Laser Aided White Metal Bearing Repair

About Stellba

Markets, Solutions and Products

Stellba has a wide and worldwide presence in the power generation market with strong business relationship with market leaders such as GE (Alstom) and Siemens. The company offers a comprehensive range of value-added services, from the production of components to the coating and cladding of key parts and the manufacturing of sub-assemblies – all from a single source. Stellba has a leading position in respect of steam valves based on GE (Alstom) design whereas Stellba has delivered all types and sizes of steam valves ever designed including the latest steam turbine technology and steam turbines for nuclear parts.

Beside the strong position in the power generation segment, Stellba is also recognized as an innovate supplier within the Oil & Gas, the Marine, the plastics and the process industry.

The strong market presence relies on highly demanding coating services which Stellba is able to offer

- Laser Cladding
- PTA (Plasma-Transferred-Arc)
- Welding Processes
- Thermal Spraying

The facilities of Stellba include capacities to manufacture mechanical components or complete assemblies of parts up to 40t.

- Large scale gantry type laser
- Large scale HVOF booths
- PTA, TIG, MAG welding
- Heat treatment
- Advanced material lab
- Various state-of-the-art machine tools

Stellba has the unique capabilities to manufacture complete coated components including all necessary mechanical work and heat treatment under one roof.

Business Model

Stellba maintains strong business relations with key customers such as GE, Siemens, Ansaldo and others through a key account management. Business with these key customers is to be found both in service and new equipment business. Via these key customers, Stellba participates in the global market for thermal power generation.

Stellba also maintains an in-house sales group and a network of sales representatives in certain markets, mainly Europe and India. This team serves O&G, Petrochemical and Process Industry customers.

The company invests a substantial amount of resources in the development of improved, new and innovative coating applications and processes. The in-house research and development team is supported by close cooperation with prominent research institutes.

This enables Stellba to develop customized coating and cladding solutions for special applications in cooperation with its customers.

Company Facts

Stellba was incorporated in 1957 and is located in Dottikon, Switzerland. Currently Stellba employs about 70 people. The facility with some 12'000 m2 of production space is owned by Stellba.

The markets served comprise of

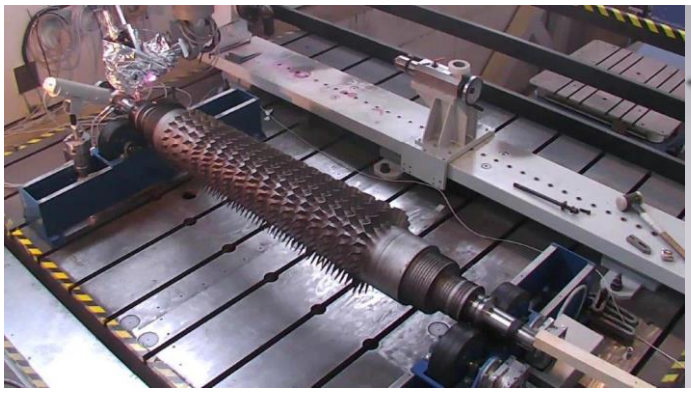
- 65% Power Generation
- 15% Oil and Gas
- 15% Food, Chemical, Process Industry
- 5% Marine

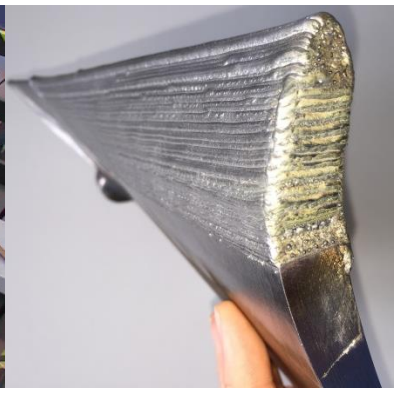
Laser Deposition Technology at Stellba

The implementation of laser technology to locally repair worn components which may have been considered as un-repairable is a new area of interest. In this concern, Stellba AG has successfully installed Laser Deposition Technology (LDT) for production and repair purposes since two years.

Stellba is a founding member of the Swiss Additive Manufacturing Group (SAMG) a SWISSMEM "Fachgruppe" to promote LDT technology further in Switzerland.

Currently Stellba maintains steady service business applying LDT for the reconstruction of the original geometry of components. Main applications include the repair of shafts of rotating machinery and the repair of the leading edge of Steam Turbine blades. (see pictures below)





Beside the service business Stellba has succeeded to acquire enough business volume to run the Laser unit on two full shifts 12 months after commissioning of the plant.

It is also worth noting, that Stellba commercially produces parts with white metal coatings. These parts are critical components of reciprocal compressors. In this case the welding of white metal by Laser is replaced the formerly used process of spraying white metal. As in the proposed case the key reasons to change were superior performance of the coating without an increase in cost.