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Operation of the automated ultrasonic immersion system of inspection of the railroad axles

Our company has been using [the system of automated ultrasonic quality control of the manufactured railroad axles "OS-4" \("Axle-4"\)](#), manufactured by Ultracon-Service LLC since 2018.

Non-destructive testing of manufactured range of finished and semi-finished railroad axles in terms of ultrasonic testing requirements according to RD 32.144-2000, DSTU GOST 31334, GOST 33200, ISO 5948, EN 13261, AAR M-101, BN 918275 is successfully provided by automated ultrasonic railroad axles inspection System "OS-4". The echo-pulse method guarantees the detection of internal flaws such as flakes, liquation clusters, slag and non-metallic clusters, delaminations, and skins. Control of the metal structure of the axles is provided by the echo-shadow method.

The system monitors the axle in the radial and axial directions with monitoring of the back echo signals attenuation, in accordance with export specifications and requirements, as well as monitors the wheel seat and pre-hub parts of the axle.

Ultrasonic immersion inspection system "OS-4" implemented into the technological process of the railroad axles production allowed us to ensure high quality of the products and zero customer claims. The products that passed the control are exported to the countries of Europe, Asia, North and South America, and Africa.

"OS-4" is a reliable, technological System meeting all modern requirements for complex ultrasonic testing; it is operated in industrial conditions for at least 10 hours on a daily basis.

Good serviceability of electronic measuring and mechanical parts of the "OS-4" unit made possible to reduce maintenance costs.

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