

 CASE STORY /

## RAMÉN VALVES: A BRIGHTER FUTURE AFTER EXITING HARD CHROME PLATING!

*Sweden's Ramén Valves is a highly respected supplier to equipment manufacturers in industries as varied as food & beverage and mining & minerals. As a successful business of almost 80 years, it is adept at planning ahead to navigate a changing landscape. Part of this is an active sustainability programme to improve environmental performance, keep clear of regulatory risk and remain relevant among customers.*

With heightened awareness of the health and environmental dangers of hexavalent chromium and tightening REACH regulations, Ramén Valves knew it would need an alternative to hard chrome plating. But which alternative was best, not only in terms of hardening but also sustainability?

Magnus Alfredsson, strategic purchasing manager at Ramén Valves, led the investigation. He lays out the company's requirements. "Whatever process we selected it would have to harden at least as well as hard chrome plating, protect people and planet from toxic chemicals, and reduce our use of resources."



*"On wear performance, they showed us a decisive test that demonstrated they could deliver around 300 times less wear than standard vacuum hardening, Magnus Alfredsson - Strategic Purchase Manager, Ramen Valves."*

With these clear objectives, Magnus started to speak with suppliers. "We looked at all the various technologies," he says. "It wasn't long before we found a strong candidate."

### Decisive wear performance

"Expanite was very good at answering our questions and providing information," says Magnus. "On wear performance, they showed us a decisive test that demonstrated they could deliver around 300 times less wear than standard vacuum hardening."

The Expanite process offered a further practical benefit that Ramén found valuable: its suitability in situations where hard chrome is unusable.

To illustrate the point, Magnus provides an example. "If we choose to make our valves in SST316L to ensure compatibility with the media, then the compatibility is preserved with Expanite. But with hard chrome plating the media interacts not with the base material but with the chrome layer. This can lead to corrosion, making chroming unsuitable."

### No harmful chemicals

Having confirmed the performance and suitability of Expanite's process on paper, Magnus' attention turned to sustainability.



*"Expanite is one of the ways we can show we are reducing our footprint and differentiating ourselves from competitors. In other Nordic countries bigger companies are starting to ask about this too", Stephane Blanchet - Sales Manager, Ramen Valves*



"Of course, reduced wear is a sustainability factor in itself because fewer parts need to be replaced, but we also wanted a safe, low resource process. Hard chrome plating uses harmful chemicals like chromic acid, sulfuric acid, lead, lead chromate and lead oxide. It causes toxic waste. We were happy to discover that Expanite uses no harmful chemicals, only small amounts of nitrogen, ammonia and propene, and produces no toxic waste. It fitted our requirements perfectly."



### Making the switch

With Expanite identified as the best potential replacement for hard chrome, it was time to put it to the test.

"We started out with smaller internal parts, then larger components and applications in really aggressive environments," says Magnus. "Everything went smoothly, which gave us the confidence to begin the switch out of hard chrome plating. The whole process took almost a year."

### Attracting new customers

The Expanite process is part of Ramén's strategy for attracting new customers. "In Sweden customers are asking about our environmental impact," says Ramén's sales manager Stephane Blanchet. "Expanite is one of the ways we can show we are reducing our footprint and differentiating ourselves from competitors. In other Nordic countries bigger companies are starting to ask about this too."

"Looking at the future with all the regulations coming we are ahead of our competitors, and it will be expensive for them to catch up. We are already four years into our partnership with Expanite and expanding our cooperation".

### A safer, healthier future

Ramén's CEO Per Wennesten has the final word. Although the switch from hard chrome plating to Expanite has strengthened his company, for him it's more than business, it's personal.

"Who do you want to be at work?" he asks. "The choices you make at work may have an even bigger impact on the world than the choices you make at home. Both choices are important so be sure to make a choice. We're proud of our choice and that we're contributing to a safer, healthier future for everyone."





## About Expanite

Expanite is a Danish company specializing in heat treatment and surface hardening of stainless steel and titanium. Expanite has established itself as a pioneer and trusted partner in the industry. The sustainable and patented surface hardening processes improving galling, wear and corrosion resistance on stainless steel and titanium parts in a wide range of applications and industries. By prolonging the lifetime of metal products, effectively the making of new metal components can be avoided or at least delayed, and therefore also the extraction of raw materials. This reduces the climate impact measured over the service lifetime of products.

The company has its head office in Hillerød near Copenhagen and service centers and licensees in the USA, Germany, Korea, and China. Expanite's DNA is based on sustainable solutions to extend the life of components made of stainless steel, titanium, and other high-value alloys - and the business model allows for license agreements whereby customers may implement the technology in their production lines. [www.expanite.com](http://www.expanite.com).

