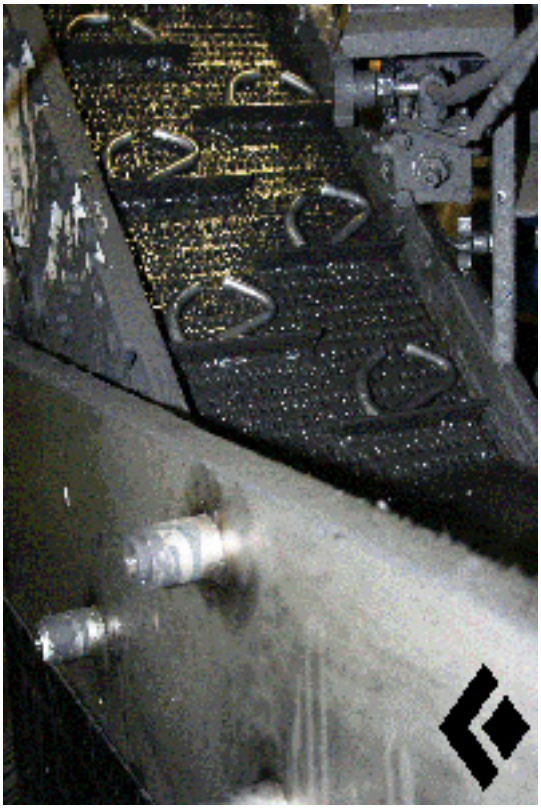
# Conveying In Hostile, Dirty Environments



In developing an automated system to lubricate aluminum parts for hot forging, Mike Will, Operations Engineer for Black Diamond Equipment, envisioned a Z-style conveyor as a central part of that system. Searching for a company that manufactures conveyor systems such as this, Will discovered Dynamic Conveyor Corp., manufacturer of DynaCon modular conveyors.

“Because the conveyor is such an integral part of the system I was developing, it was really important that I have access to a model of the conveyor early on in the design process,” Will says. “Other companies would give me a cost, but providing a finalized design or concept was several weeks out.” But because DynaCon conveyor systems use reconfigurable conveyor technology with modular components, Will says, “They were able to supply me with drawings and a model early on in the project.”

Prior to implementing the new system, the process of lubricating the parts before they went into the die was performed manually. “We had to manually dip them, and our cycle times made that a terrible use of human resources. There was a lot of idle time,” Will says. While determining how to eliminate the need for an operator to manually feed the process, finding a company with conveyor systems that could withstand the characteristics of the lubricant was one of the biggest concerns.

“As the lubricant sits in open air, it tends to build up on any surface near the water line. As the lubrication evaporates, the solids are left behind forming a kind of

sludge. This was a major consideration in how I approached the design of the entire machine, but particularly the conveyor," Will says.

Because DynaCon conveyors are self-lubricating and use a positive sprocket drive and tracking with the plastic link style belting that eliminates belt slippage, the conveyor systems that use reconfigurable conveyor technology are nearly maintenance-free.

"It's the way the conveyor's designed," Will says of the ability for the modular conveyors to withstand the lubricant. "There are not a lot of places for that material to attach to and in addition to that, the materials used in the DynaCon tend to prevent the lubricant from accumulating."

The recently implemented automated system links the DynaCon Z-style conveyor with an oven conveyor, so the operator is able to control both conveyors as a single system. The DynaCon conveyor, partially immersed in the lubrication bath, draws parts up out of the bath and feeds them into the oven conveyor.

"I'm impressed. Over six months of service, it's required no maintenance and it hasn't needed any cleaning, which is nice because given the option, most people would rather not mess with the lubricant we're using," Will says.

Will estimates the entire system will pay for itself within two years at current volumes. "[The conveyor] was surprisingly inexpensive given its capabilities. The conveyor is definitely carrying its own weight."

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*To see Dynamic Conveyor's product offerings, including animations of conveyor systems assembly, visit* www.dynamicconveyor.com *[1].*

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