



# The **TURNER & COATES** 14<sup>OVER</sup> YEARS OF EXCELLENCE AS STANDARD **Global Examiner**

Running the rule over domestic and international business since 1880!

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## Our relationship with Ovako forges ahead!



**Increasing efficiencies:** Ovako's current Vacuum Tank Degassing facility located in Smedjebacken has helped streamline operations and reduce carbon footprint.

**We have been working on behalf of one of Europe's leading manufacturers of engineered steel, providing full inspection and expediting services across the process equipment for their Vacuum Tank Degasser (VTD) in Hofors, in Middle Sweden.**

Ovako's new Vacuum Degassing facility complements its production plant in Smedjebacken, Central Sweden, and will improve and enhance the properties of the steel it manufactures and distributes worldwide. In turn, it is anticipated that the company's new VTD site in Hofors will enable more efficient production of specialised steel grades.

Our association with Ovako stretches back to 2013, and this latest project has seen us visit different workshops

and facilities across Europe, contracted by German-based plant construction and metals industry process specialists, the SMS Group.

**OVAKO** Our locally based inspectors were employed in Turkey, where they assessed and tested the heat shield, splash shield and bag filter.

Our engineers located in Italy travelled to Brescia, in the north of the country, to inspect and expedite

the Vacuum Tank System, including its electrical panels.

Finally, our Polish engineers visited a site in the eastern city of Siedlce to inspect the manufacture of the VTD Working Platform, walkways, stairways, suction lines and supports, as well as the piping bridge and other structures.

"We have been working with Ovako for more than a decade," says our MD, Neil Coulborn, "with previous inspection and expediting projects including a new Continuous Casting Machine and new EAF Tilting Platform. We were also involved in the upgrade of the Smedjebacken plant back in 2018/19. Ovako is a key client for us, *(continued overleaf...)*

**Contact us now on +44 (0)161 660 8656 to discover how we could help your business!**

**For total inspection, expediting and management systems implementation and auditing solutions, a FREE copy of our brochure or a no-obligation quote, call now on 0161 660 8656 (within UK) or +1 (404) 462 5729 (from North America)!\***



## Diverse industry expertise and experience



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Neil Coulborn - MD, Turner & Coates Ltd.

and an excellent business to be involved with, and we look forward to working with them again in the near future.”



### What is Vacuum Tank Degassing?

Vacuum degassing is a crucial, intermediate step that takes place between molten steel leaving the ladle furnace and being cast.

The VTD unit is effectively a giant vacuum cleaner that allows the production of steel with enhanced properties, by sucking dissolved gases such as hydrogen, oxygen and nitrogen from the melt, leaving only minimal quantities behind.

Hydrogen in particular is the enemy of steel. It has to be removed to prevent the two potential issues of hydrogen embrittlement and delayed cracking. The delayed cracking can occur some time after casting, when individual atoms diffuse through the steel to tiny voids, where they combine to form hydrogen molecules.

This gas creates localised pressure that can increase to the point where



**Key client:** Turner & Coates has been working with Swedish steel manufacturer Ovako since 2013.

the metal has reduced ductility and tensile strength and can, eventually, crack open.

In addition to hydrogen, the Vacuum Tank Degassing process removes oxygen and nitrogen. Oxygen removal is especially important as it forms non-metallic inclusions that impact the fatigue strength of the steel.

Controlling distribution sizes of these inclusions is central to the creation of Ovako's clean steels, that deliver

consistent quality and improved fatigue strength.



### Streamlined Processes

The existing VTD at Smedjebacken has already been successful in streamlining what was, previously, a long process, with the new plant at Hofors set to result in further efficiencies in the future.

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