



NHLA

RULES

FOR THE MEASUREMENT
& INSPECTION OF
HARDWOOD & CYPRESS

Plus NHLA Sales Code &
Inspection Regulations

Effective January 1, 2019

STRONG ROOTS. GLOBAL REACH.

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National Hardwood Lumber Association (NHLA)
P.O. Box 34518 | Memphis, Tennessee 38184-0518 U.S.A.
6830 Raleigh LaGrange Road | Memphis, Tennessee 38134 U.S.A.
(901) 377-1818 | (901) 382-6419 Fax
info@nhla.com | www.nhla.com

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INSPECTION OF CYPRESS LUMBER

General Instruction

Note: *National Hardwood Lumber Association Inspectors will apply these rules when called upon to inspect cypress lumber unless otherwise specified.*

1. These rules for Cypress are complete under this caption and are not to be confused with any standard grades or other species shown elsewhere in this book.
2. Requests to Association inspectors for inspection of Cypress at loading point should be accompanied by a copy of the order on which shipment is to be made. Requests for inspection at destination should also be accompanied by copy of order, but in the absence of such information the inspector will grade the lumber according to the following standard Cypress grades giving preference to grades in the order named: Selects & Better, No. 1 Common, No. 2 Common, and Peck.
3. Lumber shall be inspected and measured as the inspector finds it, of full length and width. He shall make no allowance for the purpose of raising the grade, except that imperfections in rough stock which can be removed in dressing to standard surfaced thickness shall not be considered in determining the grade; otherwise the defects admissible in rough and dressed stock shall be the same for like kinds and grades.
4. These rules define the poorest piece in any given grade, but the respective grades shall contain all pieces up to the next higher grade.
5. The grade shall be determined from the better face of the board. In Selects & Better the reverse side shall grade not below No. 1 Common. In No. 2 Common, the reverse side shall not prevent the serviceability of this utility grade.

Measurement & Tally

6. Lumber of standard size shall be tallied board measure. In lumber of standard thickness less than 1 inch, the board-foot measurement shall be based on the surface dimensions. In lumber measured with a board rule a piece tally in feet shall be made and this tally shall be the number of feet board measure of 1-inch lumber. The tally of lumber thicker

than 1 inch shall be multiplied by the thickness as expressed in inches and fractions of an inch.

7. In material measured with a board rule, random width pieces measuring to the even half foot shall be alternately counted as of the next higher and lower foot count; fractions below the half foot shall be dropped and fractions above the half foot shall be counted as of the next higher foot.
8. Lumber shipped on stock or specified widths shall be tallied by the number of pieces of each size and length.
9. Recommended Sawing Sizes: When fresh sawn, stock widths should be $1/4$ " to $1/2$ " over nominal width. When dry, stock widths must be full width allowing 10% $1/8$ " scant in width. When dressed two edges, pieces less than 8" wide can be $1/2$ " scant of the nominal width. Pieces 8" and wider can be $3/4$ " scant of the nominal width. All grades shall be stock widths, unless otherwise specified.
10. Lumber having greater variation in thickness, except as to wane, between the thinnest and thickest points, than shown in the following table shall be measured for thickness at the thinnest point and classed as miscut, and shall be graded and reported as such.
 - $1/16$ " in thicknesses of $3/8$ " and $1/2$ "
 - $1/8$ " in thicknesses of $5/8$ " and $3/4$ "
 - $1/4$ " in thicknesses of 1" to 2"
 - $3/8$ " in thicknesses of $2-1/2$ " and 3"
 - $1/2$ " in thicknesses of 4".

Moisture Contents

12. Kiln dried moisture contents by weight
 - $5/4$ and under 11% to 15%
 - $6/4$ and over 13% to 18%
 - Air dried moisture content not to exceed 18%

Standard Thicknesses

13. Standard thicknesses for rough lumber are: 1", $1-1/4$ ", $1-1/2$ ", $1-3/4$ ", 2", $2-1/2$ ", 3", $3-1/2$ ", 4", $4-1/2$ ", 5", $5-1/2$ ", and 6". Thicknesses may also be expressed in quarter inches as follows: $4/4$, $5/4$, $6/4$, $7/4$, $8/4$, $10/4$, $12/4$, $14/4$, $16/4$, $18/4$, $20/4$, $22/4$ and $24/4$.
14. Thickness in rough sawn lumber must be $1/16$ " to $1/8$ " over nominal

thickness. When dry, lumber must be full thickness allowing 10% 1/16" scant.

Warp and Cup

15. Entire board must be flat enough to surface both sides at 1/4" less than nominal thickness, no skip allowed.

Definition of Defects & Blemishes

16. When defects or blemishes, or combinations thereof, not described in these grading rules are encountered, they will be considered as equivalent to known defects according to their damaging effect upon the piece in the grade under consideration.
17. Standard definitions of the defects and blemishes usual in Cypress are as follows:
18. A defect is defined as any irregularity occurring in or on wood that may lower some of its strength, durability, or utility values.
19. A blemish is defined as anything not classified as a defect, marring the appearance of the wood.

Checks

20. A check is a lengthwise separation of the wood, which occurs usually across the rings of annual growth.
21. A surface check is a check occurring on the surface of the piece.
22. A small surface check is a perceptible opening, not over 4" long.
23. A medium surface check is one not over 1/32" wide and over 4" but not more than 10" long.
24. A large surface check is one over 1/32" wide and over 10" long.
25. An end check is one occurring on an end of a piece.
26. A through check is one extending from one surface through the piece to the opposite surface or to an adjoining surface.
27. A heart check is one starting at the pith and extending toward but not to the surface of the piece.

Decay & Peck

28. Decay is a disintegration of the wood substance due to the action of the wood-destroying fungi. The words "dote" and "rot" mean the same as decay.
29. Incipient decay is the early stage of decay in which the disintegration has not proceeded far enough to soften or otherwise change the hardness of the wood perceptibly. It is usually accompanied by a slight discoloration or bleaching of the wood.
30. Advanced (or typical) decay is the older stage of decay in which the disintegration is readily recognized because the wood has become punky, soft and spongy, stringy, ring shaked, pitted, or crumbly. Decided discoloration or bleaching of the rotted wood is often apparent.
31. A peck is typical decay which appears in the form of a hole, pocket, or area of soft rot usually surrounded by sound wood. Slight peck is not through the piece occupying less than 10% of the surface area.

Holes

32. Holes in wood may extend partially or entirely through the piece and be from any cause. When holes are permitted the average of the maximum length and maximum width shall be used in measuring the size, unless otherwise stated.
33. A pin worm hole is one not over 1/16" in diameter.
34. A medium worm hole is one over 1/16" but not more than 1/4" in diameter.
35. A large worm hole is one over 1/4" in diameter.

Knots

36. Knots are classified according to size, form, quality, and occurrence. The average of the maximum length and maximum width shall be used in measuring the size of knots, unless otherwise stated.
37. A pin knot is one not over 1/2" in diameter.
38. A small knot is one over 1/2", but not more than 3/4" in diameter.

39. A medium knot is one over $3/4$ ", but not more than $1-1/2$ " in diameter.
40. A large knot is one over $1-1/2$ " in diameter.
41. A round knot is one oval or circular in form.
42. A spike knot is a branch or limb sawed in a lengthwise direction.
43. A sound knot is solid across its face, as hard as the surrounding wood, and shows no indications of decay. It may vary in color from red to black.
44. An unsound knot will not impair the strength of the board.
45. A decayed knot is softer than the surrounding wood and contains advanced decay.
46. A tight knot is one so fixed by growth or position that it will firmly retain its place in the piece.
47. An intergrown knot is one whose rings of annual growth are completely intergrown with those of the surrounding wood.
48. A water-tight knot is one whose rings of annual growth are completely intergrown with those of the surrounding wood on one surface of the piece, and which is sound on that surface.
49. An encased knot is one whose rings of annual growth are not intergrown and homogenous with those of the surrounding wood. The encasement may be partial or complete.
50. A loose knot is one not held firmly in place by growth or position and cannot be relied upon to remain in place in the board.
51. A pith knot is a sound knot with a pith hole not more than $1/4$ " in diameter.
52. A hollow knot is an apparently sound knot with a relatively large hole in it.

Manufacturing Defects

53. Manufacturing defects include all defects or blemishes which are produced in manufacturing, such as chipped grain, loosened grain, raised grain, torn grain, machine burn, and machine gouge.

54. Chipped grain means that a part of the surface is chipped or broken out in very short particles below the line of cut. It should not be classed as torn grain and, as usually found, shall not be considered a defect unless it is present in excess of 25% of the area.
55. Loosened grain means that a small portion of the wood has become loosened but not displaced.
56. Raised grain is a roughened condition of the surface of dressed lumber in which the hard summer wood is raised above the softer spring wood, but not torn loose from it.
57. Torn grain means that a part of the wood is torn out in dressing, and in depth is four distinct characters; slight, medium, heavy and deep.
58. Slight torn grain is not over $1/32$ " in depth.
59. Medium torn grain is over $1/32$ ", but not more than $1/16$ " in depth.
60. Heavy torn grain is over $1/16$ ", but not more than $1/8$ " in depth.
61. Deep torn grain is over $1/8$ " in depth.
62. A skip is an area on a piece that failed to surface.
63. A slight skip is one that failed to surface smoothly, whose area does not exceed the product of the width of the piece in inches multiplied by 6.
64. A heavy skip is one that the planer knife did not touch.
65. A machine burn is a darkening or charring of the wood due to overheating by the machine knives.
66. A machine gouge is a groove across a piece due to the machine cutting below the desired line of cut.

Shake

67. A shake is a lengthwise separation of the wood, which occurs usually between and parallel to the rings of annual growth.
68. A fine shake is one with a barely perceptible opening.

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69. A slight shake is one with more than a perceptible opening but not over $1/32$ " in width.
 70. A medium shake is one with an opening over $1/32$ " but not more than $1/8$ " wide.
 71. An open shake is one with an opening over $1/8$ " wide.
 72. A through shake is one extending from one surface through the piece to the opposite surface or to an adjoining surface.
 73. A round shake is one completely encircling the pith.
 74. A cup shake is one that does not completely encircle the pith.

Splits

75. A split is a lengthwise separation of the wood due to the tearing apart of the wood cells.
76. A short split is one not exceeding in length either the width of a piece or one-sixth its length.
77. A medium split is one exceeding in length the width of a piece but does not exceed one-sixth its length.
78. A long split is one exceeding in length one-sixth of the length of the piece.

Stain (or Discoloration)

79. Stain is a discoloration, occurring on or in lumber, of any color other than the natural color of the piece, on which it appears. It is classified as light medium and heavy.
80. Light stain is a slight difference in color which will not materially impair the appearance of the piece if given a natural finish.
81. Medium stain is a pronounced difference in color which, although it does not obscure the grain of the wood, would customarily be objectionable in a natural but not in a painted finish.
82. Heavy stain is a difference in color so pronounced as practically to obscure the grain of the wood.

Wane

83. Wane is bark, or the lack of wood or bark, from any cause on the edge or corner of a piece.
84. Slight wane is not over 1/4" wide on the surface on which it appears, for one-sixth of the length and one-fourth the thickness of the piece.
85. Medium wane is over 1/4" but not more than 1/2" wide on the surface on which it appears, for one-sixth the length and one-fourth the thickness of the piece.
86. Large wane is over 1/2" wide on the surface on which it appears, and/or over one-sixth the length and one-fourth the thickness of the piece.

Standard Grades

87. STANDARD GRADES: Selects & Better, No. 1 Common, No. 2 Common, and Peck. For most commercial sales, Selects & Better, then No.2 Common are shipped.

Selects & Better

88. The Selects & Better grade is of the highest quality and should be specified for any use where appearance is of the utmost importance, such as paneling, flooring, partition, etc.
89. Minimum size board 4" x 8' admitting 25% odd lengths.
90. Graded from better face with reverse side not below No. 1 Common.

Sapwood no defect.

Wane on No. 1 Common side shall not exceed 1/2 thickness or 1/3 length or 1/6 width in the aggregate.

A. Pieces 4" and 5" wide must be clear allowing slight wane on one edge. (Par. 80)

B. Pieces 6" and wider admit:

- Split equal to the width of board in the aggregate.
- Wane equal to 1/2 the thickness and twice the length in inches and 3/4" wide.
- Light stain – paragraph 76.

Defects Allowed: Pieces

- 6" wide – 1 medium knot
- 7" – 9" wide - 2 medium knots
- 10" and wider – 3 medium knots allowing one additional knot for every 3" in width.
- Season checks that can be removed by surfacing to 1/4" under standard thickness shall be admitted. .

Note: *Medium knot is from 3/4" – 1 1/2" average diameter and No. 2 Common must be sound except in 10" and wider lumber, one inch unsound medium knot permitted.*

Defects which can be substituted for 1 medium knot:

- 3 Pin Knots – pin knot is 1/2" average diameter or less.
- 2 Small Knots – small knot is 1/2" - 3/4" A.D.
- 1 Slight Manufacturing Defect as defined in Par. 50, 51, 54, 59, 61, 62.
- 10" and wider pieces allow 2 pin worm holes for each lineal foot.

No. 1 Common & No. 2 Common

91. The commons are a staple grade useful for all types of general construction, finish, trim, pattern stock, and other uses where ordinary tree characteristics either enhance the appearance of the piece or do not restrict the appropriate application of the piece.

No. 1 Common

92. Graded from standpoint of strength primarily used as poor face of a Select and Better board.
93. Minimum size board – 4" x 8' admitting 25% odd length.
94. Admits any number of the following or equivalent:

Medium manufacturing defects as defined in paragraphs 50, 51, 55, 60, 61 and 62.

Sound Knots: Occasional unsound knots on one face only – 10% of the pieces.

Average diameter of any knot to be less than:

- 1-1/2" in 4" - 6" widths
- 2" in 7" - 11" widths
- 2 1/2" in 12" widths
- 3" in 13" and wider pieces

Will admit split equal to the width of board in the aggregate. Wane on one or both edges 1/2 thickness and 1/3 length and 1/6 width in the aggregate.

Admits any number of the following or equivalent: Checks not extending through the piece and not impairing the strength of the piece, stain, slight peck, and pin worm holes.

No. 2 Common

Grade same as No. 1 Common except admits: unlimited diameter, sound or (unsound knots), pith knots and slight peck.

95. Defect graded from standpoint of strength.
96. Minimum size board 4" x 6' on even 2' increments. No odd lengths admitted unless otherwise specified.
97. Must be suitable for ordinary fencing or dimension purposes in its full width and length.

Checks not extending through the piece shall be admitted without limit providing they do not impair the strength of the piece.

Shake is limited to one face only and no more than 10% of the length of the piece in the aggregate.

Wane on better face not to exceed 1/2 the thickness or 1/3 the length and 1/6 the width of the piece. Wane on the poor face must not extend through the full thickness of the piece, leaving an 1/8" nailing edge on the good face.

Split equal to the length of piece in inches.

Pith is admitted.

No open holes are permitted. Any unsound knot must not impair the strength of the piece.

No. 1 & No. 2 Peck

98. No. 1 Peck: The piece must contain a minimum of 10% (surface measure) well distributed peck on the face side. The peck must not allow light to show through the piece.
99. No. 2 Peck: Contains pieces that are not allowed in No. 1 Peck due to the fact that the peck allows light to show through the piece. Each piece must be suitable for ordinary handling and construction without breakage.

Cypress Timbers

Sizes and lengths as specified.

Square Edge & Sound

Shall be free from through shake, unsound knots or a combination of admissible defects that seriously impair the strength of the piece.

Will admit firm pith (heart center) well boxed; season checks; stain; pin worm holes; sound knots; slight peck in ends; slight shake in ends not extending to the surface; slight shake and slight peck on the surface, the aggregate of each not exceeding one-fourth the length of the piece; wane not exceeding one-eighth the width of a face on one corner or its aggregate equivalent on two or more corners.

No. 1 Common Timbers

Will admit firm pith (heart center) well boxed; season checks; stain; pin worm holes; sound, encased and pith knots; an occasional unsound knot not to exceed in diameter 1/2" in 3" to 6" faces, 2" in 7" to 11" faces, 2-1/2" in 12" faces and 3" in wider faces; slight shake; medium shake not extending through the piece and not exceeding one-sixth its length; slight peck; split in each end not exceeding in length the width of the piece; wane not exceeding one-fourth the width of a face on one corner or its aggregate equivalent on two or more corners.

No. 2 Common Timbers

Grade same as No. 1 common except admits: unlimited diameter sound or (unsound knots), pith knots and slight peck.

Checks not extending through the piece shall be admitted without limit providing they do not impair the strength of the piece.

Will admit pith (heart center) boxed or showing on the surface; season checks; stain; pin worm holes; medium holes; sound, encased and pith knots; unsound knots not to exceed in diameter one-third the width of the face on which they appear; split not exceeding one-sixth the length of the piece; wane not exceeding one-half the width of the face on which it appears; peck and through shake that do not seriously impair the strength of the piece.

No. 3 Common Timbers

Will admit coarser defects than No. 2 Common, such as coarse peck; unsound knots and an occasional knot hole, but each piece shall be of sufficient soundness and strength for use as ground sills and low cost building material.

Mesquite

FAS: Widths: 6" and greater. Lengths: 4' and greater.

Minimum size of cuttings: 4" wide by 24" long. The number of allowed cuttings is the surface measure divided by 4. Grading is made on the poorest face of the board. At least 83% of surface measure will be present as clear-face cuttings.

SELECTS: Widths: 4" and greater. Lengths: 3' and greater.

Minimum size of cuttings: 2.5" wide by 18" long. The number of allowed cuttings is the surface measure divided by 4. For this grade, grading is made on the clearest face. At least 83% of surface measure will be present as clear-face cuttings.

NO. 1 COMMON: Widths: 2" and greater. Lengths: 2' and greater.

Minimum size of cuttings: 2" wide by 12" long. The number of allowed cuttings is 1 plus the surface measure, divided by 3. Grading is made on the poorest face. At least 67% of surface measure will be present as clear-face cuttings.

NO. 2 COMMON: Widths: 2" and greater. Lengths: 2' and greater.

Minimum size of cuttings: 1.5" wide by 6" long. The number of allowed cuttings is the surface measure divided by 2. Grading is made on the poorest face. At least 50% of surface measure will be present as clear-face cuttings.

DECORATIVE: Widths: 2" and greater. Lengths: 1' and greater.

Minimum size of cuttings: 1.5" wide by 6" long. There is no limit as to the number of allowed cuttings, however, at least 25% of surface measure will be present as cuttings on the worst side of the board.

- For all grades, a modifier exists to deal with sapwood. No sapwood will be allowed in any clear cutting, but, if present, shall be designated as "WS" (with sap).

- Allowable defects could be a small (1/2") sound knot in the center, a crack less than 1/32" wide and 3" long, or an unusual knot or crack in the very end of the board that does not extend more than 2" into the length of the board.

Grades for Small, Clear Mesquite Pieces

Although small, clear mesquite lumber pieces are eminently useful for a variety of purposes, if their widths or lengths are too small, they cannot be classified according to rough lumber grades. Accordingly, the following grades were adopted from the National Dimension Manufacturers Association for small furniture pieces:

C1F (CLEAR ONE FACE): This material shall be clear on one side or face, both edges and both ends, and shall otherwise comply with the clear two face quality, except that the reverse face may contain defects of sound quality.

C2F (CLEAR TWO FACE): This material shall be clear on both faces, the edges, and the ends, except that sapwood, slight streaks, small burls or swirls and light stain shall be permitted.

CORE: This material shall be sound on both faces admitting tight sound knots, small worm holes, slight surface checks or their equivalent.

SOUND INTERIOR: This material may contain any defects that will not materially impair the strength of the individual piece for the use intended.

SOUND FRAME: Same as for sound interior.



NHLA is a member of AHEC.

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PO Box 34518 | Memphis, TN 38184-0518 | USA | www.nhla.com