

NASA TECH BRIEF



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Heat-Treatment of Metal Parts Facilitated by Sand Embedment

The problem:

To eliminate the need of special holding fixtures used to prevent strains and warping of metal parts of complex shape subjected to heat treatment, such as annealing or stress relieving.

The solution:

Embed the metal parts in sand contained in a steel box. The sand not only provides a simple, inexpensive support for the parts but also ensures more uniform distribution of heat to the parts.

How it's done:

The heat treatment process is carried out by placing the box containing the parts completely embedded in sand into a temperature controlled oven. Use of an oven may be eliminated, at an appreciable cost saving, by attaching electrical leads to the ends of

the steel box and resistance-heating the box and contents to the desired temperature.

Note:

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B66-10616

Patent status:

No patent action is contemplated by NASA.

Source: C. C. Briscoe and R. C. Kelley
of the Boeing Company,
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