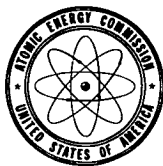


May 1972

B72-10231



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