

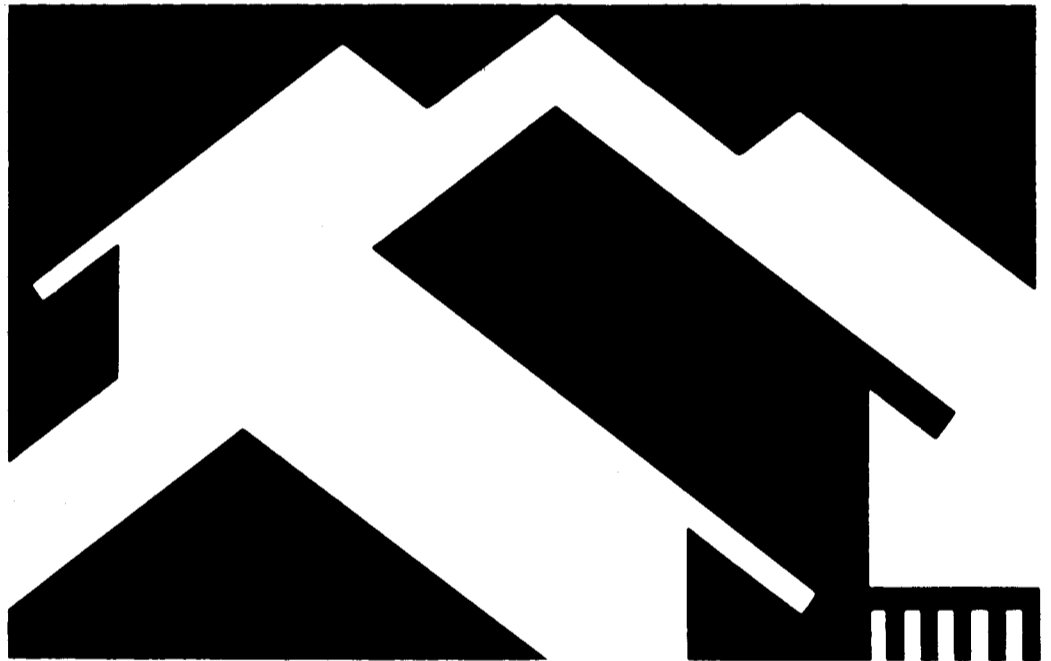


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Wood-Frame House Construction



Reference Abstract

This handbook presents sound principles for wood-frame house construction and suggestions for selecting suitable materials to assist the construction of a good house. The organization reflects the general progression of activity in building a wood-frame house, from initial conception to completed structure. Chapter 1 describes matters that should be considered or dealt with before beginning construction. Chapters 2-4 describe steps in laying the groundwork, framing and closing in, and completing the shell, which are usually taken one after another in the order presented. Chapters 5-7 describe later tasks that can often be done in some order other than presented. Chapter 8 discusses special topics often associated with wood-frame construction. Technical notes, annotated list of suggestions for additional reading, and glossary are provided.

Keywords: Wood-frame, house, construction, building materials, building codes, foundations, framing, siding, roofing, paints and stains, energy conservation, noise control, decay, termites, maintenance and repair.

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Wood-Frame House Construction

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This publication reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and/or Federal agencies before they can be recommended.

CAUTION: Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife—if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.



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PREFACE



The Forest Products Laboratory (FPL), Forest Service, U.S. Department of Agriculture, has conducted research related to wood-frame construction since 1910. Initially this work was reported in technical papers covering specific subjects. Popularized versions of some of the papers were developed to provide guidance to the homeowner as well as the builder. Eventually, the need to gather this information into a single coherent publication became evident. The first complete construction handbook, written entirely by FPL scientists O.C. Heyer and L.O. Anderson, was published in 1955 as U.S. Department of Agriculture Handbook No. 73. The handbook quickly became popular with building professionals and with the public. Educational institutions adopted it as a text and have continued to be major users.

As new technology became available and construction practices changed, the handbook became dated. It was revised by FPL scientist L.O. Anderson and published again in 1970. Slight revisions were made in 1975.

By the early **1980's** the need was recognized for a full revision. The existing text increasingly failed to reflect advances in home building brought about by the availability of new materials, the use of more manufactured components, and changes in construction techniques. Accordingly, this new edition, incorporating the up-to-date knowledge and expertise of all participants in the project, has been prepared as a cooperative effort between the NAHB National Research Center (a wholly owned subsidiary of the National Association of Home Builders) and the Forest Products Laboratory (U.S. Department of Agriculture, Forest Service), with active assistance and cooperation from organizations forming the steering committee acknowledged above.

As with previous editions, the handbook emphasizes the platform construction technique popular in North America. Information on other techniques and systems, such as the truss-framed system developed at the Forest Products Laboratory, is available from both the NAHB National Research Center and the Forest Products Laboratory.

INTRODUCTION



This book presents sound principles for wood-frame house construction and suggestions for selecting suitable materials to assist the construction of a good house. It can be used as a working guide to modern construction practice and techniques, as a textbook, or as a standard to judge the quality of house construction. Dimensions of wood are always stated as nominal, as explained in the technical note on lumber grades.

The book's organization reflects the general progression of activity in building a wood-frame house, from initial conception to completed structure. Certain steps inevitably cut across categories or fail to fit neatly into any scheme, but the order of presentation reflects the broad sequence of the building procedure.

The first chapter describes matters that should be considered or dealt with before beginning construction.

The next three chapters—on laying the groundwork, framing and closing in, and completing the shell—describe steps that are usually taken one after the other in the order that they are set forth.

Chapters 5 through 7—on specialty items, working inside, and finishing touches—describe tasks that increasingly branch out from the ordered requirements of basic construction and can often be done in some order other than that presented here, or in parallel with each other.

Chapter 8 discusses some special topics, questions, and considerations that are often associated with wood-frame construction.

An annotated list of suggestions for additional reading and a glossary are provided at the end of the book. Many of the terms in the glossary appear in the text.

