The Southern Pine Council (SPC) is a joint promotional body coordinated and supported by producing members of the Southern Forest Products Association (SFPA) and the Southeastern Lumber Manufacturers Association (SLMA). For more information, contact either association.

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The Southern Pine Council does not grade or test lumber. Southern Pine lumber grade descriptions contained herein are taken from the SPIB Standard Grading Rules for Southern Pine Lumber, 1994 Edition, and the Export Grading Rules, 1982 Edition, both published by the Southern Pine Inspection Bureau (SPIB). The purpose of this publication is to collect and organize technical data available from other sources for lumber importers, builders, engineers, architects and other professionals. Accordingly, neither the Southern Pine Council nor its members warrant that the information from such sources, on which the recommended uses of Southern Pine lumber contained herein are based, is correct, and disclaim responsibility for injury or damage resulting from the use of such information.

The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither the Southern Pine Council nor its members have knowledge of the quality of the workmanship or construction methods used on any construction project, and, accordingly, do not warrant the design or performance of the lumber in completed structures.

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ADDITIONAL INFORMATION
Throughout this booklet, sources of more detailed information on a related Southern Pine topic are listed. These publications are available from SPC; refer to the addresses listed on the back cover. Many of these booklets are available in foreign-language editions.
SOUTHERN PINE LUMBER

Southern Pine grows in a wide geographic belt, stretching from East Texas through Virginia. The name Southern Pine, or Southern Yellow Pine, is representative of a group of four principal tree species: longleaf, shortleaf, loblolly, and slash. Lumber from all four species is marketed as Southern Pine and graded in accordance with the grading rules of the Southern Pine Inspection Bureau (SPIB), approved by the American Lumber Standard Committee (ALSC). The natural characteristics that distinguish Southern Pine as a most versatile building material are:

HIGH STRENGTH
Design values assigned for Southern Pine are among the highest of all softwoods. Southern Pine has earned a reputation as the “Supreme Structural Wood of the World.”

DURABILITY
Southern Pine is highly resistant to wear. It is ideally suited for high-traffic applications such as boardwalks, decks, and flooring.

SEASONING
Southern Pine grading rules restrict moisture content of lumber 50mm (2”) or less in thickness to a maximum of 19%. If specified as “KD” or “KD19”, the maximum is 19%. If specified as “KD15”, the maximum is 15%. Moisture content restrictions apply at the time of shipment to the buyer, as well as at the time of dressing if dressed lumber is involved. Material identified by a certified grade mark is evidence that the Southern Pine lumber has been properly seasoned, and considered sterilized by most importing countries.

FASTENER HOLDING
Southern Pine’s ability to hold nails and other fasteners is among the highest of all softwoods. Drying, or seasoning, Southern Pine lumber enhances fastener-holding capabilities.

TREATABILITY
Southern Pine has long been a preferred species when pressure treatment with preservatives is required. The unique cellular structure of Southern Pine permits deep, uniform penetration of preservatives, rendering the wood useless as a food source for fungi, termites and microorganisms.
A TEEMING LAND OF TIMBER

The growing abundance of pine timber in the southern United States is largely the result of ideal growing conditions and intensive forest management. Southern Pine trees grow fast and mature quickly due to natural factors such as long summers, plentiful rainfall and fertile soils. The growth process has been further enhanced by extensive planting with genetically superior seedlings. In fact, the time required for sawtimber crop rotations can now be as little as 25 years. The region grows timber at a rate one-fourth greater than the national average.

Most of the commercial forestland in the southern United States belongs to some two million private individuals who sell timber to forest products companies. Since these privately owned lands are less regulated, with fewer restrictions on timber harvests and sales than the government-owned forests of the western United States, they are stable sources of supply and more responsive to market demands.

Those are some of the reasons why it is generally predicted that Southern Pine may ultimately become the primary source in the United States of softwood lumber for domestic and foreign markets.

NOW IS THE TIME...

If you are a buyer, specifier, or user of building materials, now is the time to become acquainted with Southern Pine lumber. Growing demand for Southern Pine lumber in world markets is anticipated because of its structural values and its vast supply potential. By the end of this century, Southern Pine is expected to provide a majority of the softwood lumber produced by the United States in quantities that will permit ever larger shipments to buyers throughout the United States and around the world.

Southern Pine lumber is manufactured primarily from four botanical species — shortleaf (Pinus echinata), longleaf (Pinus palustris), loblolly (Pinus taeda), and slash (Pinus elliotti) — which grow extensively on some 30 million hectares of forestland in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, Tennessee, Texas, and Virginia. While there are variations among species, they have one thing in common — exceptional strength. Southern Pine is one of the strongest structural woods in the world. Other natural advantages are high resistance to wear, superior ability to hold fastenings, and ease of treatment with preservatives.

The southern United States is one region with some of the greatest softwood growth potential, and corresponding export capability, of any geographic area on earth. The region has a significant inventory of timber and an ample supply of land for future tree crops. This area also provides an abundance of deep-water ports, rivers and inland waterways to expedite shipment abroad.

A favorable climate and wise forest management practices assure abundant Southern Pine resources for generations to come.
LUMBER GRADES

Southern Pine lumber is produced in different grades, as well as different sizes. Each lumber grade limits certain characteristics such as knots, checks and splits. Along with manufacturing imperfections, these characteristics will contribute to the overall appearance of a piece of lumber.

Lumber grades are assigned by a visual inspection of each piece at the mill. For lumber destined to be used in U.S. construction markets, this inspection is more a judgment of the relative strength properties within a piece than of its appearance. For material to be exported, appearance considerations as well as relative strength properties of a piece are often a deciding factor in assigning a lumber grade.

A complete lumber grade description should be included with any buyer’s order, and is considered an agreement between buyer and seller of specific characteristics allowed within each grade purchased by the buyer.

KILN DRYING ASSURES DIMENSIONAL STABILITY

The vast majority of Southern Pine lumber production is properly seasoned, by drying in a kiln, to a maximum moisture content of 19%. Kiln drying the lumber not only improves dimensional stability, its strength and appearance, but also minimizes shrinkage of the final product in service. In addition, kiln drying is an accepted method of sterilizing the lumber from the unwanted transfer of microorganisms.

Southern Pine grading rules restrict moisture content of lumber 50mm (2”) or less in thickness to a maximum of 19%. If specified as “KD” or “KD19”, the maximum moisture content is 19%. If specified as “KD15”, the maximum is 15%. Moisture content restrictions apply at the time of shipment to the buyer, as well as at the time of dressing if dressed lumber is involved. Material identified by a certified grade mark is evidence that the Southern Pine lumber has been properly seasoned, and is considered sterilized by most importing countries.

Lumber absorbs or loses moisture depending on the surrounding temperature and humidity. Within a typical shipment, Southern Pine lumber dried to a maximum moisture content of 19% will average 15%, and if dried to a maximum moisture content of 15% will average 12%.

Once kiln-dried Southern Pine shipments are delivered, proper storage is essential in maintaining dimensional stability. For builders and other users, kiln-dried lumber reduces costly and unsightly problems such as warp, twist, stain, and crook.
Descriptions of Southern Pine lumber grades produced for uses in the United States are listed below. These grades are also widely available to world markets and suitable for many applications overseas. NOTE: Most mills do not manufacture all products and all grade separations. Products and grades not manufactured by most mills are noted with an asterisk (*).

<table>
<thead>
<tr>
<th>PRODUCT DESCRIPTION</th>
<th>GRADE</th>
<th>GRADE CHARACTERISTICS AND TYPICAL USES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension Lumber: 50mm to 100mm thick, 50mm and wider</td>
<td>*Dense Select Structural Select Structural</td>
<td>High quality, relatively free of characteristics that impair strength or stiffness. Recommended for uses where high strength, stiffness and good appearance are desired.</td>
</tr>
<tr>
<td></td>
<td>*No. 1 Dense No. 1 NonDense</td>
<td>Recommended for general utility and construction where high strength, stiffness and good appearance are desired.</td>
</tr>
<tr>
<td></td>
<td>*No. 2 Dense No. 2 NonDense</td>
<td>Recommended for most general construction uses where moderately high design values are required. Allows well-spaced knots of any quality.</td>
</tr>
<tr>
<td></td>
<td>No. 3</td>
<td>Assigned design values meet a wide range of design requirements. Recommended for general construction purposes where appearance is not a controlling factor. Many pieces included in this grade would qualify as No. 2 except for a single limiting characteristic.</td>
</tr>
<tr>
<td>*Timbers: 125mm x 125mm and larger</td>
<td>Dense Select Structural Select Structural</td>
<td>Recommended where high strength, stiffness and good appearance are desired.</td>
</tr>
<tr>
<td></td>
<td>No. 1 Dense No. 1 NonDense</td>
<td>No. 1 and No. 2 are similar in appearance to corresponding grades of 50mm thick Dimension Lumber. Recommended for general construction uses.</td>
</tr>
<tr>
<td></td>
<td>No. 2</td>
<td>Non-stress rated, but economical for general construction purposes such as blocking, fillers, etc.</td>
</tr>
<tr>
<td>*Prime &amp; Merchantable Dimension: 50mm to 100mm thick, 50mm to 150mm wide</td>
<td>Prime Dense Prime</td>
<td>Grade based on No. 1 Dimension Lumber characteristics except that holes, skip and wane are closely limited to provide a high-quality product.</td>
</tr>
<tr>
<td></td>
<td>Merchantable Dense Merchantable</td>
<td>Grade based on No. 2 Dimension Lumber characteristics except that holes, skip and wane are closely limited to provide a high-quality product.</td>
</tr>
<tr>
<td>Finish: 12mm to 100mm thick, 50mm and wider</td>
<td>C</td>
<td>Excellent for painted or natural finish where requirements are less exacting. Reasonably clear, but permits limited number of surface checks and small tight knots.</td>
</tr>
<tr>
<td></td>
<td>CS&amp;Btr</td>
<td>Combination for B&amp;B and C grades; satisfies requirements for high-quality finish.</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Economical, serviceable grade for natural or painted finish.</td>
</tr>
<tr>
<td>Flooring, Drop Siding, Paneling, Ceiling and Partition, OG Batts, Bevel Siding, Miscellaneous Millwork</td>
<td>C, C&amp;Btr, D</td>
<td>See Finish grades for face side; reverse side wane limitations are lower.</td>
</tr>
<tr>
<td></td>
<td>No. 1</td>
<td>No. 1 Flooring and Paneling not provided under SPIB Grading Rules as a separate grade, but if specified, will be designated and graded as D; No. 1 Drop Siding is graded as No. 1 Boards.</td>
</tr>
<tr>
<td></td>
<td>No. 2</td>
<td>Graded as No. 2 Boards. High utility value where appearance is not a factor.</td>
</tr>
<tr>
<td></td>
<td>No. 3</td>
<td>More manufacturing imperfections allowed than in No. 2, but suitable for economical use.</td>
</tr>
<tr>
<td>*Industrial Lumber: 100mm and less in thickness, 300mm and less in width</td>
<td>Industrial 86</td>
<td>Appearance is same as B&amp;B Finish. Larger sizes conform to Dense Structural 86 Structural Lumber except for dense grain requirement.</td>
</tr>
<tr>
<td></td>
<td>Industrial 72</td>
<td>Appearance is same as C Finish. Larger sizes conform to Dense Structural 72 Structural Lumber except for dense grain requirement.</td>
</tr>
<tr>
<td></td>
<td>Industrial 65</td>
<td>Appearance is same as D Finish. Larger sizes conform to Dense Structural 65 Structural Lumber except for dense grain requirement.</td>
</tr>
<tr>
<td>Radius Edge Decking: 33mm thick, 100mm to 150mm wide</td>
<td>Premium</td>
<td>High-quality product, recommended where smallest knots are desired and appearance is of utmost importance. Excellent for painting or staining.</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>Slightly less restrictive than premium grade. A very good product to use where appearance is not the major factor. Excellent for painting or staining.</td>
</tr>
</tbody>
</table>
## SOUTHERN PINE EXPORT GRADE DESCRIPTIONS

**Based on SPIB’s Export Grading Rules, 1982 Edition**

### Product Grade Characteristics

#### Kiln Dried Saps: 22mm x 75mm and wider through 75mm x 75mm and wider. Lengths: 3m and longer. Moisture Content: 19% or less

Excellent quality for remanufacture where clear or painted finishes are required. Reasonably clear, but allows small characteristics which can be used for most manufacturing applications.

#### Finish & Boards: 22mm x 75mm and wider through 75mm x 75mm and wider. Lengths: 3m and longer. Moisture Content: 15% or less

<table>
<thead>
<tr>
<th>Grade</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;Better Finish</td>
<td>Excellent for painted or natural finish. Reverse side limited to D finish face.</td>
</tr>
<tr>
<td>C&amp;Better Both Faces</td>
<td>Same as C above except requires C finish on both faces.</td>
</tr>
<tr>
<td>D Finish</td>
<td>Economical, serviceable grade for natural or painted finish.</td>
</tr>
<tr>
<td>No.2 Export Boards</td>
<td>Sizes (Rough): 25mm x 50mm and wider through 38mm x 50mm and wider.</td>
</tr>
<tr>
<td></td>
<td>Common grade which permits sound, firm and encased knots. High utility value where appearance is not a factor.</td>
</tr>
</tbody>
</table>

#### Export Dimension: Sizes (Rough): 50mm x 50mm and wider through 100mm x 100mm and wider. Moisture Content: 19% or less

<table>
<thead>
<tr>
<th>Grade</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.1 Export</td>
<td>Recommended for general utility and construction where strength and good appearance are desired.</td>
</tr>
<tr>
<td>No.2 Export</td>
<td>Recommended for most general construction uses where high strength is required.</td>
</tr>
</tbody>
</table>

#### Export Prime: Sizes (Rough): 38mm x 100mm and wider through 100mm x 100mm and wider. Moisture Content: 19% or less

Excellent quality for remanufacture where clear or painted finishes are required. Generally available in larger sizes than Saps.

#### Merchantable Sawn Timbers: Sizes (Rough): 150mm x 150mm and larger. Moisture Content: Any stage of seasoning

Recommended for general utility and construction where high strength is required.

#### Sawn Flitches: Sizes (Rough): 25mm x 150mm and wider through 100mm x 150mm and wider. Moisture Content: 19% or less

Cut with two sawn faces, leaving the rounded profile of the cant on the edges. Excellent quality for remanufactured applications requiring painted or natural finishes.

## SOUTHERN PINE REINSPECTION AVAILABILITY

In the absence of special agreement between buyer and seller, the SPIB Standard Grading Rules for Southern Pine Lumber provide that the purchase, sale or shipment of lumber designated by grades described in these rules must be construed as involving agreement to abide by all applicable provisions of the rules, including submission to inspection of any lumber under complaint as to size, grade or tally. For complete reinspection information, contact:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Pine Inspection Bureau (SPIB)</td>
<td>4709 Scenic Highway, Pensacola, FL 32504-9004</td>
<td>850/434-2611</td>
<td>Fax 850/434-5594</td>
<td><a href="mailto:spib@spib.org">spib@spib.org</a></td>
</tr>
<tr>
<td>Timber Products Inspection, Inc. (TP)</td>
<td>P.O. Box 919, Conyers, GA 30093</td>
<td>770/722-8000</td>
<td>Fax 770/722-1290</td>
<td><a href="mailto:tpinsp@mindspring.com">tpinsp@mindspring.com</a></td>
</tr>
<tr>
<td>Renewable Resource Associates, Inc. (RRA)</td>
<td>3091 Chaparral Place, Lithonia, GA 30038</td>
<td>770/482-9385</td>
<td>Fax 770/484-2541</td>
<td><a href="mailto:rra-inc@mindspring.com">rra-inc@mindspring.com</a></td>
</tr>
</tbody>
</table>
PRODUCT CLASSIFICATION

Products should be identified by manufactured categories such as Dimension, Structural Light Framing, Decking, Boards, Timbers, etc. Products in categories such as Finish, Flooring, Ceiling, and Siding should include the pattern name and number assigned by the rules-writing agency. This will correctly identify the product and ensure that it conforms to standard.

SIZE & LENGTH OF PIECES

Products included in lumber standards, such as Dimension Lumber, should be specified by nominal sizes for thickness and width, and by common lengths that are 2.43 metres to 6.10 metres, in increments of .61 metres. Products with patterns and special orders should include the desired net size, plus the dimensioned profile pattern for less common items.

PROPER LUMBER STORAGE

Using proper storage techniques is essential to the efficient and economical use of lumber. Proper storage also:

- Protects lumber from fungi and insects.
- Prevents defects that may result from alternate wetting and drying.
- Helps maintain appearance and dimensional stability.
- Helps to safeguard against costly callbacks for builders.

JOB SITE STORAGE

Regardless of where lumber is stored at the job site, a few simple precautions should be observed:

- Lumber should be unloaded in a dry place — not in water or muddy areas.
- Lumber should not be in direct contact with the ground. It should be elevated on stringers to allow air circulation.
- Lumber stored in an open area should be covered with a material that will give protection from the elements but be porous enough to allow moisture to escape. Polyethylene or similar covers may not allow the passage of moisture.
- Framing lumber should be enclosed and under roof as soon as possible for protection from the elements.
- Exterior siding and finish should be stored in a closed unheated area.
- Interior items such as flooring, paneling, and cabinet work should be stored in a closed area where heat can be applied during damp weather to maintain the desired moisture content.
- Stock rotation is important when dealing with large deliveries. Lumber should be used in the order in which it is received.

SOUTHERN PINE STANDARD SIZES

Nominal versus Actual: The nominal size is typically used when specifying U.S. lumber, which differs from the actual dimensions of the lumber.

For example, a "two by four" (2 inches by 4 inches, or 51mm x 102mm) is actually 1.5 inches by 3.5 inches (38mm x 89mm).

NOMINAL SIZES

Boards: Less than 51mm in thickness and more than 25mm in width. Includes common boards and finish.

Dimension: From 51mm to, but not including, 127mm in thickness, and 51mm or more in width. Includes framing, joists, planks, rafters, studs, and small timbers.

Timbers: Over 127mm and larger in the least dimension and also classified as beams, stringers, posts and girders. Standard lengths are generally considered as 1.22 to 6.096 metres in .61 metre multiples. Standard lengths under 3.048 metres are in .3048 metre multiples. Lengths beyond 6.096 metres are available, but must be specified.

NET OR ACTUAL SIZES

Boards: S4S (surfaced four sides-dry) 16mm to 32mm thickness.

Dimension: S4S (surfaced four sides-dry) 38mm thickness, 38mm x 89mm, 38mm x 139mm, 38mm x 185mm, 38mm x 235mm, 38mm x 255mm, 64mm to 89mm thickness.

Timbers: (green) Over 117mm in thickness.

Corresponding rough dry sizes for the same classifications are:

Boards: (rough-dry) 22mm to 44mm thickness.

Dimension: (rough-dry) 42mm x 92mm, 42mm x 143mm, 42mm x 187mm, 42mm x 237mm, 42mm x 288mm, 54mm to 105mm thickness.

Timbers: (green) Same as previously listed.

Proper lumber storage techniques contribute to the appearance and dimensional stability of the entire project.
STRUCTURAL APPLICATIONS

TODAY’S VERSATILE BUILDING MATERIAL

Southern Pine has long been a preferred species for residential and nonresidential structures, because of its high strength, durability, and fastener holding power.


The latest research confirms that Southern Pine is the strongest structural lumber species for engineered and framing applications.
PRESSURE-TREATED LUMBER

Southern Pine, because of its ease of treatability, has long been a preferred species when pressure treatment with preservatives is required. The unique cellular structure of Southern Pine permits deep, uniform penetration of preservatives, rendering the wood useless as a food source for fungi, termites and micro-organisms.

Most wood species are refractory and do not readily accept preservatives. Refractory species must first be “incised” or perforated with a series of small slits along the grain of the wood’s surface. Southern Pine is one of the few wood species that does not require incising to meet American Wood Preservers’ Association (AWPA) Standards.

Waterborne preservatives are preferred for most framing applications. These treatments are clean, odorless and paintable, plus they are approved by the U.S. Environmental Protection Agency (EPA) for both interior and exterior use without a sealer. The most commonly used waterborne preservative is known as CCA, or Chromated Copper Arsenate.

Generally, building codes require pressure-treated or naturally durable wood for the following applications:

- Wood joists or the bottom of structural floors without joists closer than 460mm to exposed soil.
- Wood girders closer than 300mm to exposed soil.
- Plates, sills and sleepers on concrete or masonry which is in direct contact with soil.
- Wood in permanent structures closer than 150mm to soil.
- Wood-supporting, moisture-permeable roofs and floors exposed to weather unless separated by an impervious moisture barrier.
- Wood framing members including sheathing which rest on foundation walls and are less than 200mm from soil. Note: When used in enclosed locations, wood moisture content shall be 19% or less at time of permanent enclosure.
- Published design values apply to treated lumber, but must be multiplied by the appropriate wet service factor, CM, when the moisture content will exceed 19% for an extended period of time.
- Hot-dipped galvanized or stainless steel nails and fasteners should be used to resist corrosion.
- Treated lumber should be stacked and stored in the same manner as untreated wood. Treating does not prevent normal shrinking and swelling of wood.
- Where possible, all cuts and holes should be completed before treatment. However, when on-site fabrication is necessary, all cuts and holes should be liberally brushed with a solution of copper naphthenate.

A PROVEN PROCESS

Pressure-treated Southern Pine is the product of a carefully monitored and controlled process. The waterborne preservatives are forced into the wood's cells within a closed cylinder, while under pressure. A chemical reaction combines the preservative and wood fiber to form an insoluble compound. More than 50 years of leachability testing has proven the insolubility of the resulting chemical compounds.

Once removed from the pressurized cylinder, chemical fixation occurs during the drying process, permanently adhering the preservative within the wood's fiber. This process begins during the treating cycle. The time needed to complete fixation can range from several hours to several days depending on the surrounding temperature and humidity, which will vary greatly with the locale and time of year.
The American Wood Preservers’ Association (AWPA) has developed different levels of preservative retention in treated lumber, based on its intended use.

Retention levels refer to the amount of preservative that remains in the cell structure after the pressure process is completed. Retentions are expressed in pounds of preservative per cubic foot of wood. The higher the number, the harsher the condition to which the wood may be exposed. For CCA-treated lumber and plywood, the following retentions have been established by AWPA:

<table>
<thead>
<tr>
<th>Retentions (KG/M³)</th>
<th>Uses/Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>0.25 pcf Above Ground</td>
</tr>
<tr>
<td>6.4</td>
<td>0.40 pcf Ground Contact</td>
</tr>
<tr>
<td>9.6</td>
<td>0.60 pcf Fresh Water</td>
</tr>
<tr>
<td>40.0</td>
<td>2.50 pcf Wood Foundation</td>
</tr>
<tr>
<td></td>
<td>40.0 pcf Salt Water</td>
</tr>
</tbody>
</table>

If you plan to use treated Southern Pine either above ground or in contact with the ground, check the treated quality mark or end tag on each piece of lumber. It will indicate “above ground” for uses such as decking not in direct contact with the soil. It will read “ground contact” for uses that will touch the soil, or be buried in the ground.
Although treated wood is protected against mold, mildew and termite attack, the application of a water-repellent sealer to all exposed wood surfaces is recommended upon completion of construction. This sealer will help control surface checking and provide an attractive appearance. Over time, reapplication of a sealer is recommended, perhaps every year or two; follow the manufacturer’s instructions.

New formulations of CCA preservatives are available that include a water-repellent component, and even color additives. Marketed under a variety of brand names, these treatments provide convenience as well as optimum appearance for outdoor projects. Consult your local lumber dealer about the availability of these special treatments in your area.

Over several months, pressure-treated Southern Pine lumber will weather naturally to an appealing silver-gray color.

Should you decide to paint or stain the treated material, you will find it will accept a finish similar to untreated Southern Pine. Most importantly, Southern Pine should be dry before any type of finish is applied. Following construction, many manufacturers of stains and paints recommend that you wait from a week to two months before applying a finish to treated wood, if the project was built with lumber that was not kiln-dried after treatment (KDAT).

You’ll also find that most paint manufacturers recommend two coats of a good-quality acrylic latex paint for best results on treated Southern Pine. When applying any type of finish, be certain to follow the recommendations of the paint or stain manufacturer.

Horizontal exterior wood surfaces on decks, patios and railings are difficult to coat properly because these surfaces will generally receive more exposure to abrasion and the elements. A good-quality, semi-transparent or opaque stain will penetrate into the wood and will not form a significant surface film that might peel or crack. The color effect of these stains will be influenced by the characteristic “green” color of the treatment.
INDUSTRIAL APPLICATIONS

Today, designers and specifiers are showing a preference for Southern Pine, not only for its high strength and density, but also for its treatability. An increasing volume of Southern Pine is being used in industrial and commercial construction, for both building and nonbuilding uses — piers, wharfs, bridges, boardwalks, as well as highway signposts, guardrails and noise barriers.

Because of its design versatility and inherent qualities — straight dense grain, superior mechanical properties — Southern Pine is at the top of the list for industrial applications.

SURFACING

Surfacing the lumber to its final configuration (either dimensional size or a specialty pattern) should also be a part of a buyer’s specification, depending on the final application. According to SPIB grading rules, different surfacing requirements are referred to as:

- **S4S** — Surfaced Four Sides (all four faces)
- **S2S** — Surfaced Two Sides (two faces on the width)
- **S1E** — Surfaced One Edge (one edge on the thickness)
- **S2E** — Surfaced Two Edges (two edges on the thickness)
- **S1S2E** — Surfaced on One Side and Two Edges; or
- **S2S&CM** — Surfaced Two Sides and Center-Matched on Edges with centered tongue-and-groove

Proper specification of lumber surfacing requirements often contributes to a cost-effective, well-designed project. Note: Variances from S4S will cause a change from the standard dressed size, so the effect on desired net dry size should be considered. Refer to the SPIB Standard Grading Rules for Southern Pine Lumber, 1994 Edition for more information on surfacing designations and net product sizes.

In applications where the thickness and/or width of the lumber or timbers is an important criteria in a particular project, (e.g. structural joists for a boardwalk to which decking will be fastened) both edges and/or surfaces should be surfaced to assure uniform dimensions throughout.

SPECIALTY GRADES

Several of the special-purpose or industrial grades of Southern Pine have been moved to a Special Product Rule for Structural, Industrial and Railroad Freight-Car Lumber, published by SPIB. These grades have traditionally been specified for applications where high strength is needed. This material is not a commodity item and is available only on a “special order” basis from a select number of sawmills; hence, the special product category.

INDUSTRIAL SERVICES — NOTCHING, SAWING

If specifications call for a special configuration of sawn lumber, Southern Pine mills, treating plants and remanufacturing facilities have the capability to profile lumber in a variety of center-matched and V-groove patterns. Notching, if necessary, should be specified as well as any other special cutting, ripping or sawing needs.
MATERIALS HANDLING

The world’s products move on lumber, and kiln-dried Southern Pine provides excellent protection and support for a customer’s valued inventory for pallets, skids, and specialty crating. Stock cut for pallets and other materials handling applications can be delivered in various sizes and grades. Prior to placing an order, specifications and grade requirements should be discussed in detail.

GLUED-LAMINATED LUMBER

The strength and durability of Southern Pine offers unique design opportunities using glued-laminated products. Available in a virtually unlimited range of sizes and profiles, glued-laminated Southern Pine products are used around the world. Typical applications include sports venues, churches, schools, and bridges.

ADDITIONAL INFORMATION
Southern Pine Headers & Beams
INTERIOR APPLICATIONS
SOUTHERN PINE: THE DESIGNER’S CHOICE

Today, Southern Pine is earning an excellent reputation for flooring, kitchen cabinets, doors, windows and stair components used in both residential and commercial buildings. Distinctive paneling and ceilings bring the rich, warm beauty of Southern Pine indoors.

It’s important for both the buyer and seller to understand that proper drying and conditioning, thickness, sizing and grade considerations are of the utmost importance in manufacturing and delivering a high-quality product to the marketplace.

Southern Pine compares favorably, and in some cases is superior, to several species in terms of hardness, specific gravity, bending, stiffness and compression – all important factors to take into consideration when choosing lumber to be used in manufactured goods.
Southern Pine is a preferred material for furniture and many other remanufactured applications, including upholstered frame stock, bed frames, and ladder stock. Edge-glued Southern Pine materials are ideal for stair treads and furniture components, as well. When specified for furniture, joinery, millwork and mouldings, the desired moisture content and conditioning requirements of the lumber should be clearly specified.

Southern Pine products are distinguished by their yellowish white-colored sapwood and red-brown heartwood. Patterns can vary from clear to knotty. When compared with other U.S. softwoods, it is moderately heavy, hard, strong, and shock resistant. Other relative comparisons:

**Working Properties**
- Machining: **GOOD**
- Resistance to splitting in nailing and screwing: **FAIR**
- Gluing: **VERY GOOD**

**Physical Properties**
- Density (12% moisture content): 570.3 kg/m³
- Tangential Shrinkage (green to oven dry): 7.6%
- Side Hardness: 3.100 Newton
WOOD PRODUCTS ENHANCE OUR ENVIRONMENT

Suppose America stopped harvesting its trees to make lumber, plywood, paper and other wood products. What effect would this have on our environment? Let's consider.

What would we use as a building material for homes and furniture, or paper for books and stationery? Would we substitute steel, aluminum, masonry or plastic products? Buy wood from other countries? Or do without?

If we substituted non-wood building products, the environment would be the clear loser. Those non-wood products are environmentally expensive. The supplies of ores and petroleum for their production are finite; once gone, they are gone forever. Wood, on the other hand, is a renewable resource from an endless succession of trees. Non-wood products require far more energy to manufacture than wood: nine times as much to make a steel stud as a wood stud, for example. That further depletes finite supplies of fossil fuels and coal. Not to mention greater pollution of the air and water, while adding to the potential for global warming through the greenhouse effect.

Wood is also the best insulator of all structural building materials, with millions of tiny air cells trapped within its cellular structure providing a barrier against heat and cold. An inch of wood is 15 times as efficient an insulator as concrete, 400 times as efficient as steel and 1,770 times as efficient as aluminum. So homes built with wood require far less energy to heat and cool, thus conserving fossil fuels and coal.

In addition, wood is reusable, recyclable, and biodegradable. Inorganic materials call for yet additional energy drains to recycle or otherwise dispose of them when use has been terminated.

Okay, but aren't we running out of trees by harvesting so many of them for the needs of a swelling population? No, not at all. Each American does use the equivalent of a 30.48 metre, 457 millimeter-diameter tree every year for wood and paper products. But 4.2 million trees are planted every day, which works out to 5.8 trees a year for every American. As a result, more wood is grown each year in the U.S. than is harvested or lost to disease, insects and fire. Growth exceeds harvest by 28%. No surprise then, that the nation has more trees today than it had 75 years ago. Or that about a third of the entire United States — 296 million hectares — is covered with trees. Or even the fact that this amount of forestland is two-thirds of what existed in pre-Columbian America some 500 years ago.

A major reason that trees are so plentiful in America is because people plant and grow them for use as wood products. These trees also provide important environmental benefits, ranging from windbreaks, shade, and soil stabilization to pure aesthetics, wildlife habitat, plus greater air and water quality.

Forests are oxygen factories and greenhouse exchangers. Growing just one pound of wood in a vigorous younger forest removes .67 kilograms of carbon dioxide from the atmosphere and replaces it with .49 kilograms of life-sustaining oxygen. Carbon dioxide accounts for about half of the world’s greenhouse gases, which trap solar rays. An old forest reverses the process, removing oxygen and emitting carbon dioxide. A wood-framed home stores more than 12,700 kilograms of carbon; the manufacturing of metal and masonry for a similar home involves release of 136,000 kilograms of carbon into the atmosphere.

As long as America continues to plant and grow new trees for wood products, the environment will be the big winner. So in a very real sense, wood products are the most environmentally responsible building material anyone could ever use.
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Kenner, LA 70064  USA  
504/443-4464  FAX: 504/443-6612

Southeastern Lumber Manufacturers Association  
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**SPC AROUND THE GLOBE**

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