



Material: Fe-1.5 % Cu carbonitrided; iron: water atomised copper;  
sintering: 1120 °C, 30 min, 70 % N<sub>2</sub> + 30 % H<sub>2</sub>  
heat treatment: 920 °C, 3.5 h, endogas with 0.17 % CO<sub>2</sub> + NH<sub>3</sub>; oil 60 °C;  
no tempering mentioned; case depth: 0.4 - 1mm  
density: 7.1 ± 0.05 g/cm<sup>3</sup>  
mech. properties: H = 582 HV10; R<sub>p0.2</sub> = -; R<sub>m</sub> = 770 MPa

Specimen: rectangular bar 90 x 11 x 5, central hole Ø 2mm, hole compacted, K<sub>t</sub> = 2.0; surface as sintered

Loading mode: plane bending, R = -1; 25 Hz

Limiting no. of cycles: 2 · 10<sup>6</sup>

Endurance limit: 300 MPa (extrapolated)

Reference: C.M. Sonsino: Schwingfestigkeit von verschiedenen Sinterstählen und Bemessungskriterien für gesinterte Bauteile; LBF-R report No. FB-170; Fraunhofer-Institut für Betriebsfestigkeit, Darmstadt, 1984

Stress amplitude:	344	398	MPa
Cycles to failure:	615,134	155,586	· 1000
	636,752	166,713	
	669,838	178,226	
	717,745	190,972	
	809,040		