

Bin Activators Aid Drawdown, Cut Cement Loss

Customer

Quikrete of Virginia, Chesapeake, Virginia.
Producers of regular concrete dry mix in 40, 60,
and 80 lb. bags.

Problem

Quikrete of Virginia stores raw cement in two 8 ft. diameter steel bins 24 ft. high. The cement has a bulk density of 94 lbs. per cu. ft., and the capacities of the bins are 100,000 lbs. of Portland cement. Normal production is 50,000 lbs. of raw cement a day. The cement is moved from storage by screw conveyor to the mixing station, where the proper quantities of sand, gravel, and cement are metered out. The mixture goes from there to bagging. In order to keep the cement flowing from storage, however, it was necessary to beat on the side of the tanks with a sledge hammer. Otherwise, the cement would cling to the sides of the bins and build up until only a funnel, or rathole would form, followed by complete stoppage. An added problem was a tendency for moisture to condense inside the tanks, even though it is closed on top, causing the cement stuck on the walls to harden, with resultant losses.

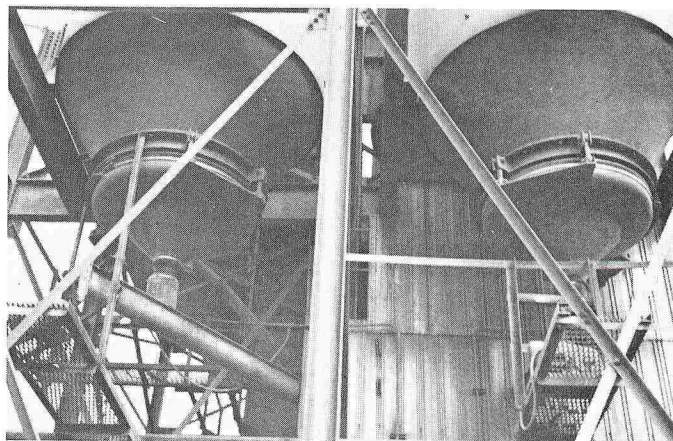
Solution

2 Vibra Screw Bin Activators, 5 ft. diameter.

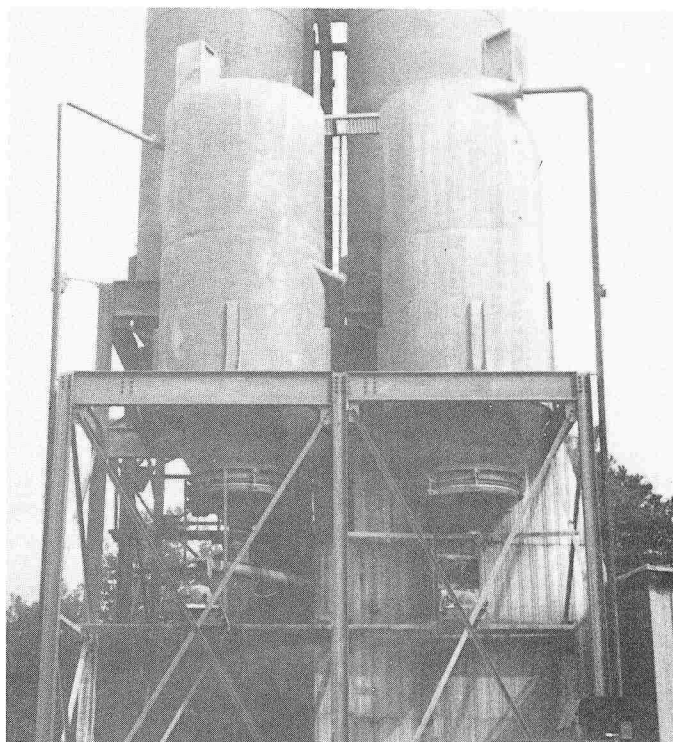
Quikrete decided to install a Bin Activator on the bottom of their two storage bins. Controlled vibration is provided by a powerful gyrator which is mounted to the Bin Activator. This gyrator produces vigorous horizontal thrusts which vibrate the entire Bin Activator, its baffle and the cement in the bin, but not the bin itself. The cement is thrown horizontally toward the discharge outlet in response to the horizontal gyrator thrusts. The curved baffle resolves the horizontal thrusts into strong vertical impulses which penetrate high up into the stored material, eliminating ratholing and breaking up the buildup of cement along the sides of the bin.

Results

The cement now flows in an even, uninterrupted stream. Longer life is expected for the bins, since it is no longer necessary to sledge the sides of the bins to make the cement flow. A substantial added benefit: no more losses from cement hardening on the sides of the bins. The company is so pleased with results that they are installing two Bin Activators in their Lakeland, Florida plant and two in their Clinton, Maryland plant.



Vibra Screw Bin Activators at Quikrete of Virginia move raw cement from storage in an even, uninterrupted stream.



The Bin Activators eliminate ratholing and break up the buildup of cement along the sides of the bin. Quikrete expects its bins to last longer since it is no longer necessary to sledge the sides of the bins to make the cement flow.