



# CBV Blechbearbeitung Improves its Production Depth, Flexibility, and Energy Efficiency with the Help of Italian-Made Technology

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An increased loss of time in surface treatment by external contract coaters and the resulting delays in delivery to its customers prompted CBV Blechverarbeitung to realise the coating of its sheet metal components itself. The components have therefore already been coated in our own factory since October 2020.

In spring 2019, CBV Blechbearbeitung GmbH decided to insource the coating of its sheet metal components, which until then had been carried out by a few local coating contractors. In fact, due to increased demand and the simultaneous shortage of skilled workers within these firms, the lead time for the surface treatment of its parts was becoming longer and longer, up to time-to-market delays of four weeks. For CBV, this was no longer sustainable. That is why, since October 2020, it has carried out the coating of its sheet metal components in-house, at its headquarters in Laasdorf (Germany). With the help of Eurotherm's Italian-made technology, CBV is thus almost self-sufficient in terms of its production depth, it has been able to increase its flexibility, and it has now full control over the coating process as well as the lead time of its parts.

## Reasons for the investment

As a specialist in sheet metal processing, CBV has been manufacturing large and small mechanical building parts in all industrially relevant metals for almost three decades, with particularly wide expertise in lightweight constructions with stainless steel, aluminium, and their alloys. Its portfolio also includes design and programming services, as well as the production of individual, small, and medium-sized series, thanks to its know-how in the laser cutting, CNC punching, forming, edge breaking, welding, and surface treatment of thin sheets with thicknesses ranging from 0.1 to 25 mm, mainly in steel, stainless steel, non-ferrous metal, and aluminium.

Some coated items during the curing phase in the Eurotherm's oven.

Together with company founder Werner Neumann, the firm's management decided to invest in its own coating installation for a variety of reasons. One of the decisive factors, however, were the increasingly long process times resulting from the outsourcing of its coating operations. "Due to the increased lead times at our coating contractors, we were experiencing more and more delays in the delivery to our customers. We could no longer accept these losses of time, in the interest of both our company and our customers," says Enrico Liebold, the surface treatment department manager of CBV.

A special, challenging requirement for the new coating plant technology was the installation of a C50 MGT micro gas turbine. Contributing to the company's electricity and heat supply through its in-house photovoltaic system, it had to be integrated into the system as an energy and heat source, especially as the oven's heat source. Indeed, energy efficiency has always been one of the most important aspects in the corporate philosophy of CBV Blechbearbeitung GmbH, also with a view to the savings potential achievable through the optimisation and implementation of different coordinated, individual measures into one overall concept.

During the tender process, it quickly became clear that Eurotherm, an Italian coating systems manufacturer based in Turin, was the right partner for the development and installation of this system: right from the start, it proved to be flexible and solution-oriented with regard to the complex requirements posed by the integration of the micro turbine in the process flow.

**The genesis of the plant**

The planning phase for the coating plant began in spring 2019. After completion of the tender process, construction work began in June 2020. In October 2020, CBV Blechbearbeitung GmbH could start its in-house surface treatment operations on an area of about 1,200 square metres, including office and staff areas. Five people are currently



**The plate sheet pre-treatment department.**



**The pieces preparation to the coating process.**





**The cleaned pieces are carried out at the coating department.**



**The coating department.**

employed in the surface treatment department.

The plant technology supplied by Eurotherm consists of both manual and automatic stations. The system includes the following individual stations: a dryer, a manual powder coating booth, two paint extraction walls (Euro 3H and Euro 3.2), and an oven. The sheet metal components go through the pre-treatment, rinsing, drying, and powder coating processes and then reach the oven, the core of the plant. This was designed and manufactured by Eurotherm.

The oven booth has a size of 4 x 2 x 2.5 metres (L x W x H); it is loaded manually and it can accommodate components with a maximum size of 4 x 1.2 metres (L x W).

As mentioned, the integration of its micro gas turbine as an energy and heat source was a basic requirement for CBV, especially in the oven station. During the tender process, it quickly became clear that Eurotherm was the right partner for the development and installation of this system: right from the start, it proved to be flexible and solution-oriented with regard to the complex requirements posed by the

integration of the micro turbine in the process flow. The decisive factor here was the ability to cool down the hot air coming from the micro gas turbine (about 278 °C) to a maximum temperature of 200 to 210 °C, at which the oven is operated. And, from CBV's point of view, Eurotherm presented the most coherent concept for this.

In addition to its excellent technology and skilled service, Enrico Liebold is very pleased with Eurotherm's cooperation. "The cooperation with them was always easy, fast, targeted, and professional. In particular, their assistance during the construction phase was excellent. The coordination between Eurotherm and the other companies involved was also perfectly smooth, despite the language barrier, as all exchanges occurred in English."

### **About CBV Blechbearbeitung**

After almost thirty years spent operating with passion and competence in the sheet metal processing industry, success has proved company founder Werner Neumann right, as have the numerous awards



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The manual coating of the items.

received by his firm. The last one was awarded by the Oskar Patzelt Foundation in October 2019, for its outstanding entrepreneurial achievements, high economic commitment, and social engagement. Founded in October 1992 as an owner-managed company, it began production in February 1993 in a former pig farm in Mörsdorf (Germany). The management put together the necessary machinery from parts of the formerly nationally-owned Carl Zeiss factory. Three years later, fifteen employees were already working for CBV Blechbearbeitung GmbH. In 1999, the production area in Mörsdorf reached its maximum capacity. The company's new headquarters in Laasdorf were inaugurated in April 2001. After nine months of construction, production could already be moved to the new location and the newly gained space was used to expand the firm's plant equipment.

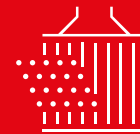
The economic crisis in 2008 hit CBV hard. The company's turnover collapsed, resulting in layoffs and redundancies. One of the managing directors also left the company: Ronny Neumann, the son

Custom-built painting installations

Macchine e impianti realizzati su misura



Shot blasting booths  
*Cabine di sabbatura*



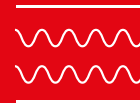
Washing tunnels  
*Tunnel di lavaggio*



Liquid painting installations  
*Impianti di verniciatura a liquido*



Powder painting booths  
*Cabine di verniciatura a polvere*



Curing ovens  
*Forni di cottura*



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of the company's founder, succeeded him and thus turned CBV into a purely family-run business. All in all, the firm managed to take advantage of the crisis as an opportunity and a chance to rethink its business. All economic and technical factors were reviewed and new concepts developed. In 2010, LED lamps replaced all lightning systems in order to reduce energy costs by 25%. In 2011, a photovoltaic system was also installed on an area of about 1,300 square metres. All these changes helped the company improve its position and gain new strength in the market.

In May 2012, the production area was expanded and an in-house apprenticeship workshop including a seminar room was inaugurated, in order to secure the company's future and counteract the shortage of skilled workers. This also reflects CBV's corporate mission statement, considering people as the firm's biggest asset. Staff turnover at CBV is very limited and a large number of employees have been with the company for years. The firm currently employs more than fifty people and it has about 1,000 regular customers and a database of about 100,000 parts and assembly groups.

### **Increasing competitiveness through ecofriendliness**

All of CBV's measures for plant expansion and technological upgrade have managed not only to contribute to systematic energy efficiency and to savings in energy, resources, and costs, but also to improve the company's competitiveness. In particular, CBV Blechbearbeitung GmbH is highly pleased with the investment in its own coating plant. Because of the new system, CBV is now almost self-sufficient in its production and CO<sup>2</sup> neutral. Moreover, the pre-treatment employs almost no drinking water, as collected rainwater is used. "We can adjust our production process' flexibility, thus increasing throughput, depending on our needs. This was a very successful project, which will prove highly beneficial in the long term for our customers as well," Enrico Liebold sums up in conclusion. ○

**Above: Exterior of the curing oven designed by Eurotherm.**

**Below: The integration of its micro gas turbine in the oven station as an energy and heat source was a basic requirement for CBV.**