

**BONDERITE®**

## Metal Packaging Solutions



Excellence is our Passion

## Metal Packaging Solutions



Henkel is the world leader in the supply of products, services and technical expertise for the food and beverage container industry. With a proven track record of delivering new and innovative technologies to keep pace with the can makers' changing requirements, Henkel offers full frontend solutions for two-piece aluminum and tin-plate steel cans. Products include:

- Post lubricants
- Cupper lubricants
- Bodymaker coolants
- Cleaners
- Conversion coatings
- Mobility enhancers

These products help meet demands for environmentally sustainable products, increased line speeds, reduced maintenance and longer tool life. Additionally, Henkel offers a complete range of process control equipment to ensure reliable and efficient consumption of chemicals.

Combined with our broad portfolio of innovative chemistries, equipment solutions and unmatched technical support, Henkel provides the total solution to optimize the process and maximize success. Our technical service representatives provide hands-on help to ensure our customers' needs are met wherever they are in the world.

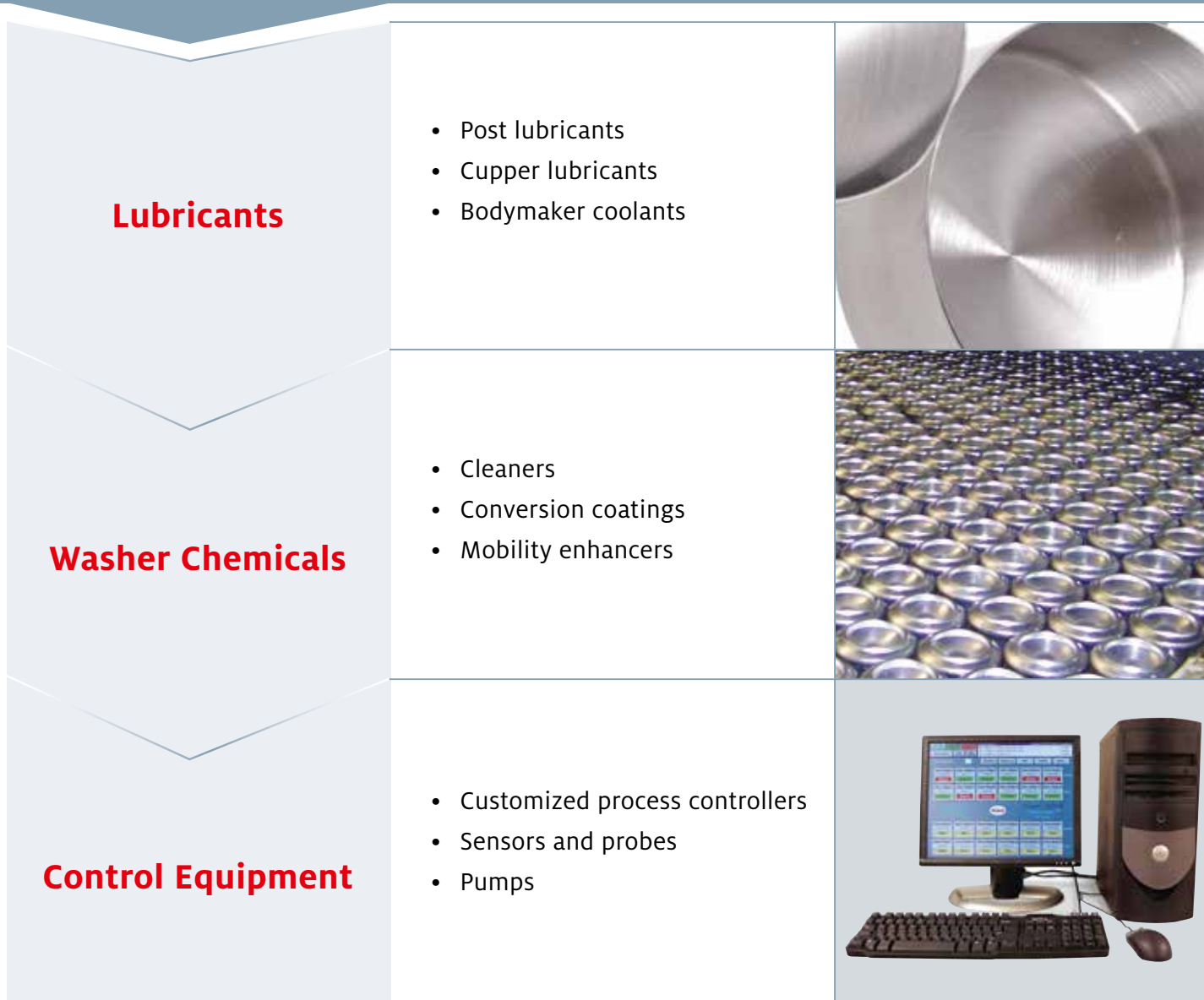
With more than 47,000 employees, including 3,000 chemists and engineers, Henkel continues to expand its diversified range of products and services. Facilities in over 80 countries help ensure that Henkel remains a worldwide market leader.

### Features and Benefits

- Global market reach
- Unmatched analytical and technical support
- Process cost savings
- Environmentally sustainable solutions available
- Wide range of products
- Customized process control equipment

# Metal Can Value Chain

Henkel offers a variety of solutions throughout the metal packaging value chain. Henkel's lubricants paired with the company's washer technologies offer the metal packaging industry unique solutions capable of reducing overall process costs and adding value to our customers' production.



# Aluminum Beverage Cans

Henkel offers front-end solutions for aluminum beverage cans. When Henkel's lubricants are paired with the company's washer technologies, the outcome forms a unique package for the can making industry.



## Features and Benefits

- Excellent corrosion protection
- Maximum bleedthrough protection
- Excellent cleanability and interior brightness



## Features and Benefits

- Excellent productivity and tear-off performance
- High can surface finish quality and interior can brightness
- Outstanding bleedthrough protection

## Post Lubricants

Henkel offers a complete lubricant package, beginning with BONDERITE post lubricants which are electrostatically applied to aluminum can stock. Our formulations are designed for specific resistance requirements and coil storage conditions. The post lubricants Henkel supplies are designed to provide additional lubricity to the can-forming process, improving can concentricity, reducing tear-off and improving the cosmetic appearance of the finished cans.

BONDERITE L-FM 9310 and BONDERITE L-FM 8410 post lubricants are key parts of Henkel's integrated lubricant program and have been developed around the successful BONDERITE copper lubricants.

BONDERITE L-FM 9310 and BONDERITE L-FM 8410 Post Lubricants enhance copper lubricant performance for greater latitude in cup/can forming, extended tool life and reduced bleedthrough on finished cans.

## Copper Lubricants

Henkel's BONDERITE copper lubricants are designed to handle a wide range of cupping requirements while ensuring excellent can interior cleanliness, long tool life and increased productivity.

Henkel's copper lubricants are at the core of Henkel's total lubrication package, including the newest product additions in the form of BONDERITE L-FM SNL series cup lubricants.



## Bodymaker Coolants

Henkel offers a wide portfolio of biostable bodymaker coolants with a range of different polymer levels to help tramp control, fine-tuned to fit each individual plant's requirements and all offering superior lubricity and corrosion protection at low concentrations.

Henkel's latest bodymaker coolant range, the BONDERITE L-FM 400 series, has been formulated with an enhanced biostatic package. This eliminates the requirement for routine additions of biocides and is proven to improve coolant control, enhance performance and improve worker conditions.



### Features and Benefits

- Biostable formulas to reduce or eliminate tank-side additions
- Proven lubricity and detergency package
- Improved coolant control
- Low accumulation of system sludge

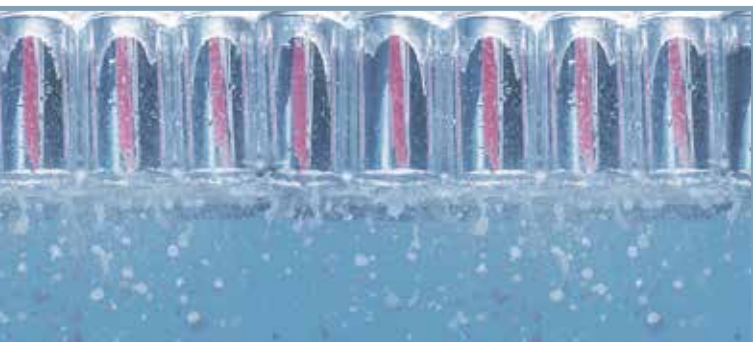


## Aluminum Beverage Cans (continued)

### Mobility Enhancers

Henkel's BONDERITE mobility enhancer technologies are uniquely formulated to provide excellent can mobility and water drainage. They offer environmental benefits by saving energy, with a shorter dry time at lower oven temperatures.

Henkel's newest product, BONDERITE M-PT ME-77 mobility enhancer, is designed to improve the flow of formed cans through the high speed printers. It also accelerates the drainage of water from cans, which decreases the quantity of water carried into the oven. As a result, less energy is needed to dry the cans, and oven temperatures can be reduced.



#### Features and Benefits

- Reduced energy consumption
- Shorter dry time
- Lower oven temperature



## Conversion Coatings

Henkel's inorganic conversion coatings chemically bond to the surface to provide protection against corrosion and staining during pasteurization and retort, and also improve adhesion of can coatings.



### Features and Benefits

- Free of heavy metals
- Superior dome stain resistance
- Improved coating adhesion

## Cleaners

Over the last two years Henkel has implemented the latest in cleaner technology, the BONDERITE C-IC 700 series of environmentally sustainable, acid cleaners. These are designed with highly efficient cleaning surfactants and a unique brightener technology to help reduce the requirement for fluoride encountered in conventional cleaners.

In addition to this development, Henkel is also now able to offer a fully fluoride-free cleaning technology. BONDERITE C-IC 90174 in combination with the accelerator BONDERITE C-IC 62174 will enable our customers to completely avoid the need to store highly toxic and corrosive fluorides at their sites. In addition this will dramatically reduce the requirement to remove fluorides from the waste stream. The environmental benefits are obvious and are a clear reflection of the targets for development within Henkel.



### Features and Benefits

- Free-rinsing for water conservation and reduced washer maintenance
- APE-free and fully biodegradable
- Compliant with REACH and EU detergent regulations

# Tin-Plate Steel Cans

Henkel offers a full range of product solutions for tin-plate cans, including lubricants, cleaners and conversion coatings.



## Features and Benefits

- Strong corrosion protection
- Excellent can stripping
- Extended tool life

## Steel Lubricants

Henkel offers synthetic copper lubricants and bodymaker coolants for forming tin-plated steel food and beverage cans. These products are designed to disperse tin and steel fines, while minimizing build-up on tooling, to give a superior can surface finish.

The BONDERITE L-FM series provides superior lubricity and tooling protection, ensuring low tear-off rates, excellent can stripping and improved tool usage.



## Features and Benefits

- Low sludge and reduced scaling
- Superior product finish

## Cleaners

Henkel's washer products for tin-plate steel cans clean the surface of organic lubricant soils and emulsified tramp oil. They are available in silicate- and phosphate-free formulations.



## Features and Benefits

- Improved coating adhesion
- Effective flash rust protection

## Conversion Coatings

Henkel is a global leader in surface technologies. Our conversion coatings for tin-plate steel cans provide optimum corrosion protection, reduced metal exposure, improved coating adhesion and protection against flash rusting.



# Process Control Equipment

Henkel offers a complete line of automated process control equipment to automate chemical operations and reduce chemical consumption. Leading solutions include:

## Lineguard Smartcontrol System

The Lineguard is an advanced automatic process control and monitoring system designed specifically for use with Henkel's most advanced cleaning and pretreatment processes. This system can be customized to each customer's line operations, while still providing the ability to seamlessly communicate with systems outside the plant manufacturing environment.



## Lineguard PC-6000 System

The Lineguard PC-6000 system is a PLC-based chemical feed and control system offering data trending and SPC analysis capabilities. One unit can control all the washers of a can plant, and is available as either a central panel-based system or as part of a distributed I/O system.



## Lineguard PC 3500

Henkel offers customized washer control systems for single or multiple washers tailored to specific software and hardware requirements.



## Lineguard PC 760

Our Lineguard PC 760 chemical control system is an excellent solution for single line control, with a dedicated PLC for each can washer. Networking multiple units within a can plant allows for ease in monitoring and control.



## Metering Pumps

All of our chemical control systems come with Henkel's own pumps. These industry-proven, reliable feed pumps are resistant to products used in can washers, and are available in a variety of sizes and ancillary options.

## Sensors

Henkel provides complete ancillary and field device systems that are compatible with the can washer environment. These devices are designed to control process requirements such as conductivity, pH and temperature measurements.

Conductivity Sensing



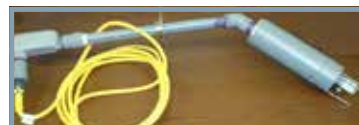
Temperature Sensing



Signal Transmission



pH Sensing



These custom equipment solutions, combined with our global technical support, will keep your operations running smoothly.

### Features and Benefits

- Enhanced process efficiency
- Reduced chemical consumption
- Increased productivity

# Sustainability

Henkel is founded on a deep commitment to deliver services and chemical products that consistently exceed customer expectations, while encompassing product safety and ecological compatibility.

These guiding principles of Henkel inspire long-term customer relationships based on reliability, credibility and mutual trust. Henkel continuously develops innovative products and technologies that offer customer benefits in environmental and health protection, as well as economic and efficiency advantages.

Henkel's metal packaging product development strategy is focused on green solutions to keep pace with the changing requirements of can manufacturers, including the drive toward more environmentally sustainable products. This is why Henkel is dedicated to providing the industry environmentally safe lubricants, cleaners, superior mobility enhancers and conversion coating options.





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**BONDERITE®**  
**TECHNOMELT®**  
**TEROSON®**  
**AQUENCE®**

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