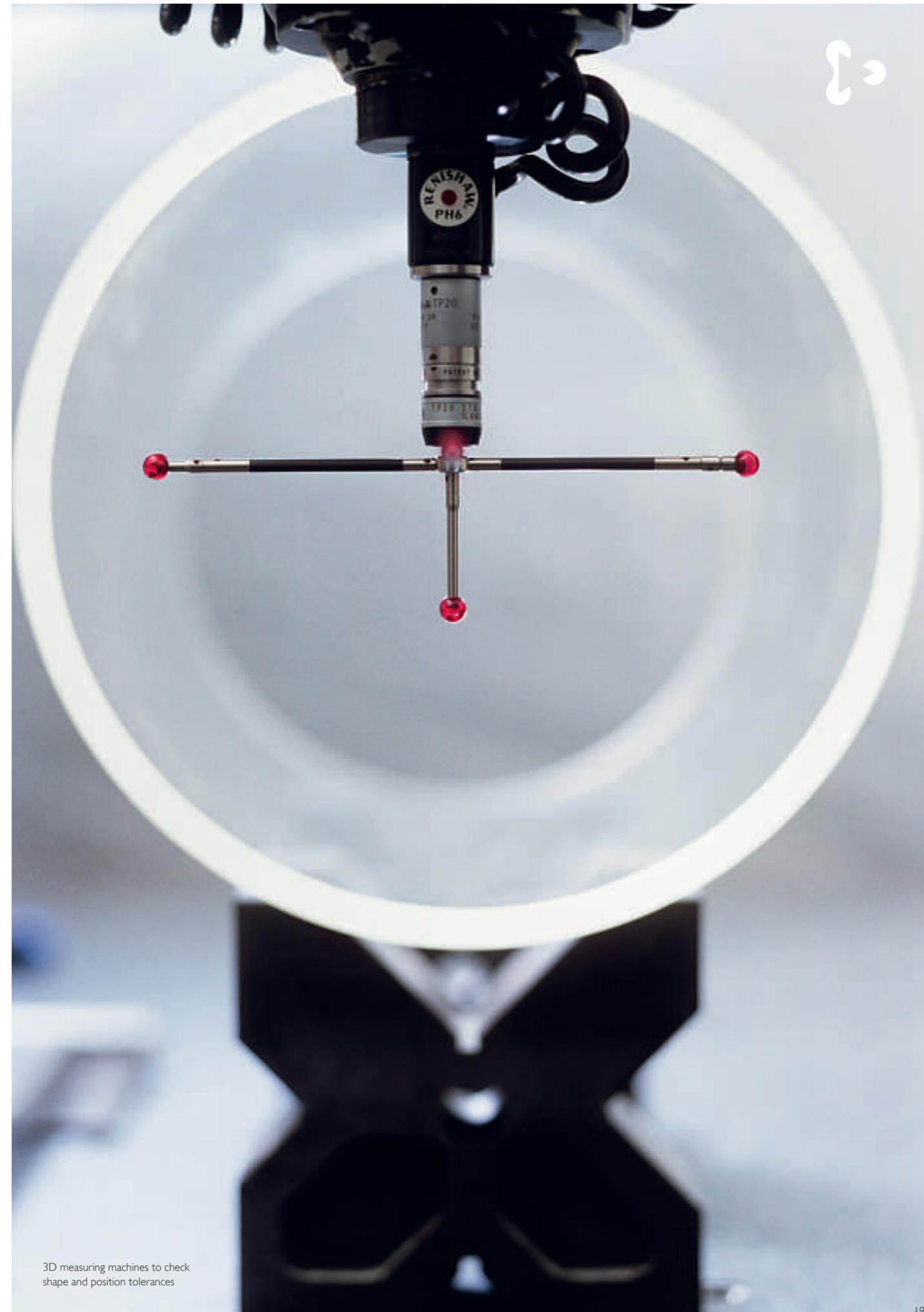
In the Special Glass for Industry division the different and demanding requirements our customers present us with are a real challenge. Our staff have at their disposal comprehensive capabilities in the manufacture and further processing of DURAN®: e.g. complex and extremely high precision reforming, drilling, milling, and grinding with diamond tools plus finishing the surface of the glass. We have a program of targeted ongoing training measures to improve our skills on a consistent basis and to cater for individual needs. A further strength in the production

of special glass for industry is based on our patented suction feeder technology which is unique in the world. This enables us to produce large volume products to a high degree of precision and quality, for example in process engineering, the chemical and pharmaceutical industries, and the foodstuffs industry. In addition, we manufacture a wide range of pressed glass items for the lighting and housewares industry. We make use of the fulfillment of customer specifications to develop ourselves further as precision glass experts in the field of special glass.

Tom Maas
Quality Assurance



Visual inspection of precision components
from electrical sector



3D measuring machines to check
shape and position tolerances



Fully automated high bay warehouse
with space for 22,000 pallets

FRONTIERS ARE THERE TO BE CONQUERED. DEVELOPMENT IS THE FUTURE.

Breaking new ground with innovation and entrepreneurship.

We have the great advantage of finding cooperative partners in our customers who share our spirit of innovation and the courage to make changes. By working in close cooperation with them for decades, we have been able to continuously improve the properties of our material. Today DURAN® is the best borosilicate glass in the world. And, as its potential has still not been fully exploited, we are working continuously on the development of extra properties which will increase its customer benefits and its technical application possibilities. This includes intelligent coatings using temperature-resistant plastics such as DURAN® Protect which increases the safety of glass containers by effectively guaranteeing protection against leakage. Internal coatings based on silicon dioxide (SiO₂) are also of importance in this

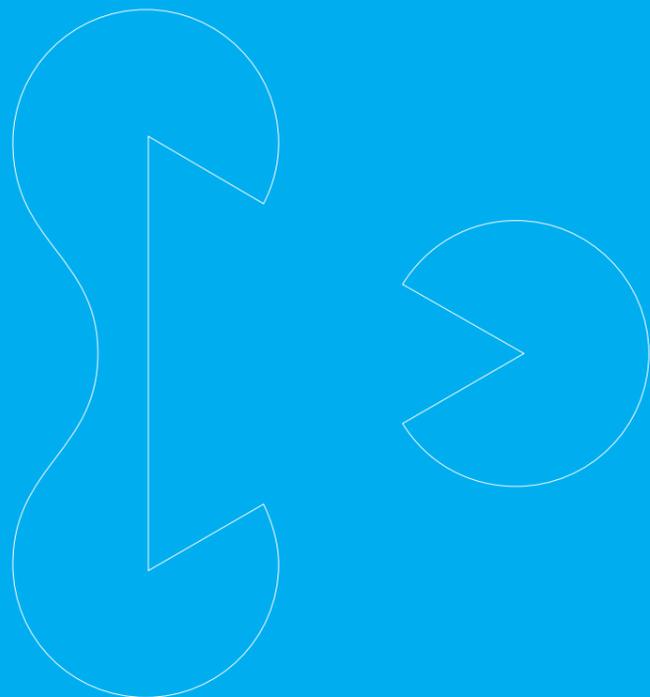
connection: They support research and development in optimizing the quality of analytical results.

In addition, active memory chips (Radio Frequency Identification/RFID) in conjunction with glass items will improve the flow of work in laboratories in future, and above all they will have a significantly beneficial effect on documentation.

Glass matrix composites using silicon (SiC) fibers are solving critical handling duties in the hot glass industry. The outstanding properties of this innovative material provide it with enormous potential for the future.

Altogether it is interesting to note how the terms of reference have changed over the past years. Primarily as a result of the development of new processes, machines and techniques, a laboratory

glass manufacturer steeped in tradition has become an innovative company that is making its mark as a reliable and capable partner in the field of glass packaging in the pharmaceuticals and vaccine industry. We pay particular attention to the expansion of our product range and the optimization of the material properties of DURAN®. Our declared objective is to promote the success of our customers on a long-lasting basis. The newly gained flexibility and speed of decision routes within the DURAN GROUP provides the best preconditions for this. Under the DURAN GROUP umbrella in addition to the three divisions – Laboratory Glass, Industrial Glass, and Special Glass for Industry – there is still plenty of room for growth and innovation, new materials, and groundbreaking ideas.



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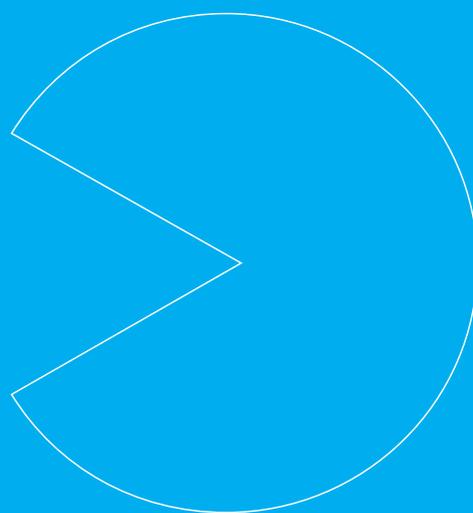
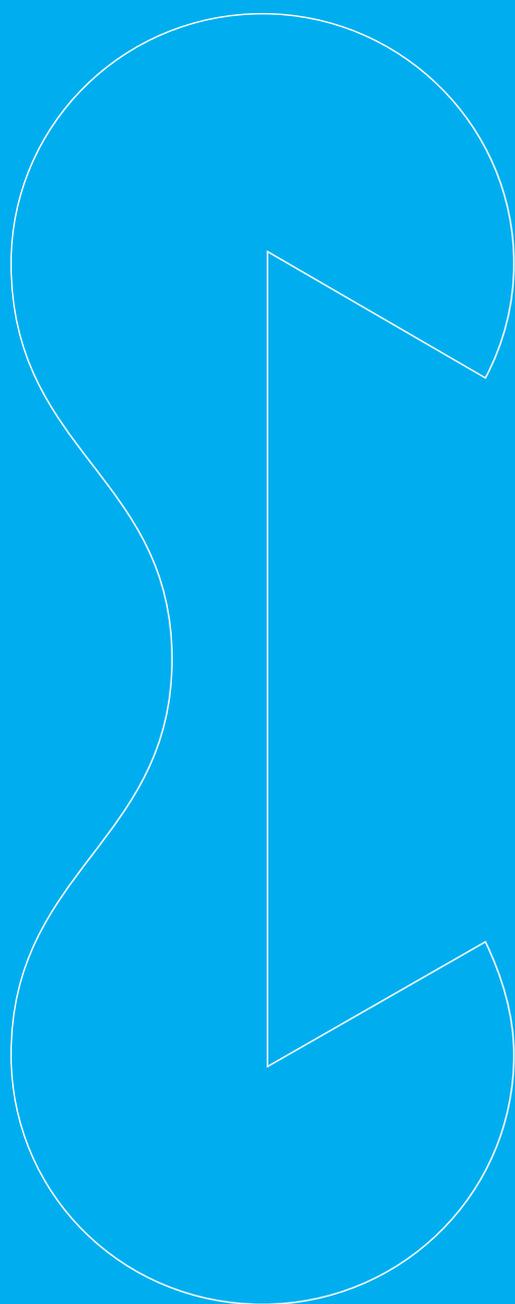
Quality manual

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