

The logo for WAGNER, featuring the word "WAGNER" in a bold, black, sans-serif font with a small triangle above the letter 'A', all set against a yellow rectangular background.

A shining example of industrial adhesion

Adhesion of headlamps for the automotive industry

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It was with headlamps that the family company HELLA made its name. In addition to halogen headlamps as standard basis technology, it has produced xenon headlamps for over 20 years, and LED systems for a few years. At the same time, the attractive style of the HELLA headlamps is compatible with the design of the vehicle. This technical and stylistic variety requires optimal adhesion during production, which is ensured by Reinhardt-Technik GmbH's dosing system.



Modern headlamp designs do not just provide light. Thanks to curve technology, they can also shine around corners, and reduce glare for oncoming vehicles. Modern LED technology automatically adapts to the circumstances and environmental conditions on the road, and the headlights are distinguishing design features on the "face" of the car.

The globally-operating family company HELLA has over 125 sites in more than 35 countries. In addition to electronic products, it produces innovative headlamps for leading car manufacturers. Adhesion is a key factor in the manufacturing process. "In the last ten years, adhesives have gradually replaced more traditional joining processes. Depending on the combination of the materials, the product design and the production parameters, it is important to select the right adhesive. It is just as important to specify the correct system for processing, in order to apply the adhesive with the required precision," explains Thomas Gerke, Senior Manager Systems & Applications at Reinhardt-Technik GmbH in Kierspe. For half a century, the company - which has been a member of the WAGNER Group since 2012 - has developed on a worldwide scale as one of the leading providers of dosing and mixing plants, and has demonstrably brought many innovative solutions to the market. "Our core competence is the processing of liquid plastics for use in the areas of adhesion & sealing, dispensing technology and surface treatment - in combination with system integration and process control," says Christian Hose, Commercial Director at Reinhardt-Technik GmbH.

Precision technology for an efficient adhesion process

The adhesive used for manufacturing headlamps must have a very high level of impermeability. The complex and sensitive light elements should be protected throughout their lifespans against the penetration of sprayed water and splashes. HELLA sets global standards for headlamp adhesion with the PUR dosing system "RT Warm Melt 800" from Reinhardt-Technik GmbH. The system is available in both a single and tandem version, and has been specially developed for the processing of moisture-curing PUR melt adhesives with high viscosities. The unique heating plate design and the hydraulic head piston dosing system generate excellent melting and conveying power.



The adhesive is dosed with high precision, and the “RT Warm Melt 800” systems impress with long component lifespans, interruption-free operation, and simple control by means of a touch panel. Heinz-Michael Dirks - a project engineer in the joining technology sector at HELLA - is confident that, “Due to these properties and the low cycle times, which enable rapid production, Reinhardt-Technik GmbH systems are an ideal production solution for HELLA.”

Abrasive adhesives need to resistant components

Adhesive products used to assemble headlamps are often extremely abrasive. Therefore from the outset, the development focus for Reinhardt-Technik GmbH has been on guaranteeing long lifespans of their valves, dosing units and applicators. The “RT Warm Melt 800” more than succeeds with this. But every production site, every product and every shape and size has its own characteristics. For this purpose, HELLA systems are precisely coordinated and technically adapted in the on-site technical centre, in close cooperation with the customer. To ensure that HELLA's high quality standards are met, dosing precision, uniformity and a constant melting capacity must be guaranteed. For this reason, the “RT Warm Melt 800” has an intelligent material feed. The cold adhesive is pressed out of a 20 litre pouch, and into the melting device. In 3-shift operation, this precise device allows very high system availability and an excellent lifespan. The HELLA maintenance department also sees the service-friendly design of the “RT Warm Melt 800” range as a great advantage. For instance, the “hobbocks” (small containers with a capacity of 20 - 25 litres) can be replaced very quickly and without ventilation. The used container can be easily removed from the heating plate and the follow-up plate is virtually free of adhesive. Overall, downtime is reduced to a minimum, which results in considerable savings potential in comparison with standard systems. The tandem versions allow completely interruption-free production.



Independent on-site start-up procedure by HELLA

The compact devices by Reinhardt-Technik GmbH are independently prepared for operation on-site by HELLA. In the meantime, hardly any training is required, thanks to the intuitive user interface. Any necessary training sessions are carried out by Reinhardt-Technik GmbH on-site, and in the shortest possible time. Customers are generally and comprehensively supported following delivery of the devices. “Product diversity is constantly changing due to new vehicle models and design specifications. We regularly carry out new tests in our technical centre in Kierspe, so that we can adapt important system parameters to the properties of the adhesive, the properties of the products, and the conditions of the different HELLA production sites,”

says Thomas Gerke. The resulting knowledge is constantly integrated into the development of software and hardware, and therefore benefits all areas of application and products.

Over the years, HELLA and Reinhardt-Technik GmbH have grown together as technology partners. Heinz-Michael Dirks from HELLA is positive about the long-term business relationship: “Thanks to the intensive exchanges of experience with WAGNER Reinhardt-Technik, we at HELLA have exceptionally productive and economic production facilities in the form of the “RT Warm Melt 800” dosing systems. The low maintenance costs, the very simple operation and the high system availability guarantee that our customers will always receive the high product quality that they expect from HELLA. This contributes to the strong market position of our company.”