



Press Release

September 10, 2019

Fewer process steps, reduced consumption and no toxicity labeling

Henkel offers sustainable and cost-efficient surface treatment for aluminum processors

Düsseldorf, Germany – As part of its commitment to greater sustainability and cost-efficiency in metal pretreatment, Henkel is continuously optimizing its conversion coating solutions for aluminum processors. New REACh compliant Bonderite products for etch passivation and corrosion protection are chromium-free, allow the toxicity labeling to be removed, and reduce the user's carbon footprint thanks to fewer active steps. In addition, they also provide significant reductions in product and water consumption.

In its efforts to replace hexavalent chromium (Cr VI) compounds in metal surface treatment, Henkel started to develop alternative technologies many years ago. Today, the company offers a rich portfolio of high-quality conversion products. Moreover, the company has been focusing on reducing the complexity of conversion processes by minimizing the number of required process steps.

“There is a growing demand for aluminum parts in several markets and foremost in e-mobility or architectural,” says Raul Hernandez, Business Development Manager Functional Coatings, Western Europe, for Henkel. “At the same time, aluminum surfaces are increasingly looking to reduce the environmental impact of their processes and products. Our innovative surface pretreatment technologies combine superior conversion results with best-in-class sustainability.”

Above all, the latest new developments in this area to be highlighted include the following three products: Bonderite C-IC 65001, Bonderite M-NT 2040 R9 and Bonderite M-NT 65000, developed especially for a broad range of new aluminum applications in industries from aerospace, automotive and railways to architectural, agriculture, furniture and lighting. All three products provide a very robust and safe process, meet key industry specifications such as Qualicoat and GSB for architectural aluminum parts, and are considered the most sustainable option in the market.

- **Bonderite C-IC 65001** closes a gap in the product offering for etching, desmutting and/or neutralization of aluminum surfaces prior to coating. While



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there was a toxic labeled one-component product as well as a non-toxic two-component solution available, an increasing number of customers were seeking an additional suitable one-component alternative enabling an HSE enhanced process at comparable performance.

Henkel's newly formulated Bonderite C-IC 65001 delivers the best of both worlds: a non-toxic labeled one-component product with the same bath build-up properties, treatment time and etch rate as the already existing products, thus providing a direct drop-in solution. Apart from minimizing the risks for operators and facilitating both transportation and storage, the new formulation offers high and stable etch rates even with dissolved aluminum up to 6 g/L and can cut consumption by about 50 percent compared to the previous one-component product.

- **Bonderite M-NT 2040 R9** is Henkel's immediate chromium-free and non-toxic labeled conversion treatment alternative to yellow and green chromating processes, since conversions to this product require no modification in the pretreatment line. In addition, as it allows users to combine etching, degreasing and passivation in one process step, it minimizes the required number of baths and rinsing steps as well as the length of pretreatment. In some cases, the typical de-ionized rinse before the conversion step can be replaced with a conventional tap water rinse.

In combination with a surfactant, Bonderite M-NT 2040 R9 can be used as a degreasing etch passivation product, thus saving one separate cleaning step. It creates a thin film on substrates, which is ideal for subsequent coating or lends uncoated aluminum components a durable surface resistance for excellent welding and adhesive bonding properties even after months of storage. The technology has been continuously advanced in recent years, resulting in significant energy cost, water and wastewater reductions. Moreover, it is also suitable for multi-metal lines.

- **Bonderite M-NT 65000** was originally developed for aluminum alloy components for the aerospace industry and sets new benchmarks for corrosion protection, paint adhesion and low electrical contact resistance. As a REACH compliant, non-toxic labeled and hexachromium-free conversion product, it offers a convenient, efficient and sustainable alternative to conventional chromium VI based aluminum surface treatment processes.

Bonderite M-NT 65000 can be used with standard equipment, requires no filtration and no post-treatment. In addition to outstanding corrosion protection results, it also creates a visible conversion layer to facilitate quality checks.



“In all of our aluminum conversion coating developments, we strive to maximize both the efficiency and the sustainability of the process for our customers,” adds Hernandez. “On the bottom line, the Henkel approach is as simple as it is challenging: eliminate hexachromium and any other high-hazard substances to remove the need for toxicity labeling and enhance working conditions; consolidate the process to reduce carbon footprint, water consumption and waste water treatment; and implement all these targets without any constraints in performance. Our new products show that it can be done while at the same time addressing cost issues and improving final part quality.”

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 2018, Henkel reported sales of around 20 billion euros and adjusted operating profit of around 3.5 billion euros. Henkel employs around 53,000 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.



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The following illustration material is available at www.henkel.com/press.



Henkel helps aluminum processors save costs and enhance the sustainability of surface pretreatment.



Raul Hernandez, Business Development Manager Functional Coatings, Western Europe for Henkel already counts with more than 15 years of experience in the Aluminium industry.