
**GENERAL
DEFINITIONS &
INSTRUCTIONS**

for **GRADING EASTERN
WHITE PINE BOARDS**

NELMA®

2013

800.0 General Definitions and Instructions for Grading Eastern White Pine Boards

The purpose of this section is to provide additional guidance in the application of the Eastern White Pine grade rules. These guidelines are intended to assist in the proper application of the rules. They also are intended to assist in the proper handling of defects not clearly defined in the rules. They are not intended to modify or supersede any specific rule provision. Common sense and sound judgment must be used if the purpose of these guidelines is to be served.

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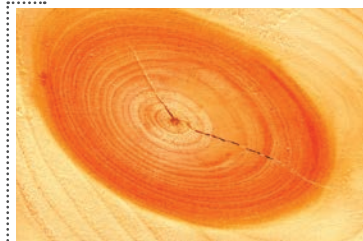
802.0 CHECKS — Check provisions, unless otherwise noted, apply to the grade face. Limitations apply to the longest or widest check present. “Barely perceptible” means visible only when held at a favorable angle to the light. Roller checks are measured and graded the same as seasoning checks. The reverse face of Finish and Premium shall permit checks equivalent to the face of Standard (1/4 the length to 3’).

A check in a branch or spike knot is considered a defect if it extends outside the knot or if it is open more than 1/16”. If the check extends outside the knot, it is evaluated as an edge break, para. 810. If it is open more than 1/16”, it is evaluated as a hole.



CHECK

A star check, a check within a knot, is considered no defect.



STAR-CHECKED KNOT

804.0 COMPRESSION FAILURES — Compression wood in damaging form may have a visible failure (seasoning/drying check due to abnormal shrinkage) or cause the board to warp. If the check found in the compression wood is open 1/16" or less it is limited to maximum red knot size listed for the corresponding grade of the board. If the check found in the compression wood is open greater than 1/16" it is limited to the width of the maximum allowable hole listed for the corresponding grade of the board. Warp and its limitations are defined in para. 752.0.



**COMPRESSION
WOOD**

806.0 CUTTING PROVISION FOR D SELECT — One 5% cut is allowed in a 10' or longer board. The 5% cut means 5% of the length of the board. The allowable 5% cut is 6" in 10', 7.2" in 12', 8.4" in 14' and 9.6" in 16'. More than one defect is acceptable in the one 5% cut allowed per board.

808.0 DECAY --- Incipient decay is treated as sound. Advanced decay is treated as unsound. Advanced decay is allowed only in the grades of Standard and Industrial.



**ADVANCED
DECAY
(UN SOUND WOOD)**

810.0 EDGE BREAK — The edge break allowed in Standard grade may penetrate no more than 1/3 the width from the edge of the board. The length of the break is limited to the width of the piece.

812.0 GRADE FACE — The grade face is the better face of the two wide faces of a board. The grade face is the best grade that the board will make. The reverse face is the face of the board opposite the grade face.

814.0 KNOTS — The size of a knot is determined for each face separately. A size measurement is an average developed from the widest and narrowest points of a knot. This is true for round, oval, branch or spike knots. All knots are measured on the face of the board that is being graded. When two knots touch measure them as one knot. Knot sizes for odd widths are halfway between those specified for even widths.

A 'red' knot is intergrown with the wood surrounding it. A knot is considered 'red' if at least 25% of its margin is intergrown with the surrounding wood.



If less than 25% of the margin is intergrown with the surrounding wood, the knot is classified as a 'Black' knot. A 'Black' knot is noticeably encased by bark or pitch. 'Black' knots that become loose are treated as holes.



BLACK KNOT

An unsound knot is a knot that contains decay. Unsound knots in Premium are occasional; one in ten. The decay is limited to inside the knot.



**UNSAUND
KNOT**

Select grades limit the number of knots allowed on the grade face, but not how they are spaced on the board.

The maximum knot sizes listed for the Common grades may be exceeded in pieces of otherwise exceptional quality. Exceptional quality is interpreted as a board, excluding the oversize knot, that meets all other requirements for the next higher Common grade. A red knot could be approximately 1/2" larger. A black knot could be approximately 1/4" larger.

In Premium, Black Knots of Finish size or smaller are not limited as to number.

On the grade face of a 10' and longer Premium board, the number of black knots larger than a maximum Finish size black knot is limited to three. If there are two maximum Premium size black knots, no other black knot can be larger than a Finish size black knot.

On the grade face of a 6' through 9' Premium board, the number of black knots larger than a maximum Finish size black knot is limited to two. If there is one maximum Premium size black knot, no other black knot can be larger than a Finish size black knot.

816.0 KNOT HOLES — “Equivalent smaller” means all holes in a board will fit together in the maximum size hole allowed. Holes are measured in the same manner that knots are measured. The chipped out part of a knot is treated as hole.

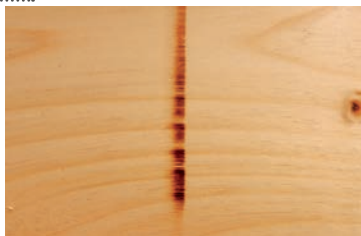


**KNOT
HOLES**

818.0 MANUFACTURE — Manufacture provisions apply to the face of a board.



TORN GRAIN



**MACHINE
BURN**



**MACHINE BITE
(angle view)**

(top view)

820.0 MANUFACTURED HOLE — A manufactured hole may be no longer than twice the diameter of the allowable hole and displace or void in the edge no more wood than the allowable hole.

822.0 PITCH — Limitations on pitch refer more to area, the massing of pitch, than they do color. This is related to ease of covering the pitch in use with stains or paint. Medium is obvious pitch distributed throughout the grain (resin ducts) fairly divided by an offsetting amount of pitch free wood. Heavy pitch is massed pitch blocking or penetrating the wood. In the grades of Finish and Premium there may be some tear drop like accumulations of heavy pitch at the black knots. This will be limited to pocket size in a board free of most other defects. In Premium, there may be some heavy pitch accumulated with a bark seam. This will be measured as part of the allowable bark seam.



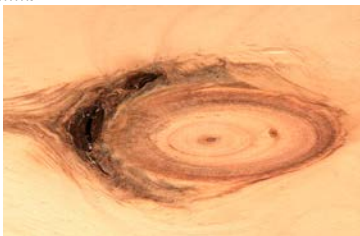
**PITCH
STREAK**
(also see
photos of
Seams and
Timber Break)

824.0 PLANER TEAR — A planer tear is rare. It is a very short fiber tear along the grain occurring near the edge of the board as a result of milling. It has little to no effect on the appearance and use of the board. One planer tear is permitted through the edge of Finish grade provided it is no more than $\frac{1}{4}$ " in depth and 3" in length. One planer tear is permitted through the edge of Premium grade provided it is no more than $\frac{1}{2}$ " in depth and 4" in length. Planer tear in Standard grade is limited as an edge break as described in para. 810.0.

825.0 GRADING ROUGH STOCK — Paragraph 1.6 establishes that lumber graded in the rough may allow slightly larger than maximum defects if those defects will plane to no larger than the maximum defect allowed after the board is surfaced to minimum dressed size as listed in Section 1, paragraph 3.0 through 3.6.

826.0 SAW CUTS — The width of penetration of a saw cut into the wide face will not exceed the diameter of the allowable hole.

828.0 SEAMS — A seam is an area of ingrown bark. It often is ingrown at a knot and sometimes independent of a knot. If a seam extends to an edge of a board, and is open from one wide face through the edge to the other wide face, it is limited as an edge break. Open voids in a bark seam will be limited as holes.



SEAMS



SEAMS

830.0 SHAKE — “Barely perceptible” means visible only when held at a favorable angle to the light. Limitations apply to the longest or widest shake present.



SHAKE

832.0 SKIP — In reference to “Hit and Miss” the “hits” will be cleanly surfaced areas at least 1/2 the width and 2” or more in length. The “misses” will be no deeper than 1/16” and less than 4’ in length.



SKIPS

834.0 SPLITS — Splits are at the end of a board. They are measured as an average of the penetration into both wide faces. The length of a split on one face added to the length of the same split on the other face is then divided by 2. The allowable split is permitted on both ends of the piece. Split limitations apply to the longest split present. A check on the end less than 1/2 the thickness is limited as a surface seasoning check. A check on the end more than 1/2 the thickness is limited as a split.



SPLITS

836.0 WANE — Opposing wane requires the same amount of unaffected wood remaining in width as is permitted when the wane occurs on one edge. Wane may be increased in length on an equivalent basis if the width and thickness of the wane is less than maximum allowed. Thickness and width provisions may not be increased.



**Photo References of
Additional Characteristics**





GRAIN



INSECT HOLES



**INSECT HOLES
(pin holes)**



PIN KNOT





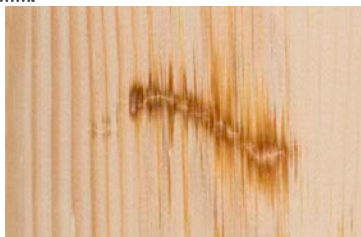
SPIKE KNOT



PITH



POCKET



**TIMBER
BREAK**
(surrounded
by pitch)