Press release

Dürr develops new painting method for all industry sectors

Paint application with high edge definition – and absolutely no overspray

Bietigheim-Bissingen, 30 July 2020 – In almost every industry sector, the number and diversity of workpieces being coated are growing. To be able to paint these diverse components with greater efficiency than before, Dürr has developed a new technique that applies paints over large areas or in simple patterns with high edge definition – and absolutely no overspray. The innovative EcoPaintJet applicator won this year’s innovation award “Deutscher Innovationspreis” in Germany, and is now available for the general industry in an easily integrated set. Paint company Adler has already developed paints tailored to the new application technology.

In woodworking, shipbuilding, electronics manufacturing, and many other industry sectors, product and component surfaces are coated to protect them or add color. Up to now this involved a lot of effort if the coating had to be applied with high edge definition, since the surfaces either need to be manually masked or film-wrapped. There is also a lot of waste, both in terms of adhesive tape and paint lost to overspray. With the new overspray-free application set from Dürr, both of these are a thing of the past. **Eco**PaintJet, the innovative applicator contained in the set, is already successfully in use in automotive series production. Since 2019, the new Dürr technology has made it possible to paint car roofs in contrasting colors with no masking.

**More options for painting**

The **Eco**PaintJet applicator delivers precise coating with no overspray. This increases coating efficiency and offers companies more options when it comes to product design and the transportation of goods. Instead of adhesive film, decorative surfaces can be protected for transport through the targeted application of a spray film. This can be simply pulled off again at the destination. The technology also enables new options for the function and design of products. For example, the precise coating method means that window frames can have a weatherproof coating applied to the outside and get a decorative or differently colored application on the inside. Decorative effects can be easily realized on furniture fronts. “The overspray-free application set enables application with high edge definition, fast color changes, and a custom surface design,” says Holger Beiersdorfer, Vice President Industrial Products at Dürr, in summarizing the benefits.

**No atomizer air means no overspray**

The most important component in the overspray-free application set is the paint supply, combined with the cleaning and pre-painting process. The **Eco**PaintJet controls this using three valves. The beating heart of the applicator itself is a nozzle plate that produces several dozen parallel paint jets depending on the design. These can be activated or deactivated at any given moment to start or interrupt the coating process. Unlike painting processes involving spray guns or high-speed rotary atomizers, this process does not require any atomizer air. The overspray that must be filtered from the booth air in a complex process when using conventional methods therefore does not occur.

Another big difference compared with classic atomizers is that the width of the painting path can be adjusted by means of the applicator’s angle of application. This enables a painting path from 30 to 50 mm in width. Narrower path widths can also be produced by adapting the nozzle plate. The desired coating thickness is controlled via the applicator speed and solid content of the paint.

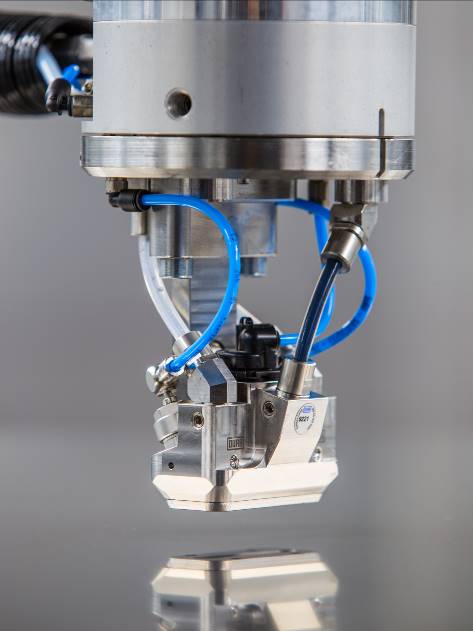
**All the benefits in one application**

Application techniques that save paint are particularly important when dealing with large surfaces. Even with airless guns or high-speed rotary atomizers, up to a fourth of the material used is lost. Recovering this paint is both time-consuming and energy-intensive, and only works with certain paint types. The so-called pouring technique, where the excess paint is collected in tanks, avoids overspray but does not permit fast color changes. Other surface design options such as applying films or decorative strips often mean a high level of manual effort.

The new Dürr technology eliminates all the disadvantages of the individual methods and makes painting faster, more cost-efficient, and more environmentally friendly in all industry sectors. “This makes our technology attractive even in scenarios where an automated painting method was not previously conceivable,” says Holger Beiersdorfer, hinting at other application possibilities.

The Austrian paint manufacturer Adler is promoting the new application technology together with Dürr, coming up with colorless and pigmented coating solutions that, in addition to the usual paint requirements, are precisely tailored to the special features of this technology. “For this visionary application technology, we developed innovative and environmentally friendly, water-based products that deliver maximum durability and at the same time visual individuality for more than just sheet material,” says Dr. Albert Rössler, CTO at Adler, impressed by the new painting technology.

**Pictures**



**Picture 1:** The **Eco**PaintJet applicator increases painting efficiency and offers companies more options when it comes to product design.



**Picture 2:** Overspray-free painting: the **Eco**PaintJet applies parallel paint jets using a nozzle plate.



**Picture 3:** Precise painting paths enable surface painting and coating with high edge definition.

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitalization/Industry 4.0. Its products, systems and services enable highly efficient manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical and woodworking industries. It generated sales of € 3.92 billion in 2019. The company has around 16,300 employees and 112 business locations in 34 countries. The Group operates in the market with the brands Dürr, Schenck and HOMAG and with five divisions:

* **Paint and Final Assembly Systems:** paint shops as well as final assembly, testing and filling technology for the automotive industry
* **Application Technology:** robot technologies for the automated application of paint, sealants and adhesives
* **Clean Technology Systems:** air pollution control, noise abatement systems and coating systems for battery electrodes
* **Measuring and Process Systems:** balancing equipment and diagnostic technology
* **Woodworking Machinery and Systems:** machinery and equipment for the woodworking industry

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