

Material: Fe-1.5 % Cu-0.6 % C; iron: water atomised

copper: FS

carbon: not specified; sintering: 800 °C, 30 min, 70 % N2 + 30 % H2 plus 1120 °C, 30 min, 70 % N2 + 30 % H2 (DPDS)

heat treatment: -

density: 7.4 ± 0.05 g/cm³

mech. properties: H = -; $R_{p0.2} = -$; $R_m = 500$ MPa smooth, $K_t = 1.0$; ISO 3928; surface as sintered

Loading mode: axial, R = 0; 25 Hz

Limiting no. of cyles: 2 · 10⁶ Endurance limit: 145 MPa

Specimen:

Refernece: 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: | 134 | 145 | 152 | 160 | 162 | 175 | MPa |
|--------------------|----------|----------|----------|----------|---------|---------|--------|
| Cycles to failure: | 2000.000 | 2000.000 | 2000.000 | 2000.000 | 131,211 | 46,235 | · 1000 |
| | 2000.000 | 2000.000 | 2000.000 | 2000.000 | 141,896 | 68,860 | |
| | | | | | 266,054 | 92,677 | |
| | | | | | 405,481 | 105,674 | |
| | | | | | 497,703 | | |