

# MANAGE Information

Particularly for tunnelling operations using segments, both quality check and quality assurance are of high importance. Our quality control system is effective already from production of moulds measuring the manufactured segments up to the trial ring measurement.

## Laser Tracker Industrial Measurement System LIS

Based on our portable semi-automatic LIS Laser Tracker Industrial Measurement System, users may check the mould's and segment's basic geometry and parts built into moulds. As a result, the customer obtains a 3D target/actual comparison of the specified test criteria as well as clear statements

whether the project-specific tolerances are kept. Direct comparison of the results of associated moulds and segments allows design and production deviations in the sub-millimetre range to be detected.



*Segment measurement*

### The results include

- Actual-nominal comparison of the specified test criteria
- Deviations to the 3D design shape
- Clear statements concerning compliance with the project-specific tolerances
- Tabular and graphical illustration of the results

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In addition to its precise measurement results, LIS impresses by robust hardware that resists to any stress caused when the unit is transported and is supplied complete, including measuring accessories, laptop and measuring software.

### Measurable and definable values

#### Basic geometry

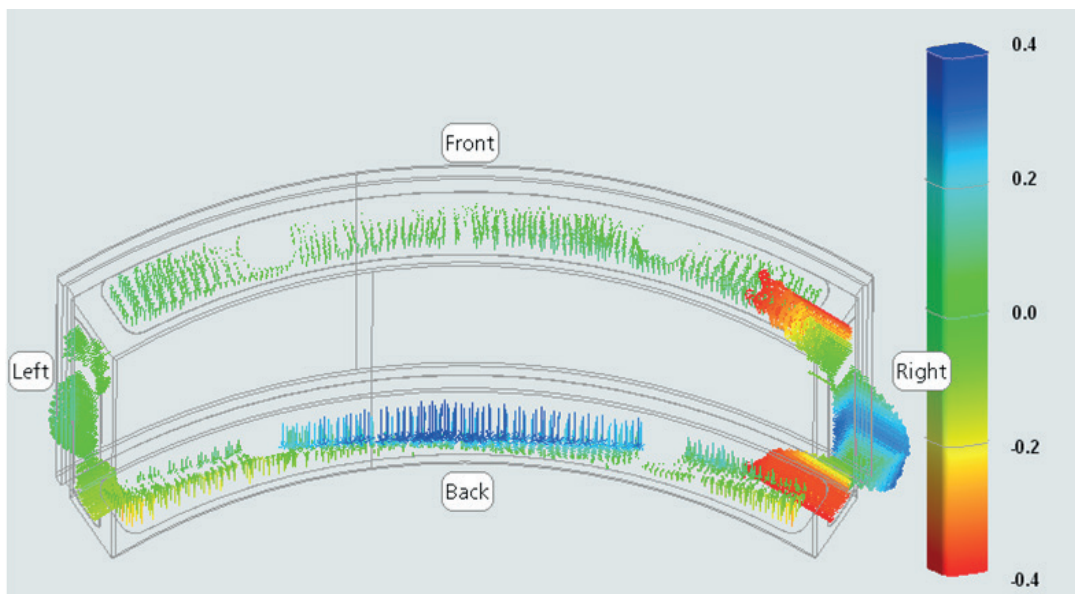
- Segment width, thickness and arc length
- Radii
- Best fit of the contact and cylinder surfaces
- Torsion
- All relevant angles

#### Inserts

- Gasket groove width, depth and radius
- Position of the bolt holes and centring cones
- Contact surface boundary and position

### Advantages

- Interactive guidance through the complete measuring sequence
- Easy to understand, intuitive operation
- Semi-automatic data collection
- Measurement, calculation and analysis of the results approx. within 30 minutes
- Better traceability using uniform, project-specific templates
- Customer-specific evaluations with standardised protocols
- Interface to the modular Production and Logistics Management System SDS



Graphical illustration of the measurement results