

CASE STUDIES

Precast Concrete: Silo Vibrator Installation

Flow issues resolved with the right equipment for the job and proper installation.

Introduction

This job story focuses on the compounding issues that can arise from faulty or failed vibrators on material silos. A Prestress, Precast Customer located in the Southeastern U.S. was experiencing trouble with the flow of material in its silos. Attempts to address the situation were doing the company as much harm as good, escalating into a cascading effect of decreased production, idle manpower, and equipment destruction.



Problem in more detail

In order to get material to flow from silos, employees would regularly get on a lift or climb a ladder and then beat on the silos with hammers. This practice of “hammer beating” was bad for both the equipment and the employees. The employees involved in the process were engaged in multiple unsafe work practices, including not using fall protection, using tools in ways not intended, and causing equipment damage that would result in further production delays.

An AIRMATIC Vibration Specialist also noted that the Customer’s existing vibrators were not installed correctly. The mounting position had vibrator shafts perpendicular to the ground. A mistake that makes the vibrator much less effective and shortens its life.

Poor material flow resulting from the old and improperly installed vibrators, caused lengthened batch cycle times and less efficient mixing when producing concrete. The longer batch times and resultant delays in production led to having to idle manpower.

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Solution

The AIRMATIC Product Manager recommended new, properly sized vibrators on the silos and provided engineering information on how they were to be properly installed. The existing vibrators were removed and replaced with ITALVIBRAS Rotary Electric Vibrators — installed in accordance with AIRMATIC drawings and specifications. The proper installation of the new rotary electric vibrators solved the material flow problem and unsafe practices such as climbing on conveyors, climbing ladders, or riding man lifts to get to the material hang-up were eliminated.

Conclusion

Installation of the new, properly sized vibrators mounted in the correct orientation improved material flow and decreased the length of concrete batch cycle time. This led to improved employee efficiency and fewer delays in completing customer orders. In addition, employees are no longer damaging the silo in a brute-force effort to improve material flow. The customer was delighted to finally have his material flow problems resolved.