



SIMPLY BETTER.

**IF IT'S NOT
BETTER, IT'S
NOT GOOD.**



BESSEY Precision Steel



INVENTIVENESS RIGHT FROM THE START

THE BIG BANG.

Founded in 1889 as a bright steel drawing shop in Stuttgart-Untertürkheim, BESSEY was right at the centre in the birth of the great Swabian inventive spirit. The 1880s were the decade in which the automobile was born. The birth years of BESSEY were therefore characterised by one of the most important inventions in world history. Soon cars were being produced in Untertürkheim and elsewhere - and BESSEY became an important and highly valued supplier to the automotive industry. Since then, BESSEY has developed into a globally active company with two independent business divisions. Today, BESSEY Precision Steel is the leading German supplier of high-quality bright and stainless steels, independent of manufacturers and retailers. Our outstanding technological and metallurgical expertise ensures that both we and our customers are always one step ahead in terms of innovation.



INDEX FAMILY BUSINESS

INDEPENDENT BY TRADITION.

The BESSEY Group has maintained its independence as a family business since 1889. This means that strategy and organisation can be coordinated in a direct and clear way. For the workforce and all stakeholders, this means consistency and preservation of values - all decisions are sustainable and geared towards long-term success. The current shareholders are descendants of company founder Max BESSEY. Today, BESSEY sees itself as a family in which the shareholders, management and employees act as a team. This independent approach still characterises BESSEY today and secures the company's unique market position.

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OUR COMPETENCE IN STEEL TODAY.



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SIMPLY BETTER.

BESSEY IS CAPABLE.

Our capabilities are based on the knowledge, creativity and commitment of our employees. By working together, we enable processes that work seamlessly to achieve our goals. The result is that we not only match the latest market developments but, also shape industry trends. This holistic approach is the result of, among other things, the close integration of raw material refinement, research and development and production expertise; knowledge acquired in Germany and with skilled partners around the world.

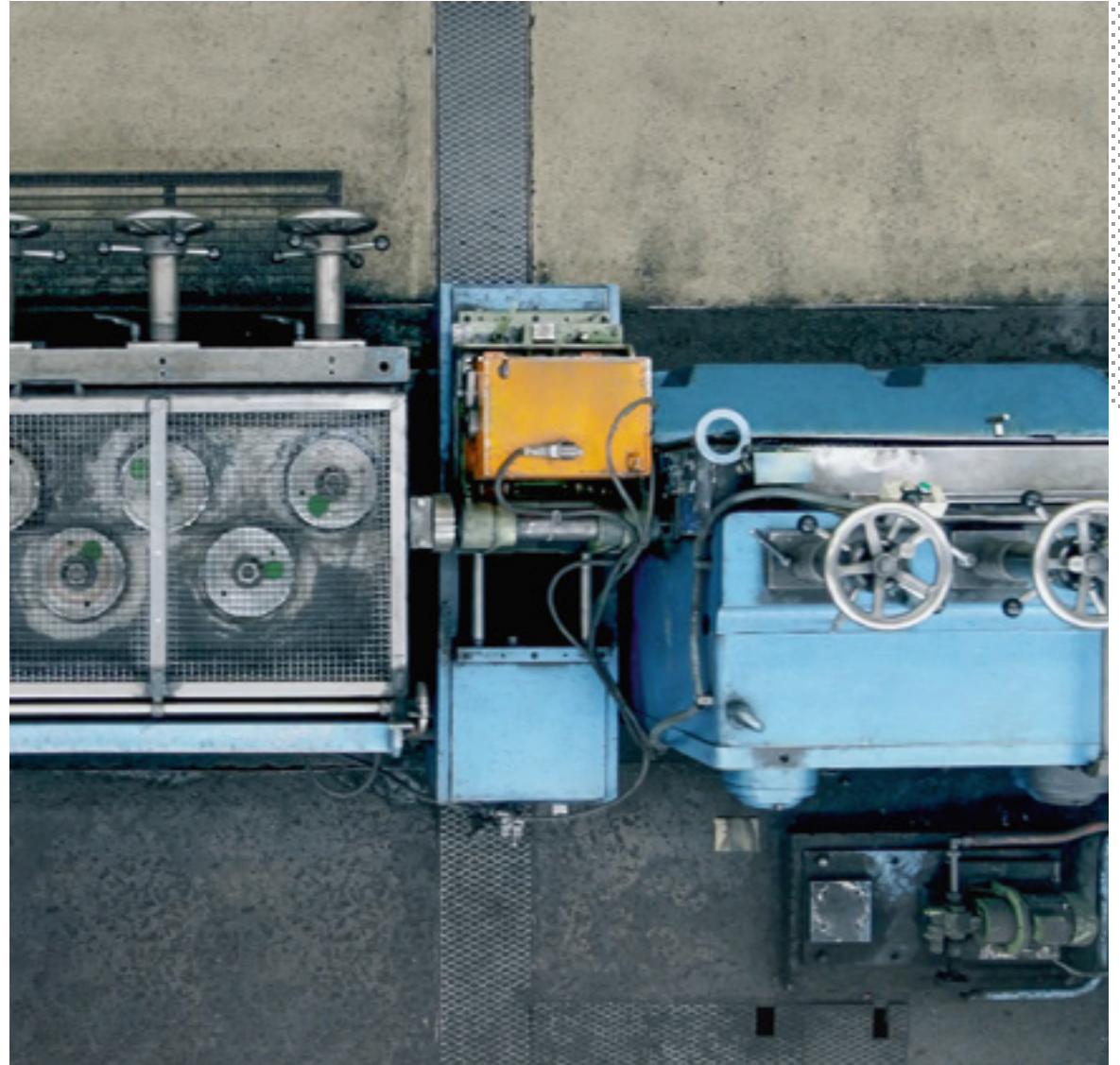


PREPARED.

BESSEY is aware of its unique leadership position in the market and, we are prepared to maintain this special role as we look to the future.

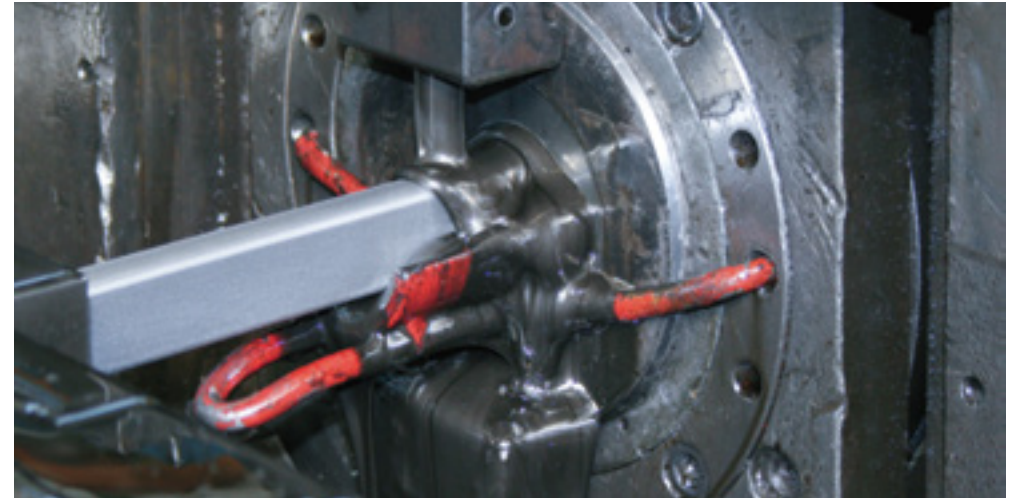
Short decision making processes and significant capital equipment investments enable us to react quickly to changing market conditions. BESSEY's broad range of skills in production is the backbone of this.

From raw materials from selected manufacturers in Germany and elsewhere in the European Union, to the finished product; BESSEY precision steel's in-house production expertise and the associated high quality is unique.





DRAW



The cold forming of steel coils is carried out by drawing using a die.

The cold forming of steel rails into bright drawn steel is done by drawing the steel through a die. This reduces the diameter or changes the geometry (in the form of a coil). This finishing process creates a smooth, homogeneous surface and changes the physical properties of the material.

GRIND



The grinding process involves machining the surfaces of the drawn bright steel.

Grinding is a process that has been known since ancient times. It is a manufacturing process in which material is removed. BESSEY uses high-precision equipment to achieve all the required dimensional and shape tolerances as well as surface roughness. This takes place in one or several steps.

GLOW



During the annealing process, we change the physical and technological properties of the material.

The annealing process plays a key role in achieving the desired mechanical properties of the bright steel: the drawn steel is heated to a defined temperature and then cooled down again in a controlled manner. By carefully controlling the temperature and cooling rate during annealing, customised material properties can be achieved for various applications. This prepares the bright steel for further processing steps or final use.

FLEXIBLE.

Short decision making processes and significant capital equipment investments enable us to react quickly to changing market conditions.

Changing market trends and constantly growing customer demands on the parameters of our precision steels constantly present us with new challenges.

Our outstanding technological and metallurgical expertise ensures that both we and our customers are always ahead of the competition when it comes to innovation.

BESSEY's experience, knowledge, flat management structure and an extensive array of machinery allows us to react quickly to changing market requirements. The proof of this flexibility is in the extensive range of our products and services.

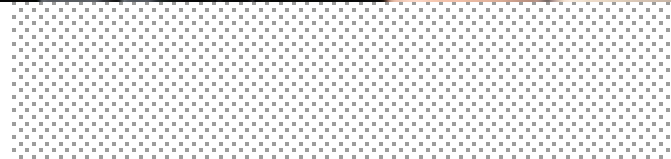


CUSTOMER-FOCUSED.

Our customers are our passion, which is why our sales team is in constant contact with them.

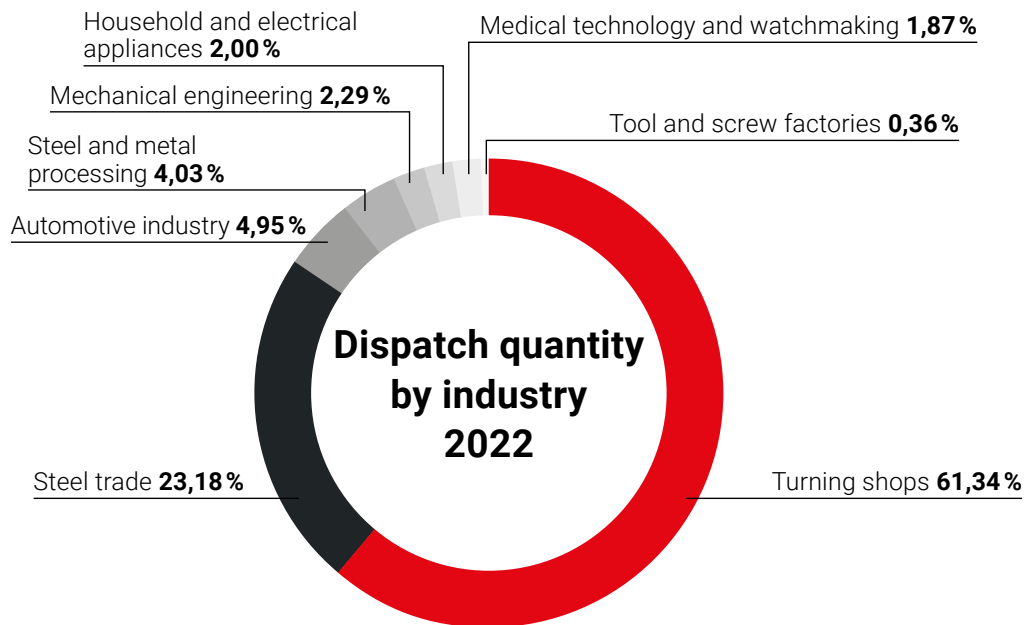
Our goal is to find the best possible solution for our customers needs - regardless of whether new standards need to be developed or customer-specific requirements need to be realised.

Together with Bosch, for example, our quality assurance and sales experts have developed a Bosch-specific standard. This is used whenever precision steels are manufactured for further processing of Bosch products. We will also find the right solution for your tasks and can define our own standards for your very specific requirements.



INDUSTRIES

BESSEY has customers in the automotive industry, medical technology, the watch industry and precision turning shops.



APPLICATIONS



Materials for:

- Bosch-Common-Rail Diesel fuel injection systems
- Aerospace industry
- Watchmaking industry
- Medical technology

Visually appealing solutions for:

- Furniture industry
- Laboratory supplies

CUSTOMER FEEDBACK



'BESSEY has been supplying us with stainless steels and free-cutting steels for more than 10 years. As a manufacturer of complex precision turned parts and cable glands, we only work with first-class quality, which BESSEY always supplies to us flexibly and on time. All of this is at the top of our list when choosing BESSEY as a supplier and has been confirmed time and time again, so that the long-term cooperation speaks for itself ...'

Marc Seidel | Geissel GmbH



'We source our steel from BESSEY precision steel because the products are of quality and the prices are more than competitive. The overall price-performance ratio is significantly better than that of our competitors. In addition, the lead time for preparing quotations is outstanding. Quotations are prepared within 24 hours at the latest. The dispatchers are competent, helpful, co-operative and go the extra mile to 'extra mile' to make the customer happy.'

Nicolai Mamat | Head of sales | KUGEL Präzisions-Drehteile GmbH



'Nagamohr, one of the leading manufacturers of turned parts for drive shafts and rotor shafts in Europe, always uses raw materials of the highest quality. This has led to a close partnership between Nagamohr and Bessey. This is due to the fact that, in addition to faultless quality and a customer-focused approach, Bessey also offers a product diversity and thus fully fulfils the high requirements of the mobility industry.'

Patrick Bosch | Managing Director | NAGAMOHR S.A.



'We, Eichenberger Gewinde AG, develop, produce and distribute high-precision sliding and ball screws with very high quality standards worldwide. BESSEY, with its many years of experience and high-quality products, has been a competent partner for our raw materials for many years. These are used in the manufacture of rolled threaded rods, which are a main component of our products.'

Cai Minh Duong | Head of Procurement | Eichenberger Gewinde AG

NORTH AMERICA

UNITED STATES OF AMERICA
MEXICO

WORLDWIDE

BESSEY quality is also recognised beyond the borders of the European Union. BESSEY's high quality products are sold in many locations abroad.

From Germany to the whole world.

SOUTH AMERICA

BRAZIL



ASIA

CHINA
INDIA
SOUTH KOREA
SINGAPORE
TURKEY

EUROPE

DENMARK
FRANCE
GREAT BRITAIN
ITALY
CROATIA
LIECHTENSTEIN
LUXEMBOURG
NETHERLANDS
AUSTRIA
POLAND
ROMANIA
SWEDEN
SWITZERLAND
SERBIA
SLOVENIA
SLOVAKIA
SPAIN
CZECH REPUBLIC
HUNGARY



SIMPLY BETTER.

BESSEY IS VERSATILE.

We offer an extensive delivery programme that includes a variety of high-quality bright, stainless and free-cutting steels. The range extends from various alloys and different diameters to specific surface finishes. Our customers can choose from almost 3,500 tonnes of finished goods that meet a wide range of requirements. In addition, our highly flexible manufacturing process also allows us to offer customised solutions. And thanks to an efficient logistics system and two storage locations, we ensure punctual and reliable delivery of precision steels.

PRODUCT RANGE.

- Free-cutting steels
- Steels for general technical use
- Case-hardening, heat-treatable and rolled bearing steels
- Rust and acid-resistant steels (stainless steel)
- On request: cold heading steels and nitriding steels

Of course, our technical professionals will also find a solution for your individual requirements!

SERVICE OFFER.

- **Production:** Draw, grind, saw, glow
- **Dimension Range:** 6–80 mm
- **Surface Treatment:** Sanding of demanding surfaces
- **Profile:** round, square, hexagonal and flat, and special profiles on request
- **Test Procedure:** Ultrasonic inspection, ferrofluxing, eddy-current testing, customised test procedures with certification
- **Tolerance Ranges:** ISO 6 to 11 / bar lengths from 1.0 m to 7.2 m



PRODUCT RANGE. BRIGHT STEEL, NON ALLOY / ALLOY.

Free-cutting steels		Steels for general engineering use		Case-hardening and tempering steels, anti-friction bearing steels	
	Norm		Norm		Norm
11SMn30	EN 10277	S235JRC	EN 10277	C15R / C15E	EN 10277
11SMnPb30	EN 10277	E295GC	EN 10277	C16R	EN 10277
11SMn37	EN 10277	E335GC	EN 10277	16MnCr5 / 16MnCrS5	EN 10277
11MnPb37	EN 10277	S355J2C	EN 10277	16MnCrS5Pb	EN 10277
11SMnPb30Te	EN 10277	C10	EN 10277	20MnCrS5	EN 10277
11SMnPb30Bi	EN 10277	C15	EN 10277	17NiCrMoS6-4	EN 10277
11SMnPb30TeBi	EN 10277	C15Pb	EN 10277	15CrNi6	EN 10277
11SMnPb37TeBi	EN 10277	C35	EN 10277	18CrNi8	EN 10277
10S20	EN 10277	C35Pb	EN 10277	C35E	EN 10277
10SPb20	EN 10277	C40	EN 10277	C45R / C45E	EN 10277
35S20	EN 10277	C40Pb	EN 10277	C45R	EN 10277
35S20Pb	EN 10277	C45	EN 10277	34CrS4	EN 10277
46S20	EN 10277	C45Pb	EN 10277	41CrS4	EN 10277
46S20Pb	EN 10277	C50	EN 10277	25CrMoS4	EN 10277
44MnPb28	EN 10277	C50Pb	EN 10277	42CrMo4 / 42CrMoS4+QT	EN 10277
36SMnPb14	EN 10277	C60	EN 10277	34CrNiMo6	EN 10277
		C60Pb	EN 10277	51CrV4	EN 10277
				30CrNiMo8	EN 10083-3
				100Cr6	EN 683-17
Further steel grades on request					

Dimensions	Drawn	Peeled	Ground
Round	6-42 mm	On request	5-80 mm
Hexagonal	6-36 mm		
Square	6-34 mm		
Sections	On request		
Tolerance Ranges	ISO 11 - ISO 9	ISO 11 - ISO 9	ISO 11 - ISO 6
	Special tolerances on request		
Crack Detection	Eddy-current testing and US inspection		
Bar Length	From 1,0 to 7,2 m		



PRODUCT RANGE. STAINLESS STEEL.

Rust and acid resistant (stainless) steels EN 10088-3 / AISI	
Ferritic and martensitic steel All grades +A (annealed) / +QT (quenched and tempered) on request	Austenitic steels All grades quenched / resp. +AT (solution annealed)
1.4005 / 416	1.4301* / 304
1.4016 / 430	1.4305* / 303
1.4021 / 420 A	1.4306 / 304 L
1.4028 / 420 F	1.4307* / 304 L
1.4034 / 420	1.4401* / 316
1.4035	1.4404* / 316 L
1.4057 / 431	1.4435 / 316 L
1.4104 / 430 F	1.4541 / 321
1.4105 / 430 F	1.4570 / 303 Cu
1.4112 / 430 B	1.4571 / 316 Ti
1.4122 / 430 C	
Further steel grades on request * also available in better machinable quality.	

Dimensions	Drawn	Peeled	Ground
Round	6–32 mm	On request	5–80 mm
Hexagonal	8–27 mm		
Square	8–20 mm		
Sections	On request		
Tolerance Ranges	ISO 11 – ISO 9	ISO 11 – ISO 9	ISO 11 – ISO 6
	Special tolerances on request		
Crack Detection	Special surface roughness requirements by arrangement		
Bar Length	Eddy-current and US inspection		
	From 1.0 to 7.2 m		

Notes:
We guarantee a straightness deviation of at least 0.5 mm or better.

Ultrasonic testing, crack testing, sawing and grinding can also be offered as contract work.



SIMPLY BETTER.

BESSEY IS QUALITY.

Comprehensive quality assurance is essential for us in order to guarantee the highest product standards. This includes close monitoring of the production parameters, regular analyses of the raw materials and thorough testing of the finished bright and stainless steels for geometric, surface and mechanical properties.

Quality management systems play a central role for us in order to standardise processes and enable continuous improvements. BESSEY products are checked several times during the drawing process and afterwards using the latest technology.



DURING THE MANUFACTURING PROCESS.

EDDY-CURRENT TESTING



	Surface quality grades (d = nominal diameter of the rod or distance between parallel surfaces on square and hexagonal bars)			
	1	2	3	4
Permitted defect depth	Max. 0,3 mm for d ≤ 15 mm Max. 0,02 x d for 15 < d ≤ 100 mm	Max. 0,3 mm for d ≤ 15 mm Max. 0,02 x d for 15 < d ≤ 75 mm Max. 1,5 mm for d > 75 mm	Max. 0,2 mm for d ≤ 20 mm Max. 0,01 x d for 20 < d ≤ 75 mm Max. 0,75 mm for d > 75 mm	Manufactured to be free of cracks (only possible with a subsequent machining)
Max. percentage of delivery weight above the established defect limit	4 %	1 %	1 %	0,20 %
Test methods: Circograph (rotating scanning probes) and Defektomat (encircling through-type coils)				
Dimension: round 6 - 50 mm / hexagonal 6 - 36 mm / square on request				

Surface defect testing using eddy current crack detection is a standard procedure at BESSEY in many cases. Thanks to the Eddy-current testing system that went into operation in May 2011, we are now capable to detect a wider range of dimensions for the smallest surface defects.

ULTRASONIC INSPECTION



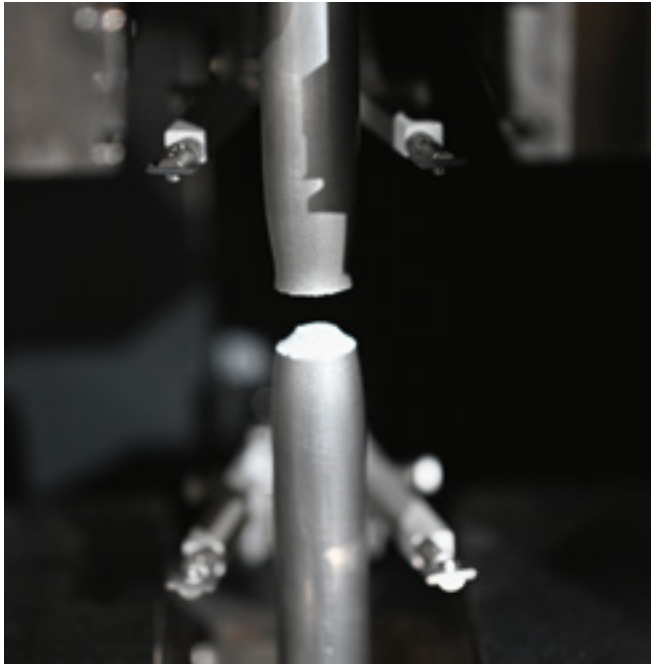
Testable area	Test type	Max. registration limit*
Ø 10 - 44 mm	100 % volumetric inspection uninspected edge zone of 2 - 3 mm	FBH 0.7 mm
Ø 10 - 36 mm	100 % full volumetric inspection with inspected edge zone	FBH 0.7 mm
hexagonal 10 - 30 mm	Grid-pattern examination uninspected edge zone of 2 - 3 mm	FBH 1.0 mm
octagonal 10 - 30 mm	Grid-pattern examination uninspected edge zone 2 - 3 mm	FBH 1.5 mm
square 10 - 22 mm	Grid-pattern examination uninspected edge zone 2 - 3 mm	FBH 2.0 mm
- FBH-values are dependent upon the steelgrade - Uninspected bar ends (50mm on both sides) - Inspection for min. defect length of 10mm possible		
Other dimensions of FBH-values are available on request		

* FBH = produced by means of a Flat Bottom Hole

At BESSEY, ultrasonic inspection is carried out in an automatic continuous process using phased array technology. All steel grades available from BESSEY are suitable, from unalloyed mild steel to high-alloy rust and acid-resistant grades. Depending on the geometry and dimensions, full cross-section tests or grid tests can be carried out.

AFTER THE MANUFACTURING PROCESS.

MECHANICAL TESTING



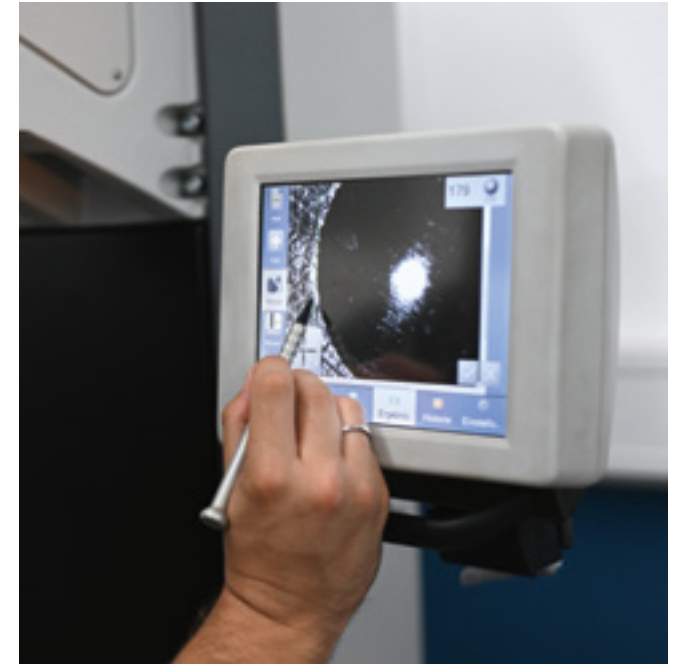
With a 400 kN tear machine, strength and elongation values are determined in our company for all our products and attested upon request.

CHEMICAL TESTING



Samples are taken from each BESSEY steel production lot. These are compared using an emission spectrometer on their chemical analysis (up to 20 material identifying elements) with the quality used as well as the desired quality, and documented. Thus, an accurate batch assignment is ensured.

HARDNESS TESTING



The required hardness values are determined with suitable hardness testers in HV or HB and attested upon request.

REMAGRAPH

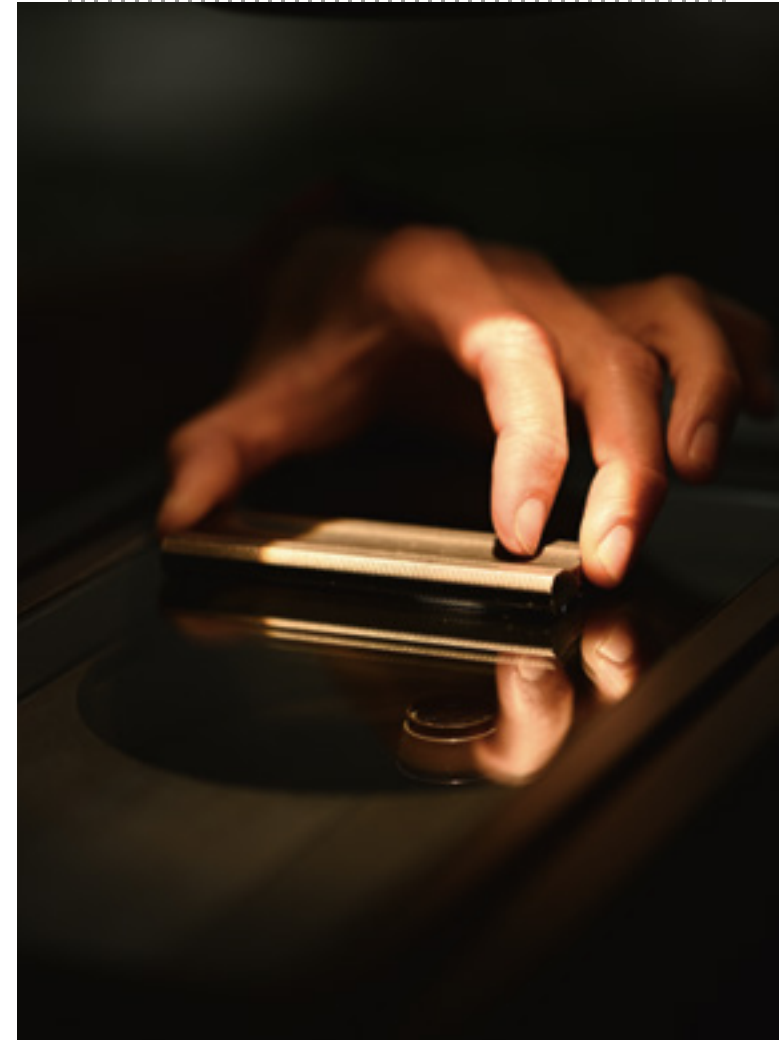


All requirements of the magnetic properties of a material, such as its coercivity field strength, permeability, etc. can be monitored with our Remagraph and if necessary, could also be documented.

METALLOGRAPHIC EXAMINATION



Experienced personnel conducts research studies of structure and degree of purity using a microscope with magnification of up to 1000-fold.



CERTIFICATION.

QUALITY MANAGEMENT CERTIFICATES

Precision and durability are the result of our high quality standards. All BESSEY products undergo our strict quality assurance system, which fulfils the requirements of ISO 9001.

ENERGY AND ENVIRONMENTAL CERTIFICATES

BESSEY has been certified for many years in the areas of energy management (ISO 50001) and environmental management (ISO 14001). These voluntary commitments not only arise from internal and external requirements, but also express the deep understanding of BESSEY and its employees to deal with our world in a sustainable, resource-conserving and forward-looking way. And all this in order to provide a better foundation for future generations.

BESSEY Präzisionsstahl Vertriebsgesellschaft mbH



DIN EN ISO 9001:2015
- Main certificate -

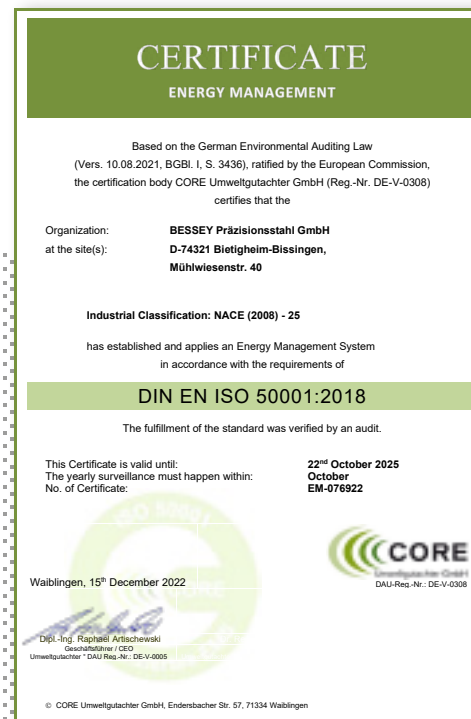
DIN EN ISO 9001:2015
- Sub certificate -

BESSEY Präzisionsstahl GmbH – Drawing plant



DIN EN ISO 9001:2015
- Main certificate -

DIN EN ISO 9001:2015
- Sub certificate -



DIN EN ISO 50001:2018



DIN EN ISO 14001:2015

SIMPLY BETTER.

BESSEY IS UNDERSTANDING.

We are a dedicated and competent team that endeavours to fulfil your individual customer wishes. Our passion lies in providing high-quality precision steels and supporting our customers in the realisation of their projects. With extensive expertise and many years of experience, we pride ourselves on offering customised solutions that meet the highest standards. We look forward to helping you!

COMPETENT. INFORMED. ACCESSIBLE.



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