

Ecopaint Application Technology



High quality, efficient, flexible, environmentally friendly



Technologies · Systems · Solutions

***Ecopaint* Painting Stations**



Dürer's Bietigheim-Bissingen campus



EcoBell3 rotating atomizer



Painting robots, door and hood opener, traveling axes

Dürer *Ecopaint* Application Technology – a Worldwide Leader for Years

In the field of application technology we have been the leading international supplier for years. The majority of all automobiles produced worldwide are painted with Dürer products. 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**

With the flexible *Ecopaint* painting lines Dürer 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:

- Painting robots for electrostatic and pneumatic application
- Robots for interior and detail painting
- Manual painting stations
- Material logistics
- Quality measurement

Ecopaint Application

- Electrostatic rotating atomizers, air atomizers
- High voltage generators
- 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 Quality

- On-line wet film thickness measurement
- On-line color shade/leveling measurement

Ecopaint Supply

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

Ecopaint Control

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

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



Ecopaint Checker on-line wet film thickness measurement



EcoSupply P Paint supply systems for special paint colors



Robotic cleaning installation with sword brushes and suction and blowing unit

Ecopaint Sealing



Flanged seam sealing



Ecopaint Sealing station for seam sealing and underbody protection



Seam sealing

For Automated Sealing and Preservation of Car Bodies

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 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
- Visualization and programming software

For application processes: 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

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

Gluing for applications including: window glazing, roof modules, cockpit installation, spare wheel containers, battery cases and roof reinforcement dampings.



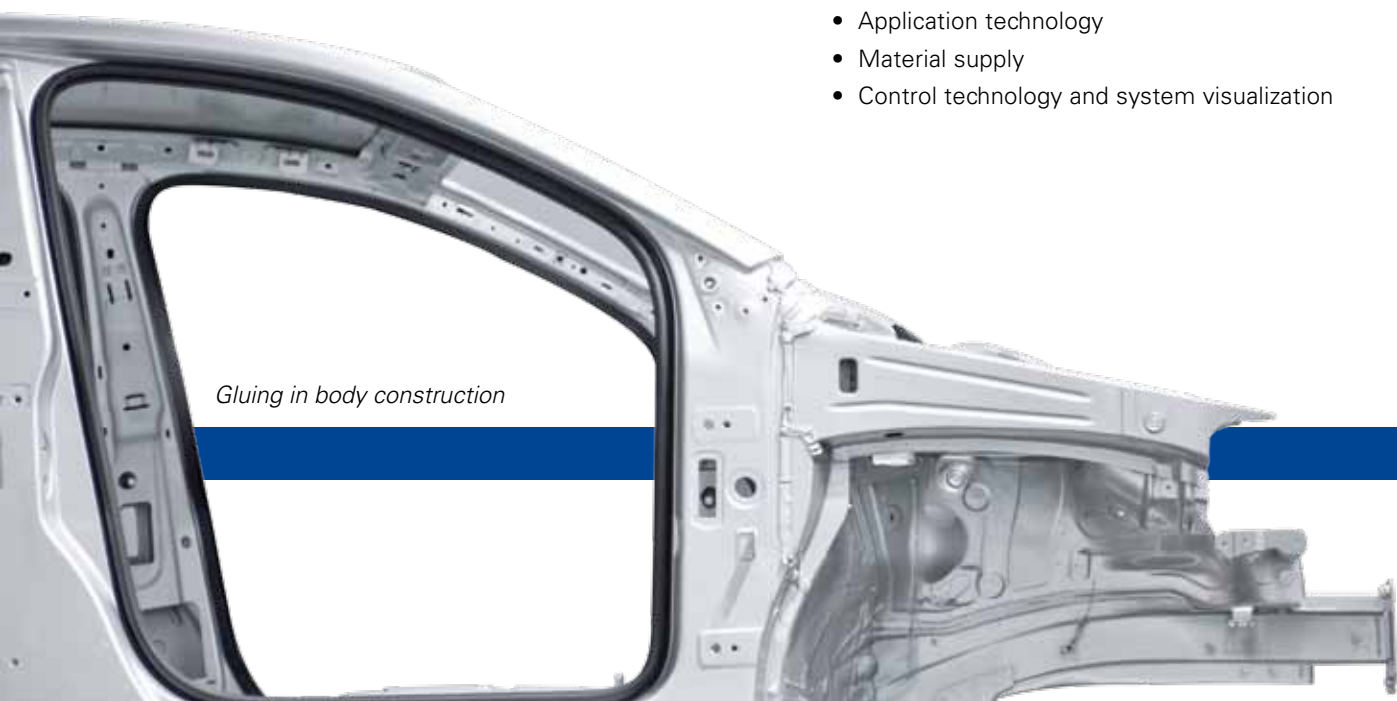
Window glazing

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.

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

- Robots
- Dosing systems
- Application technology
- Material supply
- Control technology and system visualization



Gluing in body construction

Services & Solutions



Preventive maintenance and servicing



Dürr Systems' Bietigheim-Bissingen Training Center



Customers in the Training Center

Increased plant availability through professional support. Our Services & Solutions group offers short reaction times and comprehensive professional expertise.

Your advantages:

- Maximum plant availability
- Rapid and safe troubleshooting

A 24-hour hot line and spare parts service are available to our customers worldwide. Our skilled service technicians offer 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

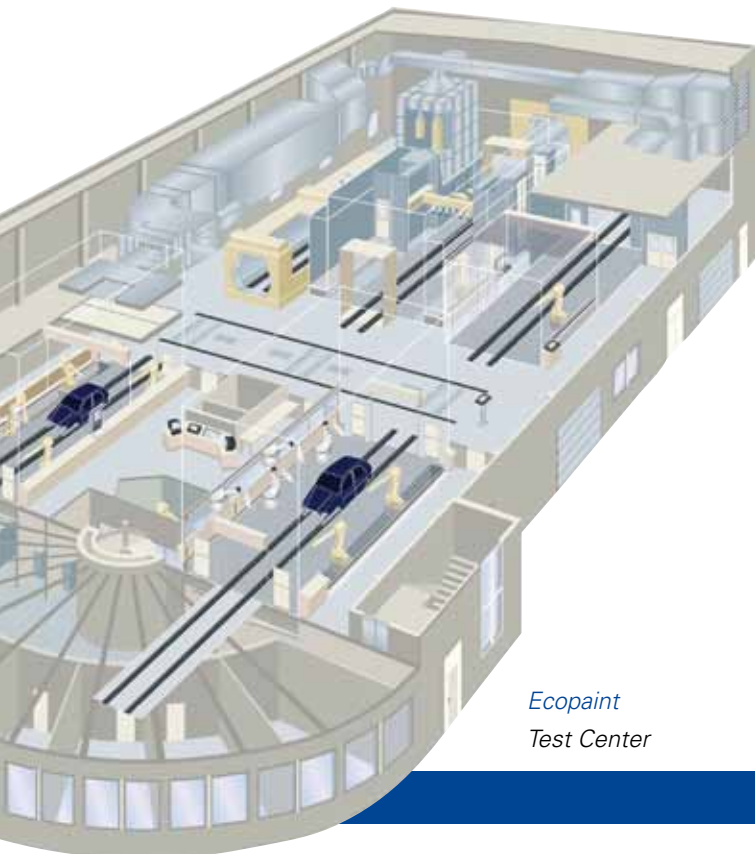
The effectiveness and quality of painting is significantly influenced by the qualifications of the painting professionals. Therefore we offer a comprehensive training program for optimal use, operation and maintenance of robots and equipment. Training centers for this are available in Bietigheim-Bissingen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



Ecopaint Test Center

Dürr's *Ecopaint* Test Center

Individualized system solutions are developed and tested here in partnership with the automobile, supplier and painting industries. In the Dürr *Ecopaint* Test Center, four painting booths with a total of twelve robots are available for all application processes with a wide variety of paint technologies. 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.




*Ecopaint
Test Center*



*Sealing/gluing section of the **Ecopaint** Test Center*



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

For investigations in the field of mastic application, the sealing/gluing section of the *Ecopaint* Test Center is available with 4 sealing robots and the necessary periphery as is a robotic gluing station in the *Ecopaint* Test Center for adhesive applications. With the newly built process technical center, a total surface of 5,650 m² is available at the Bietigheim-Bissingen location. 

Ecopaint Application Technology

Your competitive edge with Dürr:

- Reduction of unit costs
- Maximum quality
- High level of environmental friendliness
- Technological advantage through innovative products
- Know-how from planning through realization
- Everything from one source

Application Technology · www.durr.com



Ecopaint Painting Stations



Dürer's Bietigheim-Bissingen campus



EcoBell3 rotating atomizer



Painting robots, door and hood opener, traveling axes

Dürer *Ecopaint* Application Technology – a Worldwide Leader for Years

In the field of application technology we have been the leading international supplier for years. The majority of all automobiles produced worldwide are painted with Dürer products. 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**

With the flexible *Ecopaint* painting lines Dürer 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:

- Painting robots for electrostatic and pneumatic application
- Robots for interior and detail painting
- Manual painting stations
- Material logistics
- Quality measurement

Ecopaint Application

Electrostatic rotating atomizers, air atomizers
High voltage generators
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 Quality

On-line wet film thickness measurement
On-line color shade/leveling measurement

Ecopaint Supply

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

Ecopaint Control

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

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



Ecopaint Checker on-line wet film thickness measurement



EcoSupply P Paint supply systems for special paint colors



*Robotic cleaning installation with sword brushes
and suction and blowing unit*