



PROBLEM SOLVED™ PAPER

SOLUTION: Martin® Air Cannons

INDUSTRY: Pulp & Paper

LOCATION: Potlatch Corporation
Cook, Minnesota



Screen from chips dryer, showing sawdust plugging.



Martin® Air Cannons were installed so their discharge would remove the buildup from the dryer screens.



To allow the Martin® Air Cannons to clean two of the screens, special discharge nozzles were installed.

PROBLEM

Before wood shavings can be pressed into OSB (or particleboard, as it is commonly called), they are dried in a chips dryer. The plant uses a flat line, ten-zone oven manufactured by George Koch Sons.

Screens form the sides of the oven to keep the chips away from the coils that heat the oven. Sawdust picked up by the oven's circulating air would stick to the screens, clogging the openings and reducing air movement. To get consistent drying, the movement through the oven would have to be slowed, reducing plant output. As they became clogged, the screens would need to be removed and manually cleaned.

SOLUTION

Martin® Air Cannons were installed so that the force from their discharge would remove the sawdust from the screens.

Each of the dryer's ten zones holds four screens. To allow a single air cannon to clean two of the 24- by-48 inch (610- by 1220-mm) screens, special discharge nozzles were installed.

RESULTS

The air cannons were mounted on stands with hose connections and quick release clamps to allow periodic inspection of the screens. The air cannons were installed in pairs along the dryer.

To prevent the screens from clogging, all 20 Martin® Air Cannons fire once during a 20- to 30-minute cycle. Each air cannon pair fires simultaneously to clean the screens in an oven zone. This keeps the dryer's chip screens clean and maintains drying efficiency. The problem with screen clogging has been eliminated.

Martin® XHV Air Cannon Valve is protected by U.S. Patent No. 5,853,160.

Martin Engineering • One Martin Place • Neponset, IL 61345-9766 USA
Ph. 800-544-2947 • Fx. 800-814-1553 • info@martin-eng.com • www.martin-eng.com

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