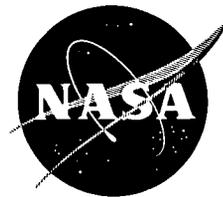


# NASA TECH BRIEF



This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the NASA space program.

## Thermally Conductive Metal Wool-Silicone Rubber Material Can Be Used as Shock and Vibration Damper

**The problem:** For certain space-vehicle applications there was a requirement for a thermally conductive, shock- and vibration-absorbing material that would serve as a spacer in equipment mountings, and be capable of withstanding temperatures of 255°F for 24 hours.

**The solution:** Pads of bronze wool impregnated with a silicone rubber.

**How it's done:** Commercially available bronze wool is first formed into thin mats, which are then placed between two metal plates that have been spread with an uncured silicone rubber. A pressure of 50,000 pounds per square inch is applied to the units in a hydraulic press for a 24-hour curing

period at room temperature. The resultant product is a thin sheet or pad of thermally conductive, shock-absorbing material. While not new in concept, it was found to have a better combination of elasticity, heat resistance, and thermal conductivity than similar commercially available materials.

**Note:**

Suggested uses for this material include shock and vibration absorbers, pressure-sealing gaskets, and r-f shielding gaskets.

**Patent status:** NASA encourages commercial use of this innovation. No patent action is contemplated.

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