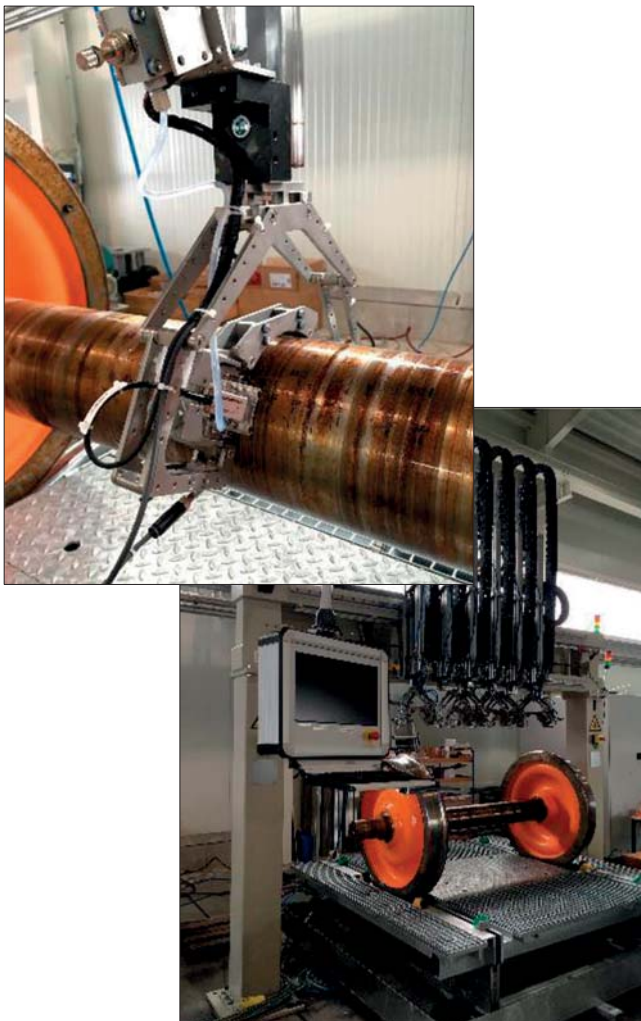


RAILWAY TECHNOLOGY

Solid Shaft Ultrasonic – Testing plant



Safety and reliability are the decisive criteria for the high-speed railway traffic of the future. The in use internationally proven plants make it possible to check wheelsets semi-automatically or fully automatically for cracks in the structure or on other stress injuries.

The objective of the testing is the detection of transversal cracks in the wheel shaft. The particularly crack endangered areas are the cross section variation considered, especially on the wheel seats and the brake disk seats to the shaft.

The modular constructed testing plant is characterized by following features:

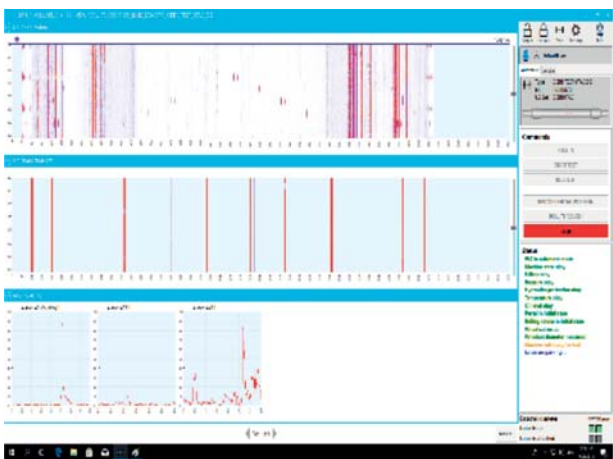
- using of conventional or phased array technology
- equipment depending of cycle time with 1 up to 6 lances
- same software user interface for all BIP-ultrasonic testing plants



Plant process



For the testing, conventional axial probes with various angles combined in a chain are used in the axial direction. Alternatively, the plant can be supplied with axially sounding "16 element phased array" probes. The probes can be moved axially to the different positions. After the vertical feeding, the actual testing takes place during one rotation of the wheelset. The number of lances determines the number of test cycles. An automated transfer correction takes into account the different material properties of the shafts.



Testing results

The ultrasonic data are recorded over the circumference true to angle over one rotation. All data of the active channels will be saved, the selection of the online representation of the scans is freely selectable. After completion of the inspection, the test results are displayed in B, C pictures. Thereafter, the test data will be stored and can also be transferred as a data file.

Technical Data

Using of ultrasonic technology

Testing time: 7-10 min

Dimensions: approx. 2,5 m x 4,5 m x 3,0 m

Wheelset weight: about. 2.500 kg

Track gauge: customary

Wheel profile: different possible

Status as of 09/2022