

Andrzej Aniszewicz: Measurements of Profile Contours and Wheel Diameter of Wheelsets at Metrology Laboratory of Railway Research Institute

The article features two portable measurement instruments used by the Laboratory of Metrology of the Railway Research Institute, i.e. a wheel diameter measuring electronic "three points" gauge IDK-70/250-750/1260-B-BT type and a laser wheel profilometer IKP-5 type for the measuring of full profile scanning of wheel rolling surface of rolling stock. The scope of application, construction, parameters and principles to carry out reliable measurements have been presented. Exemplary objects (facilities) which were measured using the instruments in question have been shown. Attention was drawn to the necessity to accurately arrange the gauge and numerous measurements of the wheel diameter. A major advantage of these instruments is the possibility to perform the wheelset measurements when the vehicle is stationary without the necessity to dismantle the wheelset from the bogie. The instruments allow for an effective and fast geometrical dimensions measurement of tightly assembled railway wheelsets without their disassembly from the vehicle, not only in the maintenance facility of the Contractor but also in an open area (with no roof). Measurement results can be saved in an electronic version on a portable mini-computer PDA and then sent for analysis on a desktop computer.

Keywords: measurements, laser, wheelset, wear of wheelsets, wheel diameter