



SYSTEMS & SOLUTIONS

FAST, ACCURATE, RELIABLE.

Due to ever growing demands for quality, producers often have to prove to their customers that their products have certain properties. Exemplary for that is the comprehensive inspection of rolled steel products in the steel industry. The non-contact imaging systems deployed to that end have to be fail-proof and work rapidly and accurately.

Our know-how lies in standardized systems

for surface inspection, flatness measuring and profile measuring, which we custom-tailor to customer requirements. Hence we are able to meet your individual needs and supply customized solutions for the quality assurance of your product.

Should you have any individual inquiries about your application, please contact us. We will find the right solution for you.

Here is a compendium of our list of customers:

voestalpine



corus



ArcelorMittal

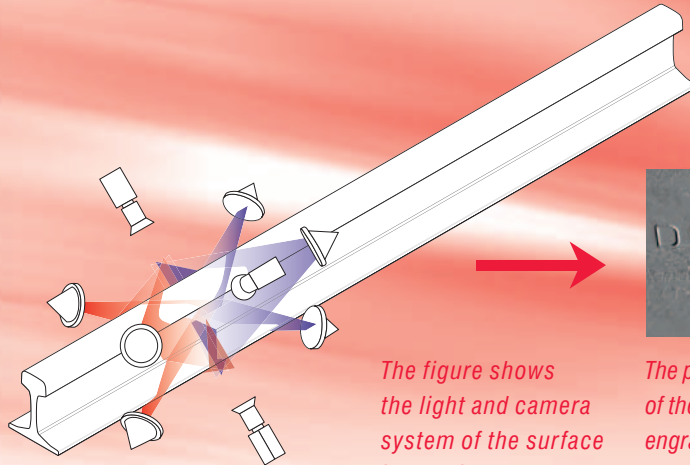


BÖHLER
SCHMIEDETECHNIK

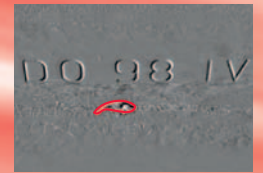


JINDAL
STEEL & POWER





The figure shows the light and camera system of the surface inspection.



The picture shows a detail of the rail surface with an engraving and defect that has been detected.

SURFACE INSPECTION – DIRIS

This innovative technology allows the automatic detection of defects in the surface of rolled steel products, such as chips, scales or transverse fissures.

BENEFITS

- The one-of-a-kind image acquisition method (SIDP – spectral image differencing procedure), based on two lights of different color, separates the 3-D structures from the textures.
- High resolution and high testing speed by dint of high-end cameras
- Reading of stamps by dint of OCR software
- Customer-specific classification of defects
- Maximum exploitation of light, with a long service life and low power consumption, due to cutting-edge LED lighting



CUSTOMER VALUE

- **Rationalization:** The manual inspection, which requires enormous human and time resources as carried out at present, is made redundant.
- **Quality improvement:** The automatic defect detection is independent of human factors (poor sight conditions, fatigue, distraction, etc.).
- **Improved operational safety:** The inspection staff will no longer be exposed to hazardous zones.



FLATNESS MEASURING SYSTEM – FMG

Depending on the customer's requirements, the flatness measuring device (FMG – flatness measurement gauge) is available in various technical versions. There is a version for the production line for moving test objects. If the test object is immobile, the flatness is determined with a scanning system.

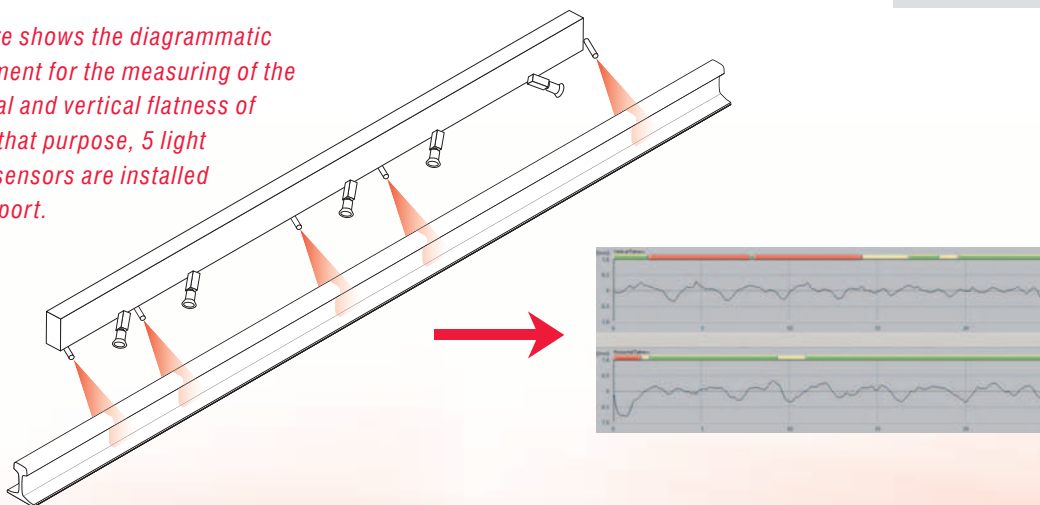
BENEFITS

- Great accuracy ($10\ \mu\text{m}$)
- Precise measuring right up to the ends
- Simple and robust mechanics
- Low maintenance expenditure (no moveable parts)
- No adjustment expenditure for differing profiles

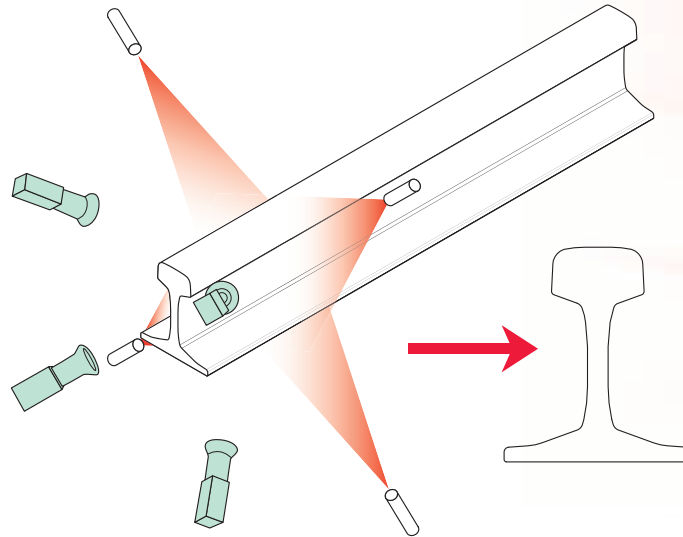
CUSTOMER VALUE

- **Potential savings:** Owing to the fact that the measuring of ends is included, a separate system for the measuring of the ends can be dispensed with.
- **Lower acquisition costs and operating costs:** The use of simple mechanics leads to reduced costs for acquisition, maintenance and spare parts.

The figure shows the diagrammatic arrangement for the measuring of the horizontal and vertical flatness of rails. To that purpose, 5 light section sensors are installed on a support.

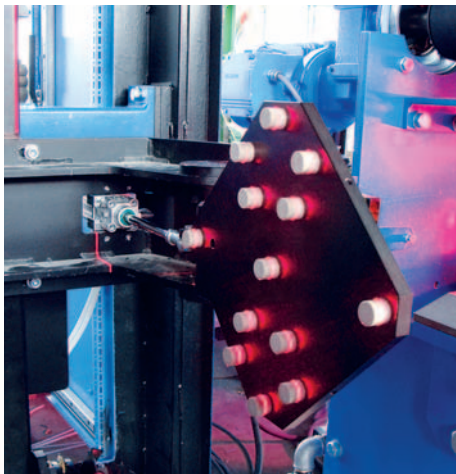


The figure shows the sensors for the measuring of rail cross-sections using 4 lasers (red) and 4 cameras (green). The measurements to be determined are height of rail, width of rail but also values usually hard to measure like the cross-sectional area.



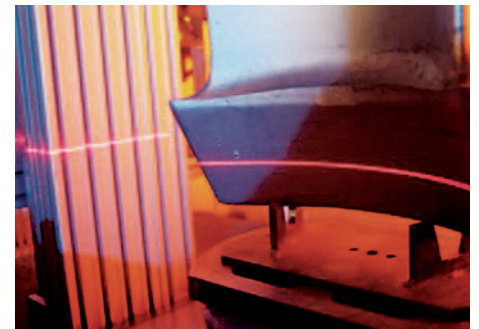
PROFILE MEASURING SYSTEM – PMG

As a specialist for profile measurements, we provide virtually every solution for your application, from the stationary large-scale plant up to the mobile hands-free measuring gauge. We offer product-specific know-how for the measuring of nearly any long rolled steel product (rails, steel beams – also in red-hot condition) as well as forged products (e.g. turbine blades, rail wheels, etc.).



BENEFITS

- Great accuracy owing to an innovative calibration method ($< 50\mu\text{m}$)
- Flexible measuring rules: Commonly used profile measuring systems often have rigid rules for the determination of the measurements that have been pre-formulated in computer programs. On the basis of a CAD interface, new rules can be established at will, even by the customer himself.
- Measuring that is not bound to any particular location is feasible owing to the mobile profile measuring gauge
- The same evaluation system applies to all products. Hence stationary measurements are comparable to mobile ones
- Measuring systems for cold and hot measurements



CUSTOMER VALUE

- Slim and inexpensive profile measuring system, which meets all customer requirements.
- Stationary and mobile measurements allow for tracking the steel products throughout the entire production process.

THE MEASURE OF ALL THINGS.

nextSENSE

NextSense Mess- & Prüfsysteme GmbH
Reininghausstraße 13a, 8020 Graz, Austria
Tel. +43.316.232 400-0, Fax +43.316.232 400-599
Mail office@nextsense.at, www.nextsense.at