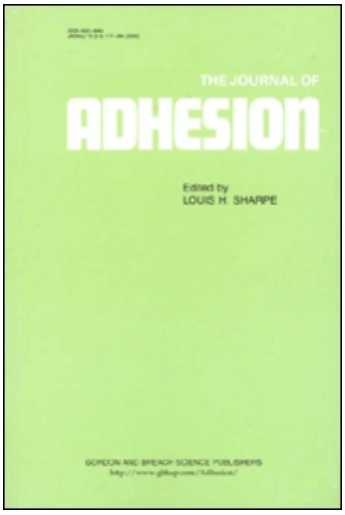

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A review of: "STRUCTURAL ADHESIVES WITH EMPHASIS ON AEROSPACE APPLICATIONS. Marcel Dekker Publ., New York, 1976. 244 pp. ($24.50)"

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Book Review

STRUCTURAL ADHESIVES WITH EMPHASIS ON AEROSPACE APPLICATIONS. Marcel Dekker Publ., New York, 1976. 244 pp. ($24.50)

This is a reproduction of a report submitted to the Department of Defence by a special Committee of the National Materials Advisory Board in July 1974 and declared "unclassified".

Chapter 2 summarizes the conclusions and recommendations more amply justified in the following chapters on (3) Current and future service applications—(4) Structural adhesives development—(5) Interfacial aspects of structural adhesive bonding—(6) Manufacturing and processing—(7) Behavior of polymeric adhesives in joints—(8) Design, analysis, and test methods—(9) Performance and reliability—(10) Technology transfer and utilization.

Several questions may be raised in respect to this publication. Did the Committee's work prove useful to the employer? Presumably, we shall never know the answer to this query. Is the report technically and scientifically sound? Here an answer is possible. The scientific level is not uniform, probably because different members of the Committee advocated different approaches. Thus, chapter 7 is based on the notion that failure within the adhesive film is more common than that in apparent adhesion and, that, consequently, "the behavior of the adhesive material in the joint must assume a critical . . . role" (p. 123). On the other hand (p. 75) it is stated that contact angle (θ) measurements are significant because there is a fundamental relation between θ and the thermodynamic work of adhesion. No relation, if any, is pointed out between this work and the above behavior of the adhesive material.

The next two questions are closely related. Was it advisable to publish the report as a book? What kind of readers is the book intended to serve? The reviewer was unable to define the prospective readership. Thus, pages 194–206 give a mathematical treatment of cumulative damage, which would not appeal to a practical user of structural adhesives, whereas, only a few pages later, he is provided with a list of periodicals on adhesive joints, a list of information centers, a recommendation to write a design handbook for these materials (p. 221), and so forth.

The volume is reproduced from a typewritten text and the margins are not justified.

J. J. BIKERMAN