



PROBLEM SOLVED™ PAPER

SOLUTION: Martin® QC1™ Cleaner HD

INDUSTRY: Cement

LOCATION: GCC of America Dacotah Plant Rapid City, South Dakota



The plant's weigh feeders suffered carryback as a result of an inability to effectively clean the sidewall belts.



The Martin® QC1™ Cleaner HD was installed on a modified mainframe to provide effective cleaning without interference from the sidewalls of the belt.



Following installation of the Martin® QC1™ Cleaner HD, the corrugated sidewall belts on the weigh feeders were much cleaner.

PROBLEM

This cement plant produces one million tons (907,000 m/ton) per year. The plant uses a total of nine weigh feeders to move the raw materials—limestone, sand, shale and iron ore—from hoppers to the belt that conveys the material to the roller mill to be ground for kiln feed. To contain the cargo, these feeders use corrugated sidewall belts. Given their wall height of 5.75 inches (146 mm) these belts are difficult to clean. As a consequence, fugitive material would build up under the feeders and spread throughout the facility.

SOLUTION

To remove the residual material from the sidewall belts on the three most problematic of the weigh feeders, Martin Engineering proposed a modified version of the Martin® QC1™ Cleaner HD. This special cleaner incorporated an extended mounting spine to increase the distance from the mainframe to the belt. The modification raises the cleaning edge 4.64 inches (118 mm) while centering the blade between the sidewalls. This allows the corrugated sides to pass without problems.

RESULTS

Belt cleaning was noticeably improved, and the accumulation of material under the three weigh feeders was significantly reduced. Plant officials note that the plant had reduced clean-up chores from roughly a wheelbarrow full of material every three days, to about one-fourth of a wheelbarrow in a two-week period. Plant officials noted these belts show significant wear, including small pockets across their carrying surface. Consequently, the belt cleaners are unable to totally clean these indentations; the plant is confident that new (smoother) belts would virtually eliminate the problem. Martin Engineering representatives were congratulated by several employees of the Dacotah plant of GCC of America, Inc. for solving this difficult and long-standing problem.

Form P1178

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