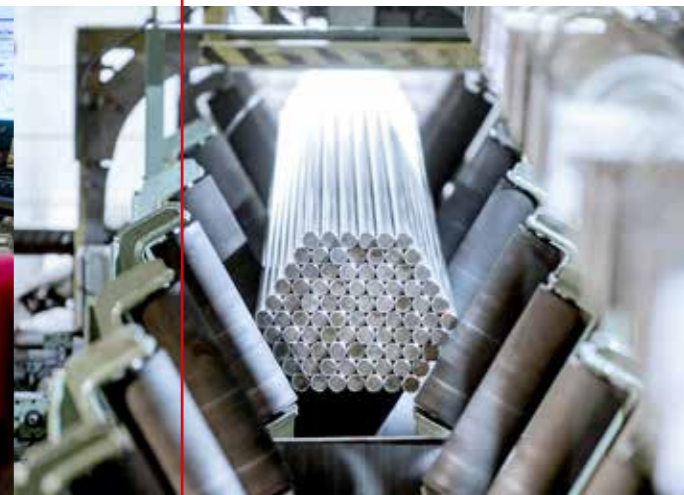




# Steel bars – as unique as your requirements

Over 500 quality and high-grade structural steels. Custom-made. Reliable, on-time delivery.





# The perfect semi-finished products – for your sustainable success

High-quality semi-finished products, optimally suited to further processing procedures and designed to fulfil customer specifications – which is crucial for the quality of end products. Georgsmarienhütte GmbH provides solutions which meet even the strictest safety standards of the automotive sector.

The experts at Georgsmarienhütte GmbH collaborate closely with customers to ensure ongoing innovation and further development of steel materials. Our objective is always to provide customers with optimum support in their markets and consistently refine the technological, economical as well as ecological aspects of our components. In optimised processes, therefore, extremely precise tolerance steel bars are produced in our rolling mill. Optional heat treatments make highly customised material properties possible. Precision in development and expertise in production are enhanced by new ideas and a passion for steel.

### Steadfast support

Steel bars from Georgsmarienhütte GmbH feature good surface quality, narrow dimension tolerances, optimal chemical composition and hardenability as well as good micro and macro-uniformity. Our steels, furthermore, fulfil another vital requirement – they are delivered precisely when you need them. Dependably reliable, fast and flexible. Our product portfolio includes over 500 quality and high-grade structural steels for a diverse range of applications. In addition, within the alliance of GMH Gruppe, we pool our expertise to achieve solutions along the entire value chain, to keep distances short and implement efficient processes. Expertise and reliability – all from GMH Gruppe.

## Steel – shaping the future

### Lightweight construction and efficiency

GMH Gruppe is applying its lightweight construction expertise to achieve ongoing efficiency improvements in tomorrow's cars. Using the 16MnCrV7-7 high-strength steel grade, for example, which we developed in collaboration with a major German supplier to the automotive industry. Or by optimising conrod lightweight qualities, resulting in a 10 percent weight reduction. As part of our effort to exploit the full potential of lightweight construction, we are also involved in the "Lightweight Forging" initiative.



### Simulation and innovation

The quality and properties of steel depend on the interplay of many elements. A variety of simulation programmes are used in an early stage of the development work. Georgsmarienhütte GmbH develops innovative materials using a hybrid simulation method which makes accurate predictions of the mechanical properties. Materials – moving towards Steel Industry 4.0.

### Range of materials

- Quenched and tempered steels
- Case-hardening steels
- Ball and roller bearing steels
- Ferritic-pearlitic steels for precipitation hardening
- Chain steels
- Further material types on request

### Dimensions

- Rolled in accordance with DIN 10060 (tolerance deviations of no more than 1/4 from Table 1 of the standard): 20-126mm rd.
- Peeled and polished in accordance with DIN EN 10277 and DIN EN 10278: 18-125mm rd.
- Further dimensions on request

### Delivery lengths

- 3-10m (bright)
- 4.5-10m (black)
- Other lengths and short lengths by arrangement

### End finishes

- Abrasive cut off
- Chamfered ends
- Sawed and deburred
- Special designs by arrangement

### Error checking

- Identification testing
- Surface crack detection testing
- Ultrasonic testing
- Straightness inspection
- Length and diameter inspection

### Heat treatment methods

- Treated to hardness range (+TH)
- Treated to ferrite-pearlite structure and hardness range (+FP)

- Treated for cold shearing (+S)
- Soft annealed (+A)
- Normalised (+N)
- Spheroidised (+AC)
- Quenched and tempered (water or air hardening) (+QT)
- Stress-relief annealed (+SR)
- Treated for cold sawing (+SAW)

### Processing options

- Sawing
- Chamfering
- Additional processing options on request

### Certifications

- IATF 16949
- DIN EN ISO 9001
- DIN EN ISO 14001
- DIN EN ISO 50001

### Approvals/Classification societies

- Bureau Veritas (BV)
- Det Norske Veritas and Germanischer Lloyd (DNV GL)
- Landesmaterialprüfamt Sachsen-Anhalt
- Lloyd's Register of Shipping (LRS)
- Technischer Überwachungsverein (TÜV) with the additional approvals TRD 100 and AD 2000
- TÜV Pressure Equipment Directive

### Certification categories

- Certification in accordance with DIN EN 10204
- Test report 2.2
- Acceptance certificate 3.1 and 3.2
- In accordance with VDA
- In accordance with QS 9000

### Areas of application



**AUTOMOTIVE**

- Conrods
- Rotor shafts
- Differentials
- Pistons
- Steering racks
- Ball and roller bearings
- Drive shafts
- Wheel bearings
- Crankshafts
- etc.

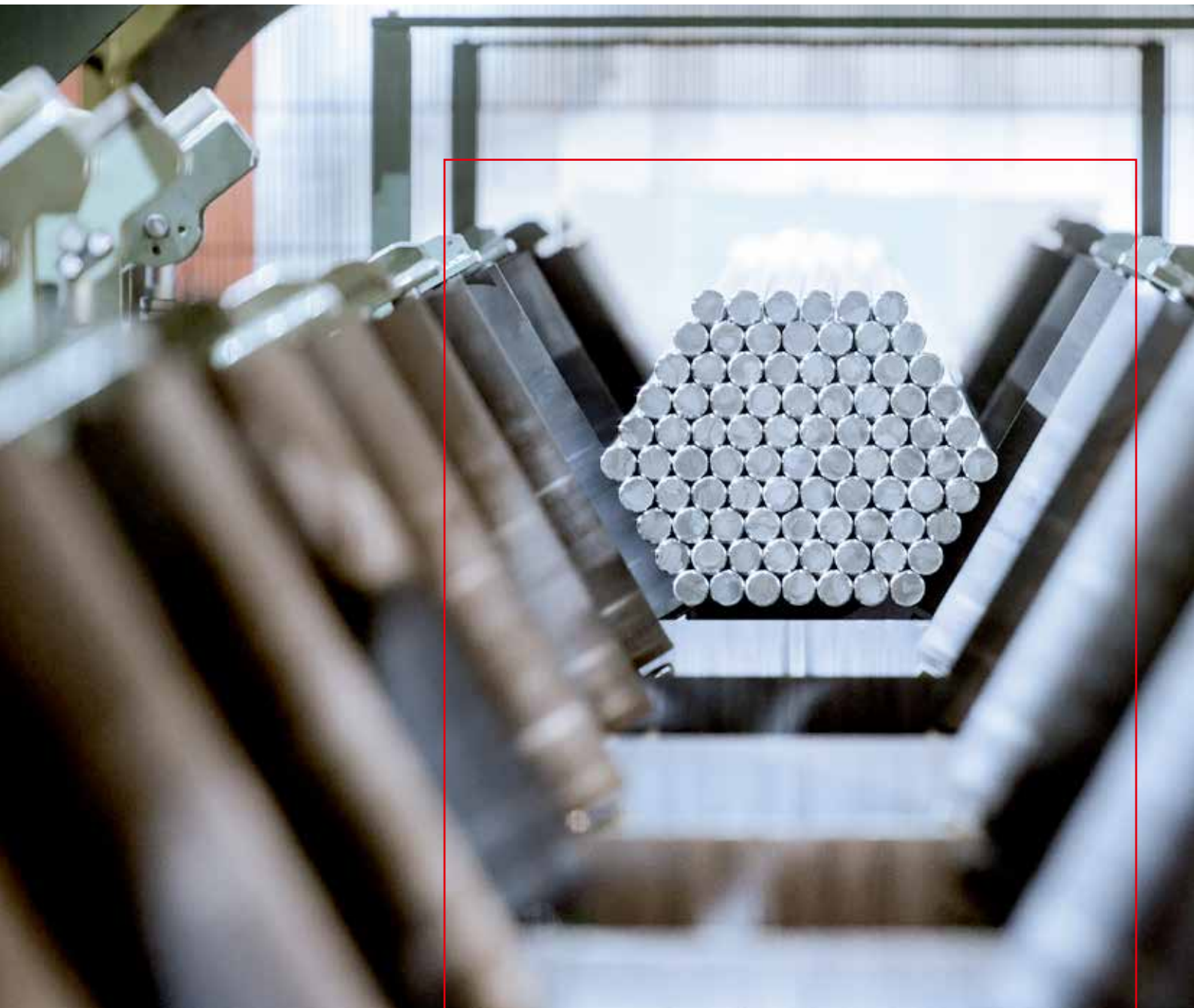


**CONSTRUCTION, AGRICULTURAL AND COMMERCIAL VEHICLES**



**PLANT CONSTRUCTION AND MECHANICAL ENGINEERING**





**Georgsmarienhütte**  
**GMH GRUPPE**

**Pioneering solutions for mobility**

Steel from Georgsmarienhütte plays a key role in many industries because of the broad range of variants. Sectors such as the automotive industry are moving forward to the future using our materials and products, e.g. rotor shafts, gear shaft and crankshafts, conrods, pistons, wheel bearings, shock absorbers, steering racks and differentials. Chains as well as mechanical and hydraulic components are also produced using our steel.

**Georgsmarienhütte GmbH**

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