DIMENSION LUMBER

Lumber Grades

Grading lumber products establishes quality control standards among mills manufacturing the same or similar woods. These grades provide a dependable measure for determining the quality of lumber.

The Western Wood Products Association (WWPA) sets official grade rules, conforming to American Lumber Standards, for mills in 12 western states. The WWPA grade stamp, visible on white pine, spruce-pine-fir, and other western species sold at Requarth Lumber, is assurance of its assigned grade.

The Southern Pine Inspection Bureau (SPIB) publishes grading rules under which more than 95% of the production of southern pine lumber is sold. To qualify for a SPIB grade-making license, a mill must have well-established credentials in manufacturing, seasoning, and grading.

Recommended Uses

Spruce-Pine-Fir, Fir, and Southern Yellow Pine are recommended and widely used for general framing purposes. Pieces are of good appearance, but graded primarily for strength and serviceability.

Dimension Lumber Sizes

Nominal Size (in.)	Actual Surfaced Dry Net Size (in.)
2 x 3	1 1/2 x 2 1/2
2 x 4	1 1/2 x 3 1/2
2 x 6	1 1/2 x 5 1/2
2 x 8	1 1/2 x 7 1/4
2 x 10	1 1/2 x 9 1/4
2 x 12	1 1/2 x 11 1/4

#2 & Better Spruce-Pine-Fir (SPF)

	8'	10'	12'	14'	16'	18'	20'
2 x 2	228S	2210S	2212S	2214S	2216S		
2 x 4	248S	2410S	2412S	2414S	2416S	2418S	2420S
2 x 6	268S	2610S	2612S	2614S	2616S	2618S	2620S

Standard & Better Spruce-Pine-Fir (SPF)

	8'	10'	12'	14'	16'	20'
2 x 8	288S	2810S	2812S	2814S	2816S	
2 x 10	2108S	21010S	21012S	21014S	21016S	
2 x 12	2128S		21212S	21214S	21216S	21220S

#2 Hem Fir

	22'	24'
2 x 6	2622S	2624S
2 x 8	2822S	2824S
2 x 10	21022S	21024S
2 x 12	21222S	21224S

Stud Grade Fir

	7' 8 5/8"	8' 8 5/8"
2 x 4	2478S	2488S
2 x 6	2678S	2688S

#2 Southern Yellow Pine (SYP) Tongue and Groove

	8'	10'	12'	14'	16'
2 x 6	268YTG	2610YTG	2612YTG	2614YTG	2616YTG

#1 Southern Yellow Pine (SYP)

	8'	10'	12'	14'	16'	18'	20'
2 x 2	228Y	2210Y	2212Y				
2 x 4	248Y	2410Y	2412Y	2414Y	2416Y	2418Y	2420Y
2 x 6	268Y	2610Y	2612Y	2614Y	2616Y	2618Y	2620Y
2 x 8	288Y	2810Y	2812Y	2814Y	2816Y	2818Y	2820Y
2 x 10	2108Y	21010Y	21012Y	21014Y	21016Y	21018Y	21020Y
2 x 12	2128Y	21210Y	21212Y	21214Y	21216Y	21218Y	21220Y

#2 Southern Yellow Pine (SYP)

	6'	8'	10'	12'	14'	16'	18'	20'
2 x 4		248Y2	2410Y2	2412Y2	2414Y2	2416Y2	2418Y2	2420Y2
2 x 6		268Y2	2610Y2	2612Y2	2614Y2	2616Y2	2618Y2	2620Y2
4 x 4		448Y	4410Y	4412Y	4414Y	4416Y		
4 x 6	466Y	468Y	4610Y	4612Y	4614Y	4616Y		
6 x 6		668Y	6610Y	6612Y	6614Y	6616Y		
6 x 8			6810Y					

LUMBER STORAGE AND HANDLING

Proper storage is essential to the efficient and economical use of lumber. It protects lumber from fungi and insects and prevents defects that may result from alternate wetting and drying. It helps maintain appearance and dimensional stability and acts as an important safeguard against costly callbacks.

When lumber maintains its dimensional stability, it is less likely to twist, cup, warp, etc.

Such stability is also necessary for non-structural applications, including siding, paneling, moulding, and trim. Here, additional costs may be incurred if the product has to be redried, repaired, or replaced.

Moisture Content

Proper storage is primarily a means of protecting the lumber's appearance and of controlling moisture changes in the wood. Understanding how moisture changes occur is the key to proper storage.

Wood either absorbs or loses moisture, depending on the difference between its moisture content and the surrounding atmospheres. Air temperature also plays a role. When the air is cold, moisture changes occur slowly. On the other hand, warm, humid surroundings will cause dry wood to quickly gain moisture.

When lumber dries, moisture moves from the interior to the surface. The reverse is true for absorption as moisture travels from the wet exterior to the drier interior. During this process of moisture loss or absorption, lumber shrinks or swells accordingly.

Problems begin when shrinkage or swelling occurs unevenly or too quickly. This action breaks down the wood fibers, often causing grade loss in the form of twists, cuts, warps, splits, or checks.

In addition to its dimensional properties, lumber is subject to fungal decay and stain. Fungal growth may occur when moisture content reaches 20% or greater and air temperature is between 40° and 100° F. Even high humidity can cause mold and stain to develop.

Improperly stored or unprotected lumber is prone to rapid or uneven moisture changes and other hazards. To prevent these, certain measures apply depending on whether the material is green or dry and the type of storage facilities available.

Green Lumber

Green lumber, or unseasoned lumber, can be stored outdoors without protection in cold weather, provided the storage period is not extensive. For longer periods, the lumber should be stickered.

Stickering allows air circulation, which helps prevent mold and stain from developing. Some wetting is not hazardous because the moisture content of green lumber is affected little by rainfall.

Dry Lumber

Unlike green lumber, kiln- or air-dried lumber must not get wet. Otherwise, the product may lose the value that was added by careful seasoning.

Rain wetting of any dried lumber can also impair its dimensional stability. If stored outdoors, dry lumber must be protected by tarpaulins, canvas, plastic wrap, or paper wrapping. Paper wrapping offers only short-term protection. Torn wrappers caused by mishandling should be repaired promptly. Lumber stored at the job site is seldom adequately protected, but should be. Avoid placing unprotected lumber directly on the ground. Rather, use supports under the lumber units to keep them from mud and ground water. Hazards of moisture regain are a particular concern for pre-fabricated building components, such as trusses.

Lumber at the job site should be protected by a tarp or other type of cover. If plastic is used, leave enough room at the bottom of the pile for airflow. Otherwise, plastic that reaches to the ground will act like a greenhouse, trapping ground moisture within the stack.

With good scheduling, contractors can keep the volume of exposed lumber to a minimum until the roof is completed and storage space within the building becomes available.

Paneling, Moulding, and Millwork

Paneling, moulding, and millwork should always be stored on supports, indoors, and with good ventilation. Keep such products away from newly poured concrete or freshly drywalled surfaces, as these greatly increase the humidity of the storage space.

In addition, these materials should be acclimatized before application. Acclimatization allows the wood product to reach a moisture equilibrium in its new setting. Thus, any shrinking or swelling will take place before the material is nailed in place.

To acclimatize the product, place it on stickers and store it for seven to ten days in the room in which it is to be used. Again, the room should not have freshly drywalled surfaces or a new concrete floor.

Siding

For siding, store in a covered, unheated area such as an open garage or carport at the job site. Keep it protected from rain, snow, or sun and off the ground. Siding needs to be acclimatized to the on-site atmospheric conditions, but protected from excessive moisture gain or loss. This way, it will become dimensionally stable and ready for prefinishing prior to installation.