



FAQ

Q: Which materials and alloys can be treated/hardened?

A: Most stainless-steel grades incl. austenitic, martensitic, Duplex and ferritic. Titanium incl. Grade 5. Selective nickel-based alloys

Q: Which surface hardness values can be achieved?

A: Generally, it depends on the material/alloy. With SuperExpanite on stainless steel typically 1200HV0.05. With ExpaniteHigh-T on martensitic and ferritic alloys typically 650 to 900HV0.05. With ExpaniteHard-Ti on titanium typically 1000HV0.05.

Q: Does the high hardness cause brittleness?

A: Generally, no, but in very thin-walled components (less than 0.5 mm) it can.

Q: Is the corrosion resistance affected?

A: Corrosion resistance is depending on many elements; the selection of alloy, machining, hardening, application, etc. In many cases, Expanite hardening is improving corrosion resistance compared to alternative hardening processes, and in many cases also compared to a non-hardened reference. Generally, corrosion resistance is not reduced.

Q: Which diffusion depths can be achieved?

A: For the Low-T part of SuperExpanite, between 5 and 35µm and for ExpaniteHigh-T up to 2mm but typical 3-500µm. ExpaniteHard-Ti on titanium, in the range 20 to 80µm

Q: What are the maximum treatable dimensions and weights?

A: 1m is the maximum length we can handle at the moment, and maximum 300kg

Q: What are the minimum treatable dimensions and weights?

A: No – none

Q: Is the whole surface area treated?

A: Yes. The hardening gasses stubbornly gets everywhere and as a consequence every exposed surface gets hardened

Q: Is bulkware treatment possible

A: Yes, as all Expanite processes are gas-based, and the gas truly gets everywhere, parts can be treated as bulkware. Single-piece handling is naturally available if required for sensitivity reasons

Q: Is a selective treatment of certain surface areas possible?

A: No – the gasses will go everywhere

Q: What is the delivery time?

A: The standard is 6-9 working days counting from when parts arrive at Expanite, but since processing is an overnight event, lead times down to 2-3 working days can be offered against express fees

Q: Will the color change?

A: The color of the part is not changing, but the surface becomes slightly rougher which affect the light reflection, thereby causing the appearance to be more dull and/or greyish



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Q: Is it possible to get documentation?

A: Yes, we have excellent lab facilities and can provide you with detailed laboratory reports with hardness measurements and micrographs if needed.

Q: Are you ISO certified?

A: Yes, Expanite's sites are all ISO-certified according to ISO9001:2015.

Q: Does Expanite offer FDA compliant treatments?

A: Yes. Analyses done by external research institutions confirm that SuperExpanite on austenitic AISI316 is compliant with FDA regulations.

Q: Do you treat other materials than stainless steel, and titanium?

A: Not really; Expanite is focusing primarily on hardening and heat treatment of stainless steel and titanium.

Q: Can you handle uncleaned items?

A: Yes, we have delicate cleaning equipment to handle cutting oils etc.

Q: What's the price for a test?

A: Typically, trials start with min. €300-500 incl. lab work – but it depends on your specific requirements.

Q: What's the price for running production?

A: In order for us to make a formal quotation we need to understand your parts (via a drawing), your requirements and batch sizes or yearly volume.

Q: How do I select the most appropriate treatment for my application?

A: Our expert team will make sure that your items gets the right treatment – just let us know what material/alloys you are using as well as information on your application and potentially any specific requirements.

Q: What are the unique benefits of Expanite?

A: Most importantly, Expanite processes have faster lead-times, better corrosion performance and are typically competitive in price compared to alternative stainless steel hardening processes available on the market.

Q: Does anyone else offer an equivalent to the Expanite processes?

A: No – you can only get Expanite hardening processes from Expanite. Most of our processes are patented and we have 10+ years on know-how built into our technology.

Q: Do I need to pre-clean my parts prior to sending them to Expanite for surface treatment?

A: Yes, please. Expanite can offer to clean/wash your parts prior to hardening but all quotations/pricing is assuming that parts are delivered cleaned to Expanite unless agreed differently.