



LEADING IN PRODUCTION EFFICIENCY

Ecopaint APPLICATION TECHNOLOGY

EFFICIENCY AND QUALITY IN PAINT APPLICATION



Ecopaint APPLICATION TECHNOLOGY

A worldwide leader for years – With **ECO+EFFICIENCY**

The **ECO+EFFICIENCY** system comprises all dimensions of efficiency with which Dürr supports its customers in the production process and thus sustainably lowers the part costs while maintaining the highest quality. The ongoing development of all key technologies serves as the basis for **ECO+EFFICIENCY** and makes us the international leading provider in application technology.

Thanks to the continuous advancement of all our key technologies, our systems occupy leading positions in:

- » Painting quality
- » Application efficiency
- » Reducing color change loss
- » Application stability
- » Reducing emissions
- » Life-cycle costs

Ecopaint Paint Lines – An Optimized Overall Solution

An efficient production process also means flexible reaction to different or changing requirements. The **Ecopaint** paint line meets the requirements for automatic application of all paints used in the automotive and supplier industries. The painting lines for wet and powder paint application are made from standardized modular components:

- » Cleaning plants, washing plants
- » Painting robots for electrostatic and pneumatic application
- » Robots for interior and detail painting
- » Manual painting stations
- » Material logistics
- » Quality measurement

» *Painting robots, door and hood opener, traveling axis*



Ecopaint Application

- » Electrostatic rotating atomizers, air atomizers
- » High voltage generator
- » Dosing and regulating equipment
- » Color change and purging equipment
- » Direct charging systems for water-based paint
- » Manual painting stations

Ecopaint Robot

- » Painting robots
- » Door and hood openers
- » Traveling axes

Ecopaint Control

- » Control equipment, plant visualization systems
- » Movement and process controls
- » Reliability & maintainability software
- » Offline 3D robot programming
- » Online 3D-OnSite visualization and programming software

Ecopaint Quality

- » Quality measurement

Ecopaint Supply

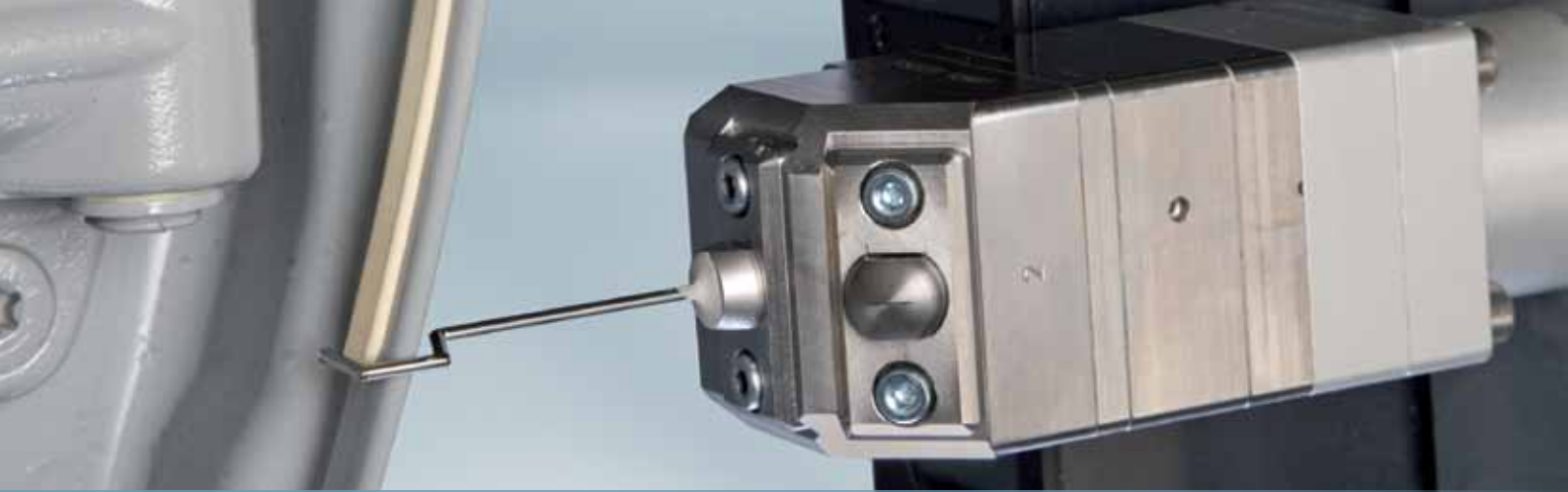
- » Paint mix rooms
- » Paint supply systems, ringpipe system
- » Paint supply systems for special paint colors
- » Central compressed air supply system



Ecopaint Clean, Ecopaint Blow-off

- » Robotic cleaning installation with sword brushes
- » Robotic cleaning installation with suction and blowing unit
- » Cleaning installation with feather rollers
- » Cleaning installation for pre-dusting by means of blowing off and extracting





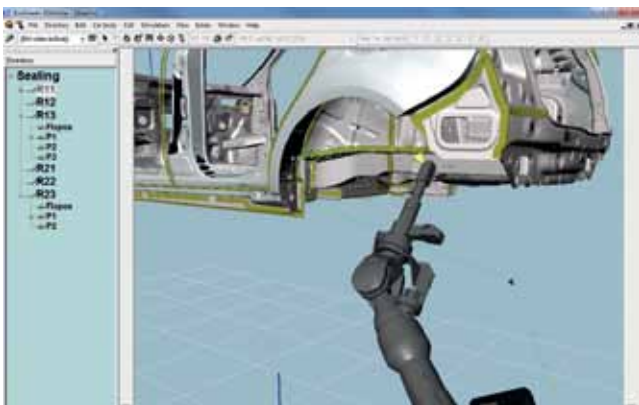
» Flanged seam seal

Ecopaint Sealing

Ecopaint Sealing – For Automated Sealing and Preservation of Car Bodies



» Station for seam sealing and underbody protection



» 3D-OnSite Graphics Editor Sealing

For preservation, sprayable materials with high viscosity are used to protect the body against corrosion and water ingress.

The innovative Dürr **Ecopaint Sealing** system product range improves economic efficiency and guarantees the highest quality and environmental compatibility. Manual application scopes are reduced through automation, and material consumption is lowered by more precise and reproducible process control. Dürr application systems thus guarantee constant product quality. In this way manual touch-up can be avoided. Application systems from Dürr based on **ECO EFFICIENCY** reduce material consumption and save resources.

Ecopaint Sealing

- » Robots
- » Dosing systems
- » Applicators
- » Masking units
- » Material supply
- » Material heating and temperature conditioning
- » Universal control solution for sealing and painting
- » Online 3D-OnSite visualization and programming software

Ecopaint Sealing permits seam sealing, flanged seam sealing, underbody and rocker coating, spraying dampening material, cavity preservation and window flange masking.

Ecopaint Gluing

Gluing Processes in Final Assembly

As a supplier of turnkey installations for automated gluing in final assembly, Dürr has comprehensive process knowledge and high-quality products available. The innovative **Ecopaint Gluing** solutions are based on know-how and experience from several hundred robot installations that have been successfully carried out in recent years. This safeguards the quality and efficiency of your gluing processes in all application fields.

Ecopaint Gluing is great for the applications of window glazing, roof modules, cockpit installation with gluing, gluing of spare wheel containers/battery cases and roof reinforcement dampings.

Gluing Processes in Body Construction

Gluing as a joining method is particularly well suited to the dynamic stresses of combining different materials. Gluing technology allows not only lower costs per unit than spot welding, but also offers advantages in sealing and damping. Moreover, the increasing requirements for automotive safety, rigidity and comfort can be better fulfilled. Crevice and contact corrosion through the contact of different materials is avoided as well.

» Gluing Applications in Body Construction



For all requirements in gluing applications Dürr offers the latest technologies and products:

- » Robots
- » Gluing towers
- » Dosing system
- » Application technology
- » Material supply
- » Handling equipment
- » Control technology and system visualization

» Window Glazing



SERVICES & SOLUTIONS

Dürr's best support increases your plants' availability.
Our service offers short times to reaction and comprehensive technical competence.



» Training Centre Dürr Systems Bietigheim-Bissingen

Your advantages:

- » Maximum plant availability
- » Rapid and safe troubleshooting

Profit from our 24-hour hot line and spare parts service. Our customers worldwide receive rapid assistance with on-line error detection and repair, via remote diagnosis through ISDN network.

Optimization Reduces Operating Costs

During the entire project process, we optimize the paint shop in order to utilize every performance potential. Our engineers precisely adjust the systems to each other so that the best results are achieved. The effort is worth it because increasing the first run rate can significantly reduce costs per unit.

Ecopaint Training

The effectiveness and quality of painting is significantly influenced by the qualifications of the painting professionals. Therefore we offer a comprehensive training program for optimal use, operation and maintenance of robots and equipment. Training centers for this are available in Bietigheim-Bissingen (Germany), Auburn Hills (USA), Paris (France), Shanghai (China), Seoul (Korea) and Sao Paulo (Brazil).



» *Painting booth in the **Ecopaint Test Center Paint***



» ***Ecopaint Testcenter Sealing/Gluing***



Ecopaint Testcenter

Ecopaint Test Center by Dürr

Individualized system solutions are developed and tested here in partnership with the automobile, supplier and painting industries. In the **Ecopaint Testcenter Paint**, four painting booths with a total of twelve robots are available for all application systems. A measuring robot equipped with a non-contact wet film thickness measuring system is used for recording the result. Two convection air ovens that can be programmed with various temperature curves ensure flexible curing that corresponds to requirements. Visual paint appearance inspection can be carried out under

defined lighting conditions in a measuring booth. State-of-the-art measurement technology for the evaluation of the series of experiments is a matter of course. For investigations in the field of mastic application, the **Ecopaint Testcenter Sealing** is available with four sealing robots and the necessary periphery, as are two robotic gluing stations in the **Ecopaint Testcenter Gluing** for adhesive applications in the final assembly and raw construction gluing. With the newly built process technical center, a total surface of 5,650 m² is available at the Bietigheim-Bissingen location.

ECO EFFICIENCY for Ecopaint Application technology

- » Reduction of unit costs
- » Maximum quality
- » High level of environmental friendliness by reduced material consumption
- » Technological advantage leads to innovative products
- » Know-how from planning through realization
- » Everything from one source
- » Global service



LEADING IN PRODUCTION EFFICIENCY

Dürr – Leading in Production Efficiency

Four divisions, one goal: maximum production efficiency for our customers

- » **Paint and Assembly Systems:** Paint shops and final assembly plants for the automotive industry and aerospace construction
- » **Application Technology:** Robot and application technology for applying paint, adhesives and sealants
- » **Measuring and Process Systems:** Balancing technology, cleaning technology and testing, filling and assembly products
- » **Clean Technology Systems:** Exhaust air purification systems, energy efficiency technologies

Subject to change. The information in this brochure contains only general descriptions or performance characteristics which may vary in actual cases. The requested performance parameters shall be binding only if they are explicitly agreed within the sales contract. © Dürr Systems GmbH