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# NASA TECH BRIEF



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## A Method for Observing Gas Evolution During Plastic Laminate Cure

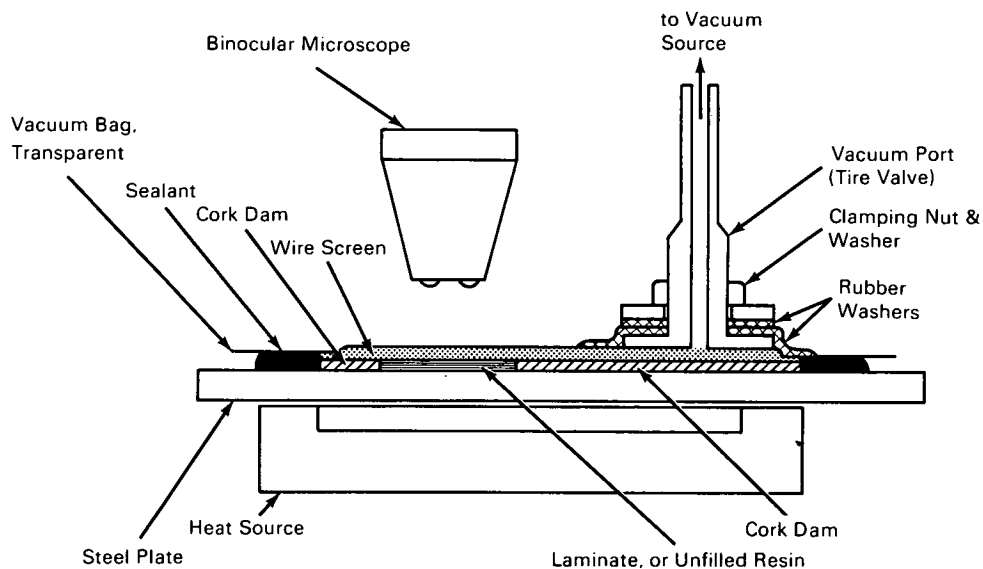


Fig. 1. Typical Setup for Studying Gas Evolution in Plastic Laminates During Cure Under Vacuum Bag Conditions

Polyimide, phenolic, and other resins which develop volatiles during laminating or molding cure can be studied using the method described in this concept, so that optimum cure cycles may be developed. The specimen is placed on a platen and sealed in a plastic bag (fig. 1). The platen is heated and the specimen observed, using a binocular microscope, under various conditions of vacuum, pressure, and temperature. Temperature is monitored by thermocouples and insulation may be adjusted over the specimen adjacent to the area under observation to insure temperature

uniformity. The device can be converted into a simulated autoclave by adding a cover plate with a sight glass as illustrated in figure 2.

### Notes:

1. The information contained in this concept may be of interest to personnel in the plastic industry.
2. This development is in the conceptual stage only, and as of date of publication of this Tech Brief, neither a model or prototype has been constructed.
3. No further documentation is available.

(continued overleaf)

**Patent status:**

No patent action is contemplated by NASA.

Source: Augustus H. Nicholls of  
North American Rockwell Corporation  
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Manned Spacecraft Center  
(MSC-15592)

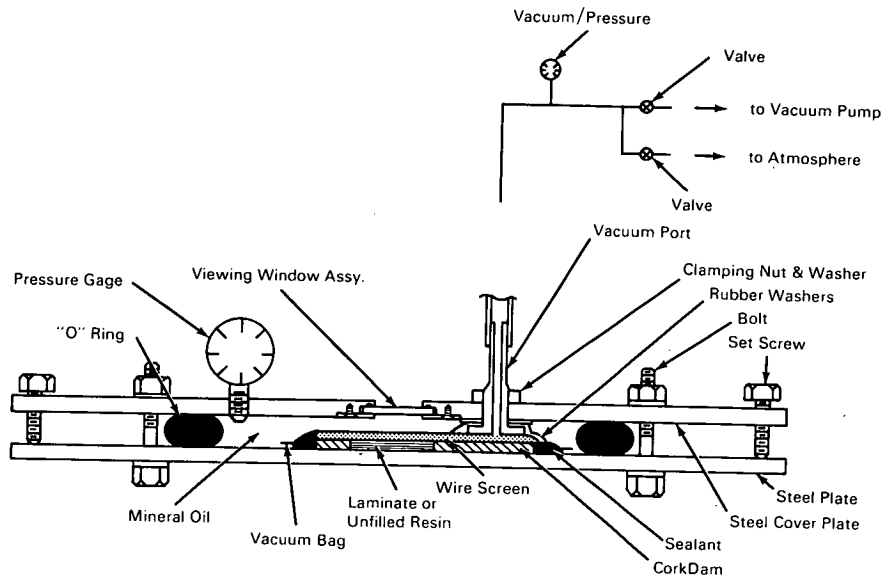


Fig. 2. Typical Setup for Studying Gas Evolution in Plastic Laminates During Cure, Under Simulated Autoclave Conditions.