

Strip Cleaning Brush Box

A Metals Case Study

The Application

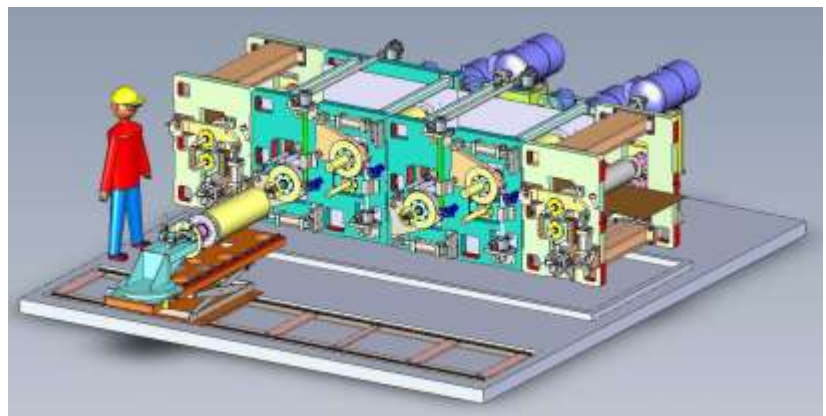
Surface finish quality is a significant factor in the manufacture of copper and brass strip. When poor process control and aging equipment take their toll on profitability, it is time for a change.

PCT was contracted by a manufacturer with multiple finishing lines to collaborate on the design and supply of an improved strip cleaning brush box. The objectives of the project included increasing the production throughput, reducing the amount of scrap caused by scratching, and improving the maintainability of the equipment.

The PCT Solution

PCT developed a control and automation scheme that provided for increased line speeds. The improved operation eliminated the need for interleaving paper and further strip processing. Changing of brushes was also automated so that a single operator can now change all of the brushes in a matter of minutes. Brush life has been improved by precise control of the brush speed and loading.

PCT's scope of supply included a review of the tensioning components and processes. The outcome was a recommendation to increase the rewind tensions. The primary process tension deficiencies were found to be associated with inaccurate unwind tension control, poor tension isolation from the rewind section, and inadequate tension in the rewind coil.



PCT recommended replacing the existing controls with AC motors and drives. The AC drive system chosen included a common bus arrangement. This design resulted in significantly reduced energy consumption.

The PCT Solution

In addition to the controls, a bridle roll assembly was implemented ahead of the rewind to amplify tension and provide isolation from the rest of the line.

The increased tension range allows this line to process additional products. Downstream operations also saw improvements when unwinding the coils that are now wound with higher, more consistent strip tension.



Customer Comments

“I wanted to inform you that we had a meeting yesterday afternoon (Engineering, Production, and Quality) for XXX to present his report on the qualification of the upgrade modifications on the XXXX Line. After the presentation, everyone one was in agreement that the modifications have accomplished everything we were expected to do. XXX has qualified the upgrades.

I would like to express my thoughts on how much I enjoyed working with the people at PCT. I was very impressed with the professionalism of your people and their focus on getting the equipment completed on time. To put this much equipment on the floor and running in less than 6 months is quite an accomplishment, and it should demonstrate to both your management, and ours, that everyone involved was doing their job. Your mission statement of ‘**Complete Customer Satisfaction**’ was certainly demonstrated on this project.”