Diversity is our strength

Schmiedewerke Gröditz GmbH forging technology

Schmiedewerke Gröditz
GMH GRUPPE

A solution for every challenge

Whether it is a question of open-die forged parts and ring-rolled products made of unalloyed, alloyed and high-alloyed steels, in heat treatment as well as in machining, Schmiedewerke Gröditz GmbH is renowned for diversity.

Expertise based on 240 years of forging experience at our steel facilities in Gröditz has created the solid foundation for our broad range of products and services - which provides customers all around the world with the best solution to suit their needs. Our leading edge: our own on-site steel works as well as an ESR plant in which 300 steel grades in over 2,000 analysis modifications are produced. We work hand in hand, from the raw material to the finished product, to achieve results of the highest quality.

A tradition in innovating

Our new ideas help shape the future of technology. Using powerful machinery as well as stainless steels distinguished by an outstanding degree of purity as well as an even microstructure and resistance to wear and corrosion, we continually produce new products according to individual customer requirements. Always collaborating with our customers to make steel even better.

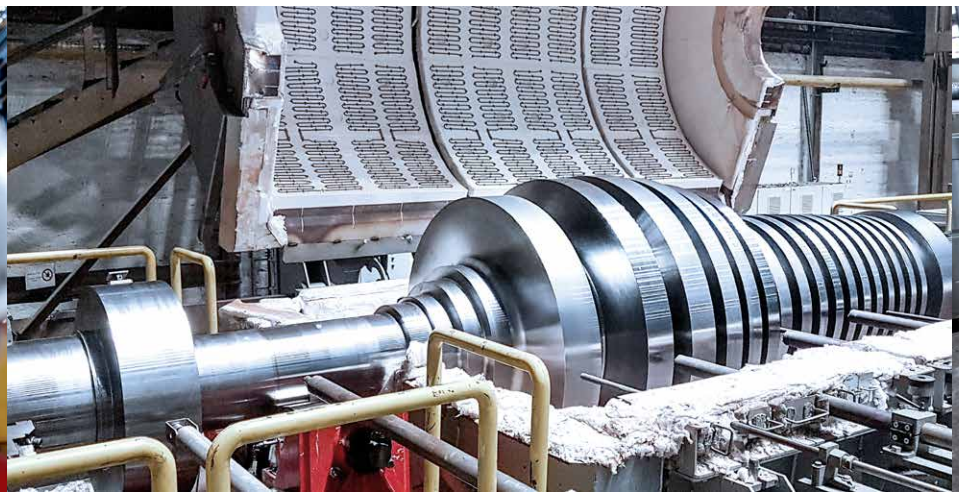
Unique diversity

Partner for many sectors

Irrespective of how demanding the specific purpose of a forged part or ring-rolled product may be, or the technical demands on heat treatment or machining – we meet exact customer requirements, always with top precision. Numerous sectors benefit from this, including mechanical engineering and plant construction, the power generating industry, the chemicals industry, the animal feed industry, mound production as well as railway vehicle manufacturing.

For the region and the environment

Since its establishment in 1779, Schmiedewerke Gröditz GmbH has been deeply rooted in the local area. We live and work in harmony with the region, and take our responsibility for current and future generations seriously. Environmental protection is extremely important to us. Which is why we focus on a sustainable environmental and energy management system, with the aim of avoiding environmental pollution and reducing energy consumption.
For Gröditz, and for our future.


Our range of products and services

Using a wide variety of materials, and in optimally coordinated processes with our own on-site steel works as well as an ESR plant, we produce high-quality products in the forge and ring-rolling plant. In this context we offer a broad spectrum of dimensions, heat treatments and processing options, in exact compliance with customer requirements.

STEEL WORKS

- 50 ton-arc furnace
- Ladle furnace
- VD/VOD-plant
- Ingot casting in bottom casting process
- Forging ingots up to 76.5 t

ESR plant

- ESR double plant with ingot retractor and electrode changing device
- Ingot weights of 3.8 t to 84 t

Materials

- High quality and high grade structural steels
- Nitriding steels and case hardening steels
- Tool steels (cold work and hot work steels)
- Plastic mould steels
- Ledeburitic steels
- Stainless steels (austenitic steels, ferritic steels, compound steels, martensitic steels)
- ESR steels

OPEN-DIE FORGE

- Open-die forging presses (27 MN and 60 MN)
- TR-forging die for cgf-forged crankshafts
- Forging furnaces and annealing furnaces
- Finishing shop
- Test centre

Products

- **Round steel bar**
  Piece weight: max. 56 t
  Diameter: 300 mm to 1,400 mm
  Length:2,000 mm to 12,000 mm
- **Flat steel bar**
  Piece weight: max. 52 t
  Width: 500 mm to 2,000 mm
  Height: 100 mm to 1,000 mm
  Length: 2,000 mm to 10,000 mm
- **Square steel bar**
  Piece weight: max. 52 t
  Edge length: 300 mm to 1,300 mm
  Length: 2,000 mm to 10,000 mm
- **Contoured forgings**
  Piece weight: max. 42 t
  Diameter: 300 mm to 2,000 mm
  Length: max. 14,500 mm
- **Disks**
  Piece weight: max. 38 t
  Diameter: 1,000 mm to 3,900 mm
  Height: min. 100 mm
- **Rings**
  Piece weight: max. 38 t
  Outer diameter: 1,000 mm to 4,000 mm
  Width: 400 mm to 2,000 mm
  Wall thickness: min. 100 mm

- **Hollow bodies (bushes)**
  Piece weight: max. 35 t
  Inner diameter: 300 mm to 900 mm
  Length: 1,500 mm to 6,000 mm
  Wall thickness: min. 100 mm

Other dimensions available on request.

Heat treatment*

- **Soft annealing, normalising, austenitizing and tempering, stress-relieving**
  Horizontal furnaces
  max. 14,000 x 2,500 x 2,200 mm
  max. 10,000 x 4,500 x 2,300 mm
  max. 11,000 x 3,000 x 2,500 mm
  Vertical furnaces
  max. 1,600 x 8,300 mm
- **Quenching in oil**
  Horizontal
  max. 14,500 x 1,800 x 2,400 mm
  max. 9,500 x 2,800 x 1,900 mm
  max. 5,500 x 4,600 x 3,200 mm
  Vertical
  max. 1,600 x 8,300 mm
- **Quenching in water**
  Horizontal
  max. 9,500 x 3,300 x 1,900 mm
  Vertical
  max. 1,600 x 8,300 mm
- **Heat stability test**
  Diameter: max. 1,800 mm
  Length: 2,800 mm – 10,000 mm
  Testing range length: max. 6,500 mm
- **Piece weight**
  Horizontal furnace: max. 60 t
  Vertical furnace: max. 40 t
  Heat stability test: max. 40 t

RING ROLLING MILL

- Hard-metal saws, band saws
- Rotating hearth furnace, reheating furnace
- Punching and upsetting press
- Expanding press
- Radial/axial-rolling machines max. up to radial 330 t/axial 260 t
- Finishing shop
- MT equipment
- Heat treatment

Products

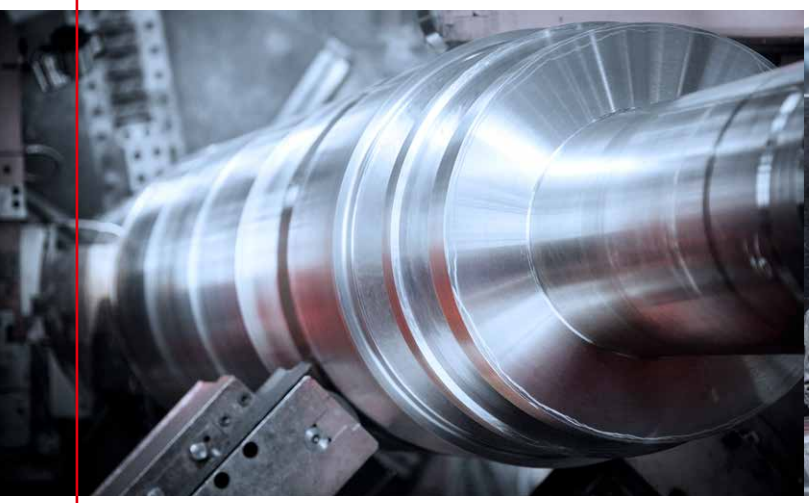
- Outer diameter OD (finished dimension): up to 3,900 mm
- Height H (finished dimension): up to 570 mm
- Delivery weight: up to 4,000 kg
- Dimension as rolled:
  OD < 4,000 mm/H < 600 mm

Individual technological testing necessary.

Heat treatment*

- Car bottom furnaces
  7,800 x 3,800 x 2,150 mm
  8,500 x 4,000 x 1,700 mm
- Annealing hoods
  10,000 x 4,000 x 1,600 mm
- High-temperature chamber furnaces 2,800 x 2,800 x 1,500 mm
- High-temperature chamber furnaces 2,800 x 2,800 x 1,500 mm
- High-temperature double chamber furnace 2,800 x 5,600 x 1,500 mm
- Cooling tanks
  4,500 x 4,650 x 4,500 mm (95 m^3)
  Medium: Water/polymer

*Dimensions (L x W x H)



Machine shop

- **Turning**
- Centre lathe
  Max. turning length: 18,000 mm
  Max. turning diameter: 2,500 mm
  Max. diameter in front of support: 2,500 mm
- Carousel lathes
  Max. turning height: 2,500 mm
  Max. turning diameter: 4,000 mm
- **Milling**
- Horizontal boring machines
  Max. transverse movement: 4,850 mm
  Max. working height: 4,450 mm
  Spindle diameter: 175, 200, 250 mm
- Portal milling machine for square ingot milling
  Working length: 9,500 mm
  Working width: 2,100 mm
  Working height: 900 mm
- **Boring**
- Horizontal boring machines
  Parameter for analogue milling
- Gun drilling machine
  Max. drilling length: 10,000 mm
  Max. drilling diameter: 380 mm
- Honing machine
  Max. honing diameter: 450 mm
  Max. honing length: 10,000 mm
- **Sawing**
  Max. dimensions:
  1,200 x 1,080 mm
- **Crane carrying capacity**
  75 t

Test procedures

- Non-destructive material testing
- Destructive testing
- Metallographic examinations
- Chemical analysis
- Supplementary testings via cooperation partners

Management system certifications

- ISO 9001
- ISO 14001
- ISO 50001
- Pressure Equipment Directive 2014/68/EU
- Nuclear Safety Standards Commission (KTA) 1401

Areas of application – a selection

AUTOMOTIVE

MOULD PRODUCTION

MECHANICAL ENGINEERING AND PLANT CONSTRUCTION

LARGE ENGINE INDUSTRY

OIL AND GAS EXTRACTION

POWER-GENERATING INDUSTRY

VESSEL CONSTRUCTION

RAILWAY SYSTEMS

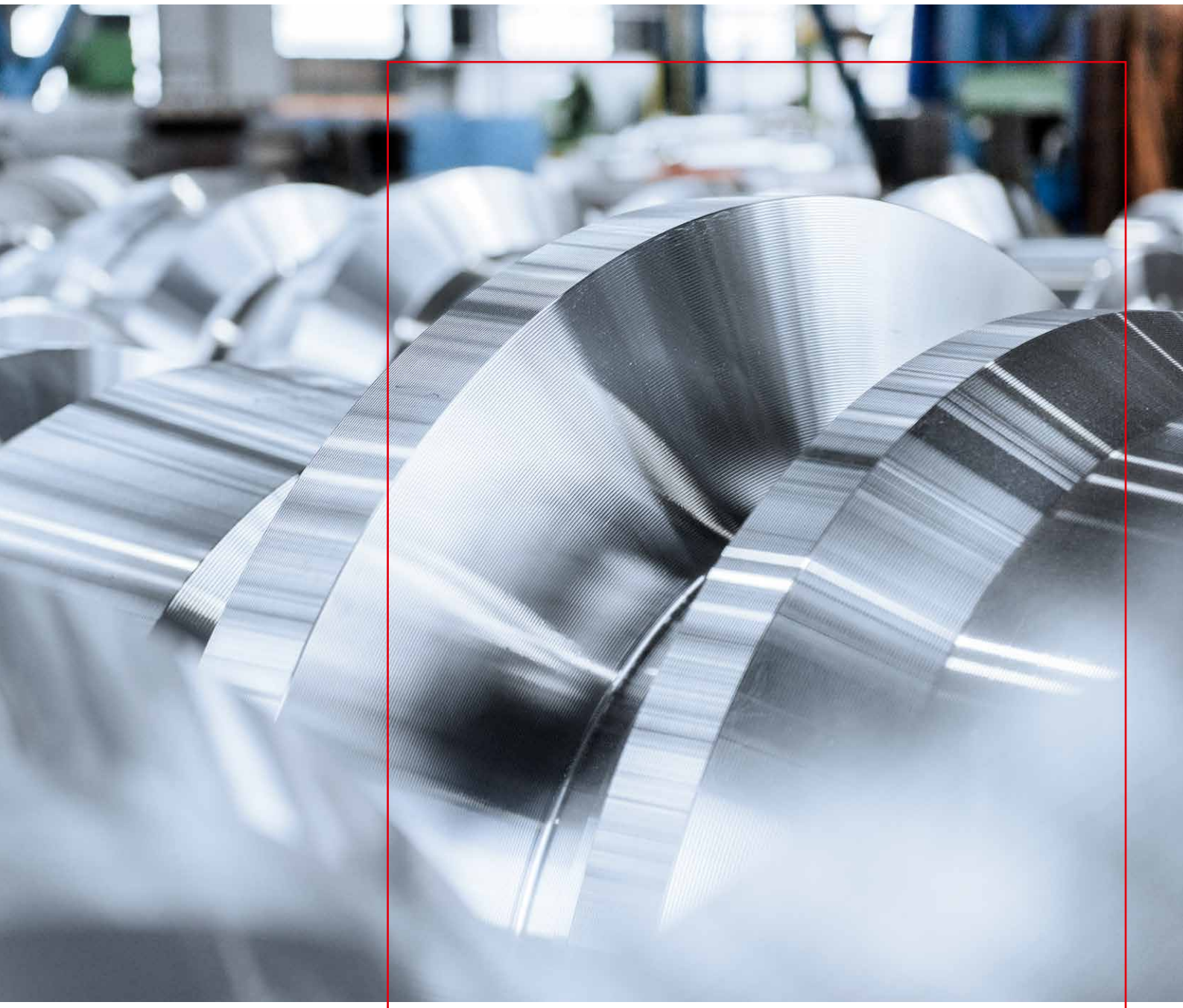
CONSTRUCTION AND DRILLING EQUIPMENT

GEAR AND ENGINE CONSTRUCTION

CHEMICAL AND PETRO-CHEMICAL INDUSTRY

ANIMAL FEED INDUSTRY

FORGING TECHNOLOGY



Make us your first port of call
Rising successfully to the challenge together: Schmiedewerke Gröditz GmbH always likes to engage in collaborative partnerships to achieve the best results. For the full duration of every project. Because the best result is always individual. Just let us know what we can do for you.

Schmiedewerke Gröditz GmbH is part of the Forging Technology Business Unit of GMH Gruppe
From the raw material to the finished component - with a passion for precision

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