



MORE THAN 550 YEARS OF
**PREMIUM
STEEL**



Excellence in Specialty Steel



MORE THAN 550 YEARS OF EXPERTISE IN STEEL

Requirements are getting higher, development and production cycles are getting shorter, competition is getting tougher – these are only some of the reasons for having a reliable partner for everything to do with specialty steel. Reliability, in turn, is something we have been continuously improving for more than 550 years now. We are BGH – we provide excellence in specialty steel.

We manufacture specialty steels and nickel alloys with diameters starting at less than one tenth of a millimeter all the way up to diameters of more than one meter. In so doing, we bring together tradition and innovation. Our extensive experience is the basis for our fully integrated and cutting-edge production processes in such areas as energy generation, mobility industries, and medical or environmental technology.

EXCELLENCE IN SPECIALTY STEEL

**INNOVATIVE, TRADITIONAL,
FLEXIBLE AND CUSTOMER-ORIENTED**





> OIL & GAS

YOU SERVE THE WORLD WITH OIL & GAS

**WE SERVE YOUR INDUSTRY
WITH SPECIALTY STEEL**

BGH SPECIALTY STEEL FOR USE IN THE OIL & GAS INDUSTRIES

Oil and gas are – and will be for years to come – two of the most important and highly efficient raw materials for usage as fuel in heating systems and as a basic material for the chemicals and plastics industries. Exploration, transport and processing are rightfully subjected to the highest safety standards.

BGH supplies materials that meet these high standards and has done so for many years now.

Your business can benefit from our extensive experience in these areas. Our materials for these industries are extremely reliable in that they are safe, strong, ductile and highly resistant to corrosion. This ensures that we make an important contribution to the safe and environmentally sound supply of oil and gas to society.



STAINLESS STEEL

- > 410
- > 420 mod.
- > Super 13Cr
- > 17-4 PH
- > Duplex
- > Super Duplex



NICKEL ALLOYS

- > Alloy 625
- > Alloy 825
- > Alloy 718
- > K500
- > Wire for slicklines
(e.g. Alloy 276)

> LEARN MORE ABOUT BGH

If you want to learn more about excellence in specialty steel, our steel grades, BGH as a company or the usage of our products, feel free to visit us online:

www.bgh.de/en



> **AUTOMOTIVE**

SECURE MOBILITY

TODAY, TOMORROW AND BEYOND



VALVE STEEL

BGH is the market leader for valve steel in Europe. Every year, several thousand tons are delivered as bright steel.

- > Main grades: 1.4718, 1.4731, 1.4748, 1.4866, 1.4871, 1.4873, 80A, and other specialty alloys



STAINLESS STEEL

For many automotive customers, BGH stainless steels like 1.4057, 1.4112 and 1.4418 form the basis for a wide range of turned parts for

- > Injection systems
- > Active safety (e.g., braking systems, airbags)
- > E-drives
- > Turbo chargers and
- > Exhaust systems



HSS

BGH steels meet the highest requirements for use in fuel injection systems, as well as micro cleanliness, pressure tightness and strength.

- > 1.3343 (S 6-5-2) is BGH's core product for nozzle needles and control pistons for fuel injection systems

> STEEL GRADES

BGH automotive steel grades stand for uncompromising quality using state of the art secondary metallurgical processes as well as remelting technologies.

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BGH SPECIALTY STEEL FOR USE IN THE AUTOMOTIVE INDUSTRY

There are many factors that have to be considered when it comes to the use of steel in the automotive industry. Component parts have to meet the highest requirements to allow the production of reliable sensor, hydraulic and pneumatic systems. When in use, security and faultless operation are of utmost importance. On top of these requirements, the sustainability of the resulting mobility solutions must be perfect – economically as well as ecologically.

BGH produces solutions for the automotive industry in stainless steel, valve steel, HSS and more, which help to ensure the production of reliable, secure and especially clean engines. Our work is not limited to fossil fuel engines: BGH products are being used in electric vehicles all around the world. In this manner, we ensure optimum performance in the engines of today and tomorrow.



TOOL STEEL

INDIVIDUAL TOOLS FOR INDIVIDUAL SOLUTIONS

BGH SPECIALTY STEEL FOR USE IN TOOLS

Tool steel usually does its work behind the scenes. When looking at the finished product, it may not always say something about the tools used. Though one thing is for sure, behind every high-quality manufactured product are tools of at least equally high quality. Accordingly, the right choice of tool steel can make or break the quality of the finished product.

The requirements of tool steel contain a broad variety of parameters like toughness, wear resistance, compressive strength or heat resistance. Our application-driven research and development ensures that you will receive only the most appropriate, tailor-made solution for your needs. We offer you individual solutions outside of established norms for demanding uses, where standard is not enough.



BGH SPECIAL ALLOYS

- BGH Tough One: hot working steel, increased toughness
- BGH Cut One®: cold working steel, increased wear resistance
- BGH 2316 mod.: plastic mould steel, increased corrosion resistance
- BGH 2738 mod.: plastic mould steel, increased hardness



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HOT WORKING STEEL

- 1.2329
- 1.2343 (H11)
- 1.2344 (H13)
- 1.2365 (H10)
- 1.2367
- 1.2714 (L6)



PLASTIC MOULD STEEL

- 1.2311 (P20)
- 1.2312 (P20+S)
- 1.2378 (P20+Ni)
- 1.2083
- 1.2316



COLD WORKING STEEL

- 1.2379 (D2)
- 1.2721
- 1.2767 (6F7)
- 1.2826
- 1.2842
- 1.2360



> GEARS & DRIVES

SHIFT GEAR NOW

**GET YOUR PRODUCTION
UP TO SPEED**

**BGH SPECIALTY STEEL
FOR PRODUCING GEARS AND DRIVES**

Gears and drives belong to the most highly-stressed components of nearly all machinery. As a result, the requirements for the steel used in the construction of these gears and drives are equally high and ever growing – for use in wind turbines, for example. BGH premium grade steels, such as BGH 6587, are being used in the construction of onshore and offshore wind turbines all over the world.

BGH produces steel for gears and drives with a high metallurgical degree of purity and very low phosphor, sulfur and oxygen content. But we do more than that: Our material undergoes full ultrasonic testing on state of the art automatic test equipment, is certified to the international ISO 9001, ISO 14001 and ISO 50001 standards, and approved by such organizations as ABS, TÜV, IRS, DNV-GL, BV, as well as major leading companies.



**BGH PREMIUM
CASE-HARDENING
GEAR STEEL**

- > BGH 6587 (18CrNiMo7-6)



**BGH CASE-HARDENING
GEAR STEEL**

- > 1.6757 (4320)
- > 1.6523 (8620)
- > 1.6657 (9310)
- > 4820



**BGH QUENCHED &
TEMPERED GEAR STEEL**

- > 1.7225 (4140)
- > 1.6582
- > 1.6580
- > 1.6563 (4340)
- > 1.8519
- > 4330 mod.



HEAT-RESISTANT ENGINEERING STEEL

- > 1.6310 (A508)
- > 1.6368
- > 1.7335 (F12)
- > 1.7380
- > 1.7386 (9Cr1Mo)



NICKEL ALLOYS

- > 1.4980 (A660)
- > 2.4952 (80 A)
- > 2.4858 (825)
- > 2.4851 (601)
- > 2.4856 (625)



HEAT-RESISTANT STAINLESS STEEL

- > 1.4901 (F92)
- > 1.4903 (F91)
- > 1.4913
- > 1.4922
- > 1.4923
- > 1.4935 (422)



HIGHLY CORROSION- RESISTANT STEEL

- > 1.4539 (904L)
- > 1.4550 (F347)
- > 1.4542 (17-4PH)
- > 1.4410 (S32750)
- > 1.4501 (S32760)
- > 1.4313 (F6NM)
- > 1.4462 (F51)

> POWER GENERATION

SPECIALTY STEEL MEANS POWER

MORE POWER FOR YOUR BUSINESS

BGH SPECIALTY STEEL FOR USE IN THE POWER GENERATING INDUSTRIES

Global demand for energy is rising faster than ever. New technologies are being put in place to ensure that power is being generated as safely and as cleanly as possible, be it with fossil fuels or alternative energy sources. We want to be a part of this combined effort to make power generation cleaner and more efficient – and we are already doing so thanks to specialty steel.

Use of the right steels forms the basis for more efficient power generation by limiting the amount of emissions per kWh of energy produced. BGH is proud to say that we are playing a role in this evolution by providing the basis for gas, steam or geothermal turbines, safety valves, sluice gates, turbine blades, nuclear power parts, heat exchangers, etc. for energy producers around the world.



SPECIAL ENGINEERING STEEL

- > Case-hardening steel
- > Nitriding steel
- > Quenched & tempered steel



NICKEL ALLOYS

- > Expansion alloys
- > Resistance heating alloys
- > Welding alloys
- > High corrosion resistant alloys
- > High heat resistant alloys



STAINLESS STEEL

- > Martensitic stainless steel
- > Duplex stainless steel
- > PH steel
- > Super austenitic stainless steel
- > Resistance heating wire (Cr-Al)



TOOL STEEL

- > Hot working steel
- > Cold working steel
- > Plastic mould steel

> MECHANICAL ENGINEERING

**JUST THE RIGHT STEEL
FOR THE RIGHT PRODUCT**

BGH SPECIALTY STEEL FOR USE IN MECHANICAL ENGINEERING

BGH specialty steels stand out thanks to their excellent wear, corrosion, and heat resistance, high rigidity and ductility, as well as exceptional creep rupture strength. This results in various economical and material benefits when specialty steel is used in mechanical engineering instead of standard steel varieties. These benefits include longer lifespans in the machinery involved, noticeable increases in

performance, lower costs of maintenance, shorter downtimes and an overall increased economic efficiency. We are especially proud to say that our solutions are unique and tailored specifically to the specifications of our customers and the corresponding projects as regards analysis, heat treatment, surface and dimensions.



> MARINE

MASTER THE TIDES WITH BGH

**DON'T LET ANYTHING
SLOW YOU DOWN**

**BGH SPECIALTY STEEL
FOR USE IN MARINE ENGINEERING**

With everything that happens around or in water, excellent corrosion resistance is the most important factor for structural components next to wear resistance, high strength and ductility. BGH has internalized this in many years of experience with leading marine propulsion producers all around the world.

We provide corrosion-resistant stainless steel propeller shafts, flanged shafts, as well as solutions for other kinds of open die forging parts such as rings or lead-throughs. We are also licensed by various leading ship classification societies, such as DNV-GL, KRS, ABS, LRS, and others.



STAINLESS STEEL

- > Duplex
- > Super Duplex
- > Austenitic
- > Martensitic
- > PH grades



OUR SERVICE FOR YOU

EXCELLENCE IN ALL DIMENSIONS

FINE WIRE

- > **Spools**
dia. 0.08 - 1.80 mm
(dia. 0.003" - 0.070")
- > **Coils**
dia. 0.50 - 2.40 mm
(dia. 0.020" - 0.095")

WIRE

- > **Drawn**
dia. 0.8 - 20 mm
(dia. 0.030" - 0.790")
- > **Bright drawn**
dia. 0.80 - 6.0 mm
(dia. 0.030" - 0.235")
- > **Annealed**
dia. 0.80 - 6.5 mm
(dia. 0.030" - 0.260")

BRIGHT BARS

- > **Drawn**
dia. 1 - 16 mm
(dia. 0.04" - 0.63")
- > **Ground**
dia. 1 - 60 mm
(dia. 0.04" - 2.36")
- > **Peeled**
dia. 12 - 610 mm
(dia. 0.47" - 24")
- > **Turned**
dia. max. 900 mm
(dia. max. 35.50")

BAR

- > **Rolled**
dia. 14 - 150 mm
(dia. 0.55" - 6.00")
- > **Forged**
dia. 30 - 900 mm
(dia. 1.18" - 35.45")
- > **Flat rolled**
Width 30 - 250 mm
(dia. 1.18" - 9.80")
Thickness 5 - 72 mm
(dia. 0.20" - 2.80")
- > **Flat forged**
Width 50 - 1800 mm
(dia. 2.00" - 70.00")
Thickness 30 - 880 mm
(dia. 1.18" - 35.00")

FORGINGS

- > **Forgings**
dia. 90 - 900 mm
(dia. 3.55" - 35.50")
max. 30t (66.000 lbs)
- > **Discs**
dia. max. 2000 mm
(dia. max. 79.00")
- > **Flanged shafts**
dia. max. 1400 mm
(dia. max. 55.00")

FINE WIRE | WIRE

BAR | BRIGHT BAR

OPEN DIE FORGINGS

Whether you are looking for a partner for development or seeking to put a call-off warehousing arrangement in place, BGH has just the right ideas and solutions for you – we will support you in the development of materials for the future.

If you have any questions regarding the selection of materials, dimensions or designs, we will be pleased

to support you. We will also store, cut, drill, center or pre-machine your material on request.

Thanks to our warehouses in Germany, Spain, Portugal, Poland, China, and the United States, our services are available worldwide, so please don't hesitate to contact us!

- > A broad spectrum of machining options, such as sawing, drilling, turning and centering complete our range of services. Our unique storage assortment comprises more than 70 different grades in all common heat treatment conditions, as well as in round and flat dimensions.

> LEARN MORE ABOUT BGH

If you want to learn more about excellence in specialty steel, our steel grades, BGH as a company or the usage of our products, feel free to visit us online:

www.bgh.de/en



Excellence in Specialty Steel

BGH Edelstahlwerke GmbH
Am Stahlwerk 1
01705 Freital
Germany
Phone: +49-271-701-0
Email: info.werke@bgh.de

www.bgh.de

