Long-Term Performance of Construction Details Covered Well

Wood: Detailing for Performance by William A. Dost and Elmer E. Botsai (GRDA Publications, Box 1407, Mill Valley, CA 94942: 1990). 180 pages. 8½x11 softcover. $40.

The smorgasbord of details for wood construction offered by William Dost and Elmer Botsai is based on their personal investigations, industry literature, other experts, and even "homeowner reports." However, the university professors caution that in many cases they "disagree with what is considered standardized detailing." They recommend that readers discuss differences with local code officials to avoid difficulties.

The admonition that the book contains the author's personal opinions is given startling emphasis in the chapter on hardboard siding. That chapter consists solely of a letter from an attorney representing the American Hardboard Association (AMA) threatening lawsuits if the authors dare to publish their views on this material. The letter is followed by a plaintive statement by Dost and Botsai that they lack the financial resources to tackle the AMA. They tersely conclude that "hardboard siding is not the best choice for exterior cladding when it is exposed to rain or irrigation water." Their reasons (and suggestions for detailing) unfortunately are not included.

The balance of the book explores detailing of membranes, plywood and lumber siding, plaster, door and window frames, roof edges, decks, stairs, heavy-timber construction, fasteners (nails and staples), finishes, preservative treatment, and methods to resist insect attack. Clear, large-scale detail drawings with explanatory notes are the heart of each chapter. Usually, in-depth commentary accompanies the illustrations.

In general, the text and drawings are informative and thought provoking. For instance, I learned that western red cedar degrades in sunlight faster than other siding material, which makes it questionable for thin veneer exterior sidings. The authors' drawings purposefully don't show the standard 1/8-inch gap between plywood sheets, since they say it is unrealistic to frame a building on a 4-foot-1/8-inch module. Instead, they propose an industry standard width of 3-foot-11 7/8-inch for sheet goods.

They also do not favor the current generation of machine-driven fasteners, and advise that plywood siding should not be applied horizontally. Nailing plywood at rim joists to allow for shrinkage is shown, along with several alternatives to the hideous Z-flashing typically used at horizontal joints.

You'll also pick up ideas on how to create self-cleaning gaps between decking, and why you should bevel and kerf the end grain of exposed heavy-timber beams. Perhaps most fascinating for me was the new sand layer alternative to soil poisoning as a termite control measure. The sand layer method was developed recently at the University of Hawaii.

The book is flawed by occasional omissions. For example, we're informed that improper nailing is "one of the most pervasive errors" currently found in the building industry, but there are no nailing schedules to set us straight. In another case, we're told that vertical stops for horizontal siding at interior corners should be backed by metal flashing, but no comment is made on how to install the trim piece without penetrating the flashing. Or we are told that the water-to-cement ratio in plaster is critical to good performance, but we aren't told what that ratio should be.

I'd say this is a manual of practical interest to builders and designers who like to think about details and seek ways to avoid unnecessary or premature failures. At the same time, since the authors note that more, updated material will appear in future editions, you might want to wait for the next version, particularly if you find the $40 price hard to swallow.

Short Text Adds Long Life to Shake Roofs

How To More Than Double the Life of Your Roof by The Cedar Guild (PO Box 249, Lyons, OR 97358: 1989). 34 pages. 3-ring binder. $15.

Untreated wood shingle or shake roofs are estimated to have a typical lifetime of approximately 15 years — succumbing eventually to the combined effects of ultraviolet and infrared radiation, stress cracking, moisture, mold, mildew and fungi. This concise, illustrated manual will tell you how to double, or perhaps even triple that life by a combination of cleaning, repair, and application of preservative chemicals.

Clear illustrations, chemical sources, safety tips, and a handy trouble shooting guide are included. A supplemental bimonthly newsletter is available for an extra fifteen bucks. A worthwhile investment.

— *Paul Hanke*

Free & Cheap

Roof Life: *Roof Preventive Maintenance…a Primer,* provides guidelines for establishing and operating a roof inspection and preventive maintenance program. The primer includes average roof life spans, factors that affect the life of a roof, preventive maintenance measures, and ways to start a preventive maintenance program. This free, three-page primer can answer most questions asked about roof maintenance. And it's so basic, it can be given to customers. Contact R. Tarleton, PO Box 946, Norwood, NC 28128; 704/474-3362.

Roofing Membranes: *Selecting EPDM Roofing Membranes…a Guide* discusses the different types of ethylene propylene diene monomer (EPDM) membranes (including standard, reinforced, fleece-backed and uncured flashing membrane), the advantages and limitations of each, and how they are made. Samples of each type of EPDM membrane are included with this free guide. Contact R. Tarleton, PO Box 946, Norwood, NC 28128; 704/474-3362.

Wood Fire Innovation: *The Architect's Resource and Planning Guide,* published by the Tulkivi Group, provides an explanation of the wood-fired Thermal Mass Fireplace, and how this wood-burning system differs from conventional fireplaces, wood stoves, and fireplace inserts. It also discusses radiant and convectional heat, chimney draft, safety, efficiency, and the environmental issues of wood-fuel heating. A complimentary copy is available by calling 800/843-3473, additional copies are available for $5 each.

Electricity Savings: The California Energy Commission has developed a handbook, *Advanced Lighting Guidelines,* that offers ways businesses can save energy by using state-of-the-art lighting. Some of the technologies discussed are lighting design practice, computer-aided lighting design, luminaries and lighting systems, and energy-efficient and electronic ballasts. Send $4.90 to California Energy Commission, Publications Office, 1516 Ninth St., MS-13, Sacramento, CA 95814-5512. Order publication number P400-90-014.

On the Outside: The Southern Forest Products Association offers a free series of six house framing guides for builders, designers, and carpenters, which gives techniques for reducing building costs and achieving a more efficient use of timber resources. Topics included in the *Construction Cost Savers Guides* are Pre-planning; Use of 24', 28', and 32' House Exterior Wall Framing; The All-Weather Wood Foundation System; Keeping Energy-Saving Construction Costs Down. Write or call The Southern Forest Products Association, PO Box 52468, New Orleans, LA 70152; 504/443-4464.

Concrete Treatments: A 24-page booklet, *Effects of Substances on Concrete and Guide to Protective Treatments*, is available from the Portland Cement Association. The booklet, for both engineers and builders, describes protective surface treatments, admixtures, mix ratios, and design considerations to combat deterioration and corrosion. Charts reference the effects of 250 substances on concrete. A vendor list is also included. Send $7.50 plus $2.50 shipping and handling to PCA, Order Processing Department, 5420 Old Orchard Rd., Skokie, IL 60077-9973; 708/966-9559. Order code number IS001.

— *Susan Saunders*