

Outokumpu, Hot rolling mill in Avesta, Sweden



Stainless steel is hard to replace because of its unique and varied properties. It can also be recycled, which is a huge environmental benefit.

“We value pulse encoders with a long useful life

At Outokumpu’s hot rolling mill in Avesta they have chosen Leine &Linde products for speed control and position control. The mill produces top-quality stainless steel – a task that demands as safe and problem-free production process as possible.

Stainless steel accounts for 5 per cent of the world’s steel production and is the fastest growing metal market. Stainless steel has many advantages: corrosion resistant, strong, hygienic, aesthetically pleasing, and recyclable, with low life cycle costs. The company’s products are used for everything from cutlery and razor blades to chemical processing factories and oil rigs.

Outokumpu is an international company and one of the largest manufacturers of stainless steel in the world with activities in 30 or so countries.

At one of Outokumpu’s plants, the hot rolling mill in Avesta, they are concentrating on producing steel strip from huge stainless steel ingots or ‘slabs’.

Proud traditions

Excellent natural resources mean there has been iron and steel production in Avesta since the 1300s. Over the centuries, both copper and steel have also been manufactured in the area. Stainless steel production began in the early 1900s, and by 1915 the material had been patented in England. Sweden began producing stainless steel products back in 1922.

Production picked up in 1990 thanks to the construction of the Steckel mill. This proved to be an excellent investment. It was now possible to hot-roll duplex grade steel – the special steel that today is one of Outokumpu’s

industry-leading products. Duplex stainless steel is much stronger and offers better corrosion resistance than traditional stainless steel grades. It also contains less nickel, which provides a price advantage. Outokumpu has a 50 per cent share of the total global market for duplex stainless steel.

Leine &Linde’s pulse encoders prove a hit at hot rolling mill

The production line at the hot rolling mill uses a number of encoders from Leine &Linde. Most are used in controlling speeds and the robust 861 incremental hollow shaft encoder is a popular model. The ‘shear’ that cuts the strip is fitted with a Leine &Linde 13-bit absolute encoder that is used to check positioning.



Mikael Larsson, Outokumpu Hot Rolling Mill in Avesta.

suppliers makes keeping things in check easier, but that’s not the only reason for choosing the brand. Mikael Larsson says that the quality and use-

ful life of products, above all else, is incredibly important. Electrical manager Mikael Larsson, who works in the hot rolling section, explains that they chose Leine &Linde encoders a few years ago during an efficiency drive involving store and warehouse systems. Naturally, fewer items and

ful life of products, above all else, is incredibly important.

”The hot-rolling environment is extremely tough. Pulse encoders must withstand dirt, oil, high temperatures, vibrations and shock,” he explains.

”We are very pleased with Leine &Linde’s encoders and cooperation. The products have a long useful life and are easy to install. Previously, shaft encoders were used that were tricky to install. Installation problems are largely a thing of the past since we switched to the hollow shaft models!”

The stainless steel strips and sheets have a high alloy content and are heat-resistant. The tiniest defect can be disastrous, and top quality is what counts at Outokumpu.

”The right speed feedback is particularly important for the quality of stainless steel,” concludes Mikael Larsson.

OUTOKUMPU

Company: Outokumpu Hot Rolling Mill
Location: Avesta, Sweden
Production: Stainless steel
Employees: 120 people (Hot rolling section)
1 000 people (Total steel production at Avesta)
Production capacity: 1 million tons of hot strip

