GLM Lasermeßtechnik GmbH – Rail Vehicles

Rail Vehicles

From historic steam locomotives to modern high-tech trains, NET1200/NET05 + 3-DIM PC-Basic ensures proper dimensioning. Today's rail systems have been in operation for decades: On the one hand, steam locomotives are still in operation as tourist attractions, but on the other hand, new and modern high-speed trains meet expectations for rapid transport. All of these rail systems, however, share a requirement: They must be safe and this means they must be precisely dimensioned and be within the permitted tolerance value ranges.

NET1200/NET05 + 3-DIM PC-Basic therefore play an important role in train building as well as testing and inspection of trains and associated auxiliary systems. More than 100 systems have been brought online in German railway operations since 1992.

The high-precision total stations NET1200 and NET05 with their outstanding properties constitute the core of today's system. The high accuracy of the station is checked and verified regularly by the German Calibration Service (PTB).

Integrated target illumination, a very narrow visible laser beam used to sight and measure, and the high degree of mobility make the NET1200/NET05 the ideal instrument in today's railway industry applications. Frame measurements on steam locomotives (HSB – Harz Narrow-Gauge Railways, in Wernigerode – Germany), profile scanning on the TALGO350 high-speed train (Talgo/Siemens in Madrid, Spain), as well as regular geometry checks on train of various ICE model series are just some examples.

The software 3-DIM PC-Basic installed on a laptop controls the instrument and analyzes and documents the data.

During series dimensioning (e.g. wagons, railcars), the automatic analysis of the measured data results in a very fast quality assurance process.

Rail (5 MB)

Surveying Rail Vehicles

GLM Lasermeßtechnik is a service provider for scheduled and unscheduled rail vehicle surveying. The surveys are carried out in accordance with DIN 27202-10. GLM measures your category A rail vehicles (e.g., locomotives, freight cars, and related vehicles) and category C (e.g. passenger cars and light railroad cars with bogie). GLM surveys require the following preparations:

- The axles must be removed from the railroad cars so that the pivot or the spring bracket holes are exposed.
- The measuring points must be cleaned.
- Category A vehicles must be (approximately) in a leveled reference position.
- Category C vehicles must be in a stress-free reference position.

Optical surveying instruments (measuring station) and specially developed software are used to determine the dimension (DIN ISO 286-1, diff actual size to nominal size). In case of series measurements, GLM can program electronic test sheets for the customer. The expected measurement accuracy is in the range of 1/10 mm.

For further questions please call or send us an e-mail.