



Best Solution For Conveying Steel Grit Vertically

Question

We are currently conveying steel grit, vertically 10 ft using a bucket elevator. The system does 8 tns/hr, the material weighs 235 lbs/cu ft. We are exploring using an auger for this application. Is this feasible?

Answer

Steel shot is extremely dense at 235 lbs/cu ft and very difficult to convey vertically. The bucket elevator you currently have in use is the best solution for vertically conveying extremely dense products. A vertical screw conveyor is capable of conveying the steel shot vertically, but the capacity loss due to gravity would be very high. The steel shot will fall through the gap between the screw and housing and slip back down the spiral face of the screw. Also, the horsepower requirements will be high due to the capacity loss and the tumbling action of the steel shot in the vertical screw conveyor. A bucket elevator keeps the steel shot "static" in the buckets, eliminating any tumbling action. Each bucket is filled and raised vertically to a discharge point. The horsepower requirements are much less.

Improvements can probably be made to your current bucket elevator to make it operate to your satisfaction. A knowledgeable mechanical conveying person could evaluate the bucket elevator and offer product improvements. Many options are available to increase capacity, reduce component wear or prevent downtime.



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