



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_{90.2} = -; R_m = 625 MPa

Specimen: smooth, K_t = 1.0; ISO 3928; surface as sintered

Loading mode: axial, R = -1; 25 Hz

Limiting no. of cycles: 2 · 10⁶

Endurance limit: 235 MPa {decided}

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

Stress amplitude:	254	260	269	275	290	319	MPa
Cycles to failure:	2013,585	2013,585	2013,585	51,165	52,116	17,020	· 1000
					143,539	50,347	
					199,054	74,126	
					266,054	85,108	
					353,973	97,044	