

alpha.xi

the all-in-one web gauge



Time, expenses and quality are the key factors of any production line. In rolled steel production one of the effective control tools is measuring the key data such as flatness, profile and shape during the different process steps. Comparing to the common manual measurement procedure using an automated inline gauge gives some important advantages, like

- 100% production coverage
- archive for reliable production documentation
- feedback to the process control
- important information for quality control in real time

Depending on application and environment different variations of the alpha.xi gauge are available.

System-options							α.xi-systems	Applications					
Move-Cap	Width	Thick-ness	Speed	Shape	Cross-profile	Flat-ness		plate	rolled	hot	cold	Thick-ness > 60 mm	Speed > 2 m/s
o			o			✓	α.xi-hot	✓	✓	✓		o	✓
o	o		o	o		✓	α.xi-standard	✓	✓		✓	o	
o		o	o		✓		α.xi-advanced	✓	✓		✓		✓
o	o	o	o	o	✓	✓	α.xi-premium	✓	✓		✓		

Fig 1: alpha.xi option and application matrix (o = optional)

For this nokra supplies several sorts of measurements combined in one gauge for different application steps. Every alpha.xi gauge is based on either flatness or profile measurement which can be extended according to Fig 1.

Based on the application demands different variations of flatness measurement are provided. The alpha.xi-hot is designed for very rough high speed environments such as hot plate or hot rolling mills. The alpha.xi-standard offers the shape measurement option.

Technological advantages



Fig 2: alpha.xi-advanced with move cap option

- plates/coils of any length and width
- standard thickness up to 60 mm, optional more (heavy plates)
- temperature up to 1200°C (hot option)
- production speed up to 20 m/s
- vertical movement compensation on flatness and shape measurements
- flatness results acc. to DIN EN 10029/ASTM
- crossprofile measurement across the complete strip
- shape as an option
- thickness, width and length as options

All alpha.xi flatness measurement variants calculate a ruler result (acc. to DIN EN 10029/ASTM) automatically during measurement within seconds, plus some common flatness defects like wave, buckles, ski and bathtub/turtle. In total nokra provides a compact, fully integrated, low maintenance inline all-in-one gauge to match the challenging environment demands of the different production process steps from heavy plate to hot rolled steel applications.

- fully integrated, software based compensation of vertical plate movement
- designed for rough environments, resistant against water, light, surface effects such as scale
- automatic adjustment procedure guarantees a persisting measurement quality
- active temperature control unit to ensure independence to different temperature environments
- integrated velocimeter for precise length measurement (optional)
- low integration space (~ 1 m of strip width)
- optional move cap

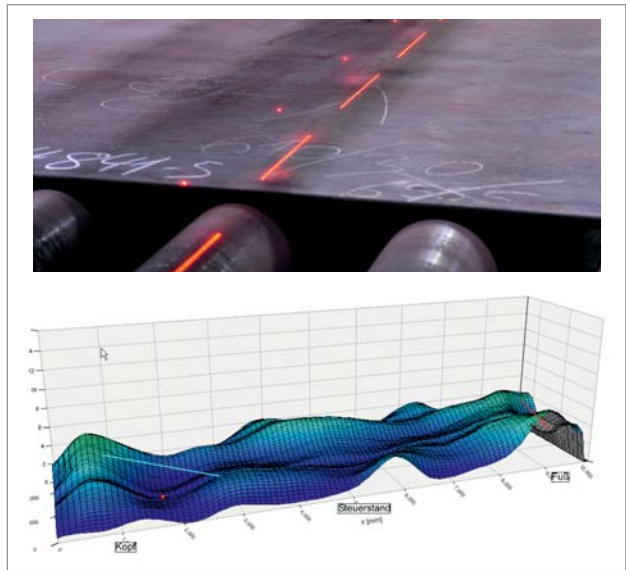


Fig 3: alpha.xi-standard laser pattern and an according flatness topography result

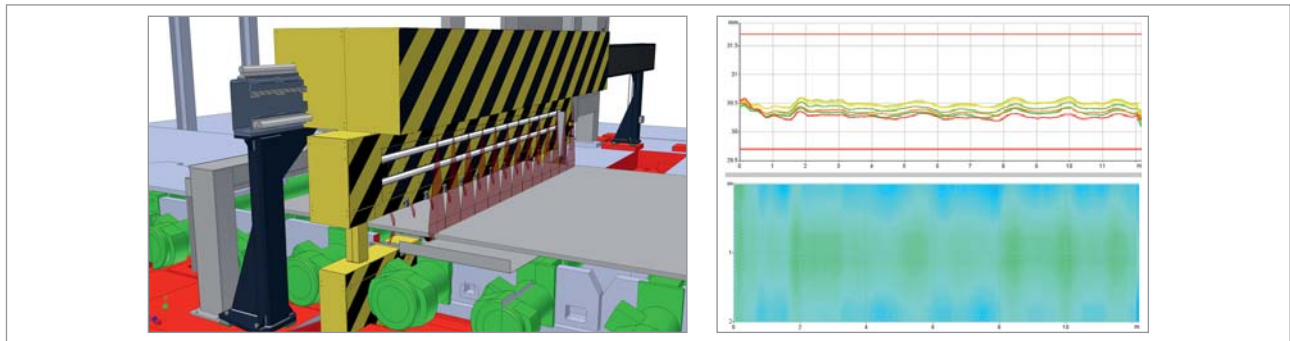


Fig 4: alpha.xi-premium integration sketch with a profile/flatness result display

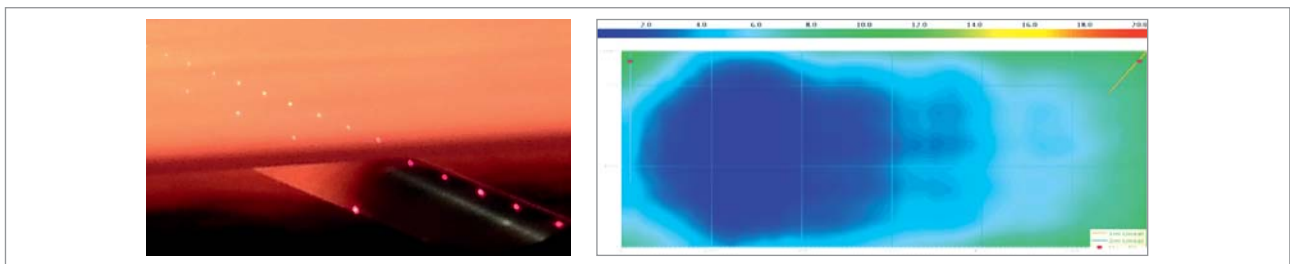


Fig 5: alpha.xi-hot laser pattern and a 2D-flatness ruler result display

Your partner

nokra GmbH is an international medium-sized company, which provides high-quality measuring and inspection systems, such as flatness-, thickness or profile-measurement-systems for use in manufacturing. Our systems measure and inspect geometric features of coils, plates, strips, pipes, tubes or automotive parts such as length, width, roundness, thickness, profile, form and position. nokra itself develops laser sensors and automated inspection systems for these application fields. This enables every system to be customised to the specific

requirements of our clients and optimized for the respective application. nokra consequently has unique experience concerning measuring technology in the steel, aluminium and automotive industry as well as glass processing, plastics industry and plant engineering. In addition to developing and manufacturing its own laser measuring systems nokra sells them worldwide. nokra has installed well over 200 systems with more than 2,000 laser sensors.



nokra
**Optische Prüftechnik
 und Automation GmbH**

Max-Planck-Straße 12
 52499 Baesweiler · Germany
 Phone +49 (0) 2401/60 77-0
 Fax +49 (0) 2401/60 77-11
 www.nokra.de · info@nokra.de

nokra Inc. (USA)
 423 South Eighth Court
 Saint Charles, IL 60174
 Fax +1 (630) 485-6133
 info@nokra.us