VIBRA SCREW

CASE HISTORY

C-212

Ingenuity Plus Bin Activators Keep Wood Chips Moving Even In Freezing Weather

Customer

Boise Cascade, International Falls, Minn. Producers of fine paper and sheathing and exterior siding for the construction industry.

Problem

In a modernization program, the company changed over from a stone-groundwood operation to a refiner operation using wood chips as their raw material source. Because of the severe winters at International Falls, wood chips are much more difficult to handle than they are in most other plants. However, even when they are not frozen, the chips are subject to interlocking and bridging. The 2 in. by 2 in. chips have a bulk density of 20 lbs. per cu. ft. They are stored about a mile from the plant and are conveyed pneumatically to chip silos in the plant. These silos are bolted steel which are 20 ft. in diameter by 56 ft. high, with a 12,000 cu. ft. capacity. The difficult problem is to keep chips flowing evenly, in all weather, from storage to three Bauer 480 refiners and from there to forming machines where the company's building products are made.

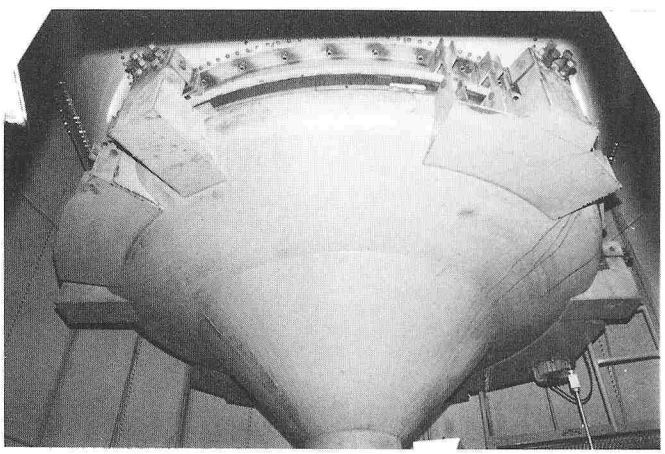
Solution

2 Vibra Screw Bin Activators, 12 ft. diameter, carbon steel construction.

When the new system was installed, the flow diagram called for two fundamental steps: 1) the chips were to be delivered first through a cyclone to the chip washer instead of being conveyed directly to the chip silos, which are now *inside* the plant. Washing removed sawdust and debris, and also by thawing the chips, made them easier to handle. 2) Vibra Screw Bin Activators were attached to the bottom of the silos to overcome the still remaining problem of interlocking and bridging. The Bin Activator employs controlled vibration to produce powerful thrusts which vibrate the Bin Activator, its integral baffle, and the wood chips, but not the bin. The contained materials are thrown horizontally toward the discharge outlet beneath the baffle. The baffle resolves the horizontal thrusts into strong vertical impulses extending far up into the main bin. This eliminates bridging and compaction, and produces a positive, even flow without surges. The new system is capable of handling from 1500 to 6000 cu. ft. per hour.

Results

Despite the severe weather, the modernized system has been very successful in producing an even, free flow of wood chips to the refiners. According to plant officials, the system has been completely trouble-free since its installation.



The Bin Activators eliminate bridging and compaction, and produce a positive, even flow of wood chips without surges. The Activators have been completely trouble-free since their installation.