

Re: Thermal Insulation Materials

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- *From:* dmartin@xxxxxxxxxxx
 - *Date:* 6 Oct 2005 07:56:55 -0700
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12000 rpm will place the insulating rings under substantial tensile stress.

It will greatly ease your problems if the insulating rings can be placed inside steel(or other high tensile strength) hoops at the outside edge of the disk. This will put the insulation in compression rather than in tension & simplify everything. Such a hoop should have little or no effect on convective heat loss and if polished will decrease radiation heat loss.

The metallic tensile hoop should not contact the steel disk directly to avoid that heat flow path. Can you cast an insulating refractory ring in place on the disk's edge such that the ring is a larger outside diameter than the disk? That would thermally decouple the hoop from the disk.

Or perhaps a stainless wire surrounding each of top & bottom rings?

Dave

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