

# Residual Stress Inspection System for Railway Wheels

# Case Study

## THE CHALLENGE

During the manufacturing process of train wheels and the reconditioning of wheel sets, residual stress is an important characteristic to identify, since it impacts the safe operation of a wheel. For this reason, ROSEN was commissioned to develop an inspection system that measures and evaluates the residual stress on a wheel according to the applicable test specifications and the European EN 13262 standard.

## OUR SOLUTION

ROSEN developed a Residual Stress Inspection System (RESIS) that utilizes EMAT technology to automatically record and evaluate the residual stress profile in a train wheel tread within 90 seconds. A handling system automatically loads and unloads the RESIS system to perform this inspection.

Project-specific requirements were discussed with the customer, including production process, inspection requirements, and the variety of parts to be tested, in order to optimize the construction process of the RESIS system. Identifying the unique project requirements allowed ROSEN to optimally integrate the inspection system into the customer's quality control line for newly manufactured wheels.

## YOUR BENEFITS

- Increased efficiency through integration into the production and quality control processes
- Improved inspection quality through automated test procedures
- Increased productivity through optimized cycle times
- Supervised operation not required
- Full production control



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