

Bearing Material for Vibration Motors: NIKKALOY EAK-7

Technical background

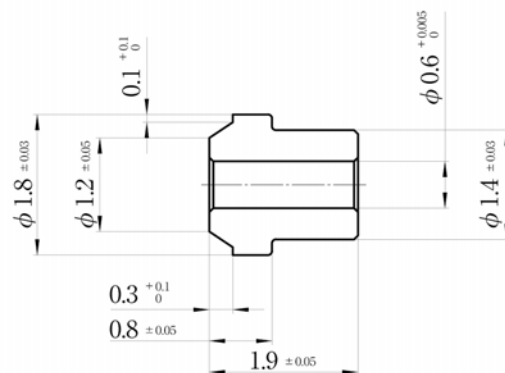
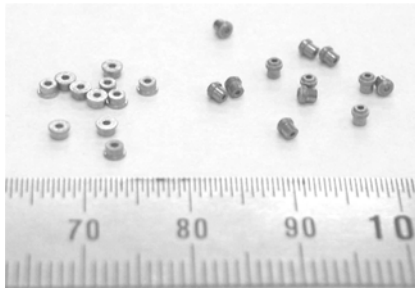
In bearings for vibration motors, high mechanical strength sufficient to withstand dropping impact is required. The material must also enable easy production of a stepped product shape in ultra-compact bearings with an inner diameter of ϕ 1mm.

Features of the new technology

Chemical composition of EAK-7 material

	Fe	Cu	Sn	Zn	C	Others
EAK-7	Balance	35-40	2-4	0.5-2.5	<1	<1

Compactability is improved by optimizing the raw material powder used, enabling production of ultra-compact products with a thin wall profile.



Example of product shape

EAK-7 has high strength in comparison with conventional general Fe-Cu powders.

Although EAK-7 is an Fe-Cu material, rust resistance (iron rust) is excellent because the amount of exposed Fe is minimized.

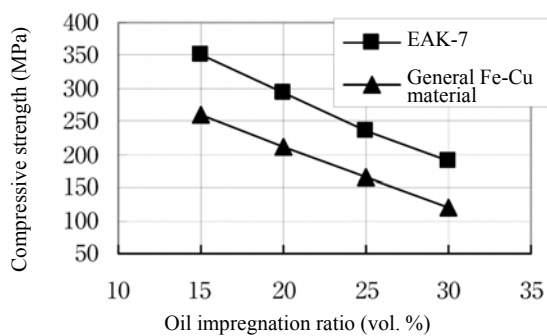
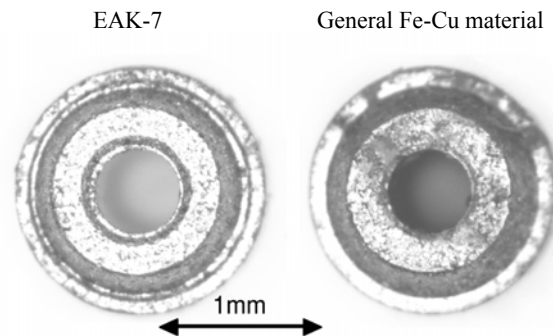


Fig. Relationship between oil impregnation ratio and compressive strength



Conditions of rust test
40°C x 90%RH x 72h
(Allowed to stand in condition
where water was dripped on bearing.)

Possible applications of the technology

- Vibration motors
- Fan motor bearings, etc.

Because EAK-7 has high compressive strength, a higher oil impregnation ratio (lower density) is possible than with conventional Fe-Cu materials, with the effect of extending product life.

Cost comparison

General Fe-Cu type = 100 EAK-7 = 100 (in case of vibration motor bearing shape)