



## Press Release

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Bactericide-free and economical in use

### **Henkel supplies high-impact cutting fluid to closure system specialist Corvaglia**

**Düsseldorf, Germany – In the production of its platens for injection molds, Swiss closure system specialist Corvaglia makes use of an innovative high-impact cutting fluid from Henkel that reduces the necessary bath make-up and top-up concentrations while offering considerably longer bath lifetimes. At the same time, the optimized, formaldehyde-free formulation results in a low-foam and low-odor emulsion.**

Together with licensees, partner companies and vertically integrated<sup>1</sup> beverage bottlers, some 80 billion Corvaglia closures are injection-molded each year. In this gigantic market, Corvaglia Mould AG, based since 2007 in Eschlikon, Switzerland, produces roughly 3,000 cavities each year, distributed over platens for 4 to 96 molds.

Over a period of 25 years, the company and its two closure-producing sister organizations have established themselves as the world's leading specialists in beverage bottle closures. Many closure designs are developed for big-name customers or have asserted themselves as quasi-standard in the market. Since the company's founding, the focus has been on weight- and assembly-saving one-component closures on which both the shell and inner seal are injection-molded in HDPE in a single process step.

<sup>1</sup> Includes all process steps from injection-molding of the container preforms and closure caps, to stretch-blow or blow-molding of the container through to beverage bottling.



In both business areas – closures and molds – Corvaglia is constantly investing in new equipment and machines. For further development and validation of mold and cap technology, a comprehensively equipped design and test center was opened at the Eschlikon location in 2010.

“Corvaglia is alone in having a fully integrated process chain from the all-encompassing, efficient closure concept through to 24/7 cap production,” stresses Daniel Bürgi, responsible for milling technologies at Corvaglia Mould. “We aspire to be the top address for progressive closure cap solutions and this is why we seek support from the best-qualified suppliers.”

#### **Consistent focus on sustainability**

In toolmaking, this refers not least to the cutting fluids that Corvaglia obtains through Thommen-Furler AG for its machining operations. This company based in Rüti near Büren (Switzerland) is the market leader in chemical and lubricant distribution, recycling/disposal, and wastewater and environmental technology for the entire Swiss industrial market.

Corvaglia has the ambition to grow on the strength of product quality rather than quantity. Thus Thommen-Furler recommended six years ago the use of formaldehyde-free cutting fluid Bonderite L-MR from Henkel for metalworking. This range of water-miscible, finely dispersed emulsions is distinguished by its odorless, efficient and environmentally compatible formulations that provide very long bath lifetimes for drilling, turning, milling, sawing, tapping and grinding of metals of all kinds. This is coupled with an outstanding anti-corrosive and lubricant effect that is also capable of minimizing tool wear and the reject rate.

“We used to be repeatedly confronted with a number of problems with cutting fluids, such as odor and deposits, excessive foaming, high drag-out together with the removed chips, and correspondingly high top-up concentrations,” says Bürgi. “Since 2010, almost all of our machining has been carried out with Bonderite L-MR. The processes have thus become much cleaner, and we have managed to reduce cutting fluid usage significantly overall.”



The Henkel product has also shown itself to be much more tolerant to waters of different hardness – a beneficial feature, as Corvaglia obtains its process water from different sources.

André Lagnaz, Lubes Sales Engineer at Thommen-Furler, who visits his customers every three months to check fluid quality on site sums up the requirements of a modern, economical and sustainable cutting fluid: “The emulsion not only has to cool and lubricate reliably, but also has to run off quickly and residue-free. High sludge accumulation in the coolant bath, high drag-out, and the oil film that used to be omnipresent in many machining shops do not occur with Bonderite solutions from Henkel anymore.”

When a new, fully automatic machining center with a 6,000-liter cutting fluid system went into operation in Eschlikon in 2015, choosing the product was not difficult, as Henkel had upgraded its technology yet again with Bonderite L-MR 71-7.

### **Goal: 3-year bath lifetime**

The predecessor product was already well-accepted in metalworking worldwide – from pocketknife and clock production through to automotive and aircraft manufacturing. “For Bonderite L-MR 71-7, we have primarily further-optimized the formulation’s pH stability. Its patented emulsion system ensures particularly low foaming in waters with 5 to 100 degrees of German hardness. And the required bath make-up concentration is only 5 to 8 percent,” explains Ulrike Müssigbrodt, Business Development Manager Distribution at Henkel.

In terms of workplace health and safety, Henkel has also set new standards with its Bonderite L-MR 71-7. Its irritant potential on contact with the eyes has been minimized, which explains why the new product is not classified as hazardous under EU Regulation 1272/2008. “Our goal is market leadership for cutting fluids in Europe,” says Müssigbrodt.



André Lagnaz sees good prospects for achieving this ambitious target. “On the new machine, we started with an initial concentration of 6.5 percent a year and a half ago and we are still on average well below 2 percent for the top-up concentration. Taking the differences in water hardness into account, this is extremely low. We have recorded similarly good values at other locations. Thanks to the longer bath lifetimes, our customers are benefiting from significant reductions in consumption and costs despite the higher purchase price.”

In fact, Lagnaz has to remind his customers to avoid over-concentration during routine top-ups, as this can cause unnecessary costs. “Depending on chip volume, we add about 10 liters per week to the new machining center,” Bürgi adds. Drag-out is minimal. The bath life already matches that of other Bonderite products and promises to surpass it by a wide margin. Our goal now is three years.”

### **Conclusion**

Metalworking enterprises looking for an effective as well as economic and environmentally compatible cutting fluid will find in Bonderite L-MR 71-7 from Henkel a product that combines outstanding performance with extra-long bath lifetimes. Low initial and top-up concentrations, minimized foaming and sludge formation, and low drag-out make for an extremely attractive cost-benefit ratio. The odorless, formaldehyde-free and environmentally compatible formulation keeps the workplace clean and healthy.

**Bonderite is a registered trademark of Henkel and/or its affiliates in Germany and elsewhere.**

### **About Henkel**

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success.

In 2015, Henkel reported sales of 18.1 billion euros (20.1 billion US dollars), adjusted operating profit of 2.9 billion euros (3.2 billion US dollars). Its three top brands, Persil (detergent), Schwarzkopf (hair care) and Loctite (adhesive) generated more than 6 billion euros (around 6.6 billion US dollars) in combined sales. Henkel employs around 50,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel’s preferred shares are listed in the German stock index DAX. For more information, please visit [www.henkel.com](http://www.henkel.com).

Photo material is available at [www.henkel.com/press](http://www.henkel.com/press).

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The following material is available:



Machining center Makino A92 with a 3-ton load capacity during the production of an injection mold platen at the Corvaglia Mould plant (Eschlikon, Switzerland) with the use of bactericide-free cutting fluid Bonderite L-MR 71-7 from Henkel  
(Image: Henkel/Corvaglia)



Each year, Corvaglia Mould produces 3,000 cavities for the production of closure caps all over the world.

(Image: Corvaglia)



Since its commissioning a year and a half ago, the 6,000-liter cutting fluid unit makes do with a weekly top-up of just 1-2% – the image shows quality control with a refractometer to measure relative density in °Bx.

(Image: Henkel/Thommen-Furler)



Ejection of screw caps for beverage bottles from a 96-mold tool with a 2.5 s cycle time at Corvaglia Closures Eschlikon  
(Image: Corvaglia)