



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

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: through hardened

density:  $6.8 \pm 0.05 \text{ g/cm}^3$

mech. properties:  $H = 537 \text{ HV}_{10}$ ;  $R_{a0.2} = -$ ;  $R_m = 625 \text{ MPa}$

Specimen: rectangular bar 90 x 11 x 5, central hole  $\varnothing$  2mm, hole compacted,  $K_1 = 2.8$ ; surface as sintered

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

Limiting no. of cycles:  $2 \cdot 10^6$

Endurance limit: 160 MPa

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

Stress amplitude:	147	150	156	157	160	162	172	178	201
Cycles to failure:	2000.000	2000.000	2000.000	746,397	709,529	2000.000	115,072 2000.000	2000.000	50,000 62,083 67,293 100.918