

Stressometer successfully installed and commissioned at Sapa Heat Transfer

Sapa's aluminium 2-stand rolling mill revamped and running with two Stressometer 7.0 FSA flatness control systems



Sapa Heat Transfer is the world's second-largest manufacturer of clad-aluminium heat-exchanger strip for the automotive industry with a market share of approximately 16 per cent. Heat-exchanger strip is, among others, used for producing different types of radiators, evaporators, air-intake coolers and condensers for passenger cars and trucks. The heat-exchanger strips are manufactured at the plant in Finspång, Sweden and in Shanghai, China. (For more information, visit www.sapa.se)

What has been achieved? We asked the Manager for Process Development Rolling, Mr. Niclas Gustafsson:

"After the Stressometer installation we can definitely justify the investment. Improved quality, higher speeds, shorter lead times, less transport and also a productivity gain; one single operator takes care of two roll stands and can run the mill by himself".

Before the Stressometer Systems were installed Sapa had to run the mill according to fixed parameter patterns resulting in uneven flatness quality, which could create difficulties downstream. In order to gain higher productivity and better flatness Sapa conducted a thorough evaluation and found that there were major benefits by investing in a flatness control system. But, there was one obstacle to overcome; the issue of insufficient-space-available had to be solved first. Sapa took a quick deci-

"The rolling runs much easier with the new flatness control installations. We can mix hard and soft material, wide and narrow coils and the results are very satisfying".

sion and undertook an extensive reconstruction of the mill in order to create space for the flatness systems. The concrete floor was broken up and the coiler was moved 1.5 meters away from the rolling mill. Other units, like operator cabin and coil car, were also moved at the same time.

In conclusion, the Stressometer System installations have contributed to important productivity gains at Sapa Heat Transfer; by minimizing strip breaks, by improving the yield and by shortening the production cycle by 10 %.



Supplied equipment

ABB Force Measurement has supplied the following to the 4-hi tandem 2-stand, non-reversible CRM, break-down mill. (after flatness system installation also for finishing)

Exit stand

- One Stressometer 7.0 FSA flatness control system
- One Stressometer 34 measuring zones standard roll, diameter 313 mm

Inter-stand

- One Stressometer 7.0 FSA flatness control system
- One Stressometer 34 measuring zones standard roll, diameter 313 mm
- One Millmate strip tension system, Pillow-Block Tensiometer System
- *Each stand has its own control*

The Stressometer 7.0 FSA system delivery includes differential bending, skewing and pulse-length control for the Grip cooling system. A short commissioning time was needed and the last tuning of the equipment took place before setting the mill in full production.



"It is very easy to run the mill now; you feel secure and don't miss anything, even in harsh rolling conditions with heavy steams. It definitely feels like you are doing a better job", comments mill operator Mr. Hans Karlsson. "You also have full control of both exit and inter-stands via the dual screens".

Mill data	4-hi tandem 2-stand, non-reversible CRM
Rolled material	Wide mix of Al + Al alloys and Al 3003 most common
Tonnage/year	120 000 tons
Coil weight	9 tons
Backup rolls	1120 - 1060 mm
Work rolls	385 - 355 mm
Mill motor stand 1	1500 kW
Mill motor stand 2	2000 kW
Max. rolling speed	400 m/min
Acceleration time, min.	5 seconds
Deceleration time, min.	5 seconds
Strip width min.	900 mm
Strip width max.	1600 mm
Exit strip thickness min.	0.2 mm
Exit strip thickness max.	4.0 mm



ABB Automation Technologies AB

Force Measurement
S-721 59 Västerås, Sweden
Phone: +46 21 34 20 00
Fax: +46 21 34 00 05
Internet: www.abb.com/pressductor