MICRO-EPSILON

Non-contact thickness measurement of aluminium

Prompt detection of incorrect thickness

For the prompt detection of incorrect thickness on aluminum strip, patented laser triangulation sensors are employed as a modern alternative solution to isotope measurement systems. To save costs the places on the strip which are outside the permissible thickness tolerance are not provided with a foodstuffs-compatible coating and so the strip can be recycled without problem in production. At the point of measurement the sensors are mounted opposite one another, above and below the passing aluminum strip. Irrespective of the exact height position of the strip, the exact material thickness is obtained by a simple distance signal coupling, F=Ref. - (A + B), of both sensors. Apart from the absolute thickness value, the thickness tolerance can be monitored for the zero value via the automatic zero setting system. The thickness value is transferred as a current signal to the process control system. Due to the harsh ambient conditions, the sensors are operated in special protective housings with conditioned compressed air.

Measurement system requirements

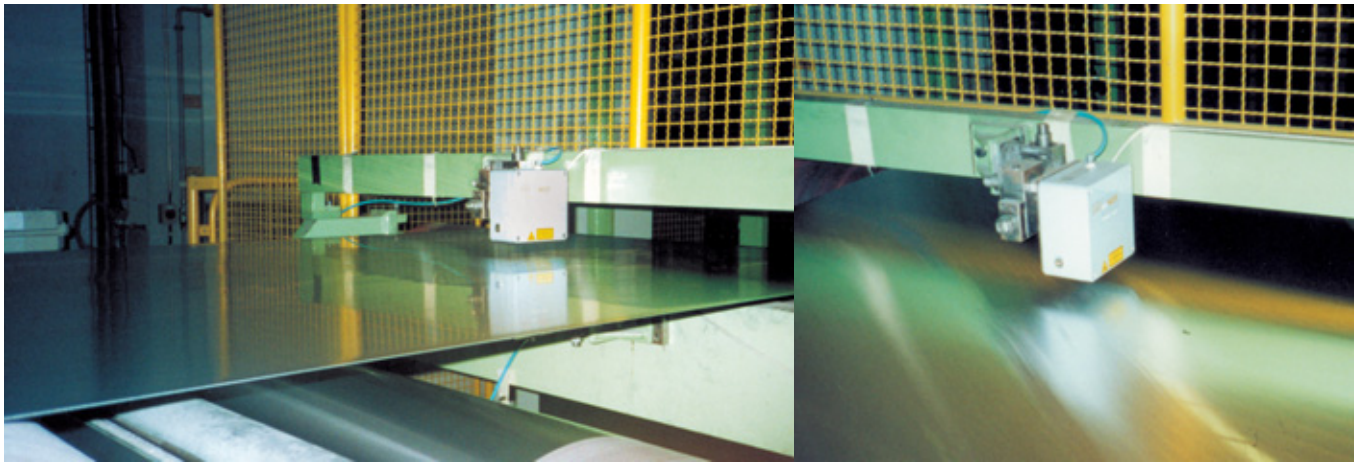
- Measurement range 10 mm
- Thickness accuracy: 1/100 mm
- Resolution: 1/1,000 mm
- Bandwidth: 2 measurements/s
- Surface: Aluminum, shiny

Measurement system set-up

2x ILD2000-10	1x DD 600
2x SGH 2000.01	1x CU 805
2x C 2000-3	1x AZ 800.09
1x PS 2000-SM	1x 2-channel - U/I converter
1x SIC 3.05	1x FP 507
1x RS649.03	

Reasons for the system selection

- Non-contacting and therefore wear-free.
- High accuracy even with shiny measurement object surfaces.
- Large base distance, easy fitting and operation.
- Rugged system version, visible laser, Protection Class 2.



Two sensors optoNCDT measure the exact thickness of the shiny aluminium

MICRO-EPSILON
A member of micro-epsilon group.
Koenigbacher Str. 15
94496 Ortenburg / Germany
Tel.: 0 85 42/1 68-0
Fax: 0 85 42/1 68 90
info@micro-epsilon.com
www.micro-epsilon.com