

RAILWAY TECHNOLOGY

Automatic wheelset testing plant (AURA)



The in use internationally proven plant make it possible to check wheel discs full-automatically for cracks in the structure for other stress injuries.

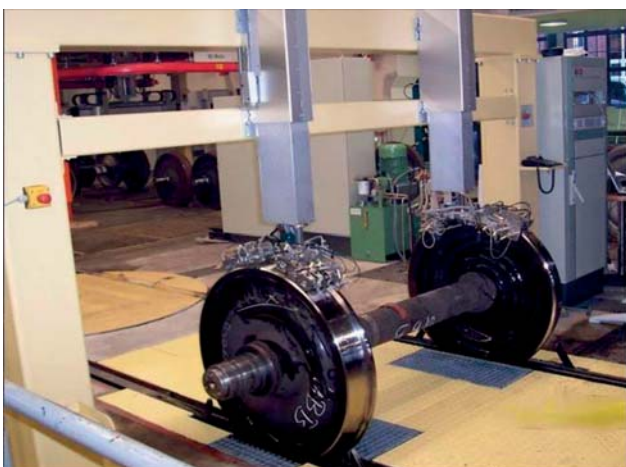
The purpose of the testing plant is the mechanized and automated non destructive testing of wheel rims on disassembled wheelsets different types on volume errors, errors in the running surface and in the profile. The test method makes a testing of the volume and the surface of the wheel rim by means of ultrasound and additionally with eddy current on the tread.

Components:

- Roll stand
- Test portal to take up the testing mechanics
- Testing mechanics for the wheel disc testing
- Ultrasonic technology and eddy current technology

Advantages:

A innovative scissors-solution enables the safe coupling of probes to the inner front surface and running surface. Floating fixed probe feeders ensure safety contact to the testing object.





Plant process

The plant process is based on the normative requirements (ISO, EN, IEC, UIC) and is additionally adapted to the contents of the maintenance guidelines of Deutsche Bahn AG. Before the testing, the wheelset type and wheelset number must be entered. The wheelset number is required for the component-related documentation of the test result. Thus the computer recognizes, which program should be selected. After entering the required data, the testing procedure is started manually. Subsequently, an evaluation of the test data is carried out taking into account the wheelset geometry.



Test sensitivity:

Surface errors: deep ≥ 2 mm, length ≥ 10 mm
 Errors in phase and clamping edge
 Volume errors: 2 mm KSR
 micro-fissures in the running surface
 thanks of using eddy current sensors
 Testing system frequency area 2-6 MHz / probes:
 SE-probes 0° : 4 MHz
 Angle probes: 4 MHz or 2 MHz

Testing results:

The testing results are displayed graphically on a display or in tabular form. Deviations are highlighted and color-coded. Selection menus can be used to switch between A data and B and C scan. The data is stored and can be exported via different interfaces.

Technical Data

Wheel diameter: 580 – 1200 mm

Testing time (floor-floor): 5 min

Dimensions: to customer specifications

Wheelset weight: about 2.500 kg

Track gauge: typical for the country

Wheel profile: diverse

Status as of 09/2022