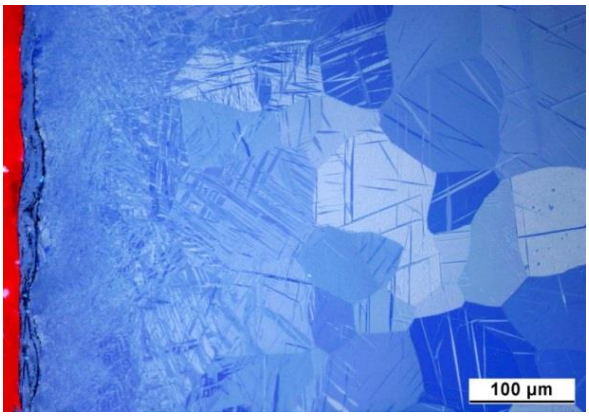
Damage and material analysis
Materialography / Metallography

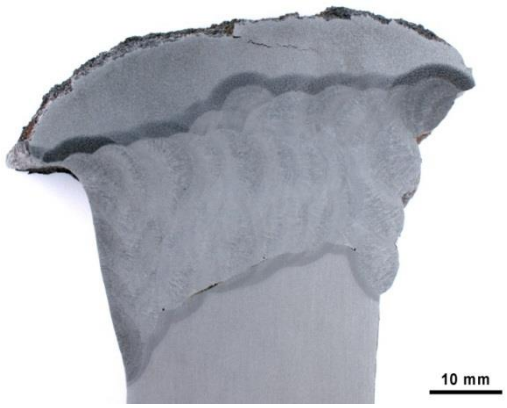
Materialography comprises the qualitative and quantitative description and evaluation of the material structure using microscopic methods. Depending on the customer's requirements and the problem at hand, our experienced specialists can make use of a wide range of materialographic examination possibilities and use their knowledge to expertly interpret and evaluate the results. Microstructure analysis can also be carried out on components on site using outpatient metallography.



Pure titanium microstructure with oxygen enriched edge zone

Ambulatory metallography on a stationary gas turbine

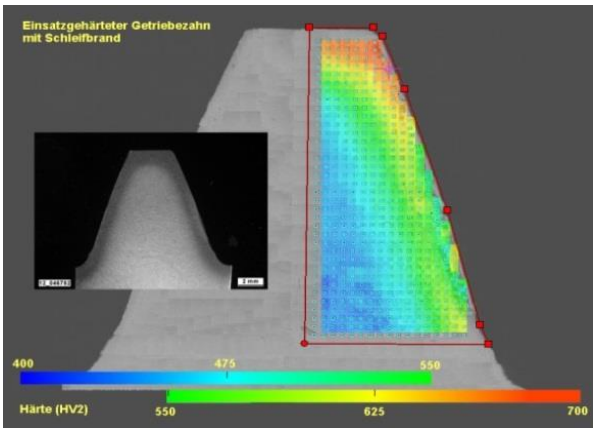
Methods
- Micro- and macrosection preparation of metals, ceramics, plastics and composite materials
- Various etching techniques and recipes
- Modern light microscopy and photography
- Hardness tests HB, HR, HV, including micro hardness HV



Macrosection of a large multilayer weld

Our services
- Supporting work for loss analyses
- Assistance with production problems
- Assessment of heat treatments
- Support for material optimization
- Characterization of materials and coatings
- Residual life analysis of high temperature materials

- Component metallography / outpatient metallography on site



Hardness mapping of a case-hardened gear tooth with grinding burn

Specialities
- Preparation of thin layers and smallest components
- HF-containing etchants for e.g. titanium alloys
- Hardness mappings (Hardness testing machine Vickers microhardness)
- Outpatient metallography

Delivery time
The delivery time for materialographic work is usually 2-5 days from receipt of samples. For more demanding examinations a delivery date is agreed upon in consultation

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