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Brief 67-10048

NASA TECH BRIEF

Technique for Stripping Teflon Insulated Wire

The problem:

To avoid unreliable solder connections with Teflon insulated wire, it is mandatory that the insulation be stripped without leaving a residue or producing physical damage. Mechanical stripping generally produces some physical damage to the wires; thermal stripping leaves a small residue which makes it difficult to achieve reliable solder connections.

The solution:

A process for the cryogenic stripping of Teflon insulation using liquid nitrogen.

How it's done:

A number of Teflon insulated wire samples are immersed about 5 cm into a container of liquid nitrogen. When boiloff ceases, the wires are withdrawn singly and bent slightly, first in one direction and then the opposite. This bending action causes the highly frangible Teflon coating to fracture at the flex point. Later, when the wire returns to room temperature, the Teflon insulation is easily removed by sliding it off with the fingernails or flat-nosed pliers.

Notes:

1. Although the fingernail method is hardly practicable, except for limited application, it serves to illustrate the potential. The basic technique has been successfully tested and a mechanized device is now under construction.
2. Inquiries concerning this invention may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: B67-10048

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: B. D. Babb
of Hayes International Corporation
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Category 05