



Material: Fe-1.5 % Cu carbonitrided; iron: water atomised WPL 150

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 - 1 mm

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 ∅ 2mm, hole compacted, K<sub>t</sub> = 2.8; surface as sintered

Loading mode: axial, R = 0; 25 Hz

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

Endurance limit: 110 MPa (decided)

Reference: C.M. Sonsino: Schwingfestigkeit von verschiedenen Stahlgüten und Bemessungskriterien für gesinterter Bauteile; LBF-Report No. FB-170; Fraunhofer-Institut für Betriebsfestigkeit, Darmstadt, 1984

Stress amplitude:	104	108	111	115	130	154	MPa
Cycles to failure:	2000.000	2000.000	2000.000	2000.000	162,918	42,167	- 1000
					212,799	58,072	
					310,435	113,755	
						128,224	