

Overview

Belcan's client was undergoing a modernization program for their manufacturing systems. One of the areas targeted for improvement involved the application of uncured flux to welding rod. Belcan's role was to design and build new press rams for extruding the uncured flux material around bare steel welding rods.

Project Information

- Product: Flux-coated welding electrodes for the welding industry
 - Industry: Industrial Products
 - Key Technologies: Material Handling, pressurized systems, material dispensing
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Background Information

The client's existing equipment was nearing its end-of-life and needed to be replaced in order to maintain production. Key issues to be addressed with a new design included:

- Elimination of leakage during operation
 - Improve equipment serviceability
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Belcan Automation Approach

- An initial meeting was held at the client's manufacturing site to observe the existing equipment in operation, review issues to address, and understand the client's vision of success for the replacement systems
 - The Belcan team's approach included:
 - Assess the current machine deficiencies and generate concepts to address the problems
 - Present solutions to the client for feedback
 - Apply changes to the replacement systems to be built by Belcan
 - Test machine operation at Belcan prior to integration into existing production line
 - Support install and lead machine integration efforts at the client site
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Solution

After examining the existing machine design, the Belcan team recommended the following improvements for the new machines

- Alter the press ram profile features to allow for a suitable

“O-ring” seal to address leakage issues

- Redesign the press ram end cap such that a new high strength cap fastening system could be installed

Belcan implemented the design features into the design of two new extruding machines. The equipment was tested at Belcan prior to shipment

The Belcan team installed and integrated both systems into the client’s existing manufacturing system.

Benefits to Client

Client benefits from implementing the Belcan solutions:

- More robust / consistent manufacturing process
 - Reduce machine downtime
 - Increase machine yields
 - Improved serviceability and maintenance access
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Conclusion

By working with the Belcan technical team, the client was able to leverage the sound engineering principles that Belcan engineers apply to manufacturing process challenges.

The resultant new equipment is more robust than the previous systems, helping to put the client into a position to reduce manufacturing costs.
