CASE STORY · M-STEEL · HEIMBERGER

# PULLING UP THE BOTTOM LINE WITH A BETTER STEEL

**A small German machining company decided to switch from standard steel to M-Steel® from Ovako for the production of gear housing units for retractable automobile coupling bars – a decision that has helped improve its productivity and cut costs.**

In a quiet corner of Germany near the Black Forest, Heimberger GmbH, a small family-owned machining company, has been producing high-precision machined components for a wide variety of industries, from automotive and aeronautic to general engineering and medical.

The company's managing director, Bernd Heimberger, one of three sons of the founder, decided to switch from standard steel (42CrMo4) to M-Steel for the material used in the gear housing units for retractable automobile coupling bars. Today, using M-Steel, Heimberger delivers quality components to a major German automobile sub-supplier in the amounts of approximately 60,000 units per year.

The switch over was so successful that, in a year, Heimberger expects to increase its production of retractable coupling bars from 50,000 in 2013 to 60,000 in 2014. The company is preparing to increase its output.

"We are planning to produce two new models in the future, which will grow the numbers even further," explains Bernd Heimberger, a high-energy CEO who clearly enjoys rolling up his sleeves and getting involved in all aspects of his business.

From Heimberger's point of view, a quality product depends on good machinability and homogeneity – characteristics M-Steel was able to provide. Improvement in machinability means faster cutting speeds, longer tool life and lower cutting costs – all vital contributions to the bottom line.

"With M-Steel, you can reliably calculate machining time from batch to batch. The machining time is the same – no peaks or dips. Otherwise, you have to slow down at the peak, spend more money on inserts or lose capacity. The productivity improvement is almost 10 percent."

*Bernd Heimberger, Managing Director, Heimberger GmbH*

For this particular item, the company's profitability is based on the difference between the productivity increase minus the higher cost over standard steel Heimberger pays for M-Steel. But the M-steel units are just one of many components Heimberger produces every year.

Behind the scenes, Ovako's representative Harald Schwend, has been working hard to ensure Heimberger receives M-Steel bars used to make the units in a timely fashion.

"We can deliver parts within two or three days of the order. So our value-added to Heimberger is both the quality of the M-Steel and the logistics provided by our partner," Schwend explains.

It took Heimberger a couple of steps before Heimberger decided to go with Schwend's M-steel proposal. In January 2013, Schwend approached the company with a proposal to try 10 tons (MT) of M-Steel, having heard the company was having some trouble with the machinability of the standard steel bars they were using. Following a March trial, Schwend received immediate approval and his first order in April. "It was a short ramp up," Schwend notes.

**The process**
For the M-Steel components, Heimberger utilizes a sophisticated computer numerical controlled (CNC) machine with up to 15 tools to perform highly accurate turning and milling. The CNC machine uses a computer that reads instructions and drives a machine tool that removes material to shape the product.

In the five to six minutes it takes one of Heimberger's CNC machines to produce a component, about 70 percent of the steel is removed. Heimberger operates its machines during two eight-hour shifts and a five-day workweek.

To ensure the components meet the exact dimensions and tolerances, Heimberger has a separate measuring room equipped with advanced machines that measure surface roughness, tolerances and other factors.

**M-Steel**
About manufacturing, cutting processes are a considerable cost factor. M-Steel from Ovako lowers these expenses by enabling high cutting speeds and a non-interrupted production process, with a cutting speed of up to 30 % over conventional steels.

The benefits are:
- Enables automation and faster machining
- M-Steel treatment can be applied to most steel grades
- Complies with standards yet adds superior machining properties
- Unmatched quality consistency

**Ovako facts and figures**
- A leading producer of engineering steel for customers in the bearing, transportation and engineering industries
- Products: low-alloy steels and carbon steels in the form of bars, tubes, rings and pre-components
- Locations: Ovako has ten production plants and a number of sales companies in Europe and the USA
- Net sales 2014: 862 MEUR
- Employees: 2,925

**Heimberger facts and figures**
- Founded in 1968 in Oberderdingen near Stuttgart, Germany
- Family-owned company with 100 employees
- 50 CNC-controlled machines
  - Turning machines with sub-spindle and turrets with driven tools
  - Part diameter from 2 up to 400 mm
  - High dynamic 5-axis milling machines
  - Coordinate measuring machines
  - CAD/CAM System
- Quality certificate ISO 9001-2008
- Products: high-precision machined components for measuring and control technology, automatic and aeronautic, general engineering and medical made in all materials
- More information on www.heimberger.de

BA/IM-05 GB 15:12 ©Ovako 2015



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