

Sintered bearing Porite BCF

Porite BCF was developed to be a "Low cost sintered bearing material for replacement of bronze bearings".

[Purpose of development]

Porite BCF consists of a uniformly dispersed Fe system inside a bronze system. Due to the presence of the bronze system, high adaptability near to that of bronze system was achieved. Due to the presence of the Fe system, the basic property of superior wear resistance was achieved.

Due to the presence of a dispersed Fe system, a large reduction in the powder cost was made possible resulting in low cost sintered bearings compared to bronze type bearings.

[Characteristics]

1. Possess similar bearing properties as bronze bearings, moreover, in spite of being lower in cost.
2. The wear resistance is similar to Fe type bearings and therefore much superior to bronze type bearings.
3. Depending on the application, it is possible to exclude the solid lubricant graphite.
4. The load carrying capacity is higher compared to bronze bearings and therefore in the case of high PV values, long life assurance can be a possibility.
5. Possibility of production at Porite factories in Japan, Taiwan, Singapore and Malaysia.

[Applications]

- Car electrical parts: Blower, Wiper, Power window, etc., various motor applications.
- Home appliances: Fan motor, Dryer, Shaver, Washing machine, Power brush, etc.
- Office appliances: PM, HB type Stepping motor, etc
- Audio appliances: Cassette player capstan bearing, various motors.
- Others: Motor for power drivers, cameras, vending machines, etc

[Chemical composition and Physical characteristics]

Chemical composition (weight%)

Fe	Cu	Sn	C	Others
Bal	40~48	3~6	2Max	1Max

Physical characteristics

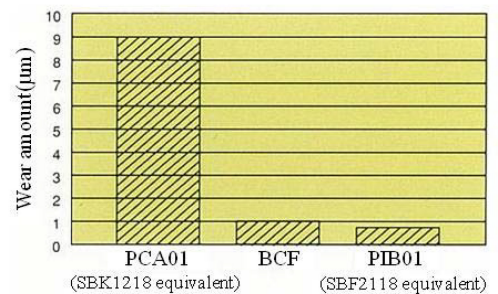
Density	: 5.8~6.6	[g/cm ³]
Porosity	: 18 MIN	[Vol%]
Radial strength	: 200 MIN	[Kgf/mm ²]
PV value	: 2.0	[MPa · m/s]

[Bearing properties]

1. Anti-wear properties

Condition

Imp. Oil : FBK turbine #32
 Shaft : S45C 0.8S φ8
 Rot. Speed : 3000rpm
 Load : 26~208N (Stepped)

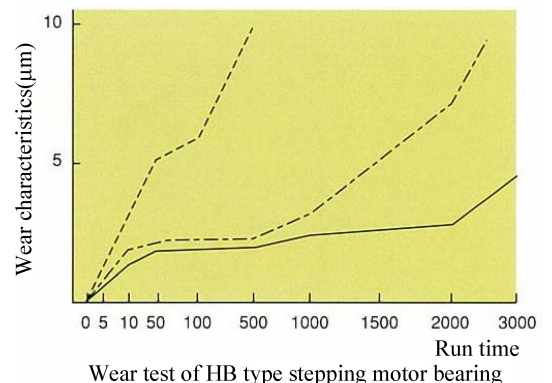


2. Anti-wear properties

(Wear test for H.B. type stepping motor bearing)

Condition

Imp. Oil : PSL-6
 Expt. Time : 3sec ON 1sec OFF
 Rot. Speed : 3240pps s(0.42m/s)
 Load : 0.7MPa
 Temperature: 80°C
 ----- : PCA01(SBK1218)
 -.-.-.-.- : PCF04(Cu-Sn-MoS₂)
 _____ : BCF



[Lubricating oil]

The impregnating oil may change depending on the various operating conditions, please discuss with technical department personnel.

Porite Corporation

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