#### View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

### B72-10231



May 1972

# **AEC-NASA TECH BRIEF**



AEC-NASA Tech Briefs announce new technology derived from the research and development program of the U.S. AEC or from AEC-NASA interagency efforts. They are issued to encourage commercial application. Tech Briefs are available on a subscription basis from the National Technical Information Service, Springfield, Virginia 22151. Requests for individual copies or questions relating to the Tech Brief program may be directed to the Technology Utilization Office, NASA, Code KT, Washington, D.C. 20546.

## **Adhesion Theory Review**

A comprehensive review of adhesion theories and bond failure mechanisms has been compiled. The bonding theories reviewed include physical adsorption, hydrogen bonding, chemisorption and surface energy; the bond failure mechanisms include phase discontinuity, swelling and corrosion. The presentation attempts to differentiate between the basic factors affecting adhesion and the contributory factors which work for or against bond strength.

The concept of bond failure by water desorption is introduced and discussed. In addition 59 references to articles on adhesion technology are included.

### Notes:

1. The following documentation may be obtained from: National Technical Information Service Springfield, Virginia 22151 Single document price \$3.00 (or microfiche \$0.95)

Reference: SC-RR-70-915 Adhesion Theory Review and Critique

2. Technical questions may be directed to: Mr. Glenn K. Ellis Technology Utilization Officer

Office of Information Services U.S. Atomic Energy Commission Washington, D.C. 20545 Reference: TSP72-10231

> Source: N. J. DeLollis of Sandia Laboratories under contract to Atomic Energy Commission (AEC-10083)

> > Category 04

This document was prepared under the sponsorship of the Atomic Energy Commission and/or the National Aeronautics and Space Administration. Neither the United States Government nor any person acting on behalf of the United States Government assumes any liability resulting from the use of the information contained in this document, or warrants that the use of any information, apparatus, method, or process disclosed in this document may not infringe privately owned rights.