

A close-up, high-angle photograph of a metalworking process. A large, cylindrical metal tool is positioned above a curved metal workpiece. A bright, intense light emanates from the point of contact, creating a shimmering effect. Numerous fine, golden-brown sparks are being ejected from the workpiece, fanning out towards the right side of the frame. The background is dark and out of focus, showing other industrial components.

Added value through  
innovation – layer for layer.





**Stellba**

WARENANNAHME / SPEDITION

Innovative “Swiss made”  
coating technology.



Everything we do at Stellba AG is geared towards promoting innovation, customer value and partnership. We work closely together with our customers and leading research institutions to develop and produce customized coating solutions at our facility in Switzerland – solutions that stretch from a vast range of dimensions and types. Stellba's innovative coating technology is currently utilized to protect machines and components around the world from abrasion, heat, friction, chemicals, and other destructive forces. Thanks to extended life cycles and enhanced efficiency factors, our customers continue to profit from a quantifiable reduction in cost and enjoy efficiency layer for layer.

**INDUSTRIES:**

- Petrochemical industry
- Power plant industry
- Machine industry
- Plastics industry
- Food industry

**TECHNOLOGIES:**

- Gas welding, TIG and PTA
- Thermal spraying
- Laser cladding
- Heat treating
- Mechanical production



# Qualities that give you a competitive advantage.

## MEASURING THE PULSE OF TECHNOLOGY AT OUR OWN LABORATORY

We develop in our own materials laboratory new and innovative coatings and metal-processing techniques that help provide customers a competitive edge. Stellba is globally in the lead for future-oriented technologies such as metal additive manufacturing and laser cladding. **We are geared towards keeping you at the forefront of cutting edge technology.**

## MAINTAINING A DIRECT LINK TO RESEARCH

Stellba AG's corporate culture is focused on innovation. We have fostered a strong relationship with Swiss universities and we work closely with prominent research institutions such as the Swiss Federal Institute of Technology in Lausanne and the Fraunhofer Project Center for Coatings in Manufacturing (PCCM). **Stellba AG has built a solid foundation in research and is always ready to connect you to the world's best experts.**

## DEVELOPING SOLUTIONS BASED ON PARTNERSHIP

Are you looking for processing techniques and material properties that will give your products a game-changing advantage in the market? We can help you find what you are looking for. We will work together closely with you and some of the world's best experts to develop products and processing techniques at our center of excellence. **We will introduce techniques that will reduce wear and provide production efficiency allowing you to profit from sustainable competitive advantage.**

## PROVIDING COMPREHENSIVE SERVICES

Stellba provides a comprehensive range of added-value services – from the production of components to the coating of key parts and the manufacturing of entire sub-assemblies. **We can help you increase your production efficiency.**

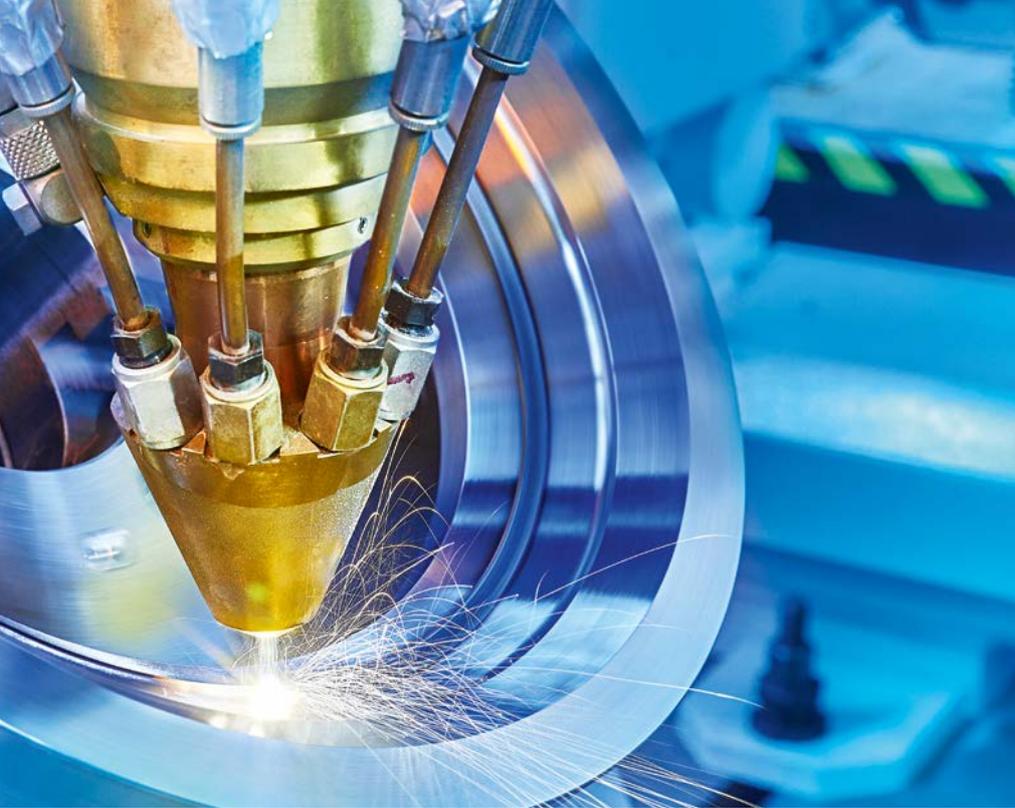
## PROVIDING SOLUTIONS REGARDLESS OF SIZE

Stellba AG has a very large facility (12,000 m<sup>2</sup>) equipped with a crane of capacity up to 60 tons to facilitate mechanical processing and coating of extremely large workpieces. **We ensure that you profit from unbeatable quality on all your orders regardless of dimension.**

## A MEDIUM-SIZED SWISS ENTERPRISE AND CENTER OF EXCELLENCE WITH A GLOBAL REACH

Stellba AG is a medium-sized enterprise managed by its owners with a commitment to Swiss-based research and production competence. We are based on the knowledge & experience of highly competent and motivated engineers, technicians, and machinists. **You can be rest assured that you will benefit from dedicated and highly competent partners with an impeccable reputation.**







# Customized coating solutions from a single provider.

Stellba offers cutting-edge coating solutions that will help you protect your components and products from erosion, abrasion, corrosion, oxidation, friction, thermal stress, or any combination of wear forces. Stellba provides high-tech coating solutions utilized in a wide range of applications such as hydropower stations, thermal power stations, gas and oil pumps, high temperature components, and thermal barrier coatings (TBCs). We have also developed innovative and cost-effective methods for the repair of damaged coatings.

## **MATERIAL-FRIENDLY LASER CLADDING**

Laser cladding is a thermal coating technique that makes use of a laser beam to melt a metal powder or wire-feedstock material (Fe/Ni/Co-based) and bond the material metallurgically to a substrate (steel or nickel-based alloys). Laser cladding serves as an advantage because of reduced thermal stress in the substrate. The technique also provides an ideal means of repairing worn out parts and reinforcing specific locations on components.

### **TECHNIQUES:**

- Laser cladding
- Plasma transferred arc welding (PTA)
- Gas tungsten arc welding (GTAW)
- MIG/MAG welding
- Submerged arc welding (SAW)
- Gas welding
- Electrode welding

## **THERMAL SPRAYING – MATERIAL-FRIENDLY AND EFFICIENT**

Thermal spraying involves the use of a heat source to plasticize or melt powder or wire-feedstock materials so that they can be sprayed onto a substrate. The surface of the sub-strate does not melt or deform at all during or after the process.

### **TECHNIQUES:**

- High velocity oxygen fuel spraying (HVOF)
- Atmospheric plasma spraying (APS)
- Electric arc spraying
- Flame spraying



Z+↑  
Z-↓

## STELLBA FACT

### THE XXL LASER WELDING SYSTEM

Our advanced laser welding system is geared for processing XXL work-pieces and components. The system's 11-axis, CNC portal enables extremely long displacement paths of up to 7,500 mm x 4,500 mm x 1,000 mm. The system's features include a cutting-edge 4 kW diode laser and various powder injection nozzles. The high-performance system with its 10-ton manipulator, rotary tilting table and shaft-turning lathe also enables the efficient cladding of the inner radii in pumps and compressor housings (e.g. to restore original geometries and to coat surfaces).

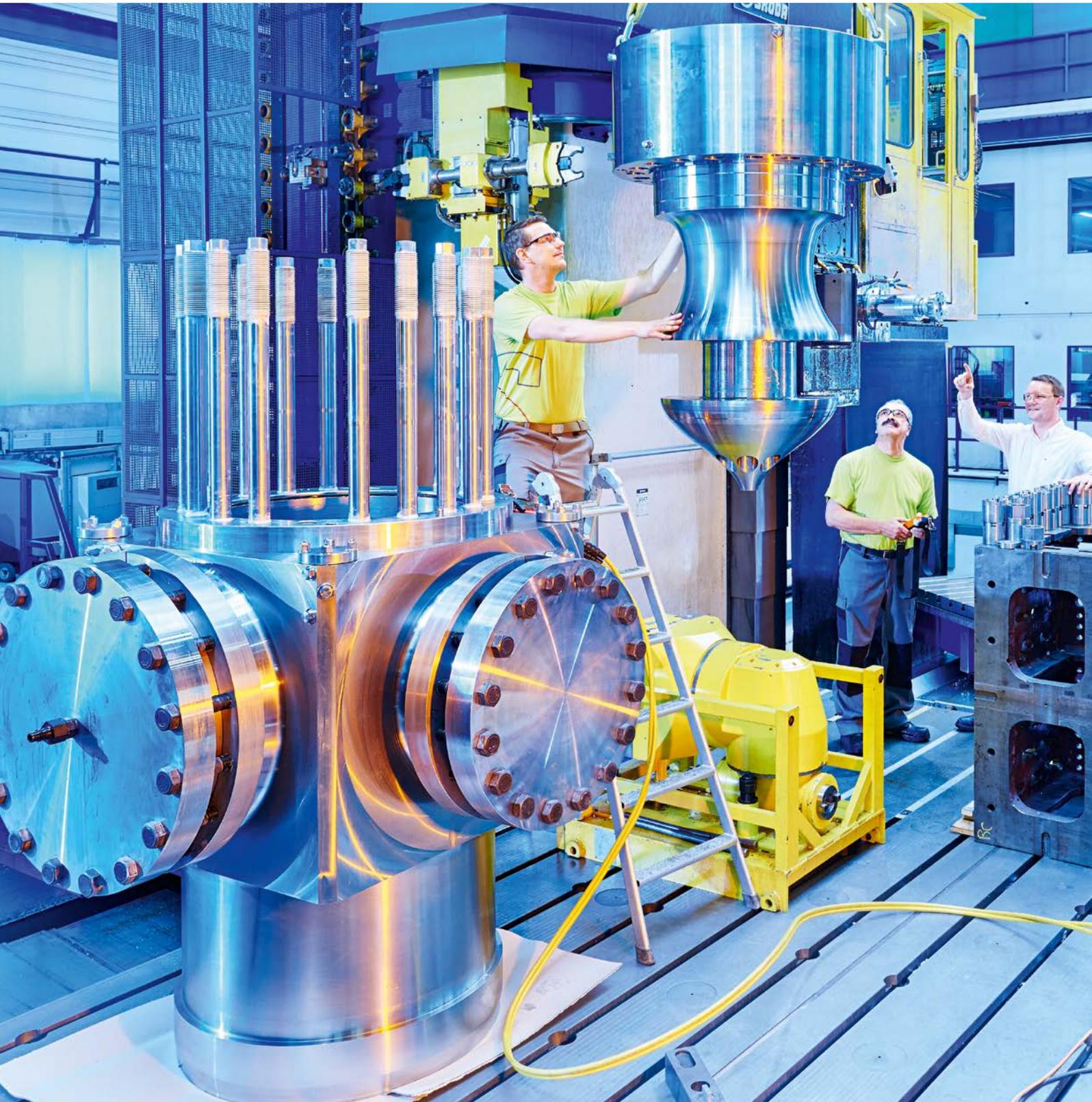
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## **MECHANICAL PRODUCTION**

Stellba has outstandingly qualified technicians backed with decades of experience in the processing and assembly of coated workpieces. We encourage you to reap the benefits of services such as extensive mechanical processing services, including lathing, milling, and grinding provided

by Stellba. We strongly urge you to have your workpieces (including extremely large) to be refined and assembled by a single provider. We also have the technical capability and experience to pressure-test your parts.





## HEAT TREATMENT

Heat treatment techniques can be used to modify the properties of pure metals and alloys. Typical applications include hardening and stress relief annealing. Heat treatment involves heating materials at precisely defined intervals followed by cooling. Depending on the technique, there are several different mediums such as water, oil, salt, shielding gas or air in which these treatments can be used for cooling. A wide array of materials such as aluminum alloys, titanium, and copper can be heat-treated to increase their strength. We are equipped with large, computer-controlled furnaces to run fully automated heat treatment cycles – these processes can also be recorded in real time.

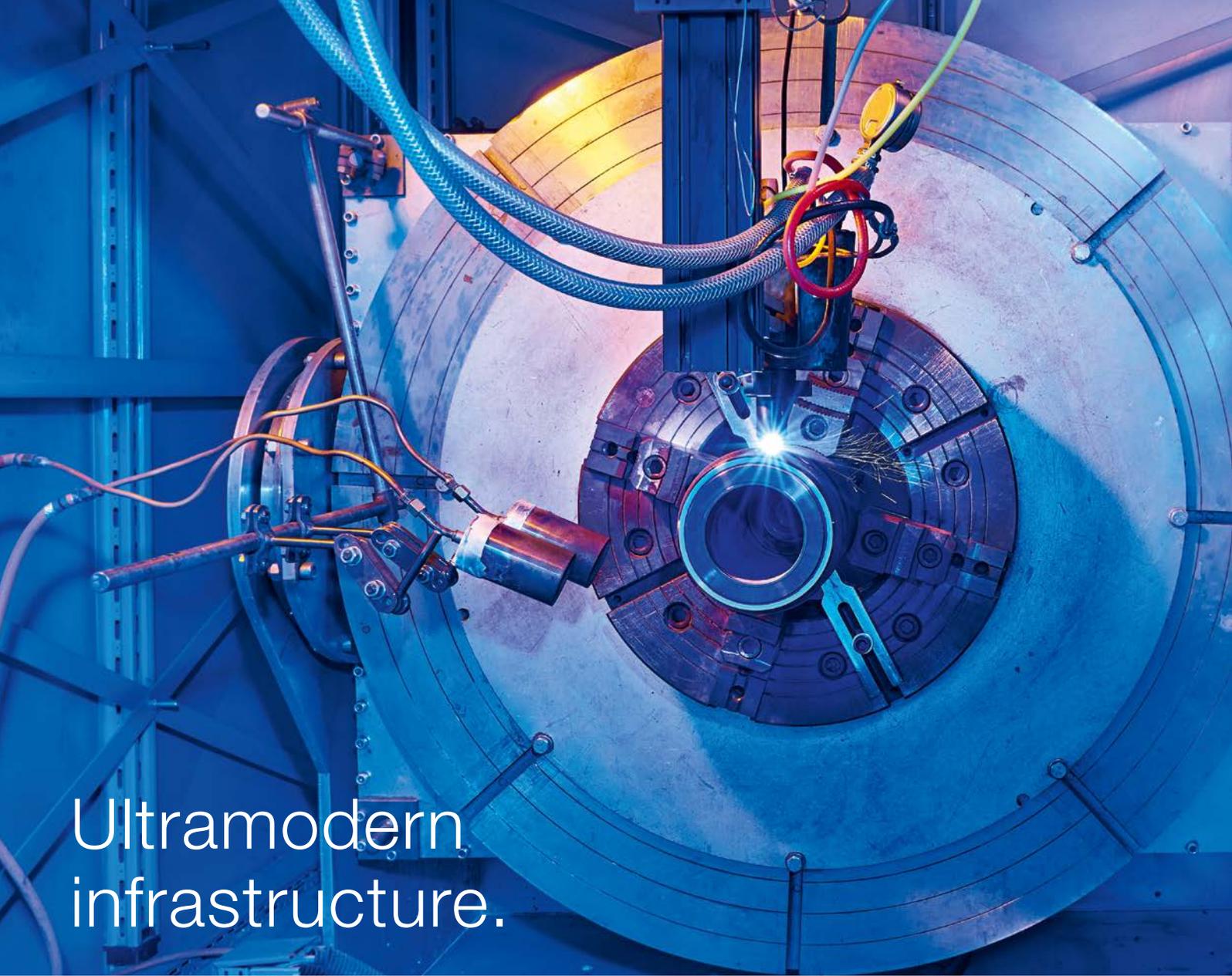
\* The Swiss Commission for Technology and Innovation (CTI) is a government agency that sponsors innovation projects carried out in Switzerland. In addition to providing financial support for future-oriented technology, the CTI also promotes collaboration between public research institutions and the private sector.

## STELLBA FACT

### CTI DEVELOPMENT PROJECT TO INVESTIGATE THE LASER CLADDING OF WHITE METALS

Framework for CTI project\* – Stellba is in collaboration with a group of Swiss universities to develop new methods of cladding white metals for industrial applications. The main application includes extra-large bearings. A new combination of materials was used to develop the production of highly resistant white metal bearings and the repair of worn components. Given that production is geared to final component dimensions, Stellba has developed a technology to curb loss of material during processes (e. g. in lathing and molding processes) in order to provide substantial economic and ecological advantages.





# Ultramodern infrastructure.

A fully equipped advanced materials laboratory serves as a cornerstone of our in-house R&D activities. We leverage synergies from working closely with our customers and research partners in order to develop new products and processing techniques.

In our mechanical production section, we use advanced CNC lathing, milling, and grinding machines to process workpieces of all sizes. All of the welding and thermal spraying techniques we use meet the very latest industry standards. Our advanced in-house ERP system adds value by providing an integrated view of the core processes in real time. It facilitates error free transactions and ensures consistent production quality.





### **RELIABILITY & ASSURANCE THROUGH EFFECTIVE QUALITY MANAGEMENT**

We are proud to guarantee consistent and sustainable production quality due to our stringent approach to quality management. In order to meet all standards and adhere to all specifications, Stellba has invested in advanced radiographic testing procedures, non-destructive dye-penetrant, ultrasound, magnetic-particle, highly precise 2D and 3D measurement scanning and spectral analysis. Our processes have been inspected and are certified by prominent OEMs.



### **STELLBA FACT**

#### **CUSTOMIZED COATING SOLUTION**

All you have to do is share the specifications of your components and leave the rest to us: We have professional capabilities to handle material selection, coating methods, execution, raw material procurement, preparation, final processing, assembly and pressure testing. Our in-house R&D experts excel in developing customized coating solutions for your special applications. We guarantee impeccable quality and promise to cover everything under one roof – right up to the delivery of the finished parts/sub-assemblies.





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