

## Expanite's surface hardening replaces tungsten carbide coating on stainless steel!

*Expanite – the Danish pioneer specializing in surface hardening of stainless steel and titanium—is widely replacing coatings in a variety of demanding applications.*

For more than 70 years, coatings, in their various forms, have been “the standard” to improve resistance towards wear, impact, and corrosion for stainless steel components in a great variety of industries, including food & beverage processing, oil & gas, aviation, transportation, industrial, and consumer products. However, in recent years several performance limitations associated with coatings have driven the engineering community, to seek better coating materials, as well as more cost-effective methods to apply them. Among the most promising alternatives is the patented Expanite hardening technology.

Recently, one of the world's leading manufacturers of precision nozzles and nozzle systems has converted from tungsten carbide coatings to Expanite surface hardening after experiencing quality issues with the coating cracking off. In cooperation with Expanite, they found a hardening solution that made the surface of the nozzles resistant against chipping, cracking, delamination, etc.

The specific customer performed field tests over a period of several months where the results from Expanite-hardened nozzles showed significant increased lifetime without any premature failure. Based on the test results, the conversion to Expanite hardening was implemented. Expanite's customer made the following statements:

- It is far less expensive to apply Expanite hardening compared than many of the exotic coatings – hence the conversion resulted in better performance while reducing cost.
- By the conversion from a coating to a diffusion hardening process, issues with adhesion were eliminated, again while getting superior wear and corrosion resistance.
- Expanite hardening includes short and flexible lead-times, and is an environmentally friendly surface hardening solution.

### **About Expanite A/S**

Expanite offers state-of-the-art solutions for surface hardening treatment of stainless steels and titanium. With Expanite's processes, it is possible to increase the material's surface hardness tenfold while at the same time maintaining and even increasing its corrosion resistance. Expanite has a combined development and production facility near Copenhagen, Denmark, and hardening capacity in the US, Germany and China. Expanite's solutions are flexible and can be introduced directly into a customer's own production line as part of a licensing arrangement. Learn more on [www.expanite.com](http://www.expanite.com).

