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STAHL CraneSystems in steel production

CraneBuilders' new grab crane defies heat and dust

There is a buzz of activity in the chilling shop of Nedstaal in Rotterdam. The in-house locomotive arrives every few minutes and brings moulds with red-hot, fresh-cast steel. The casting moulds, or chill moulds, are unloaded here to cool down, opened, cleaned and stored temporarily. Two grab cranes travel under the building's ceiling and load and unload locomotives and lorries around the clock. A bright yellow crane stands out against the grey of the shop. It was erected here just a few weeks ago by STAHL CraneSystems' Dutch partner CraneBuilders. "Nedstaal needed a particularly robust and reliable crane in this environment," says René Rohde, CraneBuilders' project manager, and explains: "Our crane system works with STAHL CraneSystems wire rope hoists and a grab with an off-standard rope bracing system. By working together and making use of the versatile German crane technology we were able to develop the ideal crane system for our customer."

Nedstaal produces high-quality steel for steel treatment companies. Its core business is made-to-order small batches of 30 to 50 tonnes. Steel is not just steel: Nedstaal is able to produce hundreds of different types of steel depending on the composition of the raw materials and the processing. Both the individually produced steel grades and the short delivery times are of crucial importance for the company's success and depend on a high material throughput in the production chain and requiring reliable technology.

The new crane in the front section of the building is equipped with a grab for picking up steel cylinders safely and quickly. The grab is lifted and lowered by two wire rope hoists mounted on a double rail crab. In this type of grab solution, extremely high forces act on the rope drum and cause the rope and rope guide to wear quickly. Short maintenance intervals and unplanned downtimes would be the result of this.

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"We worked together with STAHL CraneSystems and developed a low-wear solution with two wire rope hoists specially adapted to this application," says CraneBuilders' Marco Lindhout. "Our design means that the grab can be moved absolutely vertical and without rotating, even if there is a slight asynchronism or one of the hoists comes to a stop," Lindhout continues. A sophisticated rope bracing system at a set distance below the wire rope hoists makes this possible. "The customised rope reeving over several sheaves holds the load free of oscillations during travel and the angled ropes have a stabilising effect," Peter Kittsteiner explains, who as STAHL CraneSystems' Area Sales Manager was involved in developing the solution. This also avoids stress on the rope drum caused for example by diagonal pull. "Sometimes you don't need that much technology – a lot of problems can be solved intelligently and extremely efficiently with plenty of experience and the right idea," Marco Lindhout is pleased to report.

Steel production is energy-intensive, but Nedstaal tries to conserve resources wherever possible – on the crane too. Project manager René Rohde explains: "Our crane control feeds the energy produced by frequency inverters and brakes back into the grid, so we can reduce the crane's total energy consumption."

To enable the crane to function trouble-free in spite of the high build-up of dust, CraneBuilders decided to use two AS 7 wire rope hoists from STAHL CraneSystems. The robust hoists are regarded as particularly reliable, they are low-maintenance and have no trouble coping with high ambient temperatures and adverse conditions. Rohde says, "The AS 7 was the best product for this project. STAHL CraneSystems was able to customise the wire rope hoists for our design, installation was simple, commissioning unproblematic, and the crane has been running since without incident – in spite of the thick layer of dust which has built up on the crane in just a few weeks."

The successful collaboration between CraneBuilders and STAHL CraneSystems has a long tradition. CraneBuilders emerged from STAHL CraneSystems' Dutch subsidiary as an independent crane builder and together with its sister company CraneSolutions has grown into one of the Netherlands' leading crane builders. The company is based in Katwijk, 20 km north of Den Haag. Its customers include industrial enterprises in the Netherlands and abroad, but also shipyards or companies producing offshore installations.

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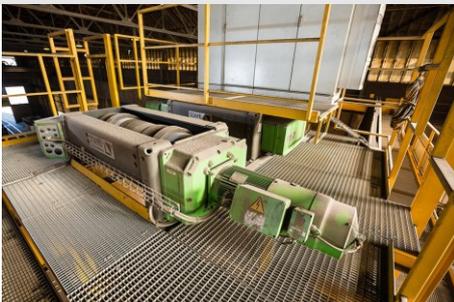
Photo material (lead and detail photos):



The bright yellow crane still stands out from the rest of the building.



The crane operator controls by radio the massive grab with which the cylinders of fresh-cast steel are lifted.



A thick layer of dust has built up on the crane in just a few weeks. The dust is not a problem for the robust AS 7 wire rope hoists from STAHL CraneSystems.

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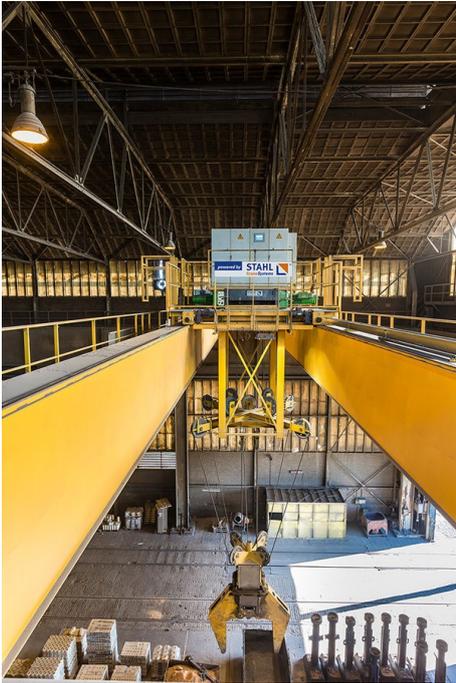


Sophisticated technology from the Netherlands: the rigid rope bracing mounted under the crab can lift the grab vertically and without rotating. Even diagonal pull does not cause increased stress or premature wear on the wire rope hoists.



Caution, hot! Working in the building is tiring and demanding.

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Crane technology from STAHL
CraneSystems provides cost-effective
and low-maintenance operation of the
crane system at Nedstaal too.