

CASE STORY

Grinding and Polishing | Siemens Industrial Turbomachinery AB

New Method Reduced Preparation Time From 60 to 11 Minutes for Siemens Industrial Turbomachinery



Swedish Siemens Industrial Turbomachinery AB had trouble preparing a new material titanium. The preparation time was far too long, and the surface was full of scratches. At Struers TPM course, they learned a completely new method, which resulted in what a highly experienced colleague called the best samples he had ever seen.

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Precision Cutting | Siemens Industrial Turbomachinery

Challenge

When Siemens Industrial Turbomachinery AB started using titanium, they did not know much about the grinding/polishing process. With this material, they could typically prepare only two to three scratched samples per hour. They wanted to produce scratch-free samples, quickly.

Solution

Mikael Berggren, Laboratory Technician at Siemens Industrial Turbomachinery and a colleague, participated in [Struers TPM](#) (The Professional Materialographer) course, where they learned a completely new method.

Results

Preparation time was reduced from up to 60 minutes for two to three samples to just 11 minutes, and surface scratches were reduced significantly.

[Swedish Siemens Industrial Turbomachinery AB](#), which supplies complete power plants and produces gas turbines, was introduced to a new materialographic challenge, when they started working with titanium related to their production of land-based turbines.

Not Much Experience with Titanium

"When we started using [titanium](#), we did not know much about the [grinding/polishing](#) process with this material. We tried different things, but we could typically prepare only two to three samples per hour, and the samples would be severely scratched on the surface" explains Mikael Berggren, Laboratory Technician at Siemens Industrial Turbomachinery.

New Method Reduced Preparation from 60 to 11 Minutes

"Then we went on a TPM (The Professional Materialographer) [course](#) at Struers and received help. A Struers application specialist completely changed our method – and with that, we reduced the preparation time from up to 60 minutes for two to three samples to only 11 minutes. One of our colleagues, who has worked with titanium for several years in large companies, told us that these were the best samples he had ever seen!"

"Efficiency is essential to us. Our sample preparations need to be presented to decide whether to proceed or not, within just a day of notice.

Fast Support and Delivery of Spare

Mikael Berggren has worked at Siemens Industrial Turbomachinery AB for 12 years and the last 1.5 years as a laboratory technician. At the lab, 10 to 15 people work with the materials superalloy (nickel alloys) and [titanium](#), which the company uses to produce components for gas turbines. The number of samples prepared differs every day, but on average 40 samples are being prepared every week and mounted in Bakelite and Epoxy, for example.



“The knowledge we got from the Struers specialists and courses are benefiting us greatly.”

Mikael Berggren,
Laboratory Technician – Siemens Industrial Turbomachinery

For Siemens Industrial Turbomachinery AB, one of the most important things about working with Struers is the strong [support](#) and quick delivery of spare parts.

"On one occasion, we had problems with a machine. Struers service technicians recommended that the machine should be sent to Struers for repair. I was nervous, thinking that this would be a long process and hassle, but I was surprised. We shipped the machine on a Monday, and it was ready for us to use on Wednesday morning. It was very efficient and worked out smoothly. I was very impressed." Mikael says.

Struers TPM Courses Are for Everyone

"Everyone can use a Struers machine. You spend 10 minutes being instructed, and then you know how to use the equipment."

"The knowledge we got from the Struers specialists and courses are benefiting us greatly." Michael says.



About Siemens Industrial Turbomachinery AB

[Siemens Industrial Turbomachinery AB](#), based in Finspång in northern Östergötland Sweden, supplies complete power plants and produces world-class gas turbines with high efficiency and low emission levels. Siemens Industrial Turbomachinery employs 2,800 employees and has a turnover of approximately SEK ten billion.

Struers TPM Basic

This is a training course that covers all materialographic processes from sectioning to microscopy, from both the theoretical and practical perspectives. The training includes lectures and lab work, including work on the participants' samples.

Struers TPM Advanced

This training course focuses on solving typical challenges in Materialography. The training includes lectures in both troubleshooting methodology and practical work where customers' challenges and samples are the focus.

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