

SSAB IN BORLÄNGE HAS ONLY HAD POSITIVE EXPERIENCE OF RELITOR'S SYSTEM ON METAL FINISHING LINE 2

After two years of running Relitor's passivation system on its Metal Finishing Line 2, SSAB reports only positive experience of the system. "Use of hexavalent chromium compounds (Cr6+, chromate) has been completely discontinued. Handling of hazardous chemicals has been reduced. And we have a custom-built system that is straightforward and functional. Furthermore, it outperforms the old system by far," says Christopher Gluch, project manager.



Here on the metal finishing line at SSAB in Borlänge, 330,000 tonnes of steel sheet is galvanized each year. 40 percent or about 130,000 tonnes of sheet is protected via passivation against transport damage. Since March 2006, after the Relitor Treatment System was installed, this has been accomplished entirely without the use of chromium.

"This was after less than six months after start-up, which is a very short time for a project like this. Especially considering the plant has been customized according to our requirements," says Christopher Gluch, who managed the project together with project and development engineer Olle Bäcklund.



"What's more, production was down for less than a week during the implementation. In other words, installation of the new system was virtually trouble-free."

As opposed to passivation during the coating stage, which is done at the beginning of the production process, passivation during galvanization is the final stage. During passivation, rollers apply a wet film to the sheet, which is then dried in a hot air dryer.

"After drying, the coating is less than one μm thick, which is barely measurable," explains Olle Bäcklund.

Passivation has been adopted as an alternative to oiling the sheet.

"The RTS system gives the sheet an incredibly uniform surface finish, despite the processing speed, which varies from 40 to 125 metres per minute," says Christopher Gluch. "This is far better performance than our old system."

Another advantage of the system is that the rollers can be changed without having to stop the line.

"Besides, the rollers do not need to be changed more often than every five or six weeks. The old system involved a long, hot and wet reaction in large chemical baths. The temperature is maintained between 70 and 80°C. This required a

lot of attention and the rollers had to be changed several times a week."

In addition, line operators are able to perform inspection and monitoring as well as fluid refilling and roller changing. The new system is much smaller and cleaner than the old one. Since the RTS system requires no pre-heating, energy consumption has also been reduced.

"We no longer have to handle the enormous volume of chemical mixtures that the old system required," adds Olle Bäcklund.

He points to the small vessel containing the chemical compound used by the new, closed system.

"Here, there used to be chemical tanks containing several cubic metres."

The only disadvantage that Christopher Gluch and Olle Bäcklund can think of is that the extensive safety equipment surrounding the RTS makes the plant somewhat difficult to inspect, for example, during troubleshooting.

"On the other hand, this has given us a safer working environment," concludes Christopher Gluch.



Advantages of the Relitor Treatment System on Metal Finishing Line 2 at SSAB in Borlänge:

- A simple, functional plant that outperforms the old system
- Chromium-free process
- Reduced energy consumption
- Easier care and maintenance
- Fewer and easier roller changes



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