

| Component Failure / Root Cause Analyses, Metallography

We offer fast and competent support during operation and outage but also for individual problems regarding root cause analyses, material-related testing and customized improvement process concepts.

Challenge

Plant operation is endangered when components fail, or if non-destructive examinations reveal material indications. A quick response is needed to limit the impact and the operator searches for input on how to prevent such failures from re-occurring.

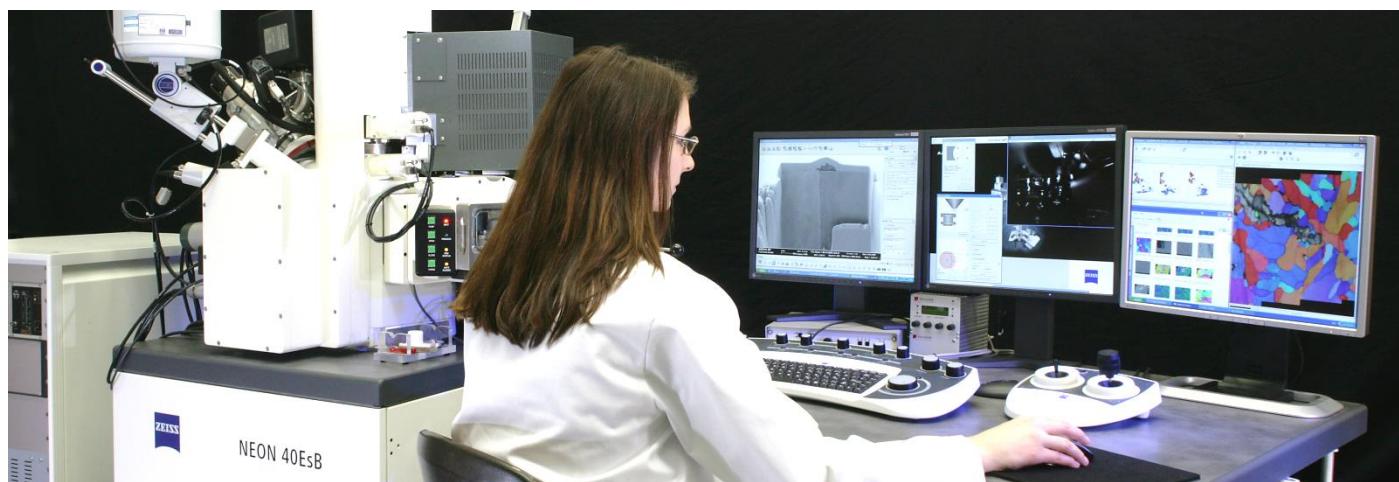
Solution

Framatome's Technical Center offers comprehensive services to assess component failures and to provide input for remedial actions.

- Long-term or ad-hoc deployment of on-site teams including material testing personnel and/or materials engineers for on-site evaluations
- Organization of shipment of parts
- Performance and documentation of failure analyses on active or non-active parts
- Development of interdisciplinary approaches and remedial actions
- Presentation of results in the presence of an independent third party and/or licensing authority if required

Customer benefits

- Fast response time and flexible service possibilities thanks to existing infrastructure
- Broad range of examination methods for precise results
- Well-familiar in working with authorities
- Obtain reliable remedial actions through our internationally acknowledged experts in different areas and long-time experience especially in the field of power plant technology



**Your performance
is our everyday commitment**

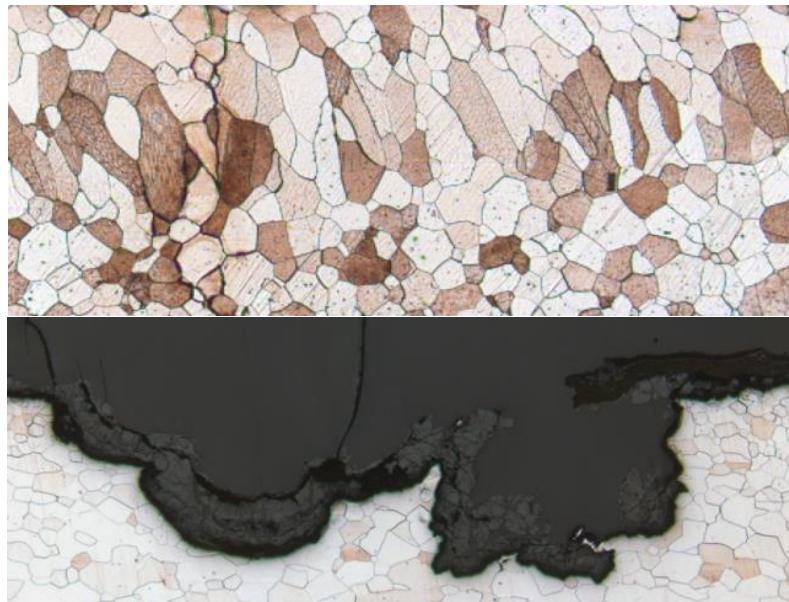
Technical information

Our main services:

- Component failure / root cause analyses
- Ambulant metallography
- Positive material identification
- Metallographic / ceramographic investigation
- Fracture surface investigations
- Surface analyses (topography, roughness, contour)
- Microstructure assessment (creep damage, aging, thermal heat treatment)
- Analysis of deposits and particles
- Phase and texture analyses
- Preparation of 3.1, 3.2 certificates
- Assessment of production test coupons
- Assistance for material-related and analytic problems
- X-ray residual stress measurement (mobile and stationary)
- Hardness testing & hardness mappings
- Nano-mechanical testing system



Scanning electron microscope



Metallography

Key figures

About **350** root cause analyses per year

1/3 of these performed ad-hoc

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