

# TPW Prüfzentrum



Your reliable partner for

## Industrial Computed Tomography

Assembly control  
Porosity / Inclusion analysis  
Wall-thickness analysis  
Actual / Nominal comparison  
STL-export

[www.werkstoffpruefung.de](http://www.werkstoffpruefung.de)





Materials testing  
**within the third dimension**

**Non-destructive  
testing**

**High-resolution  
3D visualisations**

**Provides look inside  
into machined parts**

**3D**

**Your personal contact:**

**Dr. Thomas Kleinteich**

X-ray inspections and Computed Tomography  
Level III RT according to DIN EN ISO 9712

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## Our facilities

### GE phoenix nanotom m

- 180 kV nanofocus tube
- High spatial resolution (up to 0,2  $\mu\text{m}$ )
- Max. part dimensions: 240 x 250 mm; Weight 3 kg
- Suitable for: small parts, polymers, biological specimens



### GE phoenix v|tome|x s

- 225 kV microfocus x-ray tube
- Spatial resolution up to 10  $\mu\text{m}$
- Max. part dimensions: 420 x 135 mm; Weight 10 kg
- Suitable for: steel up to 20 mm, aluminium up to 80 mm, polymers up to 100 mm wall-thickness



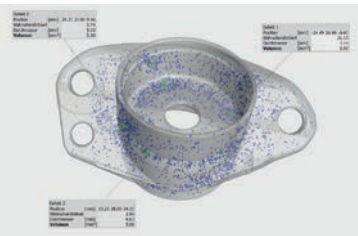
### GE phoenix v|tome|x L450

- 240 kV microfocus and 450 kV minifocus x-ray tube
- Spatial resolution up to 20  $\mu\text{m}$
- Max. part dimensions: 2400 x 800 mm; Weight 100 kg
- Suitable for: steel up to 70 mm, aluminium up to 300 mm, polymers up to 500 mm wall-thickness



## Assembly control

- Verification of the correct assembly of multi-component parts
- Non-destructive testing of hidden inner features

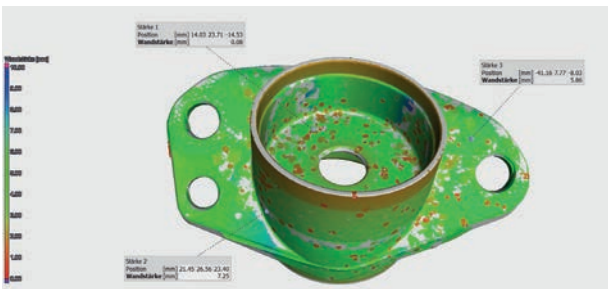


## Porosity / Inclusion analysis

- Detection of pores and inclusions within the material
- Three-dimensional measurements of pores – volume determination of defects over the entire part
- Option to perform analyses for defects based on P201 /VW50097 and P202 /VW50093

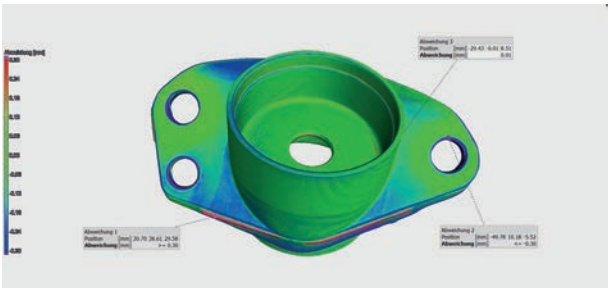
## Wall-thickness analysis

- Determination of the wall-thicknesses over the entire geometry
- False color coding for 3D visualisation based on user defined tolerances (e.g. min./max.)



## Actual/Nominal comparison

- Comparison of the actual part geometry with CAD data
- Also considers inner or overlapping structures that are not measurable with optical or tactile measuring devices



## STL-export

- Calculation of polygonal surfaces based on 3D volumetric CT-data
- STLs can then be used for reverse engineering, 3D printing, and finite element simulations



# TPW Prüfzentrum

## Your reliable partner for...

### Non-destructive testing

- Mobile Hardness Testing
- 3D Computed Tomography
- Radiographic Testing
- Digital Radiography
- Dye Penetrant Testing
- Magnetic Particle Testing
- Ultrasonic Testing
- Visual Inspections
  
- **Welding engineering**
- **Failure analysis**

### Destructive testing

incl. in house sample preparation

- Chemical Analyses
- Hardness Testing
- Impact Testing  
(Temperatures from -196°C)
- Corrosion Testing
- Metallographic Testing
- Heat treatments
- Technological Testing
- Hot tensile testing up to 900°C
- Tensile Testing



Deutsche  
Akkreditierungsstelle  
D-PL-11209-01-00

Accredited testing laboratory  
D-PL-11209-01-00  
DIN EN ISO/IEC 17025

Environmental Management  
ISO 14001

Health & Safety Management  
BS OHSAS 18001

## Contact us!

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