beating the elements

A guide for building outdoor projects that last

Sure, wood can rot. And Mother Nature works hard to help the process along. (Check out her arsenal at right.) But if you like to build outdoor furniture, arbors, and an occasional deck—and who doesn’t—you may want to put the brakes on the decay process by choosing your building materials wisely.

With that in mind, we put together all of the right stuff for combating nature’s onslaught, including the best exterior woods, glues, hardware, and finishes. As a bonus, we included several time-tested tips. Used together, you should be able to create that handsome Adirondack chair or potting bench, and have it last for years, possibly decades, come rain or come shine.

Weather-tough rules for outdoor projects

Rule 1: Select wood, adhesive, hardware, and finish that can withstand the abuse of outdoor conditions.

Rule 2: Keep wood materials dry and cool during construction.

Rule 3: Glue and screw parts together.

Rule 4: Sand all wood surfaces for finishing.

Rule 5: Protect all wood with finish or paint.

Rule 6: Keep the project from standing in or holding dirt or water.

Rule 7: Maintain the finish as needed before problems become serious.

Building Tips

Simple, sensible tricks are often what it takes to extend a project’s life. For starters, build outdoor furniture, structures, and other pieces to shed water. Do this by giving excess water a way out. Space them 5–6” apart.

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American softwoods, the traditional choice

The three most widely available and suitable exterior lumber choices, not treated with chemical preservatives, include Western red cedar, redwood, and cypress. Your geographic location will determine the availability and cost of these materials. Redwood, for example, is widely available and used in Continued on next page

Softwood savvy

Tip 1: Avoid sapwood. It’s generally not decay resistant. Almost always it appears as the lighter material in a given piece of lumber, as shown below top.

Tip 2: If possible, use quartersawn lumber to resist warping and improve dimensional stability. Quartersawn wood expands and contracts across its width only about half as much as flatsawn lumber. (See the examples below middle.) While such wood can sometimes be difficult to find, you can usually create it by buying wide boards (more than twice as wide as you need) and cutting out the unstable pith wood center (the innermost rings).

Tip 3: Look for tight-grained lumber. Such dense pieces are more stable, making them less prone to cracking, cupping, warping, and shelling (see next tip) than wide-grained stock. See below bottom.

Tip 4: Place horizontal boards crown up in projects. If you can’t avoid flatsawn (also called plainsawn) lumber, placing the crown up will help shed water and reduce the effects of shelling. Shelling occurs when the bands of earlywood (lighter wood grain) and latewood (darker wood grain) separate. It occurs on the pith side of a board rather than the bark (crown) side. See the photo below bottom for reference.

9 mighty woods for outdoor projects

Redwood

Cypress

Pressure-treated pine

Ipe

Malhagoni

Solid composite

Task

White Oak

Sapwood

Heartwood

Flatsawn

Quartersawn

Tighter grain

Wider grain

Pith side

Bar side

Flat sawn

Quarter sawn

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Western red cedar is commonly sold in the Midwest, and eastern U.S. cypress, which grows throughout the South and Southeast, often gets the nod in those locales due to its availability and economical price.

Western red cedar and redwood stand tend to appear straight-grained and are dimensional stable and naturally decay resistant. Both, however, can split when driving fasteners. (See “Screw-Driving Tips” on page 64.) Also, both species bleed tannins that make using fasteners and painting more problematic. The tannins appear as stains that make using fasteners and painting more problematic. To avoid these tendencies, you can air-dry treated lumber for two warm months, or purchase KDAT (kiln-dried-after-treatment) lumber. The downside: cost (usually double the wet stuff) and the need to special-order it from lumber yards or home centers beforehand.

The third major player, cypress, grows in swamps and has a conical base, with roots that seem to stand out of the water. Its sapwood is almost white, while the heartwood color varies from a light yellow brown to a reddish brown and dark brown. Inland cypress, like the sample shown here, has the lighter-colored heart yellow brown to a reddish brown and dark brown. Cypress patterns and accepts finish as readily as redwood. It features beautiful ashlike grain shown here, has the lighter-colored heartwood color varies from a light yellow brown to a reddish brown and dark brown. The upstart composites

Wood treated with ACQ: the economical choice

Early in 2004, the old CCA (chromated copper arsenate) treatment that contained arsenic was replaced by various treatments, but the most common is ACQ (alkaline copperquat). In spite of its shortcomings, ACQ-treated wood holds up well. It might crack, warp, or shrink, but it won’t rot or prove tasty to insects.

ACQ is a water-based preservative forced deep into the lumber, usually Southern yellow pine. Consequently, the lumber is saturated when banded and shipped. This practice makes treated wood heavy and prone to the problems listed previously. To avoid these tendencies, you can air-dry treated lumber for two warm months, or purchase KDAT (kiln-dried-after-treatment) lumber. The downside: cost (usually double the wet stuff) and the need to special-order it from lumber yards or home centers beforehand.

Because the preservatives are accepted only by the sapwood, heartwood of pressure-treated lumber is not decay resistant, typically appearing tan or pink instead of green.

Tough-as-nails white oak

White oak, the “whiskey barrel” wood, differs from red oak in that it is much less porous. Moisture can’t wick up its end grain. Super-strong, white oak features straight-grained wood with heartwood that resists decay. Like redwood and cypress, it splits rather easily, so you do need to predrill screw holes for fasteners.

Imported dense hardwoods

Ipe, a relative newcomer, is imported from Central and South America, where it grows rapidly. Also called Brazilian walnut and ironwood, it is so dense that it barely floats. Strong and stable, the functional life of ipe can be as long as 40 years if left untreated. It resists movement, surface checks, warping, cracking, decomposition, and denting. Also, while it is expensive (and sometimes hard to find), ipe is comparatively priced with many composite wood products.

Ipe is still available in small quantities, but you’ll pay a hefty price for it. Largely associated with boatbuilding, it doubles as an excellent choice for small outdoor projects where you want the beauty of the wood to speak as loudly as the craftsmanship.

Mahogany serves as a great project wood. It machines, sands, and finishes well, but costs more than pecan. Be sure to ask for African or Honduran mahogany, (avoiding Philippine mahogany). One nice thing: You can buy it in broad thicknesses for use in large projects.

The upstart composites

Wood plastic composites (WPCs) are made from thermoplastic resins, wood flour, and wood fiber. Some make use of recycled material, but all are rotproof. Composites have no defects, and do not compress like wood. This density poses special problems for fastening (see page 64) and movement. Solid composites, shown left, have greater expansion and contraction rates, especially along their lengths. They heat up in sunlight, and don’t absorb paint and stain. Also, they lack rigidity. However, they don’t splinter and offer good traction in wet conditions.

Adhesives that bond, seal, and fill

Because exterior glues can’t overcome poor workmanship, build your exterior projects with the same care as when building fine furniture. Make tight fitting joints, work the glue while it’s still wet, provide clamping along pressure over the entire joint, and allow adequate curing time. Most adhesive manufacturers recommend at least 24 hours of curing before putting stress on a joint. For a look at the latest outdoor adhesive in action, see the photo at right.

No single glue can meet all your requirements, so determine how much moisture your project will be subjected to, the types of joint you plan to use, and the level of bonding. Then consult the chart below to pick a product suited to your needs. Note that adhesive sealants provide less bonding strength but offer great flexibility.

Outdoor woods: how they stack up

<table>
<thead>
<tr>
<th>Type</th>
<th>Density (lb/cu ft)</th>
<th>Unit strength (psi)</th>
<th>Small screw (inch)</th>
<th>Stability</th>
<th>Stop acceptance</th>
<th>Creep tendencies (inch/in)</th>
<th>Warranting tendencies (inch/in)</th>
<th>Availability</th>
<th>Cost per 100 lin ft.</th>
<th>Bending strength (psi)</th>
<th>Best use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western red cedar</td>
<td>L</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$1</td>
<td>All purposes</td>
</tr>
<tr>
<td>Redwood</td>
<td>L</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$2</td>
</tr>
<tr>
<td>Cypress</td>
<td>M</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$2</td>
</tr>
<tr>
<td>Pressure-treated pine</td>
<td>L</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$1</td>
</tr>
<tr>
<td>White oak</td>
<td>H</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$2</td>
<td>Benches, arbors, chairs</td>
</tr>
<tr>
<td>Ipe</td>
<td>VH</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$3</td>
<td>All purposes</td>
</tr>
<tr>
<td>Teak</td>
<td>TK</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$5</td>
<td>All purposes</td>
</tr>
<tr>
<td>Mahogany (Footed)</td>
<td>H</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>$5-6</td>
<td>Furniture projects</td>
</tr>
<tr>
<td>Composites</td>
<td>Solid</td>
<td>VH</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>$2-3</td>
<td>Decking, ramps, railings</td>
</tr>
<tr>
<td>Hollow core</td>
<td>VH</td>
<td>A</td>
<td>A</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>$2-3</td>
<td>Decking, ramps</td>
</tr>
</tbody>
</table>

1. L-Low, M-Medium, H-High, VH-very high
2. Must remove wary resin with acetone
3. Includes difficulty of driving fasteners, cutting, weight

Adhesives and sealants

All-season adhesives and sealants

<table>
<thead>
<tr>
<th>Type</th>
<th>Exterior wood glue</th>
<th>Exterior glue</th>
<th>Bonding glue</th>
<th>Chalking</th>
<th>Flexibility</th>
<th>Shoe resistance</th>
<th>Water resistance</th>
<th>End-grain use</th>
<th>Stability</th>
<th>Use time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior wood glue</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
<td>Water resistant</td>
</tr>
<tr>
<td>Polyurethane glue</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
<td>Liquid</td>
</tr>
<tr>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
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<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
<td>Polyurethane hotmelt</td>
</tr>
<tr>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
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<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
<td>Polyurethane adhesive sealant</td>
</tr>
<tr>
<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
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<td>Elastomeric adhesive sealant</td>
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<td>Elastomeric adhesive sealant</td>
<td>Elastomeric adhesive sealant</td>
</tr>
</tbody>
</table>

1. Includes sandability and assumes water base makes for easier cleanup
2. P-waterproof, R-water resistant

Example: Gorilla Glue
Example: Vulkem 116
Example: Lexel
Example: PL Prem. Constr.
Example: GE
Example: HİPURFormer
Example: Titebond III
Example: Locitite

Polyurethane adhesive sealant

- Efficient, long-lasting
- Excellent adhesion to moisture-resistant materials
- Suitable for Weathering
- Can be applied in a variety of temperatures
- Ideal for use in harsh environments

Example: Lexel

Polyurethane hotmelt

- Good for high-strength bonding
- Adhesive can be heated to reduce viscosity
- Suitable for use on a variety of surfaces
- Ideal for use in applications requiring a rapid cure

Example: GE

Example: HİPURFormer

Example: Titebond III

Example: Locitite

The new polyurethane hot melt adhesives offer reliable strength and set up almost instantly. They’re waterproof, gap-filling, and promise solid end-grain-to-edge-grain bond. Their downsides? They’re expensive and hard to sand after being fully cured.
Fasteners for a lasting, firm hold

Your basic common screw isn't quite so common anymore. The ever-changing climate of tools, bits, and materials has led to an explosion of specialized designs. The greater use of dense hardwoods, the development of composite materials, and changes in preservative treatments also have exerted their influence.

To begin with, the density of composite materials creates problems of splitting, mushrooming (when material is pushed up around the screwhead), and screws "mushrooming" (when material is pushed up below the screw's appearance, and protects the fastener as well.

**Thread pitch and count:** As a general rule, the steeper the thread pitch and the lower the thread count, the faster you can drive a screw. However, such screw designs demand more torque, placing more stress on tools and users, and increasing the chance of snapping screws and stripping heads. One screw, the WeatherMax, has a secondary set of threads inside the main threads that reduces the torque demand on the drill and for color or lubrication. Or they're dipped in molten zinc to prevent corrosion. Note that yellow zinc and black screws (not shown in this article) are often not suited for the types of exterior use.

**Head size:** With large-headed screws, your fastener's visibility increases and countersinking becomes harder and time-consuming. Further, the chances of splitting the wood increase. Many types of trim-head exterior screws, such as GRKs (shown below), come with head sizes similar to a same-size finish nail, making them less noticeable.

**Countersink cutters:** Many exterior screws have countersink cutters on the undersides of the head that aid in sinking them. The number and prominence of the ridges tell how effective they are in that task. One screw, Titan's SplinteTop (shown below), has aggressive cutters to both countersink the head and minimize splitting.

**Shank size:** Shank size affects a screw's shear strength and pull-out power. A wider Shank means the screw threads can be more aggressive. In general, use #10 screws for heavy-duty projects, such as deck building, and #7 or #8 for lighter-duty tasks, such as outdoor furniture construction.

**Shank slot:** Look for screws with a Shank slot like those shown below. This feature improves a screw's ability to auger into a hole, improving self-tapping capability without having to predrill.

Fasteners Key:

1. **Stainless-steel screw**
2. **Plated construction screw**
3. **Dipped galvanized construction screw**
4. **Composite screw**
5. **Dipped galvanized lag screw**
6. **Dipped galvanized bolt**
7. **Plated ring-shank nail**
8. **Hot-dipped galvanized nail**

**Screws**

- **Dipped galvanized lag screw**
- **Dipped galvanized bolt**
- **Plated ring-shank nail**
- **Hot-dipped galvanized nail**

**Thread shape:** Threads are changing rapidly. A composite screw's Shank usually has opposing threads designed to keep the lower threads from spinning out in less-dense natural material (i.e., a wood floor joist). Spax, a composite screw, even has serrated threads (shown below) to improve cutting ability and reduce torque. The WeatherMAX uses a W-cut for the same reason.

**Dipped galvanized and stainless-steel screws.**

**Splitless features:** Predrilling and countersinking are still your best bets to prevent splitting your material, particularly along the edges and ends of stock. However, these methods take time. Trimhead screws help greatly in this area, but other features also have been developed. In addition to the aggressive countersink cutters mentioned earlier, Titan's screws have a vertical knurl above the threads (shown below) that helps hog out a hole to make room for the Shank. If you choose nails instead, consider the ring-shank type. The blunt tip on the ring-shank nail reduces splitting.

**A fast glance at outdoor fasteners**

<table>
<thead>
<tr>
<th>Type</th>
<th>Conclusions</th>
<th>Best use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless-steel screws</td>
<td>40+yr. Prone to stripped heads</td>
<td>ACD, redwood and cedar, coastal areas</td>
</tr>
<tr>
<td>Plated construction screws</td>
<td>40+yr. Highly visible, high torque</td>
<td>All-purpose, trimheads for furniture</td>
</tr>
<tr>
<td>Dipped galvanized construction</td>
<td>7+yr. High torque requirements, staining</td>
<td>All-purpose, except cedar and redwood</td>
</tr>
<tr>
<td>Composites</td>
<td>7+yr. Mushrooming, failure to countersink</td>
<td>Composite decking</td>
</tr>
<tr>
<td>Dipped galvanized lag screws</td>
<td>40+yr. Highly visible, high torque</td>
<td>Heavy timber unsuited for bolts</td>
</tr>
<tr>
<td>Dipped galvanized bolts</td>
<td>40+yr. Highly visible, staining</td>
<td>Heavy timber and post-stain tightening</td>
</tr>
<tr>
<td>Dipped ring-shank nails</td>
<td>15+yr. Dents, bent nails, removal</td>
<td>Trim, fascia, redwood and cedar</td>
</tr>
<tr>
<td>Dipped galvanized nails</td>
<td>15+yr. Dents, bent nails, removal</td>
<td>Attaching decking to non-AFC frame</td>
</tr>
</tbody>
</table>

**Screws**

- **Square drive**
- **Square-Phillips combination drive**
- **Star drive**

**Countersink cutters**

**Predrill and plug:** If you don’t have hundreds of screws to drive, it’s worth your time to predrill. For a furniture-quality look, countersink to hide screwsheads deep in the wood. Then fill the countersunk recesses with plugs made from leftover scrap. Doing this improves appearance, and protects the fastener as well.

**Screw features that make a difference**

*Close examination of screwheads reveals a whole world of engineering that governs their design. The more you know, the easier time you’ll have choosing the right one. Material: Exterior fasteners are made from various grades of case-hardened or stainless steel. While stainless-steel products are left bare, all others have layers of electroplated zinc coatings and sometimes a polymer coating looking good or make it safer to walk on, they abuse and destroy the protective coatings on fasteners. So, after pondering the type of project you’re building, carefully read the next section on screw features and the chart located opposite, bottom, to choose suitable fasteners for the job. Then, check out “Screw-Driving Tips” below to see how you can best put your selected fasteners to work. If using screws, consider going with an impact driver like those shown on page 106.*
Exposing raw wood to the best of both worlds, apply a base coat of

Changes in the 67

By applying a single N

moisture and swells, pushing out bands of wet/dry cycles, earlywood readily absorbs

To find out why wood finishes deteriorate minor repair work may not be an option.

To prevent it,

Shades of difference can appear when

For paint to be most effective, pay atten-

All finishes are not created equal

In choosing the best finish for your project, base the choice on what matters most to you. Is absolute minimum maintenance your big- gest priority? Or do you want to see wood grain even it means finishing more often? Once you know, consider the following products to help you meet your needs.

Water repellents: These finishes accomplish their jobs by carrying a repellent, primarily paraffin wax, through the wood sol-

Penetrating oils: Many people look to

Urethane:

Paints:

Fasteners—

Sources for more information:

Wood materials and finishes—

Adhesives—

Paints—


Four-season finishes: how they compare


As the final step in an outdoor project, the finish is not the place to take shortcuts. By doing so, you jeopardize all the good work you’ve done. And, with some projects (1–3 minutes), thin films of solid-color stain or paint, you subject the finish to early failure. This problem is especially noticeable on flat lumber. To prevent it, use the recommended number of coats for each finish.

1. Raised grain: During the normal yearly wet/dry cycles, earlywood readily absorbs moisture and swells, pushing out bands of the darker latewood and raising the grain, creating cracks in the finish where moisture penetrates and expansion occurs. To control this condition, follow the “crown-up” tip (see page 61), using tight-grained stock—if possible—to limit the problem.

2. Splinter grain: New wood to the sun’s ultraviolet (UV) radiation, even for a week, can degrade the wood fibers. This can stand in the way of paint and film finishes adhering to the smooth surface. When storing materials, keep lumber covered or indoors prior to building. Side treated wood, shelter and sticker it to speed drying.

3. Moisture content: Changes in the moisture content also cause dimensional movement that stresses a film finish. To limit this effect, begin with kiln-dried lumber having 10 percent moisture content. Then coat all sides of the material using a flexible finish (See finish chart, opposite). Note that projects placed in shade release moisture less than from unprotected projects.

4. Poor surface prep: Raw lumber preparation Pressure-treated wood may contain paraffin wax that should be removed with a wood cleaner (a petroleum-based solvent such as mineral spirits) before using water-based finishes. Other wood stored for a few months or exposed to sunlight should be scuffed-sanded, using 50–80 grit for wood you intend to paint, 220 grit for wood receiving a clear finish. Aluminum oxide achieves the best results—it resists loading when sanding softwoods.

Shades of difference can appear when sun-heated surfaces cause semitransparent stains to dry too quickly. frequency of reappplication may be greater than with water-based paints, recoating with an oil finish requires little prep work, and you can apply it quickly. Stains: The sheer number of exterior stain choices has become staggering. They include water-based and oil-based, semitransparent and solid-color, and even penetrating oil stains. Consider solid-color stains as essentially a thin paint.

Oil-based stains penetrate wood better than water-based stains. Water-based stains don’t enter the wood as much as leave slight film on the surface. That makes mainaining-water-based stains more challenging. Water-based products clean up more easily. In all cases, these stains offer better UV protection than using a clear finish alone, even those with UV absorbers. To get the best of both worlds, apply a base coat of compatible stain and topcoat it with two coats of varnish. This will extend the life of both the wood and the finish significantly. It resists loading when sanding softwoods.

Finishes that limit UV damage

Exposure to UV causes color change and a degradation of the surface. However, the quality of UV protection can vary, with all finishes wearing over time. On the low end of the scale, clear finishes with- out UV absorbers offer no protection. Paint, because of its UV-blocking pigment, is the ultimate barrier to the sun’s damage. In between are the pigmented semitransparent stains that provide some degree of sun-screening shelter.

Less-than-perfect working conditions

Heat and moisture are the enemies of effec- tive finishing. Direct sun or hot surfaces lead to finishes drying too quickly. This in turn results in an uneven appearance. This effect is most apparent when using semi-transpar- ent stains. With these products, lap marks (see the photo opposite top) and glossy spots occur when using fresh stain over a quickly drying undercoat. When painting, Mark Knaebe, a USFPI chemist, advises that you not paint on a cool surface that will heat up a few hours when the sun hits it or when heavy dew or frost is expected to form at night. The ideal condi-

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Finishes for the long haul

As the final step in an outdoor project, the finish is not the place to take shortcuts. By doing so, you jeopardize all the good work you’ve done. And, with some projects (1–3 minutes), thin films of solid-color stain or paint, you subject the finish to early failure. This problem is especially noticeable on flat lumber. To prevent it, use the recommended number of coats for each finish.

1. Raised grain: During the normal yearly wet/dry cycles, earlywood readily absorbs moisture and swells, pushing out bands of the darker latewood and raising the grain, creating cracks in the finish where moisture penetrates and expansion occurs. To control this condition, follow the “crown-up” tip (see page 61), using tight-grained stock—if possible—to limit the problem.

2. Splinter grain: New wood to the sun’s ultraviolet (UV) radiation, even for a week, can degrade the wood fibers. This can stand in the way of paint and film finishes adhering to the smooth surface. When stor-