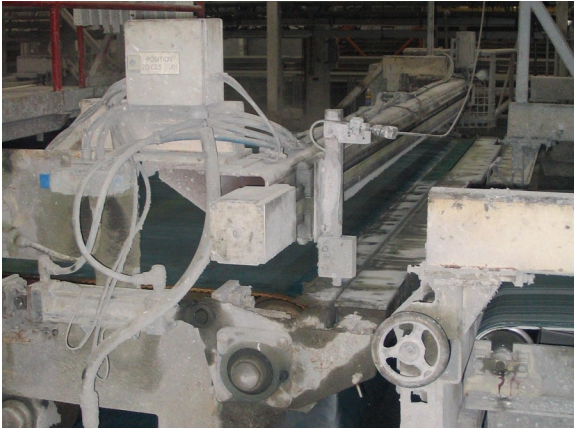


Water Jet Cutting Machine

Application Profile



LoPro® Jets Through Cement

Caked in cement dust, the LoPro linear system reliably drives water jet cross cutter on cement fiberboard line

Challenge

A building products manufacturer that produces fiber-cement plank siding for homes needed an actuated system that would hold up in a harsh environment where cement dust covers everything in the plant. Originally, the machine was powered by an actuated system that utilized flat faced polyamide covered bearing wheels riding in the inner channels of an aluminum extrusion profile. After only 6 months in operation, the bearing wheels failed due to ingress of the cement dust. It was determined that the entire unit would need to be replaced or completely rebuilt.

Application Description

The fiber-cement siding is calendared to thickness in wide slabs that is then slit to 6-8" widths as the slab is fed underneath a bank of water jet cutters. The feeding of the slab is stopped at a cross-cutting station where the leading edge and then the trailing edge of each slab is trimmed by a water jet cutter that traverses across the width. The travel length is 172", speed is 73 in/sec with 1g acceleration and the load is 20 lbs. at a 12" roll moment. The system cycles five times per minute, two shifts per day, six days per week.

Solution

Although a size 2 LoPro would have been sufficient to handle the application, a size 4 LoPro was used. The system was mounted to an existing cross beam on the line. It was placed on its side with the face of the wheel plate positioned vertically to carry the cross-cutting water jet head. For an additional minimal cost, the customer was able to get 3-4 times the load and life capacity by moving up to a larger size. The LoPro design also allows easy replacement of individual track and wheels as they wear resulting in a cost savings to the customer. After operating for more than a year, the new LoPro system is running well.

Products Used

- LoPro Size 4- belt driven, corrosion resistant

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