

Fiber-Cement Siding Manufacturer Reduces Coating Consumption, Saves US\$80,000 Annually with Automated Spray System



Problem:

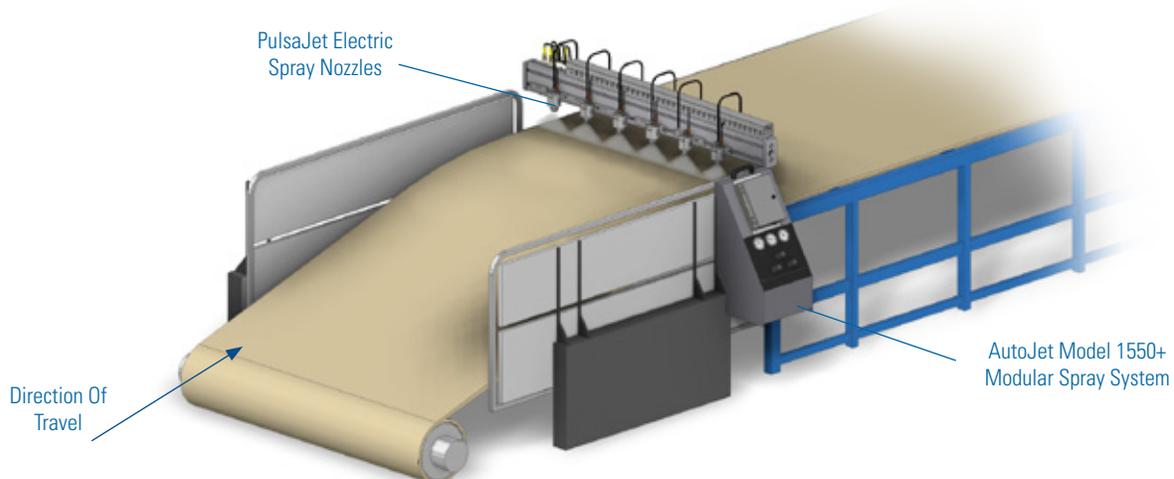
A global manufacturer of fiber-cement building products needed to spray a proprietary resin coating on siding boards to aid the drying process. The previous spray system, which lacked a controller, resulted in inconsistent coating and messy overspray. The system's inability to automatically adjust flow rate based on line speed was especially problematic as boards were being produced at speeds that varied up to 65%.

The company required a spray solution that would precisely apply the coating with minimal overspray and waste, thereby reducing maintenance, cleanup, scrap material and associated man-hours. Achieving these objectives while, at the same time, being able to make on-the-fly changes to line speeds and production schedules without switching out spray nozzles also was paramount.

Solution:

The company purchased Spraying Systems Co.'s AutoJet® Model 1550+ Modular Spray System, which included a 98250 manifold equipped with six PulsaJet® AA10000AUH-104210 electrically actuated spray nozzles and UniJet® PWMD tips. Prior to entering the drying oven, siding boards were conveyed under the 66-inch (1676 mm) spray manifold and sprayed with the resin coating from an 8.5-inch (216 mm) spray height. A flow rate range of 0.375 to 2 gallons/hour (1.4 to 7.6 liters/hour) per nozzle was used.

The AutoJet system provided Precision Spray Control (PSC), which ensured accurate, uniform placement of the resin coating with minimal waste—even with line speeds ranging from 300 to 500 feet/minute (91.4 to 152.4 meters/minute). With the system's ability to produce a wide range of flow rates, the need to modify the spray settings during production changes was eliminated.





Fiber-Cement Siding Manufacturer Reduces Coating Consumption, Saves US\$80,000 Annually with Automated Spray System – Continued

Results:

The AutoJet® Model 1550+ Modular Spray System provided significant cost benefits over the first four months of operation. It reduced consumption of the expensive resin coating and cleanup of messy overspray, while improved quality consistency led to less scrap being created and hauled away. In addition, flow rate concerns were put to rest thanks to the system's PSC.

The system's success led the fiber-cement manufacturer to project an annual savings of US\$80,000, a payback period of less than three months on the investment. It also resulted in the company approving the capital expenditure for 12 additional AutoJet systems for similar use in other plants.

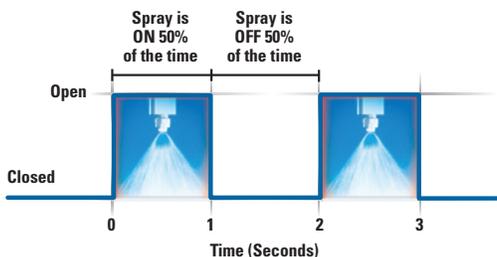
A CLOSER LOOK AT THE SYSTEM



The 98250 spray manifold, which features a compact design with rigid aluminum structure, can be configured with flexible lengths, number of nozzles and nozzle spacing



Pulsajet® electrically actuated spray nozzles achieve varying flow rates for a single spray tip, reducing downtime for changeouts, and deliver coating to the target with high efficiency



Precision Spray Control (PSC) turns nozzles on and off quickly to control flow rate. With traditional nozzles, flow rate adjustments require a change in liquid pressure, which also changes the nozzle's spray angle/coverage and droplet size. With PSC, pressure remains constant, enabling flow rate changes without affecting spray performance. This reduces the use of costly coatings by applying the proper volume directly on the boards.

For more information about Precision Spray Control, visit spray.com/psc



Spraying Systems Co.®
Experts in Spray Technology

North Avenue and Schmale Road, P.O. Box 7900, Wheaton, IL 60187-7901 USA

Tel: 1.800.95.SPRAY Intl. Tel: 1.630.665.5000

Fax: 1.888.95.SPRAY Intl. Fax: 1.630.260.0842

www.spray.com



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