



**Material:** Fe-1.5 % Cu-0.6 % C; iron: water atomized sintering: 1140 °C, 17 min, endogas, surface decarburized, average carbon content 0.490 %  
**heat treatment:** -  
**density:** 6.93 g/cm<sup>3</sup>  
**mech. properties:** H = 111 HBW 2.5/62.5, R<sub>p0.2</sub> = -, R<sub>m</sub> = -  
**Specimen:** smooth, K<sub>t</sub> = 1.0; ISO 3928; surface as sintered  
**Loading mode:** Plane bending; R = -1; two different types of machines with 50 Hz and 120 Hz  
**Limiting no. of cycles:** 10<sup>7</sup>  
**Endurance limit:** 133.9 MPa  
**Reference:** A. Zafari, P. Beiss; Effect of Sintering Furnace on the Fatigue Strength of Fe-1.5Cu-0.6C; Adv. Powder Metall. & Particulate Mat.-2007, Proc. CD, part 5, p. 86-94; MPIF, Princeton, NJ, 2007

Stress amplitude:	130	135	140	145	160	200	240	MPa
Cycles to failure:	10000.0	545.1	1058.4	515.3	157.7	43.2	15.7	1000
	16220.6	2324.0	1564.0	666.3	206.4	40.1	28.6	
	16125.5	1277.5	12272.8	323.4	1052.6	70.8	15.3	
	920.7	1227.6	1307.2	436.6	413.2	39.2	26.3	
	917.6	1149.0	559.9	10000.0	434.5	40.0	14.2	
	10150.5	21200.6	422.2	1144.0	197.6	106.1	18.9	
	1266.5	1691.6	11956.6	609.1	770.8	118.3	28.6	
	1367.0	17120.3	10374.6	619.5	770.5	87.2	25.3	
	10000.0	17042.7	3747.4	838.3	179.3	84.0	16.9	
	10000.0	14884.2	11557.2	778.0	277.6	52.1	17.6	