



SAFD - Blatt 49 FeCuC-R=1.csv

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

carbon: not specified; sintering: 1120 °C, 30 min, 70 % N₂ + 30

heat treatment: -

density: 7.19 g/cm³

mech. properties: H = 142 HV10; R_{p0.2} = 389 MPa; R_m = 483 M

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

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

Limiting no. of cycles: 2 · 10⁶

Endurance limit: 84 MPa (extrapolated)

Reference: C.M. Sonsino: Ermittlung anwendungsrelevanter Kenngrößen für Sintermetalle. LBF-Report No. FB-158: Fraunhofer-Institut für Betriebsfestigkeit, Darmstadt, 1981

Stress amplitude:	121	161	181	MPa
Cycles to failure:	135,198	19,497	8,433	· 1000
	176,999	23,333	8,932	
	210,848			