WIAP® MEMV®

Metall entspannen mit Vibration

REPORT WM MEASURE VOLTAGES 886

Cut - Compliance Method

1 CUT-COMPLIANCE METHOD

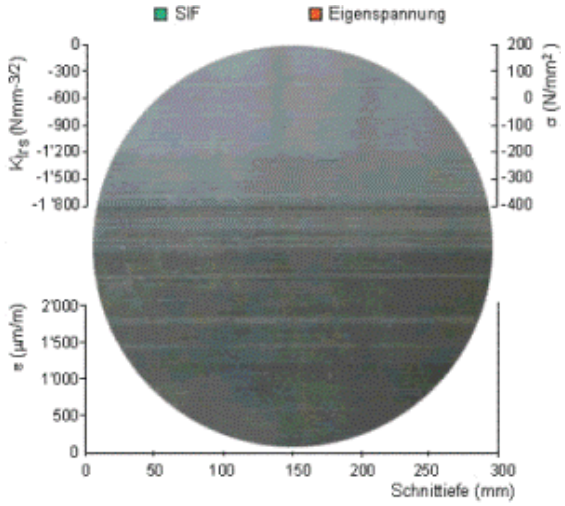
With the cut-compliance (CC) method, was instrumental in the development of Mat-Tec (and is) the Self-voltage gradients across an entire cross-section of a component can be measured efficiently and reliably. For more details, please refer to publications (PDF):

Some Steps Towards Automation of the Crack Compliance Method to Measure Residual Stress Distributions, ICRS5, 1997

Experimental Determination of Crack Closure by the Cut Compliance Technique, in: Advances in Fatigue Crack Closure Measurement and Analysis, ASTM STP 1343, 1999

These can be determined directly the course of the crack stress due to the internal stresses in the form of the course of the stress intensity factor. This is required for fracture-mechanical fatigue and lifetime calculations. Thus the CC method is also suitable for determining Rissschliesseffekte experimentally (PDF:Characterization and assessment of the fatigue crack behavior in the area of the threshold value), The CC method can be traced to a certain depth to apply (PDF as a part-destructive method for determining residual stresses:Near-surface stress measurement in 2D and 2D by the cut compliance technique, Material Science Forum, 2002), Thus, self-voltages can be measured on larger objects in situ. The CC method is currently an ASTM standard being prepared in the Drafting Committee and serves on the Mat-Tec AG.

Example of a residual stress measurement and determination of the resulting stress intensity factor in a forged shaft



2 REFERENCES

Int_ Nasser Kanani

http://de.stresstechgroup.com/content/de/1041/1671/Barkhausenrauschen%20Analyse.html

Internship Manual test - Chair Metallic Materials

http://www.mat-tec.ch/de/services/eigenspannungen.html

https://www.psi.ch/sinq/poldi/

http://wiap.ch/Diverse%20Sprachen/Deutsch/1.%20Ingalt%2000/Inhalt%2000.htm

Wikipedia NDE

http://stressvision.com/

End report WM 886, measure voltages
Hpw 07_11_2018