

Automated 100% Crack Testing of Wheel Hubs

Wheel hubs perform an important function in a vehicle. They are responsible for transmitting the power of the drive shaft to the wheel. As an important connector, the wheel hub material must be absolutely free of defects and of the highest quality. To ensure this, the wheel hubs are tested during the production process using the non-destructive eddy current method.

The STATOGRAPH test instrument with static and rotating probes is used for crack testing the wheel hubs. By using various NC-controlled eddy current probes, the complete outer contour of the wheel hubs can be inspected for defects such as longitudinal and transversal cracks.



Fig. 1: STATOGRAPH CM+ and standard probes

The production-integrated 100% inspection of the wheel hubs is carried out in a tandem test station with two parallel workpiece holders to optimize cycle times. While the wheel hub is being tested in receiving station one, the loading and unloading of receiving station two takes place. As a result, the test performance is about 240 pieces per hour.

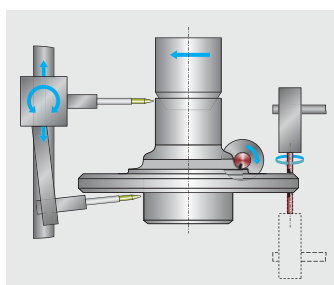


Fig. 2: Testing principle of wheel hubs

The combined use of movable and rotating eddy current probes makes it possible to test the complex geometries of the wheel hubs economically and with high reproducibility of the test results.

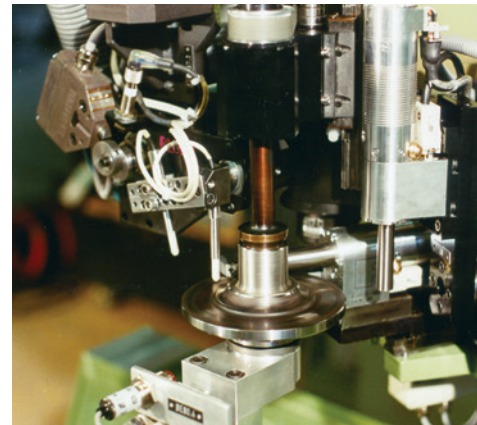


Fig. 3: Testing of a wheel hub in a tandem test station

After testing, the tested parts are sorted automatically in „OK“ and „NOK“. Optionally, it is possible to specify the faulty testing zone. For continuous quality assurance, the results can be documented and evaluated. For this purpose, programs are used which are adapted to the specific test task.

For the eddy current testing of wheel hubs, we recommend the STATOGRAPH test instrument combined with rotating and static probes. This ensures the inspection of the entire material surface. Further information about our products and industry solutions can be found on our homepage at: foerstergroup.de