



Screw Conveyor Flight Failure

Question

I had a screw conveyor failure at my plant. A mixer that is downstream of a screw conveyor got plugged and material backed up into the screw conveyor. The screw conveyor kept rotating until the flights broke loose from the center pipe and the flights collapsed like an accordion. The screw had skip welds about every other flight on it. What other types of welds are available for conveyor screws that could prevent this failure from happening again?

Answer

Bulk material characteristics and application requirements determine the proper weld design for screw conveyor flights. KWS offers several welding options based on the duty of the application.



Typical Skip Welds are 2-Inch-Long Intermittent Welds on Every Other Flight

Skip welding is used for light-duty applications with free-flowing bulk materials such as grain. Typical skip welds are 2-inch-long intermittent welds on every other flight of the screw. Skip welded screws are very cost-effective and can improve delivery times, but they are not always suitable for heavy-duty or harsh applications.



Continuous Welding on Carrying Side Connects Flighting to Center Pipe



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Ask the Experts

Continuous welding on the carry side is recommended for applications with sluggish, wet, sticky, abrasive, or higher density bulk materials. The continuous weld connects the flighting to the center pipe for the full length of the screw on the carrying side where material is being conveyed. This design provides additional strength where the highest conveying forces are applied.



Continuous Welding on Both Sides Provides Maximum Attachment of Flighting to Center Pipe

Continuous welding on both sides is recommended for the most demanding applications. Welding both sides provides maximum attachment of the flighting to the center pipe and ensures that the flighting cannot be removed under the harshest conditions.



Screw Shown has Continuous Welding on Carrying Side and Skip Welds on Back Side of Flighting

KWS reviews every application and recommends the proper weld design for long life and reliable operation.



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