CALIPRI
RCX

RESULTS TAKING CENTER STAGE

STRIKE WHILE THE IRON IS HOT

CALIPRI RCX

HIGH-PRECISION GAUGE FOR DEVELOPING NEW PROFILE SHAPES – AND A PORTABLE ALTERNATIVE TO PROFILE MEASUREMENT SYSTEMS

NEXTSENSE

CALIPRI
RCX

MOBILE USE, FAST RESULTS, ACCURATE DATA

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To optimise the rolling process and set the optimum rolling parameters, roll pass designers have always had to adopt inaccurate and time-consuming processes – until now! CALIPRI delivers reliable measured data between passes and on profiles that are still hot in a way that is both efficient and accurate.

QUICK AND EASY: MEASURING WITH CALIPRI

CALIPRI IS A CONTACTLESS MOBILE PROFILE MEASUREMENT DEVICE THAT BOTH CONSIDERABLY SPEEDS UP AND SIMPLIFIES WORK PROCESSES IN THE STEEL MILL.

You can place the device at any point in the rolling mill, either manually or using an automated system. The C-frame of the housing allows CALIPRI to be used while rolling is under way.

Start the measurement operation at the touch of a button – the sensor will move around the rolled material. This allows profile sections to be captured from all directions, which are then combined to form an overall profile. Following the measurement, which takes less than 20 seconds, the device can be removed from the line again.

One measurement device – three uses.

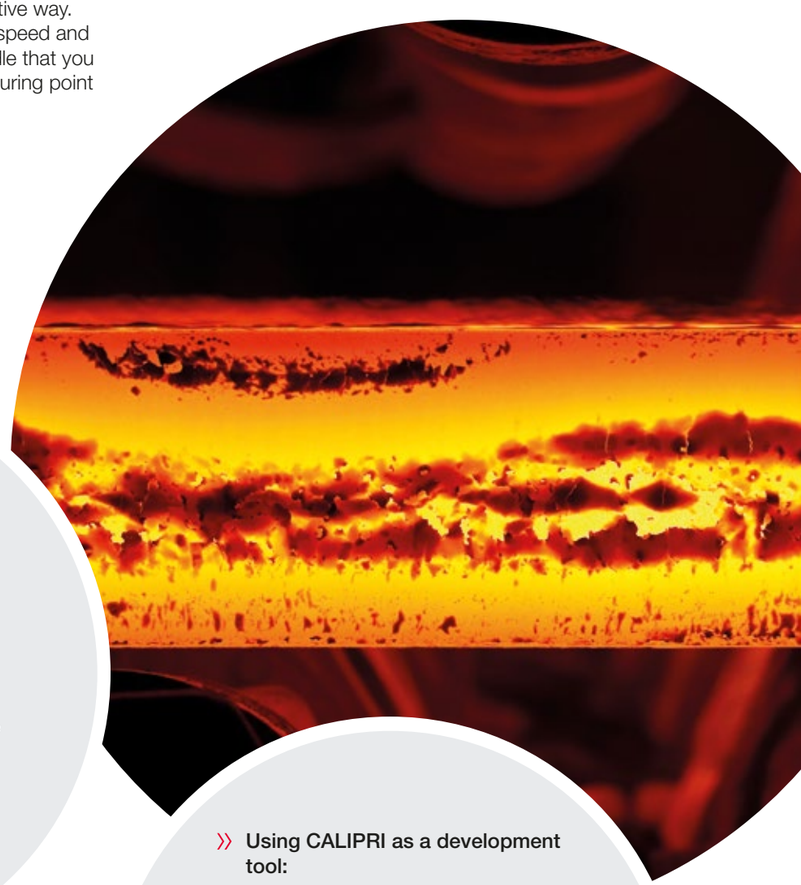
» Using CALIPRI to configure the rolling stand:

At the start of production, the rolling stand must be set up correctly for every profile. A complex, time-consuming process – until now. CALIPRI shortens this step considerably while delivering even more accurate measurement results.

CALIPRI allows you to take measurements quickly and easily on the hot long material between the rolling stands. This saves you a considerable amount of time and money.

DIRECT TARGET/ ACTUAL COMPARISON

The measurement result is shown immediately on the tablet PC supplied; any deviations from the target values are highlighted in colour and can be analysed in an easy and intuitive way. An additional advantage in terms of speed and flexibility: CALIPRI is so easy to handle that you can move the device from one measuring point to another.



» Using CALIPRI for random sample measurement:

The measurement device can be taken from one rolling mill to the next with ease. This represents a key cost advantage, as you only need to use one portable measurement device instead of several permanently installed and expensive systems. It couldn't be simpler: Position the measurement device, take the measurement and benefit from all the advantages of quality control while the production process is in full flow.

» Using CALIPRI as a development tool:

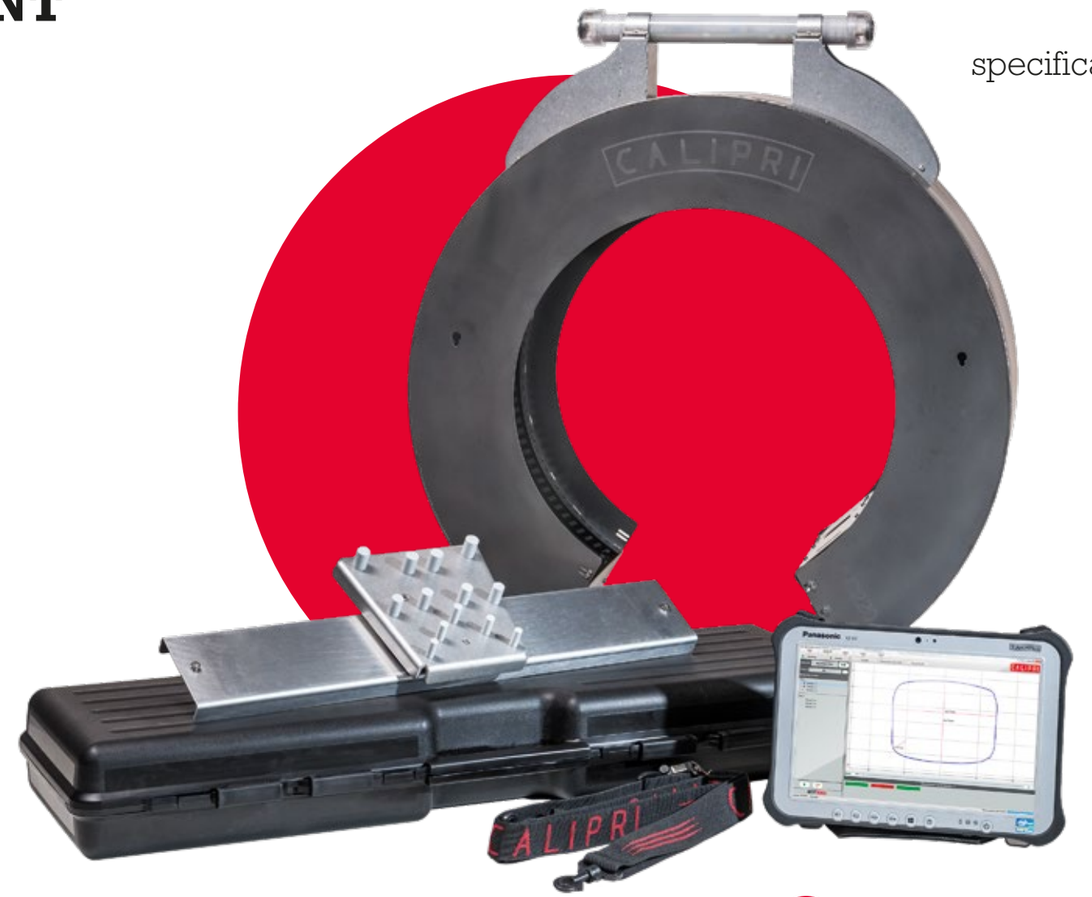
The calibration needs to be developed before new rolled products can be made.

With CALIPRI, the key dimensions required for this can now be recorded immediately while the profile is still hot. You no longer need to wait for the sample to cool down. The laborious process of converting cold to hot dimensions is also a thing of the past. This means that you have access to more information and, above all, more accurate results.

SCOPE OF DELIVERY

BASIC EQUIPMENT

- Sensor unit
- Portable computer unit (tablet PC)
- Licensed measurement module: Universal profile
- Licensed evaluation software: CALIPRI Analyzer (tablet PC)
- Second licence for CALIPRI Analyzer (office PC)
- Carrying strap for the tablet PC
- Reference standard, incl. case
- Battery, incl. charger
- Instruction manual
- 3 months support (e-mail, hotline) for free



Key specifications

ADD-ONS

On-site training

Meaning that your employees are always fully trained.

Individual customising

The evaluation is adapted to meet your requirements.

Service packages

Choose from various packages to find the best solution for you.

Licences for Analyzer

Making it easy to work from any PC.

Measurement module: RC methods

Predefined evaluation methods for immediate results!

Mounting connections

for automatically positioning your measurement device in the rolling mill.

CALIPRI RCX

TECHNICAL DATA

- Max. size of measurement object:*
  - Round objects: appr. Ø 170 mm | 6.7 in
  - Rectangular objects: appr. 120 x 120 / 140 x 95 mm 4.7 x 4.7 in / 5.5 x 3.7 in
- Accuracy: < 0.2 mm | 0.008 in
- Duration of measurement: < 20 seconds
- Designed for cold and hot rolling profiles**
- Cooling system: No cooling water or compressed air required
- Data transmission: WLAN
- Weight: < 10 kg*
- Dimensions: 630 x 710 x 215 mm | 25 x 28 x 8.5 in (WxHxD)*

* Applies to product variant RC220. Larger system available upon request.
** Attention: Keep sensor optics free from water!

HIGHLY SUITABLE PROFILES

Errors may occur when measuring extremely flat profiles, profiles with indentations or sharp-edged profiles. If you are uncertain, please contact our sales employees.

ARE YOU INTERESTED IN
CALIPRI RCX?
DO YOU NEED ADDITIONAL
INFORMATION?

CONTACT US!

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NEXTSENSE

OSIRIS

OSIRIS COLD / OSIRIS HOT

Data sheet

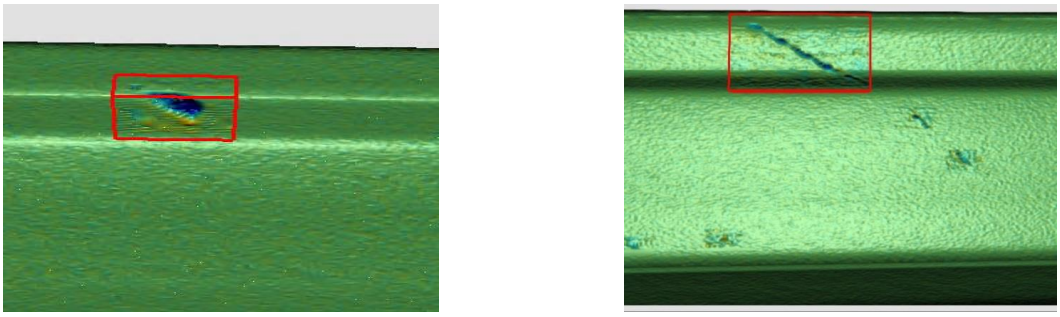
NEXTSENSE

APPLICATION

With OSIRIS, NEXTSENSE provides a stationary optical measuring system for continuously testing the surface finish and dimensional accuracy of rolled products. The great thing about this is that OSIRIS combines two applications in one system! The innovative measuring technology from NEXTSENSE registers almost any type of defect on the product surface, whilst also accurately measuring the profile of the rolled products.

SURFACE INSPECTION:

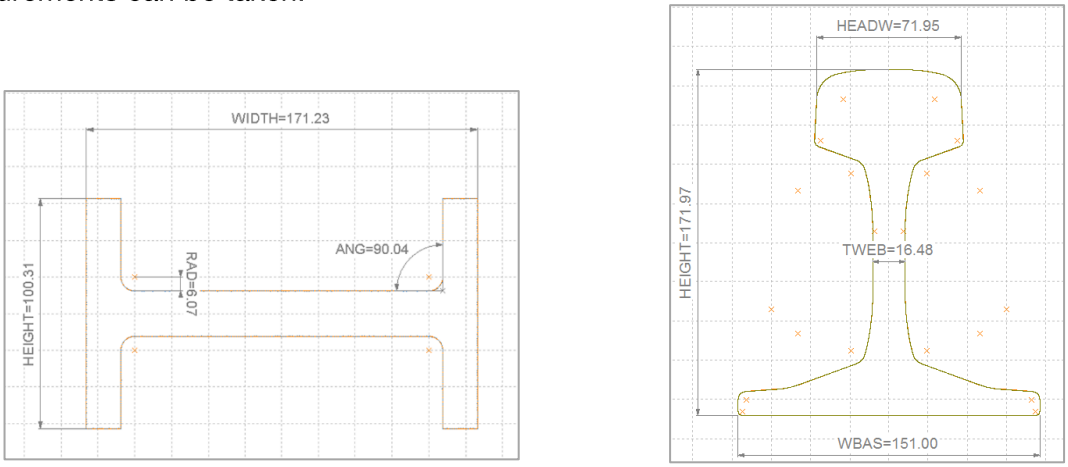
The aim of surface inspection is to automatically detect and classify surface defects (protuberances and depressions). Typical types of defects include peeling, blow-outs, scoring, rolling up or flaking.



EXAMPELS OF SURFACE DEFECTS

PROFILE MEASUREMENT:

As well as detecting surface defects, the system also rates the measured profile sections according to predefined evaluation specifications. Linear dimensions, such as width and height, various radii, angels between sides, the concavity of contact surfaces, and many other measurements can be taken.



EXAMPELS OF MEASURED VARIABLES FOR PROFILE MEASUREMENT

PRODUCT VERSIONS

The measurement system is available for hot (OSIRIS HOT) and cold (OSIRIS COLD) rolled products – depending on the stage of the rolling process where the system is to be applied. Additionally, the both versions come in two different dimensions (small and large), which differ in the size of the measuring field and therefore the maximum size of the measurement object. The smaller measuring field size allows greater accuracy during profile measurement and detection of smaller defects, whereas the larger measuring field size supports larger profiles and an extended freedom of product movement on the roller table.

		Application	
		Hot rolled profiles	Cold rolled profiles
Max. profile size	400 x 300 mm 16 x 12 in	SUOS101/S OSIRIS HOT Small	SUOS102/S OSIRIS COLD Small
	600 x 300 mm 24 x 12 in	SUOS101/L OSIRIS HOT Large	SUOS102/L OSIRIS COLD Large

PRODUCT VERSIONS

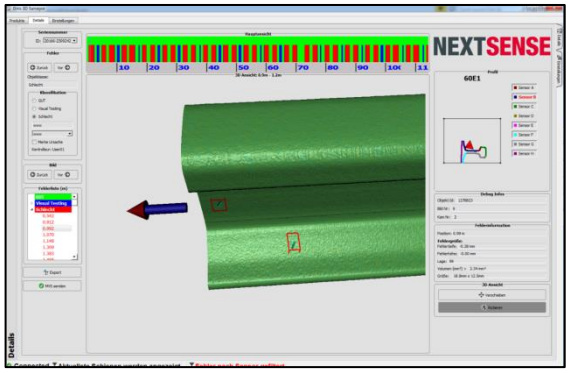
SCOPE OF DELIVERY

- ✓ System with 8 light section sensors
- ✓ Comprehensive computer system
- ✓ PLC cabinet for system automation
- ✓ Full services

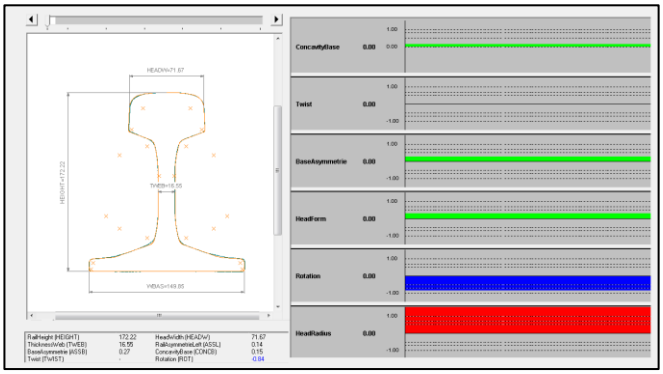
DATA SHEET

MEASUREMENT PROCESS

When a profile passes the system, measurement is started automatically. Using state-of-the-art laser light section technology and high sampling rates, OSIRIS creates a complete 3D reconstruction of the product to be inspected during production in real time. The dimensional accuracy of the profile shape (e.g. width, height) is checked and the surface is examined for deviations by comparing the 3D data with your personal reference data. The measurement results can be reviewed and analyzed in real time on a control terminal.



SURFACE TESTING



PROFILE MEASUREMENT

A connection to your material tracking system guarantees correct assignment of the tested product and the corresponding serial number. The collected data is provided in a database for further analysis. Furthermore, the automatically created measurement reports – which are integrated in your material tracking system – maintain complete quality control.

In order to make the system more easily accessible for maintenance work in a protected area, the OSIRIS system can be removed from the production line.

TECHNICAL DATA

Measuring housing (extendable) (WxHxL)	approx. 2.3 x 2.3 x 0.8 m | 90 x 90 x 31 in
System size with optional support structure	approx. 7 x 1.5 x 4.5 m | 275 x 59 x 177 in
Computer cabinet with air conditioning	800 x 1000 x 2400 mm | 31.5 x 39x 94 in
PLC cabinet	600 x 400 x 2000 mm | 24 x 16 x 79 in
Max. data storage (standard)	approx. 150 km (62 miles) production length
Object temperature	-15 to 1100 °C | -59 to 2012 °F
Ambient temperature	> -10 °C | -15 °F
Scan frequency	up to 10 kHz
Minimum product distance/evaluation time *	> 5 s
Defect depth/height (depends on surface quality)	> 0.3 mm | 0.012 in
Detection distance of profile measurement	> 25 mm | 0.98 in
Maximum profile size (variant-specific)	Small: 400 x 300 mm | 16 x 12 in Large: 600 x 300 mm | 24 x 12 in

*) The minimum distance between two products (or the minimum required evaluation time) depends on the actual product length but always amounts to at least five seconds. For products of 100 m in length, for example, a distance of 15 seconds is required.

Further information & offer:
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