

Slab Profiler

Slab measurement system



- *True dimensional measurement of slabs*
- *Width, edge profile, length, camber, thickness*
- *Gives information about caster performance*
- *Improve edge scrap yield at hot strip mill*
- *Non contact – low maintenance*
- *World wide references*



Design for harsh conditions

LIMAB has many years experience in manufacturing and supplying precision laser measuring systems for use in harsh environments found within steel plants. This knowledge is engineered into the SlabProfiler to ensure high accuracy with very low maintenance. The system will be supplied with a high performance air cooling

system to ensure complete reliability of operation in the hot and dirty conditions that are normal for any continuous casting line. The system will meet customer mechanical and electrical requirements for a perfect integration into any steel mill.

Design for accuracy

High precision sensors are at the heart of the SlabProfiler but to ensure an accurate system the design details of all the supporting components and equipment need to be carefully considered. This is where LIMAB's experience counts by paying close attention to the overall design.

The SlabProfiler uses our proven Accura 35-2D sensors that measure both the width and edge profile. The scanning beams from each sensor are synchronized, to ensure that the width measurement is not influenced by sideways movement of the slab.

SlabProfiler

Efficient In-Line control of slab dimensions.

Precision in measurements are critical for controlling production costs of continuous processes. To address this important consideration LIMAB has developed an advanced non-contact laser system to measure the slab shape.

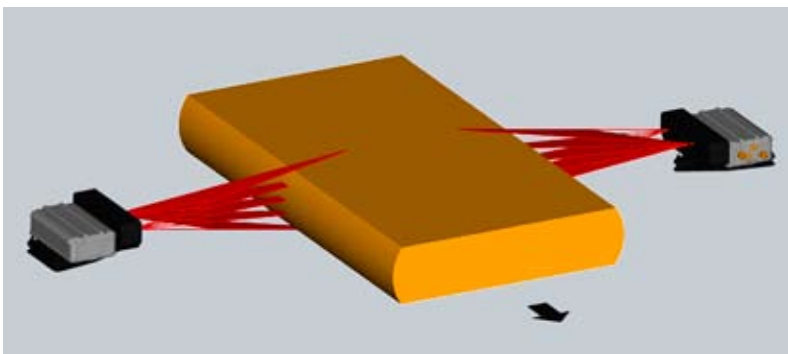
Laser distance and profile sensors measure width, edge profile, edge thickness, camber and a Doppler sensor measure the length. This information is used to calculate the slab weight.

The SlabProfiler is a key measurement system with integrated software for real time control of slab data including data log which permits a historic data view of produced slabs.



Key Benefits of SlabProfiler

- Reduction of waste due to non-conforming production.
- Quick recognition of out of shape and dimension of slab.
- Trend graphs showing production history.
- Feedback of actual slab dimension to the rolling mill.
- Control adjustable mould.
- Quickly identify concavity, edges and other side profile abnormalities.
- Easy integration with process control systems for communication with level 2.



Measuring method

The SlabProfiler is an in-line non contact measuring system providing high accuracy on either hot or cold materials. The system implements two of our Accura 35-2D profile sensors, which measure using the principle of a scanning laser triangulation at a rate of 2000Hz.

The laser beams are scanned in the vertical axis so that a complete edge profile is captured at a speed of 4Hz. Additional sensors can be incorporated into the system if camber or length is required.

Software key features

- Left and right edge profile graphs with shape tolerance bands
- Trend graphs of key dimensions over time
- Numeric left & right bulging display
- Numeric display of other key measurements
- Tolerance and alarm limits with on screen warnings
- Data logging for quality control
- System configuration and set-up
- Calibration
- Communication with level 2 system
- Remote service and supervision

Technical specifications

SlabProfiler

Measurement objects	Hot/Cold slab
Length	2000.....16000 mm
Width	600.....2000 mm
Thickness	40.....320 mm
Deviation from center line	+/-100 mm
Temperature	0.....1200°C
Speed	1.....60 m/min
Sensor sampling rate	2000 Hz
Edge profiles per second	4

Measurement system accuracy

Width:	+/-1 mm
Length:	Max 0,05% of measured length
Camber:	from +/-2 mm
Operating temperature	0-40°C (without cooling system)

Cabinet and PC

Size	2000x600x600 mm
Protection class	IP54
Operating system	Windows XP
Processor	Core 2 Duo
Interfaces	TCP/IP, RS232C, Digital I/O

Laser sensors

Width, Edge and thickness	Accura 35-2D, 2000 Hz
Camber	PreciCura LR, 2000 Hz
Length	Doppler sensor, 0..... +/-2500 m/min
Laser class	3B (hot application)
Protection class	IP65, NEMA 4X

We reserve the right to introduce modifications without prior notice



LIMAB were founded almost 30 years ago and have a long tradition of producing laser sensors and non contact measuring systems to meet the needs of the industry. Headquarters and manufacturing plant is located in Gothenburg, Sweden. LIMAB have regional offices in USA, UK, Germany and Finland and with distributors to cover other areas. LIMAB has over 20 years of experience in steel installations.



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