

Re: Idea for isolation material wanted

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Bernd Breitschaedel wrote:

Hello,

For an experimental set-up i want to set a hot metal plate in vibrations.

temperature: ~450 °C
mass of plate: 0.5 kg
frequency: 0-1000 Hz
max. acceration of mass: 150 m/s²

I'm searching for a material for isolating this hot plate from the vibration-excitation by a commercial shaker.

requirements:

- 1) low thermal conductivity (for isolating)
- 2) resitence to compression AND torque
- 3) fatigue strength
- 4) stiff / high bulk modulus: otherwise the material would act as a spring and wouldn'd transfer the vibrating motion.
- 5) easy shaping with lathe or milling machine possible

In my opinion polymers like teflon won't be stiff enough to transfer the vibration. I also thought about ceramics but I dought they can resist vibraitional stress.

I'm thankfull for your suggestions - best with sorce where i can buy this material in low quantities.

Thanks in advance,

Re: Idea for isolation material wanted

Bernd

You might want to check sites that sell vibration isolators for some of the basic technology, and design considerations.

Mostly, it isn't solved by "a material".

An example.....

<http://www.herzan.com/herz1.htm>