

Material: Fe-2 % Cu - 0.8 % C; iron: water atomised

copper: - 100 mesh, carbon: graphite

sintering: 1120 °C, 30 min, endogas with controlled carbon potential

heat treatment: density: 7.05 g/cm³ mech. properties: -

Specimen: smooth, K_t = 1; ISO 3928; surface as sintered¹

Loading mode: axial; R = -1Limiting no. of cycles: $2 \cdot 10^8$

Endurance limit: 179 MPa¹ (177 MPa this evaluation)

Reference: A. Bergmark: Materialdata för PM-Stäl med Varierade Ytor och Geometrier, Jernkontorets

Forskning Report, Series D, No. 763; Jernkontoret, Stockholm, 1999

Stress amplitude:	162	170	178	186	194	MPa
Cycles to failure:	2000.000	177.424	322.063	496.508	343.258	- 1000
	2000.000	703.659	391.572	1548.938	376.595	
		2000.000	2000.000	2000.000		
			2000.000	2000.000		

With burs removed by milling, a staircase test with 8 specimens gave an endurance limit of 174 MPa.