MEASURING SYSTEMS
FOR THE STEEL INDUSTRY
In the steel industry, measurement systems have to prove reliable every day under difficult operating conditions. Through decades of experience, our engineers understand these conditions and know how to protect measurement systems to keep them working. Outstanding sensor technology, mechanical stability, shock and dirt resistance, thermal insulation, cooling systems, and easy maintenance contribute to the overall performance of the systems.

More than just sensors
Specific needs of production processes and related production lines often require individual adaptation of a measurement system. Because of this, we offer single-source systems, from sensors through mechanics, electronics to software, and finally integration into the process. You are dealing with a single contact and clear responsibilities during the entire project. Close cooperation between LAP and their customers guarantees short installation cycles and high operator acceptance.

Leading in new technologies
Quality demands on flat and long products are rising continually. Consequently, LAP is permanently refining and developing its systems. The RDMS profile gauge as an example is worldwide accepted to measure the true profile of long products. It’s patented technology detects and measures all relevant shape defects precisely, namely three-lobe shapes and asymmetric fill. This patented technology provides reliable data for modern rolling technologies such as 3-roll stands.

Why are we successful?
We listen to our customers.

LAP measuring systems help to raise the quality of your products, increase the throughput of your plant, and improve the efficiency of your production. Ask us to measure any dimension of long or flat products – we will find a solution.
FLAT PRODUCTS

CONTINUOUS CASTING
- Width
- Thickness
- Side profile
- Position

LAP systems will optimize the casting process and control the cut-to-length operation. Precise readings of slab width, side profile, thickness, and length allow exact determination of the slab weight and to document the output of the caster. In subsequent production stages these slabs can then be easily allocated to the customer orders on hand. Measurement of the slab position on the charging side and inside of the reheating furnace ensures optimal positioning of the slabs and maximizes throughput of the furnace.

STRIP ROLLING
- Width
- Thickness
- Flatness
- Speed
- Edge tracking
- Coil side profile
- Coil diameter

Measuring the strip geometry in hot and cold rolling with LAP measurement systems allows mills to produce strip to the exact dimensional and flatness specifications of the customer, resulting in a smooth and efficient operation. Laser Sensors mounted at the coilers precisely measure diameter and side profile of the coils. LAP systems utilize optical sensors to measure thickness, width, speed, etc. They can be installed with minimal effort, and do not require expensive safety precautions as some technologies.

STRIP PROCESSING
- Width
- Thickness
- Flatness
- Sag/Slack

Regardless if you are annealing, hot dip galvanizing, or coating in strip processing lines, width, thickness and flatness are essential quality parameters. Measurement of sag allows precise control of the strip run and can therefore optimize the strip treatment. On exit of the plant, all strip dimensions and flatness are completely documented.

PLATES ROLLING
- Thickness
- Width
- Length
- Side profile
- Flatness
- Outline
- Crop shape

LAP systems measure dimensions through all production stages from the slab to the finished plate. Length, width, taper, necking and curvature results are available immediately, and are archived for each plate. The LAP Croptimizer minimizes the crop losses, optimizing the yield of every rolled plate and optimally allocating the plates to the customer.
LONG PRODUCTS

CONTINUOUS CASTING
- Thickness
- Width
- Length
- Position

LAP systems are used for measuring the thickness, width, and length of the continuous casting strand to determine dimensional correctness. The results of these measurements will be used to optimize the casting process and to control the cut-to-length operation for slabs and billets. Measuring the position of the billet before it enters the reheating furnace helps to control the charging of the billet, optimizing furnace utilization and reducing the possibility of misaligned slabs.

TUBES
- Diameter
- Ovality
- Length
- Straightness

LAP systems measure the OD of tubes in the rolling line. Measurement of diameter in two or three axes also yields precise ovality readings, avoiding costly post-processing. The result of this is that a greater percentage of the tubes being produced meet the specification that are required by the customers. Producing to tighter specifications also increases the yield ratio. LAP measurement systems for final inspection of tubes before shipment provide essential data for quality assurance.

WIRE ROD AND BARS
- Diameter
- Ovality
- Profile

LAP RDMS Profile Measuring Systems provide all the information needed for fast and precise adjustment of rolling lines. They can measure not only rounds, but also rebar, flats, squares, hexagons and angles. The patented TrueShape technology allows precise measurement of three-lobed or polygonal rounds, and of single-sided over- or underfill. Off-size conditions are immediately displayed and allow corrections during runtime of a billet. Elimination of sample cutting reduces the ramp-up time after size or product change. Precise determination of off-size lengths at head and tail allows crop-optimization, further increasing the yield.

BEAMS AND RAILS
- Width
- Height
- Web thickness
- Straightness
- Squareness

LAP systems measure key dimensions in-line and allow to intervene immediately in case of deviations. The complete measurement and documentation of all relevant dimensions meet highest quality assurance demands.
HIGH-TECH QUALITY FOR STEEL INDUSTRIES BY LAP

For more than 30 years, LAP has been developing, manufacturing and distributing laser measurement systems, line lasers and laser template projectors for industrial and medical applications. LAP products are high-precision devices Made in Germany.

Using LAP laser systems, our customers improve performance and increase the quality of their products as well as the effectiveness of their processes.

As a result of continuous product innovation, LAP has become a world leader in lasers for projection and measurement. LAP products are setting the standards in a wide range of markets from manufacturing to heavy industrial environments and medical applications. Environmental protection is important to us. We use solar panels, green electricity and roofs planted with grass. Our production is planned by standards of sustainability.

Quality has always been part of our commitment. We are content if you are. We know your high demands. To meet your requirements, the quality management of LAP is certified by DIN EN ISO 9001:2008 for industrial products and by EN ISO 13485:2007 for medical engineering products.

www.lap-laser.com/STEEL

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