

# THE REHAB GUIDE: WINDOWS & DOORS

## INTRODUCTION

This series of guidebooks has been produced by the U.S. Department of Housing and Urban Development to keep the design and construction industry abreast of innovations and state-of-the-art practices in home rehabilitation. As is too often the case, innovative techniques, materials, technologies, and products are slow to make their way into accepted practice. It is evident that such innovations will not advance unless the industry is made aware of them and they are tested. *The Rehab Guide* is intended to accelerate this process by informing builders, architects, engineers, and other housing rehabilitation professionals about such innovations and state-of-the-art practices.

*The Rehab Guide* was also prompted by the lack of a comprehensive publication to make the design and construction industry aware of innovative and cost-saving developments in housing rehabilitation. Professional trade magazines, conferences, and trade shows offer some dissemination of this information, but they are rarely focused exclusively on housing rehabilitation, as this series is, nor are they comprehensive.

### FOCUS OF THE REHAB GUIDE

The focus of this series is on housing rehabilitation, which is different than home improvement. Rehabilitate means "to restore to good condition," not necessarily to improve to a state that is significantly different than the original. This is a fine line, but it distinguishes this series from "home improvement" books written for the amateur. *The Rehab Guide* focuses on building technology, materials, components, and techniques rather than "projects" such as adding a new room, converting a garage into a den, or finishing an attic. Nor is *The Rehab Guide* intended to be a "diagnostic" tool; a number of such books are already available to the industry.

The content for this guidebook, *Windows & Doors*, has been gathered from professionals in the housing rehabilitation field; manufacturers and suppliers of innovative technologies, materials, components, tools, and equipment; trade shows, conferences, reports, and publications considering such issues; trade organizations; and building research centers.

### A NOTE ON SOURCES

A variety of excellent resources exists for information on windows. One very comprehensive book on windows is titled *Residential Windows: a Guide to New Technologies and Energy Performance*, published by W. W. Norton & Company and developed with the support of the U.S. Department of Energy's Window and Glazing Research Program within the Office of Building Technology, State and Community Programs. Another notable source specific to the repair of existing windows is the New York Landmarks Conservancy *Repairing Old and Historic Windows; A Manual for Architects and Homeowners*. DOE also publishes *Fact Sheets*, which summarize the principles involved in the selection of windows. Natural Resources

Canada publishes a *Consumer's Guide to Buying Energy-Efficient Windows and Doors*, which is suitable for cold climates.

Other valuable and detailed sources of information include technical trade magazines such as *Construction Specifier*, *Doors and Hardware*, *Fenestration*, *Window & Door Fabricator*. *Remodeling* magazine's bi-annual *Buyer's Guide* provides a very comprehensive list of manufacturer products categorized by application. Publications relating more directly to residential construction include the *Energy Design Update*, *Environmental Building News*, *Fine Homebuilding*, *Journal of Light Construction*, *Home Energy*, *Old House Journal*, *This Old House*, and *Traditional Builder*.

## HOW THE GUIDE IS ORGANIZED

Nine volumes will eventually make up *The Rehab Guide* in its entirety, and they are listed on the back cover of this volume. Each one is devoted to distinct elements of the house, and within each volume is a range of issues that are common to that element of home rehabilitation work. This volume, *Windows & Doors*, for example, covers topics from new materials for the repair of existing frames to the criteria for selection of an entirely new window or door unit. Each volume addresses a wide range of techniques, materials, tools, and recommendations based on regional differences around the country. Throughout *The Rehab Guide* special attention is given to issues related to energy efficiency, accessible design, and sustainability.

## EASILY ACCESSIBLE FORMAT

*The Rehab Guide* is written and presented in a format intended for easy use. The spiral bound volumes open flat so that they can be easily photocopied, and they can be assembled and stored in a single three-ring binder. Within each volume, drawings, photos, and other graphic materials supplement written descriptions of a broad range of items: state-of-the-art and innovative building technology, products, materials, components, construction and management techniques, tools, equipment, software—virtually any and all items that make housing rehabilitation more efficient in terms of cost and time. While the content focuses on present technologies and techniques that are currently part of the house-building industry, *The Rehab Guide* also includes information on materials, products, and procedures from other construction sectors (such as commercial, industrial, institutional) that are relevant to housing rehabilitation.

The information is organized in different sections according to rehab subjects, and under headings that make this book easy to understand. "Essential Knowledge" gives the reader a basic overview of the important issues related to the section heading. Next, "Techniques, Materials, Tools" presents state-of-the-art and innovative approaches to accomplishing the work. Each entry is explained in detail, including its advantages and disadvantages. This makes it easy for readers to compare approaches and choose the one that is most applicable to their particular project. By design, the "Techniques, Materials, Tools" section is an overview, not a detailed description of implementation. "Further Reading" lists the valuable resources relevant to the subject that readers can go to for more detailed information. Finally, "Product Information" provides names and addresses of manufacturers of products, materials, systems, and components mentioned in the text so that more information can be obtained. By virtue of their being listed here, such products are not necessarily being recommended; their existence and availability is being brought to the reader's attention. New products should be carefully evaluated in the field as to their performance. The product lists are not necessarily comprehensive, and we encourage readers to bring new materials and products to our attention to be included in later editions of *The Rehab Guide*.