

**SPECIES GROUPS,
GRADEMARKS,
GENERAL
INSTRUCTIONS,
GLUED PRODUCTS,
TALLY &
STANDARD SIZES**

THE NORTHEASTERN SPECIES OR SPECIES GROUPS ARE:

1

1. Eastern Spruce
 - Red Spruce (*Picea rubens*)
 - White Spruce (*Picea glauca*)
 - Black Spruce (*Picea mariana*)
2. Balsam Fir (*Abies balsamea*)
3. Eastern White Pine (*Pinus strobus*)
4. Eastern Hemlock — Tamarack
 - Eastern Hemlock (*Tsuga canadensis*)
 - Tamarack (*Larix laricina*)
5. Northern White Cedar (*Thuja occidentalis*)
6. Aspen
 - Bigtooth Aspen (*Populus grandidentata*)
 - Quaking Aspen (*Populus tremuloides*)
7. ***Northern Pine
 - Jack Pine (*Pinus banksiana*)
 - Pitch Pine (*Pinus rigida*)
 - Red Pine (*Pinus resinosa*)
8. Eastern Hemlock (*Tsuga canadensis*)
9. Eastern Hemlock — Balsam Fir — Tamarack
 - Eastern Hemlock (*Tsuga canadensis*)
 - Balsam Fir (*Abies balsamea*)
 - Tamarack (*Larix laricina*)
10. Spruce — Pine — Fir (south) (1)
 - Red Spruce (*Picea rubens*)
 - White Spruce (*Picea glauca*)
 - Black Spruce (*Picea mariana*)
 - Norway Spruce (*Picea abies*)
 - Red Pine (*Pinus resinosa*)
 - Jack Pine (*Pinus banksiana*)
 - Balsam Fir (*Abies balsamea*)
11. Red Pine (*Pinus resinosa*)
12. Eastern Softwoods
 - Any combination of the above species,
excluding Northern White Cedar and Aspen.
13. *Red Maple (*Acer rubrum*)
14. *Mixed Maple
 - Red Maple (*Acer rubrum*)
 - Black Maple (*Acer nigrum*)
 - Silver Maple (*Acer saccharinum*)
 - Sugar Maple (*Acer saccharum*)

15. *Beech — Birch — Hickory
 Pecan Hickory (*Carya illinoensis*)
 Water Hickory (*Carya aquatica*)
 Mockernut Hickory (*Carya tomentosa*)
 Pignut Hickory (*Carya glabra*)
 Shagbark Hickory (*Carya ovata*)
 Shellbark Hickory (*Carya lacinosa*)
 Bitternut Hickory (*Carya cordiformis*)
 Nutmeg Hickory (*Carya myristicaeformis*)
 Sweet Birch (*Betula lenta*)
 Yellow Birch (*Betula alleghaniensis*)
 American Beech (*Fagus grandifolia*)
16. *Mixed Oak
 Black Oak (*Quercus velutina*)
 Cherrybark Oak (*Quercus falcata* var.
pagodaefolia)
 Northern Red Oak (*Quercus rubra*)
 Southern Red Oak (*Quercus falcata*)
 Laurel Oak (*Quercus laurifolia*)
 Pin Oak (*Quercus palustris*)
 Scarlet Oak (*Quercus coccinea*)
 Water Oak (*Quercus nigra*)
 Chestnut Oak (*Quercus prinus*)
 Live Oak (*Quercus virginiana*)
 Post Oak (*Quercus stellata*)
 Swamp Chestnut Oak (*Quercus michauxii*)
 White Oak (*Quercus alba*)
 Bur Oak (*Quercus macrocarpa*)
 Overcup Oak (*Quercus lyrata*)
 Swamp White Oak (*Quercus bicolor*)
17. *Red Oak
 Black Oak (*Quercus velutina*)
 Cherrybark Oak (*Quercus falcata* var.
pagodaefolia)
 Northern Red Oak (*Quercus rubra*)
 Southern Red Oak (*Quercus falcata*)
 Laurel Oak (*Quercus laurifolia*)
 Pin Oak (*Quercus coccinea*)
 Water Oak (*Quercus nigra*)
 Willow Oak (*Quercus phellos*)
18. *Northern Red Oak
 Northern Red Oak (*Quercus rubra*)

- Black Oak (*Quercus velutina*)
- Pin Oak (*Quercus palustris*)
- Scarlet Oak (*Quercus coccinea*)
- 19. *White Oak
 - Chestnut Oak (*Quercus prinus*)
 - Live Oak (*Quercus virginiana*)
 - Post Oak (*Quercus stellata*)
 - Swamp Chestnut Oak (*Quercus michauxii*)
 - White Oak (*Quercus alba*)
 - Bur Oak (*Quercus macrocarpa*)
 - Overcup Oak (*Quercus lyrata*)
 - Swamp White Oak (*Quercus bicolor*)
- 20. **Yellow Poplar (*Liriodendron tulipifera*)
- 21. **Eastern Cottonwood (*Populus deltoides*)

* These groupings shall apply only to the National Grading Rules for Dimension and the WWPB Rules for Posts & Timbers and Beams & Stringers.

** This grouping shall apply only to the National Grading Rules for Dimension Lumber.

*** This grouping applies to Post and Timbers and Beams and Stringers only.

(1) Spruce—Pine—Fir (south) make a shipping combination determined by market demand and actual standing timber mixtures. The SPF's grouping is used by all U.S. rule writing agencies that write grading rules for certain Spruces, Pines and Firs. In the Western United States the SPF's mark is used on Engelmann Spruce, Sitka Spruce and Lodgepole Pine or combination thereof. Such shipments will be grade stamped or invoiced "Spruce—Pine—Fir (south)." Base design values for the shipment are shown in Table 1 (Section 8) and must be adjusted for size from Tables A through G, designated on a grademark as SPF's.

Foreign Species — when foreign species are graded by NELMA, the grade stamp will include the designation "(I)" with the species group identification. Design values developed in accordance with PS 20 may be published in these rules when available. The imported species of Scots Pine (Archangel) and Radiata Pine (*Pinus radiata*) may be graded under the WWPB Board Rules found in Para. 7.0 through 7.2.5.


GRADE MARKS

ALSC approved grade stamps must include the following five elements:

- A. The Association mark indicates the piece was graded under NELMA supervision.
- B. Mill identification is shown by mill name, number or brand.
- C. Grade names are shown by the standard grade name or abbreviation.
- D. Moisture content is shown by the notation S-DRY, KD, MC-15 or S-GRN.
- E. The species or species group of the product is indicated by its officially recognized name or abbreviation.

Mill Grade Stamps or product identification may not make use of ALSC or NELMA standard nomenclature utilized in a grade mark to identify grade, heat treatment (HT), moisture content, or agency in any combination with other text and symbols.

Any mill proprietary information (non-standard grade names, marketing information etc..) must be approved and be a minimum of 6" away from agency grade marks. When a grade mark is placed on the end of the lumber (not on a face or edge), a board ID number may be placed within 6" of a grade mark under the following conditions: (1) The number shall be a minimum of six digits and must start with a 0, 5, 6, 7, 8, or 9; (2) The font shall be no larger than the smallest font in the grade mark; (3) The ID number shall consist only of numbers, no symbols or letters.

The following grade stamp impressions are shown as examples for several Northeastern species and species combinations. Either NELMA word logo (**NELMA**®) or sawblade logo () may be used within any NELMA stamp.

SPECIES

GRADE STAMP

EASTERN HEMLOCK

S-GRN

001

2



E. HEM

EASTERN SOFTWOODS

S-DRY

001

STUD

EASTERN
SOFTWOODS



EASTERN WHITE PINE

S-DRY

STAND

EASTERN
WHITE PINE

001
NELMA®

HEMLOCK - TAMARACK

S-DRY

001

2



HEM - TAM

**NORTHERN
WHITE CEDAR**

S-GRN

001

3 COM

NORTHERN
WHITE CEDAR



RED PINE

S-GRN

001

1



RED PINE

**SPRUCE-PINE-FIR
(south)**

KD-HT

001

STUD

SPFs

NELMA®

SPECIAL PRODUCTS

1

Shown here are typical grade mark impressions for glued products, machine stress-rated lumber, and additional products that require NELMA inspection services, including special products and heat treated lumber.

PRODUCT TYPE

GRADE STAMP

**CERT. GLUED JOINTS-STUD
VERTICAL USE ONLY**

200 STUD



S-GRN
VERTICAL
USE ONLY
CERT GLUED JNTS
E. HEMLOCK

HEAT TREATED

HT

001



OR

HT NELMA® 001

MACHINE STRESS-RATED

MACHINE RATED 001

S-DRY

SPFs

S.G. .42 1650 Fb. 1.5E



PRIME GRADE

S-DRY

NO. 1 PRIME

SPFs

001



1.0 GENERAL INSTRUCTIONS

1.1 Grading rules are developed through the need for product uniformity between mills producing the same or similar species. Regardless of the nature of the log, the natural differences in the lumber are blended to produce a grade level of suitable uniformity of appearance and/or utility.

The interpretation of these rules and decisions on grade are vested in the grading services staff of NELMA. Interpretation of the rules for NELMA Eastern White Pine appearance grades are located in section 12 of this book.

NELMA has also adopted product grading rules of other agencies certified by the American Lumber Standard Committee where appropriate. These adopted rules are notated with the agency's name and corresponding paragraph number. Text within these sections that deviate from the adopted rule are enclosed within brackets ([]).

1.2 A "Grade" is interpreted as including the lumber between the next higher and lower grades.

1.3 The lumber "face" is the usable surface extending from one edge to the other in S4S stock. In pattern stock it will be defined as the visible portions of the piece after it is put to its intended use.

1.4 Select and Common boards are graded from their better face. Grading dimension and timbers for strength requires consideration of both narrow and wide faces.

1.5 When characteristics and blemishes are encountered that have not been described in these rules, they will be appraised in relation to defined characteristics of equivalent impact on grade.

1.6 Wane or other characteristics in rough stock which can be removed in dressing to standard size shall not be considered as defects.

1.7 Lumber can be re-manufactured and shipped product of pattern, product of re-sawn, product of ripped, and can be stamped accordingly. All defects resulting from the remanufacturing process (i.e. knot-holes, splits, etc.) are permitted provided each original piece was on grade in S4S form. Lumber re-manufactured by cutting to length requires the re-grading of each piece.

1.8 The product of resawing shall be considered on grade, if: for one cut, 50% or more of such stock is on grade; for two cuts, 33-1/3% or more is on grade.

1.9 GLUED PRODUCTS RULES (WWPA 1.70)

GRADE RULES

A number of manufacturers produce glued products such as finger-jointed lumber, millwork and mouldings, end- and edge-glued boards and laminated products. In all products, the grade limiting characteristics are the same as are imposed on a solid piece of the same grade. The joint shall also be tight and of good appearance. Glued products shall be ordered, acknowledged and invoiced as such.

WWPA Glued Products Certification and Quality Control Procedures are applicable to gradestamped glued products of the species and grades in these rules and conform to the American Lumber Standard Committee Glued Lumber Policy. The designation of "HRA" on a grade stamp indicates the adhesive used is qualified as a "Heat Resistant Adhesive" in accordance with the American Lumber Standard Glued Lumber Policy. The Board of Review of the American Lumber Standard Committee monitors compliance to the procedures.

In finger-jointed lumber for which design values are published, the length of the individual sections between joints shall be no less than 4". The distance shall be measured as the length of the section that does not contain the joint profile. Sections at ends of the piece are not restricted by length. The joint area shall be free of (1) unsound wood and (2) local grain slope exceeding slope of grain requirements of the grade being furnished.

Knots or holes in the joint are permitted in sizes not to exceed the following, or equivalent displacement:

Nominal Width	VERTICAL USE ONLY			CERT EXT JNT			
	Select Structural	No. 1 No. 2 Const.	Stud No. 3 Stand. Util.	Select Structural	No. 1	No. 2	Const. Stud No. 3 Stand Util.
2"	1/4"	1/4"	3/8"	3/16"	1/4"	1/4"	3/8"
3"	3/8"	1/2"	3/4"	1/4"	3/8"	1/2"	5/8"
4"	1/2"	5/8"	1"	3/8"	1/2"	3/4"	7/8"
5"	5/8"	3/4"	1-1/4"	1/2"	5/8"	7/8"	1-1/8"
6"	3/4"	7/8"	1-1/2"	5/8"	3/4"	1"	1-3/8"
8"				3/4"	1"	1-1/8"	1-5/8"
10"				1"	1-1/8"	1-3/8"	1-7/8"
12"				1-1/4"	1-1/4"	1-1/2"	2"

Knots or holes exceeding displacements listed above are limited under the provisions of the grade being produced, and they shall be positioned so that neither the knot(s), nor the grain distortion associated with the knot(s), extend into the joint area.

White speck or firm honeycomb is permitted in the joint area of finger-jointed VERTICAL USE ONLY material, if the grade permits, when an adhesive is used that conforms to ASTM D2559, with the exception of creep resistance. If an adhesive is used that conforms to all the requirements of ASTM D2559, then the material may be marked "CERT EXT JNTS." In either case, white speck or firm honeycomb is permitted in only one piece of the joint and the joint area shall be free of other strength-reducing characteristics.

VERTICAL USE ONLY finger-jointed lumber shall be in sizes 2x2 through 2x6 only, and in lengths not to exceed 12 feet.

OFFSETS IN FINGER-JOINTED LUMBER

In Dimension lumber marked VERTICAL USE ONLY, offsets of 1/16" are permitted on one edge,

provided that offsets on the opposite edge do not exceed 1/32". In Dimension lumber marked CERTIFIED EXTERIOR JOINTS, offsets are permitted up to the allowable skip for the grade, provided that offsets on the opposite edge do not exceed 1/32". Offsets on wide faces are limited to the skip provision for the grade.

REINSPECTION

Any complaint on glued products involving grade, size, species, moisture or tally shall be governed by para. 5.0 Inspection Provisions within section 2 in effect on the date of purchase of the product.

In the case of disputes arising over the strength of glued joints in structural lumber, a sample of the item complained of shall be submitted to a testing laboratory authorized by NELMA. The sample shall consist of 53 pieces selected from the lumber in question by a NELMA Lumber Inspector and shall be prepared, tested and evaluated in accordance with the appropriate section of the WWPA Certification and Quality Control Procedures.

When tests indicate an item does not meet minimum strength requirements, all reinspection and testing costs shall be borne by the seller and the entire item shall be the property of the seller. If more than one item in a shipment is involved in the complaint, reinspection and testing costs shall be prorated between buyer and seller for that portion of the shipment upon which the complaint was registered based on the ratio of the invoiced footage of the items found not in conformance to that found in conformance.

2.0 TALLY

2.1 BOARD MEASURE

Board Measure is the term used to indicate that a board foot is the unit of measurement of lumber. The number of board feet in a piece is obtained by

multiplying the nominal thickness in inches by the nominal width in inches by the length in feet, divided by 12.

2.2 STANDARD SIZES

Lumber should be tallied board measure. The invoices for lumber of standard sizes should show the number of pieces of each nominal size and length as well as the net thickness and width of such lumber. A piece tally for each length should also be shown on the invoice for shipments based on board measure.

2.3 NONSTANDARD SIZES

Lumber finished to nonstandard sizes should be tallied board measure as of either the rough or the nominal size used in its manufacture, and the actual thickness and width of such lumber should be shown on the invoice.

2.4 BOARD RULE

When shipments of random width, rough or S2S, are measured with a board rule on actual widths the tally is determined as follows: pieces measuring to the even half foot are alternately counted as of the next higher and lower foot count; fractions below the half foot are dropped and fractions above the half foot are counted as of the next higher foot.

2.5 AVERAGE — LENGTH AND WIDTH

The average length in feet of a shipment of lumber is computed by dividing the total length in feet by the total number of pieces in the shipment. The average width in inches of a random width shipment of lumber one inch or less in thickness is computed by dividing the total board feet by the total length in feet and multiplying the result by 12; but if thicker than one inch, the total board foot tally is divided first by the nominal thickness as expressed in inches and fractions of an inch.

3.0 STANDARD SIZES FOR DRESSED LUMBER

1

Standard patterns of siding and paneling are shown in Section 11. They are machined to a variety of patterns and are ordinarily furnished in the grades listed in para. 6.0 and 7.0. When ordered, the appropriate grade number and pattern number should be specified.

3.1 S4S/S2S/S2E-S-Dry

THICKNESSES S2S/S4S		FACE WIDTHS S2E/S4S	
Nominal	Minimum Dressed	Nominal	Minimum Dressed
Inches		Inches	
3/8	5/16	2	1-1/2
1/2	7/16	3	2-1/2
5/8	9/16	4	3-1/2
3/4	5/8	5	4-1/2
1	3/4	6	5-1/2
1-1/4	1	7	6-1/2
1-1/2	1-1/4	8	7-1/4
1-3/4	1-3/8	9	8-1/4
2	1-1/2	10	9-1/4
2-1/2	2	11	10-1/4
3	2-1/2	12	11-1/4
3-1/2	3	14	13-1/4
4	3-1/2	16	15-1/4

3.2 TONGUE & GROOVE*

THICKNESSES			FACE WIDTHS		
Minimum Dressed			Minimum Dressed		
Nominal	S-Dry	S-Grn	Nominal	S-Dry	S-Grn
Inches			Inches		
3/8	5/16		2	1-1/8	
1/2	7/16		3	2-1/8	
5/8	9/16		4	3-1/8	3-3/16
1	3/4*	25/32	5	4-1/8	4-1/4
1-1/4	1	1-1/32	6	5-1/8	5-1/4
1-1/2	1-1/4	1-9/32	7	6-1/8	6-1/4
			8	6-7/8	7-1/8
			9	7-7/8	8-1/8
			10	8-7/8	9-1/8
			11	9-7/8	10-1/8
			12	10-7/8	11-1/8

* Standard Tongue Width 5/16"

3.3 SHIPLAP 1/2" LAP*

THICKNESSES			FACE WIDTHS		
Minimum Dressed			Minimum Dressed		
Nominal	S-Dry	S-Grn	Nominal	S-Dry	S-Grn
Inches			Inches		
3/8	5/16				
1/2	7/16		3	2	
5/8	9/16		4	3	3-1/16
1	3/4*	25/32	5	4	4-1/8
1-1/4	1	1-1/32	6	5	5-1/8
1-1/2	1-1/4	1-9/32	7	6	6-1/8
			8	6-3/4	7
			9	7-3/4	8
			10	8-3/4	9
			11	9-3/4	10
			12	10-3/4	11

*Alternate minimum dressed dry thickness for 1-inch nominal center-match and shiplap is 23/32 inch.

3.4 DECKING

(The thicknesses apply to all widths and all widths to all thicknesses.)

1

THICKNESSES			FACE WIDTHS		
Nominal	Minimum Dressed Inches		Nominal	Minimum Dressed Inches	
TONGUE & GROOVED/SHIDLAP					
	Dry	Green		Dry	Green
2	1-1/2	1-9/16			
2-1/2	2	2-1/16	4	3	3-1/16
3	2-1/2	2-9/16	6	5	5-1/8
3-1/2	3	3-1/16	8	6-3/4	7
4	3-1/2	3-9/16	10	8-3/4	9
4-1/2	4	4-1/16	12	10-3/4	11
GROOVED-FOR-SPLINES					
2-1/2	2	2-1/16	4	3-1/2	3-9/16
3	2-1/2	2-9/16	6	5-1/2	5-5/8
3-1/2	3	3-1/16	8	7-1/4	7-1/2
4	3-1/2	3-9/16	10	9-1/4	9-1/2
4-1/2	4	4-1/16	12	11-1/4	11-1/2

NOTE: In worked lumber of nominal thickness of 2 inches and over, the tongue shall be 3/8 inch wide in tongue-and-grooved lumber and the lap 1/2 inch wide in shiplapped lumber, with the over-all widths 3/8 inch and 1/2 inch wider, respectively, than the face widths shown in the above table.

3.5 BOARDS AND DIMENSION

THICKNESSES			FACE WIDTHS		
Minimum Dressed			Minimum Dressed		
Nominal	S-Dry	S-Grn	Nominal	S-Dry	S-Grn
Inches			Inches		
1	3/4	25/32	2	1-1/2	1-9/16
1-1/4	1	1-1/32	3	2-1/2	2-9/16
1-1/2	1-1/4	1-9/32	4	3-1/2	3-9/16
2	1-1/2	1-9/16	5	4-1/2	4-5/8
2-1/2	2	2-1/16	6	5-1/2	5-5/8
3	2-1/2	2-9/16	7	6-1/2	6-5/8
3-1/2	3	3-1/16	8	7-1/4	7-1/2
4	3-1/2	3-9/16	9	8-1/4	8-1/2
4-1/2	4	4-1/16	10	9-1/4	9-1/2
			11	10-1/4	10-1/2
			12	11-1/4	11-1/2
			14	13-1/4	13-1/2
			16	15-1/4	15-1/2

3.6 TIMBERS

THICKNESSES AND WIDTHS		
Nominal	Surfaced Dry	Surfaced Unseasoned
5"&6"	1/2"off	1/2"off
7" to 15"	3/4"off	1/2" off
16" and larger	1"off nominal	1/2" off nominal

Standard lengths are 6' and longer in multiples of 1'.

3.7 LENGTHS

3.7.1 Standard

6' and longer in multiples of 1', unless buyer and seller agree on random even length.

3.7.2 Trimmed

Unless otherwise stated in the contract of purchase, lumber shall be trimmed for the removal of spur and splintered ends, and if dressed and 2 inches or less in nominal thickness (except lath), shall be double-end-trimmed to a length that is not scant of nominal length and that is not over 3 inches in excess of nominal length.

3.8 ROUGH SIZE

The minimum rough thickness of dry or unseasoned lumber 1 or more inches in nominal thickness shall be not less than 1/8 inch (3mm) thicker than the corresponding minimum dressed thickness, except that up to 20 percent of a shipment shall be not less than 3/32 inch (2mm) thicker than the corresponding minimum dressed thickness. The minimum rough widths shall not be less than 1/8 inch (3mm) wider than the corresponding minimum dressed width.

3.9 NON-STANDARD SIZES

When the size of lumber is less than the standard size, the actual size will be shown on the invoice, piece tally and grade stamp, if stamped.

