



Premiere at ALUMINIUM 2018

Slitting of thin aluminium strips

Heinrich GEORG Maschinenfabrik: “Please do not touch” – Vacuum protects the good side

New vacuum technology guarantees high surface quality.

Kreuztal, Germany, 4 December 2018 At the Aluminium 2018 show in Düsseldorf, GEORG presented its new vacuum braking roll for slitting lines for the first time to the public. The new roll was developed specifically for strips that have to meet extremely exacting surface quality requirements. While coming with a new energy-saving vacuum technology, the new roll enables high strip speeds and optimizes the recoiling of difficult-to-process strips.

In slitting lines, braking units arranged ahead of the recoiler are often fitted with rollers, felt pads or belts which are pressed against the strip from below and above. However, especially when slitting strip for applications that demand surfaces of highest quality, these methods entail the risk of leaving marks on the “good side” of the strip. Moreover, the felt pads are subject to intensive wear and have to be replaced at short intervals. All this impairs the productivity of the line.

At the trade show, GEORG presented its advanced vacuum braking unit, which achieves the braking effect by sucking the lower side of the strip against the braking roll. The upper strip side remains completely untouched, ruling out any risk of damage by mechanical components.

One of the innovative features of the unit is the possibility of setting the angle of aperture around the circumference of the roll within wide ranges: Depending on the wrap angle, the aperture may cover between 60 and 180 degrees of the roll circumference, allowing the strip tension to be flexibly adjusted to the specifics of the strip processed. Together with the high-precision regulation of the vacuum pressure, the roll thus achieves optimal recoiling with varying strip types and under varying conditions.

Additionally, only those sectors of the roll length covered by strip will be activated. In this way, GEORG achieves a dramatically lower energy consumption than conventional vacuum-based braking systems.

GEORG has developed the vacuum system specially for strip thicknesses between 0.08 and 0.8 mm. It is suitable for all customary widths of cold rolled aluminium strip. GEORG is currently manufacturing a slitting line with the new technology for an aluminium producer in Asia. The line will be designed for up to 2,150 mm wide strip.

The slitting line will process slit coils in widths between 15 and 2,140 mm and outside diameters of up to 2,800 mm. The slitting line has been specifically designed to recoil the slit strip at speeds of up to 600 m/min. A transfer car guides the individual slit strips automatically to the recoiler. This solution makes for smooth transfer and threading of the slit strips, and extremely short coil-to-coil times.

Antonio Garcia, Head of GEORG’s Finishing Lines Division, explains where his customers can save costs: “With the newly developed vacuum technology, our customers achieve tangible savings on energy and they can expand the range of strips processable in their slitting units. Also the



maintenance effort is much lower compared to other systems because the braking system contains no parts subject to wear.”

The vacuum equipment will be installed below the shop-floor level in a sound-proof compartment next to the looping pit, so that the noise produced by the equipment is hardly heard on the shop floor.

530 words including introduction

About Heinrich GEORG Maschinenfabrik

GEORG is a worldwide well-reputed partner for reliable and powerful high-tech engineering solutions. The company’s cutting-edge finishing lines and machine tools as well as production lines, machines and equipment for the transformer industry are in operation in numerous renowned companies around the world.

The various product areas of the family-owned company, which employs more than 480 people and is now in its third generation, cater to most diverse markets and companies throughout the world.

The divisions GEORG Finishing Lines, GEORG Transformer Lines and GEORG Machine Tools are supported by the company’s own manufacturing facilities at the headquarters in Kreuztal, Germany. The company maintains a worldwide network of sales and service branches to be within easy reach for its international customers.



GEORG Finishing Lines

The Finishing Lines Division develops and manufactures advanced plants and equipment for strip slitting, cutting to length, side trimming, inspection and recoiling. The range of machinery produced covers all process steps from the downcoiler to the finish-packed coil or sheet. GEORG finishing lines are characterized by long-term efficiency, extremely short set-up times, easy operation with minimal HR requirements and perfect, process-controlled operation.

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Figures:

High-resolution image files are available for downloading at: [Photos Georg](#)

<p>Fig. 1: The lower side of the strip is sucked against the braking roll by vacuum, while the top side has no contact with any mechanical components.</p> <p>File name: Georg Vakuumrolle TechFair.jpg</p>	
<p>Fig. 2: A slitting line with the new technology, which GEORG is currently manufacturing for a customer, has been designed for up to 2,150 mm wide strip.</p> <p>File name: Georg Vakuumrolle d.jpg</p>	

Photos provided by Heinrich Georg Maschinenfabrik