

BOOK REVIEWS

Handbook of Adhesive Bonded Structural Repair

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REFERENCE: Wegman, R. F. and Tullos, T. T., *Handbook of Adhesive Bonded Structural Repair*, Noyes Publications, Park Ridge, NJ, 1992, ISBN: 0-8155-1293-7, 220 pages, \$48.00.

This handbook is written by two material and manufacturing process engineers with over 60 years of combined experience in government. The purpose of the book is to: (1) provide a standard method for repairing adhesive bonded and composite laminate structures; (2) identify suitable materials and equipment for making satisfactory repairs, and (3) discuss methods by which structures may be inspected both before and after repair. It is designed as a reference manual. The intended audience includes anyone who needs to find recommended information on materials or procedures for adhesive bonded structural repair that meets applicable safety and health standards.

The book does a good job of presenting the material in an easily understood format. There are graphical illustrations of equipment, repair procedures, and applicable specification (standard) tables throughout the book. The layman will have little difficulty understanding new materials. The references at the end of each chapter provide an entree to the literature for those wishing to go further with a particular topic.

The book is divided into eleven chapters. Chapter 1 describes the scope and limitations of the book, provides information about qualifications of repair personnel, including a brief description of

workmanship, and describes materials used in repairing bonded structure and also safety precautions. Chapter 2 provides an in-depth description of repair materials and processing, and lists suppliers partly in clear tabular format. Chapters 3 through 5 provide extensive coverage on damage assessment, surface preparation, repair procedure, and necessary equipment for composite repairs. Chapters 6 through 10 provide detailed information about repair methods and Chapter 11 provides information about nondestructive inspection of adhesive bonded structures. The reviewer suggests grouping the substance of this book under four major headings: (1) the introduction, (2) tools, materials, and processing, (3) damage assessment and inspections, and (4) repair methods for adhesive bonded structures.

One of the strongest points about the book is the use of outlines organized in a do-it-yourself fashion. In addition, each chapter is brief and written in clear sentences. There are, however, minor inadequacies. For instance, when discussing storage of adhesive materials, there was no mention of length of time that the material could be stored without losing its quality. Considering current environmental concerns about hazardous waste materials, the authors of the book should have done a better job addressing this issue in the book as it relates to disposing old and spoiled materials. In addition, the authors acted inconsistently by including the list of references *within* the chapter while some at the *end* of the chapter. For example, on page 58, the references should be at the end of Chapter 3, as they were in other chapters, to make it easy for the reader to follow a particular logic. Finally, there are some minor editing errors in the book. For instance, on pages 178 and 186, the subheadings should be on the same page as the substance being discussed.

Overall, I recommend this book as a reference manual for anyone needing information on materials and for adhesive bonded structural repairs.