Ultraschall Unterflurprüfanlage (UFPE)

THE MOBILE ULTRASONIC UNDERFLOOR TESTING DEVICE INSTALLED UNDERNEATH THE TRACK ALLOWS ALL WHEELSETS ON THE STATIONARY TRAIN TO BE TESTED AUTOMATICALLY. THE RESULTS ARE DISPLAYED AND STORED IN ACCORDANCE WITH THE TECHNICAL TESTING REQUIREMENTS.

The purpose of the testing system is the automated non-destructive testing of wheel rims on installed wheelsets on the train for volume defects, defects in the running surface and in the profile using ultrasound and eddy current.

The system can be used to inspect different types of wheelsets in the maintenance workshop. The automated recording of the ultrasonic data is processed and user friendly presented in the results report with the help of software programmed by bip technology. Customised interfaces for integration into higher-level systems are available.

PLANT COMPONENTS

- Wheel set lifting and drive unit
- Probe holderfor coupling from the running surface and inner face
- Ultrasonic hardware including probes
- Eddy current testing option

ADVANTAGES OF THE TESTING PLANT

- Installation in existing working pit or elevated track
- Can be operated by one person
- Can be moved under the train in order to be positioned to the wheelset for testing

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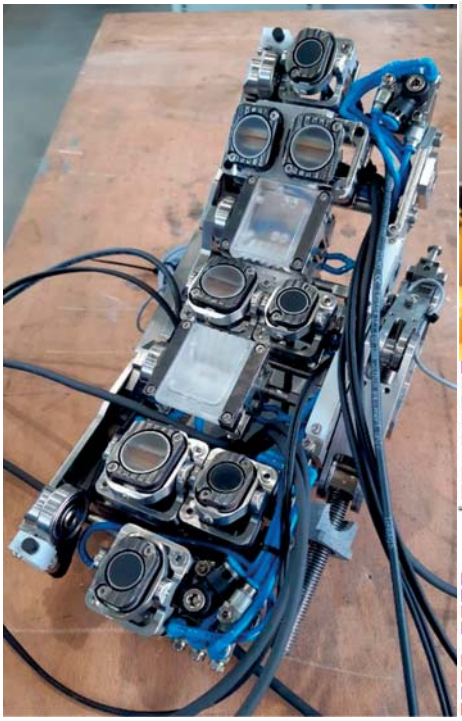
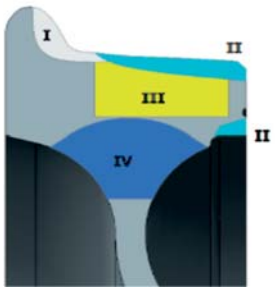


CHECK PRINCIPLE

The automated test process on the rotating wheel is based on the normative requirements of ISO, EN, IEC, UIC, the VPI 09 regulations of DB (Deutsche Bahn), DB RIL 907.0401, 907.0402, EN 15513: limit values and individual adaptations to guidelines of the railway companies.

TEST SENSITIVITY

Surface defects	I - depth > 2 mm; length ⎮10mm
	II - Depth > 3 mm, in 45° chamfer (chamfer)
	II - Depth > 3mm, 4mm on 12mm (clamping edge)
Splitting cracs under the running surface	III -3 mm FBH or cross hole
Transition from wheel rim to wheel disc	IV - 3 mm cross bore
Micro-cracks tread	I / II1.0mm deep, 0.25mm wide and 10mm long Eddy current



Further defects according to the customer requirements

TEST RESULTS

The results of the test are displayed graphically or in tabular form. Deviations are highlighted or marked in color. Various selection menus can be used to switch between A, B and C scans. The determined data is saved and can be exported via various interfaces.

TECHNICAL DATA

- max. axle load 250 kN
- track width 1.450 mm
- wheel diameter 600 – 1.200 mm
- Power supply 3 x 400V, N, PE, 50 Hz
- Water consumption 6 - 10l per wheelset
- Test time approx. 15 min incl. positioning

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