Southern Pine
Southern Pine grows in a wide geographic belt, stretching from East Texas through Virginia. Southern Pine is a term which represents four principle tree species: longleaf, shortleaf, loblolly, and slash. Lumber from all four species is classified 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).

BOARDS
No.1 Grade features superior appearance characteristics: generally few but sound, tight knots making it suitable for a high-quality finish or for industrial uses where a high quality is desired.

No. 2 Grade is a good-quality material suitable for patterns and general-purpose uses.

The samples pictured in this publication include examples of allowable characteristics within each grade, as described in Standard Grading Rules for Southern Pine Lumber, 2002 Edition, published by the Southern Pine Inspection Bureau (SPIB). 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.

The conditions under which lumber is used in construction may vary widely, as does the quality of workmanship. Neither the Southern Pine Council (SPC) nor its members have knowledge of the quality of workmanship or construction methods used on any construction project and, accordingly, do not warrant the design or performance of the lumber in completed structures.
The attractive grain of Southern Pine, along with its color and other physical properties, make it the preferred material where optimum appearance is required. The grade of Finish refers to lumber having higher appearance qualities. This lumber is particularly suitable for natural finishes or stains. Moisture content requirements for Finish lumber varies by thickness; see Table 2.

**Table 2: Finish Lumber Moisture Content**

<table>
<thead>
<tr>
<th>Nominal Thickness</th>
<th>Moisture Content</th>
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<tbody>
<tr>
<td>1&quot; and 1-1/4&quot;</td>
<td>Should not exceed 15%, but if specified as kiln-dried, the maximum should be 12% on 90% of the pieces and 15% on the remainder.</td>
</tr>
<tr>
<td>1-1/2&quot;, 1-3/4&quot; and 2&quot;</td>
<td>Maximum should be 18% and kiln-dried limit 15%</td>
</tr>
<tr>
<td>over 2&quot; but not over 4&quot;</td>
<td>Maximum should be 19% and the kiln-dried limit 15%</td>
</tr>
<tr>
<td>Over 4&quot;</td>
<td>Maximum should be 20% and the kiln-dried limit 18%</td>
</tr>
</tbody>
</table>

**Table 3: Grade Characteristics**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>B&amp;B</td>
<td>Highest recognized Finish grade. Generally clear, although a limited number of pin knots are permitted. Finest quality for natural or stain finish.</td>
</tr>
<tr>
<td>C</td>
<td>Excellent for painting or natural finish where requirements are less exact. Reasonably clear, but permits limited number of surface checks and small tight knots.</td>
</tr>
<tr>
<td>C&amp;Btr.</td>
<td>Combination of B&amp;B and C grades; satisfies requirements for high quality finish.</td>
</tr>
<tr>
<td>D</td>
<td>Economical and serviceable grade; less restricted than higher grades. Good quality for natural or painted finish.</td>
</tr>
</tbody>
</table>

*Note: Tables 2 and 3 are based upon SPIB Grading Rules, 2002 Edition.*
SIDING

Three classifications of Southern Pine siding are widely available: Drop Siding, Bevel Siding, and Log Cabin Siding.

Drop Siding is machined in a variety of numbered patterns such as #105, #117, and #122.

Bevel siding is one of the more popular types of siding chosen for residential applications. It is manufactured by resawing kiln-dried surfaced lumber at an angle to produce two beveled pieces.

Log Cabin Siding simulates the appearance of actual logs and can be used for both exterior and interior applications.

Siding installed horizontally or at an angle makes the structure appear lower and longer. Southern Pine siding produced in accordance with SPIB Grading Rules is required to be seasoned to a specific moisture content. See Table 2.

When siding is adequately seasoned and kept dry prior to proper installation and finishing, it will remain securely in place, and is less likely to shrink or open at the joints.
INSTALLATION GUIDELINES

Southern Pine siding is relatively easy to install. It is essential that the wood be kept dry before and during construction. Wood shrinks and swells with changes in its moisture content. To minimize dimensional changes after installation, install siding at a moisture content that matches the local climate as closely as possible.

Courses of horizontal siding should be spaced so that a single piece runs continuously above and below windows and doors without notching or splicing. Siding should be butted snugly and squarely against door and window casings, corner boards, and adjoining boards. Mitered corners should be precisely fitted, avoiding creation of any cavities where moisture could collect.

All nailing should be done into studs, and the total effective penetration of the nail should be at least 1-1/2". Hot-dip galvanized, stainless steel, or other noncorrosive nails are recommended for fastening siding. Solid lumber siding should be fastened so that the boards are free to seasonally shrink and swell, reducing the tensile stresses that develop at the fasteners, often resulting in cracking and splitting.
CEILING & PANELING
The Southern Pine double-beaded pattern is a classic for interior ceiling and wainscoting applications. Walls and ceilings using this pattern are highlighted by the distinctive raised double bead. Paneling is commonly used for both interior and exterior drop applications and is noted for its high-quality appearance. Both ceiling and paneling are produced in a variety of grades. Grades of C&B Better (C&Btr) and D provide an excellent painting or staining surface. No.2 and No.3 grades offer an economical solution for general-purpose use, and are often well-suited for a rustic décor.
FLOORING
A superior choice for interior flooring, Southern Pine is highly resistant to normal wear and possesses a unique warm and rich color that enhances any room.

Vertical or edge-grain flooring features a consistent, pinstripe grain with few knots, creating an almost formal appearance. With a harder wearing surface than flat-grain material, vertical or edge-grain flooring may be desirable in high-traffic applications.

Flat-grain flooring highlights the wood’s unique colors, grain pattern, and growth characteristics, offering rich and exceptional character exclusive only to Southern Pine. Typically, flat-grain flooring is more widely available than vertical-grain material.

For optimum appearance, C&Btr and D grades provide an excellent flooring surface, suitable for a protective clear finish or staining. No.2 flooring offers an economical solution for general-purpose uses, complementing a rustic décor.

PREFINISHED FLOORING
Prefinished Southern Pine flooring offers the convenience of a flooring surface choice with a built-in finish, expediting project completion. Various widths, grades, and finishes are manufactured, with limited availability.

STAIR TREADS
Southern Pine 5/4 x 12” bull-nosed stair treads provide a sturdy, durable, and attractive stepping surface. Stair treads may be finished in the same manner as flooring.
**PORCH FLOORING**

Southern Pine, combined with the latest advances in wood preservation, is a superior choice for porch flooring. With its built-in resistance to decay and termites, pressure-treated Southern Pine porch flooring, properly installed, will provide decades of satisfying service.

Porch flooring is similar in sizes, grades, and patterns to interior flooring (refer to pages 7-8). Nominal thicknesses are typically 1" and 1-1/4" (3/4" and 1" actual) with a tongue-and-groove pattern, available in widths of 4" to 6" nominal (3-1/8" to 5-1/8" actual). The grade of C&Btr is most-often specified for porch flooring applications.

The specification of material that is kiln-dried-after-treatment (KDAT) is highly recommended. Redrying the treated material will return each piece to a workable moisture content, generally to 19% or less. The advantages of KDAT flooring material include enhanced dimensional stability, and reduced tendencies to warp, twist, and cup.

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**1x4 C&Btr T&G**

Porch Flooring

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One of the inherent advantages to specifying Southern Pine patterns is its superior ability to accept a wide variety of finishes. It’s important to remember that the wood must be thoroughly clean and dry before any type of finish is applied. In addition, be sure to follow all instructions provided by the finish manufacturer for proper application.

**Ceiling & Paneling** – Once installed, the possibilities for adding dramatic color to a room are endless. Many homeowners prefer to accent the distinctive grain of Southern Pine by simply applying a clear polyurethane finish to all exposed surfaces. These clear finishes are generally available in matte/satin, semi-gloss, or high gloss to suit individual preferences. Southern Pine readily accepts solid or semi-transparent stains, too. For painting, a coat of primer plus two coats of a good-quality latex paint is recommended.

**Siding** – Protection of exterior siding can include your choice of paints or stains. To achieve maximum paint life:

- Treat all surfaces with a paintable water-repellent preservative. Caulk all joints and cracks. Allow time to dry thoroughly.
- Prime bare wood as soon as possible.
- Apply two coats of a good-quality all-acrylic latex house paint over the primer.
- Avoid future separation between paint coats by applying the first topcoat within two weeks of the primer, and the second coat within two weeks of the first.

Solid-color stains act much like paint and may be applied to a smooth surface with a brush, roller, or pad. Two coats will provide better protection and longer service. The all-acrylic latex stains are generally superior, especially when two coats are applied.

Unlike paint, solid-color stains may leave lap marks. Latex-based stains are fast-drying and more likely to show lap marks than are oil-based stains. Lap marks can be prevented by staining only a small number of boards at a time.

Oils and semi-transparent penetrating stains may be applied using a brush, sprayer, or roller. Brushing will usually provide better penetration and performance of the finish. Spraying followed by back-brushing is also a good method of application. For optimum service on rough-sawn or weathered lumber, use two coats; apply the second coat before the first one is dry.

Latex semi-transparent stains do not penetrate the wood surface, but are easy to apply and less likely to form lap marks. Application of two coats is recommended.

**Flooring** – Floor finishes provide both a protective and decorative surface. A stain is one option, adding warmth and charm; stains are available in a wide range of colors.

If the new floor is not stained, it is recommended that a protective sealer be applied. Penetrating sealers and surface sealers are two of the available types.

Penetrating sealers are floor waxes that prevent the penetration of liquids and dirt into the flooring. Chips and scratches are maintainable with small amounts of wax. On new floors, a liquid buffing wax applied to a wax finish forms an additional barrier to dirt and stains. Read the buffing wax label carefully, making certain it is suitable for wood floors. Do not use any product containing water.

Surface sealers do not penetrate the wood-wearing surface. Instead, they create a wood-bonding surface layer. Different types include polyurethanes, moisture-cured urethanes, and acid-cured urethanes.

Polyurethanes are the more popular surface sealers. They provide both durability and moisture resistance. They are available in oil and water-based formulations, in addition to high-gloss, semi-gloss, matte, and satin finishes.

Polyurethane sealers offer excellent resistance to water, scuff marks, and scratches, and provide a durable finish for high-traffic areas such as hallways, kitchens, bathrooms, and family rooms. However, polyurethane finishes have a tendency to “yellow” as they age, slightly tinting the floor color. When regular maintenance no longer provides satisfactory floor surface appearance, sanding is recommended before applying a new coat.

Moisture-cure urethanes are the hardest of the surface sealers. These urethane sealers are extremely prone to errors. Do not attempt to apply urethane sealers without the supervision of an experienced floor finisher.

Acid-cured urethanes, also known as “Swedish finishes,” provide a clearer and somewhat harder surface finish than polyurethanes. Again, due to the technical intricacies of application, consult a floor finishing professional.

The finish selected will affect how often the floor needs cleaning. A lighter floor will hide dust better; however, dirt, spills, and grit may remain more visible leading to more frequent sweeping. A lighter floor coloring enhances room size; a room appears larger and brighter. Conversely, darker colors of floor finishes tend to conceal scratches, cracks, grit, and sediment, and are more forgiving than lighter colors. Dark floor colors help to camouflage the visual damages of heel marks, gouges, and furniture scratches. Since dark colors absorb light rather than reflect it, a dark floor color may make a room appear smaller than lighter colors.

**Porch Flooring** – Proper porch flooring installation actually involves applying the finish prior to installation. Many builders begin with a coat of water-repellent sealer on the top of all floor joists, providing added protection against joist expansion due to excessive collection of moisture.

For the porch flooring, begin with a coat of a paintable water-repellent sealer on all four sides and the ends, followed by (after adequate drying time) a coat of high-quality, mildew-resistant oil-based exterior primer. Consider applying a final coat of oil-based porch enamel to the tongue and grooves (also to the ends of any pieces that will be adjacent to the house) and installing it while the paint is still wet. This procedure not only assures an effective seal against moisture penetration, but also provides a good bond between floor boards.

Upon completion of the flooring installation, applying two coats of the oil-based porch enamel to the surface and exposed ends is recommended. Solid-color stains should never be used on a porch floor due to their low resin content.

Southern Pine Resources

Southern forests are abundant, healthy, and growing. Today's diverse ecosystem is primarily the result of private landowners managing their land for different uses. Private landowners own more than 80% of the South's forests. Their management priorities may include recreation, aesthetics, and wood products. And because active forest management results in healthy tree growth, Southern forests contribute significant environmental benefits, such as improved air and water quality, soil stabilization, shade, and a diverse wildlife habitat.

Many landowners hire a professional forester to develop a land management plan tailored to their long-term objectives. When it is appropriate to harvest the timber, foresters assist with the sale to ensure all provisions of the contract are satisfied.

Some private landowners choose to have management plans that follow certain requirements to meet a prescribed forest certification standard. According to the certification standard, rigorous criteria are established to assure the forest is well-managed. Each day, more and more lumber manufacturing facilities throughout the South are either following a certification standard like the Sustainable Forestry Initiative®, the American Tree Farm System, or ISO 14001. In addition, some manufacturers are requiring timber to be harvested by a reputable certified and trained logging operation.

A crucial part of good forest management is the replanting of trees. Through reforestation, future generations will benefit from the many products of healthy forests.

Additional Information

The Southern Pine Council offers a wide variety of other helpful publications. A single copy is free upon request. PDF downloads are available at www.southernpine.com. Materials available and the cost per copy for quantities include:

- **Southern Pine Use Guide** (#200, $2)
  - grade descriptions, design values, specification guidelines

- **A Guide to Southern Pine Flooring** (#705, $2)
  - product description, installation and finishing

- **A Guide to Southern Pine Porch Flooring** (#313, $1)
  - sizes, grades, patterns, installation and finishing

- **Pressure-Treated Southern Pine** (#300, $2)
  - preservative retentions, standards, proper use and handling

For a listing of all publications, visit www.southernpine.com. Direct inquiries to:

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**DVD now available** – Two programs on a single DVD:

- **Southern Pine Flooring** (16 minutes)
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- **Southern Pine Porches** (13 minutes)
  - The construction of a residential porch is demonstrated, featuring 1x4 pressure-treated porch flooring. The treating process, moisture considerations, design and construction tips, plus finishing steps are presented.

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The content of this publication has been compiled by the Southern Forest Products Association (SFPA) on behalf of the Southern Pine Council (SPC) as a service to buyers, users, and specifiers of wood building materials. The council is a nonprofit trade promotional group supported by Southern Pine lumber manufacturers. One of the primary missions of the council is to provide information to those interested in the industry’s products. SFPA and the Southeastern Lumber Manufacturers Association (SLMA) neither grade, test, manufacture, nor treat lumber products.

The technical information in this publication did not originate with SPC. Information pertaining to Southern Pine lumber grades and moisture content requirements is based on the Standard Grading Rules for Southern Pine Lumber, 2002 Edition, published by the Southern Pine Inspection Bureau (SPIB). Information about pressure-treating methods and performance of treated lumber products is based on the approved Standards of the American Wood Preservers’ Association (AWPA).

SFPA and the Southern Pine Council do not warrant the technical data, lumber design or performance in completed structures.