FORGEMASTER

STOOSS

STEEL AT ITS BEST

Innovative

into the future

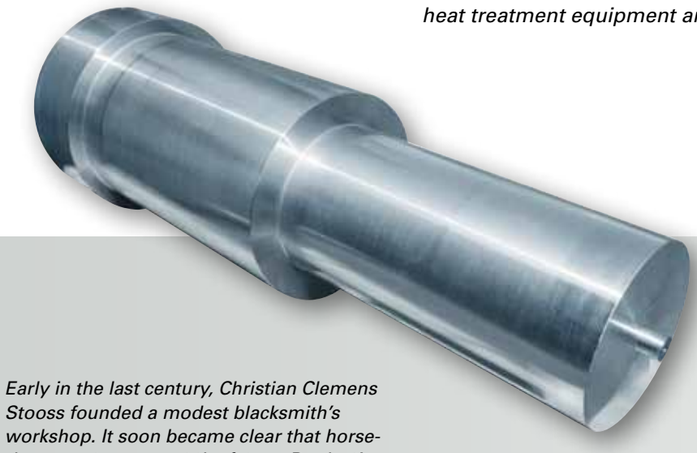
Thanks to our innovative spirit and future-oriented management, we have been able to successfully position ourselves in the international market for over 100 years.

STOOSS is engaged in highly developed thermo-forming technology of unalloyed, low and high-alloy steels, light and non-ferrous metals and nickel alloys.

A 2500-ton forging press and a powerful ring rolling mill, both electronically controlled, are the focus of resource-efficient production today. The latest heat treatment equipment and CNC processing machines complete the company's state-of-the-art plant.

The majority of the company's products are exported: representatives in Europe, the USA and East Asia ensure an outstanding international customer service.

STOOSS is perfectly equipped for competing on an international basis in the future thanks to billet stocks designed to meet the market requirements, clear company structures and consistent «lean management».



Early in the last century, Christian Clemens Stooss founded a modest blacksmith's workshop. It soon became clear that horse-drawn carts were not the future. Production was converted to industrial parts. Then and now – it is still about fire, heat and hot metal. Today, modern technologies have for the most part replaced the crude smith's craft.

Forging –

still a craft despite hi-tech

Forged parts from STOOSS are outstanding because of their surface finish, minimal forging allowances and dimensional accuracy.

The demands on the forging profession have increased enormously. An industrial forgemaster today must know almost as much about computer-controlled plants and equipment as he does about raw materials and traditional methods. The 3-year course for qualification as an industrial forgemaster is very demanding, since the quality and accuracy of the finished workpieces depend on his skills and his experience. No wonder these strong specialists are in great demand.

The extensive range of supplies and services of STOOSS allow our employees to gain valuable professional experience in addition to theoretical training, through many years in the team.

In doing so, STOOSS forgemasters develop many skills which guarantee that the quality requirements of the STOOSS products are met.

Forgings

of the highest quality

No other process improves the mechanical properties of raw materials as effectively as forging.

The accurate, homogenous structure and grain flow are highly valued characteristics of forged components. Seamless profiled rolled rings, balls and all types of open-die forgings – forged in the contour – and weighing up to about five tons are typical STOOSS specialities. The annual forging capacity is approximately twenty thousand tons.

Forged parts from STOOSS are outstanding because of their:

- *material selected on the strength of its analysis and degree of purity*
- *exact shaping*
- *ideal degree of forming*
- *optimum grain structure*
- *minimum allowances*
- *narrow tolerances*
- *thermal treatment relevant to the application*

Moreover, they offer exceptional advantages:

- *excellent manufacture in respect of surface quality and accuracy of form*
- *suitable for processing on CNC machines*
- *reduction of mechanical processing time, thus saving costs*
- *high degree of security against fatigue cracks*

Modern technology and decades of experience provide a flexible customer-oriented production, in addition to high productivity and precision.

Order processing, production planning and control (PPC) and storage logistics are handled by EDP systems.
In process technology, numerous optimization methods ensure that parts are manufactured as efficiently as possible.

Some eight-thousand tons of raw material are always in stock, including more than 120 different grades of steel. This operational flexibility ensures that customer requirements are quickly met. The material is cut on automatic saws prior to forging.

Dimensional accuracy

for high load capacity

Our open-die forging facility produces parts for turbines, gears, valves or machines from 60 kg up to 5 tons.

Shafts and bars, depending on the design at a length of up to 4,500 mm, but also disks, sleeves and wheels of up to 5 tons in weight are manufactured in our open-die forge.

Depending on the weight, thirteen hundred, sixteen hundred or twenty-five hundred ton presses are used.

Thanks to the accurate design and our high reliability, we can maintain our coveted position on the highly competitive international markets.

Source: © Liebherr

Open-die forging: ancient skills augmented by the latest technology. The red-hot part is forged to the required shape through teamwork.

Precise

reliability

STOOSS is extraordinarily competent also for heavy individual items or small quantities of large parts such as hubs, flanged shafts and round blanks.

Any company wanting to stay competitive on world markets today must be able to deliver excellent quality quickly and reliably. «Just in time» requires manufacturers to be extremely flexible.

The forged hubs, flanges and disks, solid or punched hole of a max. diameter of 1500 mm and a weight of up to 5 tons, for example, are used in the areas of shipbuilding, machine construction, turbines, compressors, etc. and prove their continued reliability in daily use. It is no coincidence that forged parts by STOOSS are favored in all parts of the world, wherever long life and outstanding stability are required.

Source: Cunard Line Ltd.

The material is heated in furnaces. State-of-the-art controls ensure that the processing temperatures are adapted to the material. Manipulators transport the glowing blocks to the forging units for shaping.

Safety

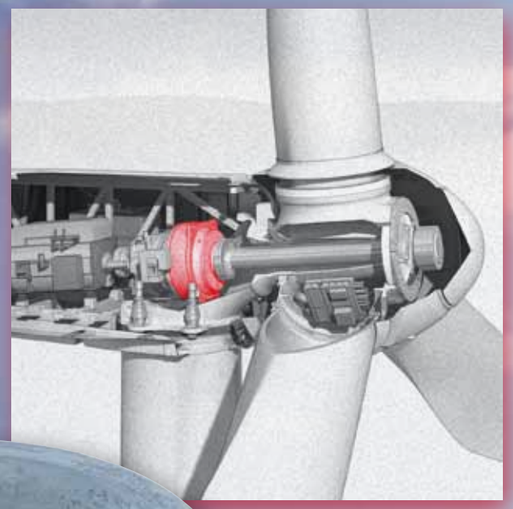
and long product life

The production of seamless hot rolled and profiled rings weighing up to approx. 4.5 tons are typical STOOSS specialities.

In the production of rings, the billets are preformed, punched and then rolled to the required dimensions on ring rolling mills.

A quick production adaption to the customer's needs allows us to economically manufacture very small quantities as well as larger series.

STOOSS forged parts are daily in use wherever an especially long life and extraordinary stability are called for: in power plants, cable railways, locomotives, feed mills and waste disposal.



Source: i-Stockphoto.com

Many years of experience enabled us to develop processes – some controlled electronically, some manually – which guarantee precision and accuracy from the first to the final step.

Heavy-duty
use in key positions

STOOSS forged parts such as sleeves and balls are preferred wherever exceptional load capacity is required.

STOOSS forgings are contributing to success in all sectors of industry: in oil and gas conveyance, food processing, agriculture and the automotive industry, in machine and tunnel construction, in chemical technical equipment and in power plants where installed components such as turbines and generators have to guarantee a high degree of safety and a long life.

STOOSS manufactures seamless hot-rolled parts such as sleeves and balls in durable quality for the highest demands.

Source: BP p.l.c.

Seamless rolled sleeves, balls, profiled rings and other types of open-die forged parts are typical STOOSS specialities.

Accurate

heat treatment

The heat treatment appropriate for the material optimises the physical properties of the forged parts.

Using accurately controlled heat treatment, the physical properties meet our customers' requirements or standard specifications.

STOOSS operates with environmentally compatible natural gas and electrically powered heat treatment furnaces which are calibrated regularly. The parts are quenched in oil, water or polymer.

Up-to-date measurement and control instruments record the specific heat treatments such as normalizing, annealing, tempering or soft annealing appropriate for each material.

These quality critical procedures are carefully supervised by our specialists with many years of experience.

Expert heat treatment ensures optimal material properties.

STOOSS

shapes steel perfectly

The forgings achieve the dimensions defined by the customer using modern CNC machine tools.

The cost-cutting reduction of the mechanical processing time is a great advantage for our customers.

Our trained specialists shape each forging in rational single or series production accurately according to the customers' requirements, using modern machines, conventional and CNC center lathes, CNC vertical lathes, boring mills or milling machines.

In addition, special processing such as flame cutting is used and the forgings can also be shot blasted at STOOSS.

Department for pre-machining and finish-machining.

Traceable

documented quality

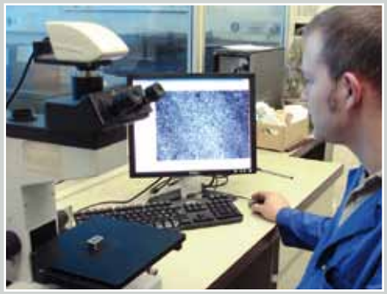
Micrographic and chemical physical examinations, non-destructive and mechanical tests are carried out in the STOOSS laboratories.

STOOSS quality sets standards. A strong focus on quality, determination and a highly qualified team secure the future of STOOSS.

A department which operates independently of the manufacture is responsible for quality assurance and ensures that our customers' quality requirements are always satisfied.

The various destructive and non-destructive testings are carried out in our laboratories according to customers' specifications. The test certificates, in combination with the ST-stamp, confirm the perfect quality of the STOOSS forging parts.

STOOSS is certified according to ISO 9001:2008/14001:2004/18001:2007. STOOSS is recognized by acceptance authorities and classification societies such as the German Technical Supervision Association TÜV (AD 2000 W 0/ TRD 100 and PED 97/23/EC), the English Lloyds Register of Shipping (LRS), German Lloyds (GL), the Norwegian Det Norske Veritas (DNV) and the French Society Bureau Veritas (BV) as well as the Norwegian NORSOK M-650.



STOOSS forgings undergo various quality and manufacturing tests.

Flexible

and international

Thanks to the extensive material warehouse, a modern PPC system and ideal logistics solutions, STOOSS meets the shortest delivery dates.

STOOSS sets great value upon meeting delivery dates and upholding close cooperation with customers. Practical experience over many years and a thorough knowledge of international market conditions are the basis for complete customer advice and assistance.

To ensure customer support worldwide, STOOSS has its own subsidiaries in Germany, the United States and Asia.

In Germany, STOOSS operates a customized inventory management system and can supply pre-machined and finish-machined parts.

In Houston, Texas, STOOSS USA Inc. provides North American customers with inventory management as well as pre-machined and finish-machined forging parts.

In China, STOOSS maintains a consignment warehouse for specific customers.

SCHMIEDEWERK STOOSS GmbH, Germany

STOOSS USA Inc., Texas

FORGEMASTER STOOSS STEEL AT ITS BEST

SCHMIEDEWERK STOOSS AG
Maienbrunnenstrasse 8
CH-8908 Hedingen
Telephone +41 43 322 62 00
Fax +41 43 322 62 01
info@stooss.com
www.stooss.com