



# Remnant lifetime assessment of service-exposed high- temperature components

Determination of the remnant  
lifetime of service-exposed  
components using Iso-stress-tests  
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# Application

Determination of the remnant lifetime of service-exposed high-temperature components of the petrochemistry, process industry and power plant technology

Prevention of disturbance and failures with early assessment of critical conditions of components

Increased operational reliability as well as improvement of the planning security of replacements and investments of plant components

# Method

Iso-stress-tests as creep rupture tests with reduced test duration (e. g. 300 to 5,000 hours), according to ASTM E139 or ISO 204

Testing of several specimens with different compared-to-service increased temperatures but near-service mechanical stresses

Extrapolation of the test results to service temperatures for direct calculation of remnant lifetime

# Calculation

Interpretation of Iso-stress-results with time-temperature-parameters like Manson-Haferd or Larson-Miller and adjusted stress functions using of self-developed software tool ZVA

Correlation of the reference stress and temperature of the component allows a detailed calculation of the remnant lifetime



Do you still have questions?  
We have the answers.

As a DAkkS accredited testing laboratory and inspection body and a TÜV SÜD Industry Service GmbH approved testing laboratory, we offer you our expertise in remnant lifetime assessment of creep-exposed high-temperature components. We have compiled more information on our services for you here:



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