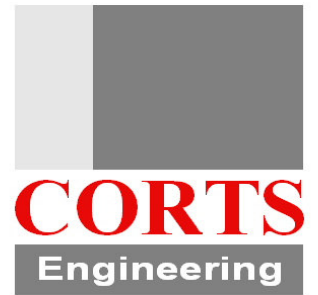


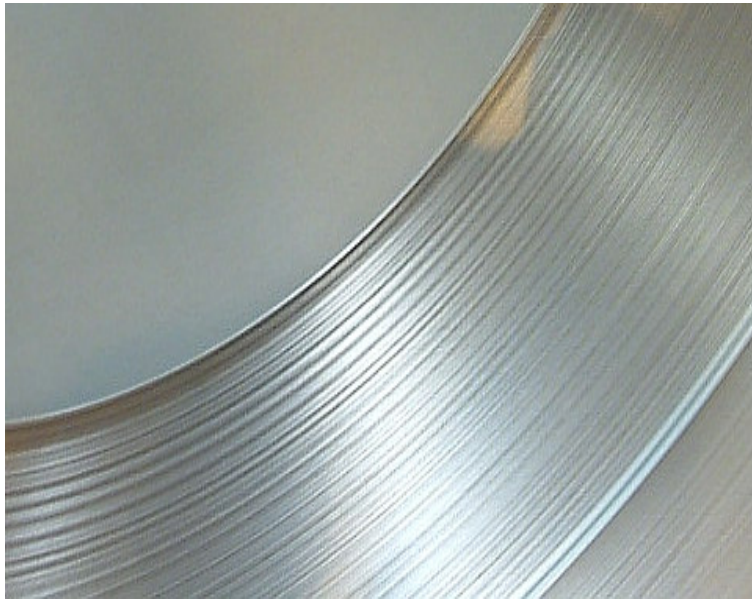
Engineering Services and Solutions for Rolling Mills



Coil Inspection

Optical 3D Metrology - Inspection for Rolling Mills

The Objective



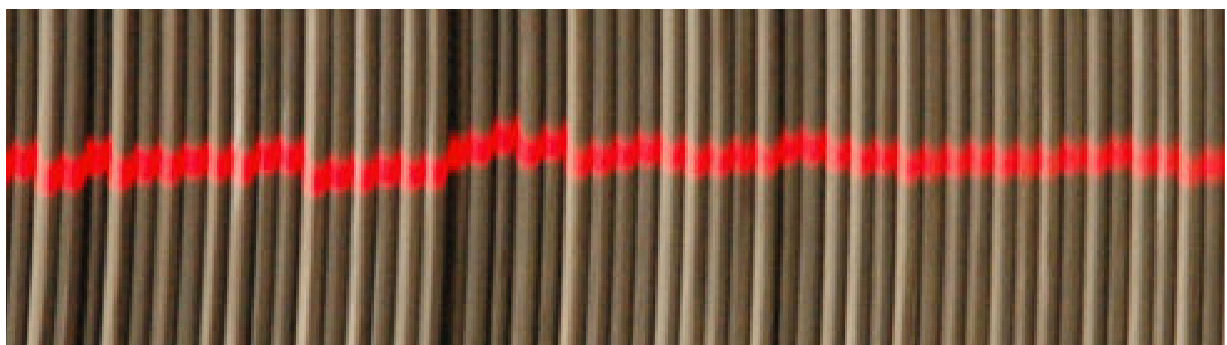
An important indicator of high-quality rolling is the even front surface of the coil.

Our laser-based coil control system measures the 3D profile of the coil front in real time with very high precision (0.20 mm) – both statically and when the coil is in motion. A large working range in distance and length of the profile allows easy mounting of the system in different environments and conditions.

The Concept

The combination of laser triangulation with a stereo rig results in an over-determined system which is reliable under all kinds of conditions due to its self-control capabilities.

A laser is used in combination with a stereo camera for high-precision measurements which are accurate even over relatively large distances. The laser marks a line and the specific measurement is performed by two cameras. This method allows very flexible installation of the inspection system in the plant.



The Procedures

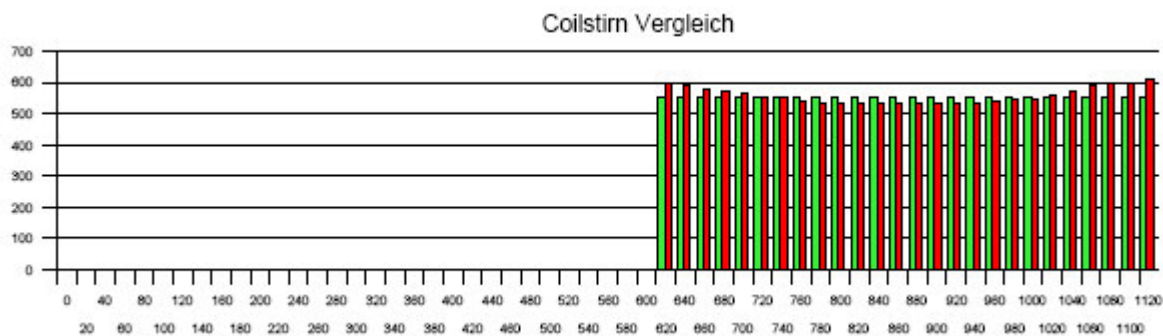
The system can be easily installed, since it contains integrated modules for data interpretation using fuzzy techniques.

- Precise profile measurement up to 1 : 5.000
- 0.20 mm accuracy for a profile of 1 m length

This high-precision profile measurement system, makes it possible to compute and document the complete shape of the coil front in an online operation and is thus completely integrated in the production process.

The Components

From our wide range of services for measurement, testing, data interpretation and calibration we designed this specific coil measurement package. It includes the metric calibration hardware devices as well as the user-friendly software with interfaces to the given mill control systems on request.



The Advantages

The system can be used for coil sizes of 1.00 m to 3.00 m in width and with a diameter of up to 2.50 m. The profile measurement yields up to 1,000 points with an accuracy of 0.20 mm. Based on these precise measurements, the software computes the exact shape and roughness of the coil front, and generates customer-specific inspection reports.

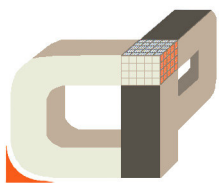
Objectivity and reliability of inline optical measurement techniques is the solid foundation for your quality control. **SOLVing3D** : more than measurement.



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