

Guardian's New Paint Line Gets a Boost from Robotics



Articulating robots have the capacity to paint entire exterior systems of highly engineered, injection-molded parts.

Guardian Automotive, Auburn Hills, MI, recently completed an \$18.2 million, 68,000 ft² expansion at its Morehead, KY facility. The expansion features a new high-gloss paint line with a custom-designed, closed-loop control system that manages all functions of the line, from scheduling through finished parts.

The system is programmable logic controlled (PLC) and operates all functions of the line, including the 10 robots, the fluid delivery systems and the precision mix system. The new high-gloss paint line brings the number of robots in use at the facility to 24.

The expansion also increases the physical plant capacity to 400,000 ft², and includes the addition of injection-molding capability for use with larger parts, such as fascias, grilles and exterior claddings.

Steve Markevich, group vice president for Guardian Automotive, said: "The benchmark technology in the industry, our Morehead paint line allows us to supply painted and assembled systems in a more robust, 'just-in-time' manner to meet the increasing demands of our customers. On this new line, we can provide broad product capability, from fascias and body panels to grilles and clad-

dings. With both low-bake (2-K) and high-bake (1-K & 2-K) capabilities, the new line can process a multitude of thermoplastic materials, ranging from TPO to ABS and beyond." The 1-K paints require curing at high temperatures, while 2-K paints contain a catalyst that allow them to cure at lower temperatures.

"The flexibility and efficiency of Morehead's paint line allows us to rapidly apply paint, resulting in a high throughput on the system," said Mike Young, engineering manager for Guardian Morehead. "With an industry-leading



After expanding operations, Guardian Automotive now has five paint lines that offer maximum flexibility through the use of PC-driven control panels. The customized control system offers various options that enhance the company's ability to meet multiple customer demands "just in time."

Guardian Morehead Facts

About the Plant

Located on 45 acres with 402,000 ft² facility. Opened in 1997 and has 431 employees.

Certifications

QS9000 & Q1 certification.

Paint System

- Runs five paint lines using the largest, fastest robotics available to the industry—two high-gloss systems designed to paint large parts such as grilles, fascias and body panels; and three low-gloss systems for low-gloss, resist, and top coat applications.
- Full robotics application and manual reinforcement zone capability to produce 1K/1K, 1K/2K, 2K/2K coatings, includ-

ing tinted clearcoat and tri-coat applications.

- Integrated closed-loop fluid control systems that include precision mixing—two paint delivery mixing kitchens with unlimited color change capability, low-gloss robotics paint system, precision masking operations to complete resist and top coat processes.
- Five-stage power wash system on each high-gloss line complies with all OEM plastics surface preparation specifications.
- Separate painting booths for primer or adhesion promoter, base coat colors and clear coat, robotically sprayed. Primers are applied with HVLP guns; color and clear use electrostatic single- and dual-head guns.

Electroplating System

- System with programmable hoist control is capable of processing ABS and PCABS. Electroless copper pre-plate system meets all automotive specifications.
- Capacity to produce parts with resist electroplate applications.

Quality Laboratory

- In-house testing laboratory with CMM capabilities.

Current Products

Ford F150, Econoline, Explorer and Expedition; Cadillac Escalade; Chevrolet & GMC medium-duty trucks; and Jeep Grand Cherokee.

capability, we offer flexibility like no other exterior systems supplier. We can rapidly change temperatures on the paint line without removing parts, virtually eliminating down time associated with the transition, from curing low-bake 2-Ks to high-bake coating systems.”

A subsidiary of Guardian Industries Corp., Guardian Automotive is a global Tier I supplier of complete exterior systems to the automotive industry worldwide, offering integration of

vehicle exterior trim and glass capabilities. Through partnership with its automotive customers, Guardian meets their needs by researching, designing, developing, engineering, testing, tooling, and manufacturing totally integrated exterior systems.

Guardian Automotive has received numerous awards from its customers, including Ford's TQE Award and Q1 Award, DaimlerChrysler's Platinum Pentastar and Gold Awards, and the GM

Supplier of the Year Award.

Together, Guardian Industries Corp., and its subsidiaries and affiliates constitute one of the world's largest manufacturers of float glass and fabricated glass products for the commercial and residential construction industries. The company is also a leading supplier of vehicle glass and automotive exterior trim systems. The organization employs 20,000 people and operates facilities in 17 countries. *P&SF*



A new 3000-ton injection molding press allows Guardian Morehead to manufacture larger parts, such as grilles, fascias and body panels.