

MULTISERV

The market for heavy trucks is buoyant; demand has increased nearly 30% over the last two years. Yet heavy handling operations have unique challenges which place considerable demands on the trucks. Cooper SH has worked with steel mill services provider, MultiServ, to introduce a new application for heavy machines which has revolutionised the steel production process.

MultiServ provides a wide range of outsourced mill services throughout the metals industry and handles the steel mill services for Corus Engineering Steels. When Corus introduced a new casting operation at its site in Rotherham, MultiServ turned to Cooper Specialised Handling to provide the solution for handling and processing the high grade steel. Through eliminating overload and impact and improving picking accuracy MultiServ has been able to achieve what seemed an impossible objective of increasing throughput and simultaneously eliminating damage.

Innovative Handling

In the steel stockyards semi-finished product needs to be handled quickly and moved from stillages to side pens ready for final production processes in the rolling mill. MultiServ wanted to maximise throughput and reduce damage costs. In order to achieve this, Cooper SH modified two 54 tonne SMV machines to incorporate a newly designed magnet system to lift the steel. A hydraulic powered unit is installed discreetly on the back of the trucks, fed from the truck's main hydraulic pump. This magnetises a spreader beam attached to the mast carriage which lifts 18 tonnes of steel blooms, at temperatures up to 450 degrees.

The result is a revolution the way the steel is handled. The magnetised beam lifts the steel using very little abrasive contact compared to traditional lifting whereby the forks are inserted underneath the blooms, which can pull and scrape on the product. The magnetised handling also increases the speed and accuracy by which the blooms are handled.

“Using this new magnet technology, we can handle 600,000 tonnes of steel a year with just two trucks, that’s a 50% increase on what we were previously achieving,” comments Stuart Whitbread, asset manager at MultiServ. “But this system has given us an even bigger breakthrough in our operation. It has removed our damage costs completely. The benefits are priceless; it is impossible to estimate how much money this will save us over the lifetime of the equipment.”

Increasing Productivity

MultiServ identified two key activities that can have a big impact on productivity in the handling of heavy materials: overload and accuracy of picking. By carrying loads that exceed the capacity of the machine, running costs are increased and damage can become an issue. The magnet technology prevents this by limiting the weight of what the operator can pick up. And because of the beam’s position on the heel of the forks accuracy of alignment over the bloom is improved. Not only is the magnet totally reliable in retaining the load, the unit itself is discretely built in to the truck and does not affect the handling capacity or visibility for the operator.

High performance steel needs to be handled safely and accurately, and a bespoke machine was needed to move steel from the caster to the cooling stillages. The challenge for Cooper Specialised Handling was to design a truck that met the needs of this special application.

Brian Kilminster, senior operations manager at MultiServ, explains the challenges, “We needed a forklift that could handle up to 40 tonnes of steel at temperatures of up 800 degrees. Cooper SH and their design engineers spent a lot of time on site talking to our operations people in order to design a unique truck that was perfect for this new process. We needed to ensure that the forks could handle both the weight of the steel and exposure time to the high temperatures.”

Cooper SH designed a special seven fork carriage attachment for the two 60 tonne machines. To ensure the forks could handle both the weight of steel product and exposure time to extreme heat, the forks had to be specially manufactured and heat treated. Each fork as a 12 tonne capacity and the 13 metre spread ensures that the valuable casting isn't compromised in any way.

Getting Operators On Board

Operators are an increasingly influential group in the choice of machine and, with over 70% of materials handling costs associated with drivers, highly trained and responsible drivers can significantly affect the efficiency of operation. From the outset MultiServ wanted to get the operators to take ownership of the new equipment and treat the trucks with care and respect, instead of the neglect and abuse that is typical in such applications. The operators were hand-picked for the new operation and were even sent out to Sweden to get involved in the design process.

Peter Astley, sales manager at Cooper SH, explains, "This early involvement has meant that the drivers have got real pride in the trucks: they treat them like they would their own cars. They clean them regularly and conduct daily shift checks to keep the trucks in safe and efficient running order. But I believe this attitude also impacts on how they handle and drive the trucks, which helps to keep the site damage free."

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