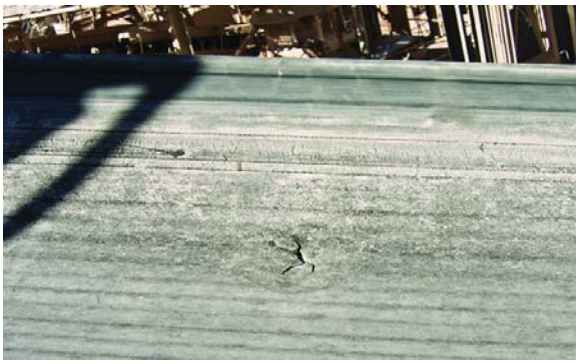
PROBLEM SOLVED™ PAPER

SOLUTION: EVO® Combination Cradle, EVO® Slider Cradles, ApronSeal™ Double Skirting, Walk the Belt™

INDUSTRY: Cement

LOCATION: Martin Marietta, Hunter Cement Plant, New Braunfels, Texas

PROBLEM



A receiving belt can experience severe damage from material transfers if it's not supported properly.

The Martin Marietta Hunter Cement Plant experienced equipment breakage, belt damage and spillage issues on the B-06 conveyor leading from the limestone storage dome to the facility. Approximately 400 tons (362.8 metric tons) per hour of limestone is loaded into a crusher that breaks down the rock to a size of 8-inch minus in diameter (203 mm), then deposits the material into a chute with a 20-foot (6-meter) drop onto a 42 inch (1066 mm) conveyor belt. The previous equipment was inadequate to handle the impact of limestone. Idlers cracked and cargo would not center sufficiently, causing excessive spillage around the transfer area and along the belt path, leading to long periods of downtime.

SOLUTION

The modular impact cradle absorbs the impact of the falling load, yet slides in and out for easy service.

Martin technicians recommended an overhaul of the transfer system featuring three integrated solutions. Providing powerful, adjustable load support, the EVO® Combination Cradle is able to sustain an impact force of 12,000 lbs (5,443 k). The 34-foot-long (10.3 m) settling zone featured troughed EVO® Slider Cradles with low-friction, 62 durometer (shore D) UHMW polyethylene sidebars to center the cargo and reduce belt wear. The chute was raised slightly to accommodate the externally mounted ApronSeal™ Double Skirting, featuring primary and secondary sealing strips to keep a tight seal on the belt and prevent fugitive dust and fines. All of these technologies can be maintained without reach-in or chute entry.

RESULTS

The external skirting system contains fine particles and creates a more stable stilling zone.

There has been no unscheduled downtime of B-06 since installation. Monthly Walk the Belt™ inspections conducted by Martin technicians have recorded healthy idlers and no apparent belt damage or need for replacement. Cleanup time of spillage has been drastically reduced to an as-needed basis, without the previously-required system shutdown. "We are extremely impressed with how the system is performing," said the company assigned Reliability Engineer. "The service and maintenance have been excellent, and we are already working with Martin on other projects to further improve operations."

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