

ABSTRACT

OIL-IMPREGNATED IRON-BASED SINTERED BEARING

Provided is an oil-impregnated iron-based sintered bearing which has improved wear resistance and is improved in the property of not attacking the mating component. The iron-based sintered bearing has an inner circumferential surface for supporting a shaft, and has an overall composition comprising, by mass ratio: 2.0-9.0 % Cu, 0.5-1.3 % C, and the balance Fe and unavoidable impurities. The bearing has a density of 5.3-5.7 Mg/m³ and an air permeability of 70×10^{-11} to 200×10^{-11} cm². The inner circumferential surface of the bearing comprises, in terms of areal proportion, 8-40% copper phase, 25-55 % pores, 1-5 % graphite phase, and an iron base as the balance, the iron base having a metallographic structure which includes 20 % by area ratio or more ferrite. The bearing is usable in applications where a satisfactory oil film is difficult to form between the shaft and the bearing, as in the case where the shaft rotating normally and reversely is supported and rotates repeatedly reversely at short intervals of operation time.