



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

sintering: 1120 °C, 30 min, 70 % N₂ + 30 % H₂

heat treatment: 920 °C, 3.5 h, endogas with 0.17 % CO₂ + NH₃; oil 60 °C;

no tempering mentioned; case depth: through hardened

density: 6.8 ± 0.05 g/cm³

mech. properties: H = 537 HV10; R_{p0.2} = -; R_m = 625 MPa

Specimen: rectangular bar 90 x 11 x 5, central hole Ø 2mm, hole compacted, K_t = 2.0; surface as sintered

Loading mode: plane bending, R = 0; 25 Hz

Limiting no. of cycles: 2 · 10⁶

Endurance limit: 144 MPa (extrapolated)

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

Stress amplitude:	166	209	MPa
Cycles to failure:	275,404	72,439	· 1000
	434,480	78,881	
	527,193	87,090	
	610,857	92,677	
	669,838	97,492	
	905,670	121,051	
	1199,416	127,342	