

NWFA/NOFMA

International Standards for Factory Finished Solid Wood Flooring



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This document replaces all editions and revisions of the “Official Flooring Grading Rules” published by The Wood Flooring Manufacturers Association.

Where discrepancies or ambiguities between this document and NWFA Technical Publication No. A500 (Grading & Packaging, copyright 1999) arise, this document shall be considered the definitive source.

Configuration Guidelines & Machining Tolerances

Based on $\frac{3}{4}$ " (19.05 mm) standard thickness flooring. Other thicknesses can be certified as a proprietary thickness.

Machining tolerances are measured at time of manufacture only and with a MC of 6% to no more than 10%. After the product leaves the manufacturing facility/warehouse, the manufacturer has no further control over the product. Moisture content, cut of the board, site conditions, etc., will affect the machining tolerances after manufacturing.

Standards should be maintained at all times to the actual measurements, not the acceptable allowance.

<u>Item</u>	<u>Standard</u>
<u>Width</u>	
Actual width	< 3" (76.20 mm), $\pm .005$ " (.13 mm) ≥ 3 " (76.20 mm), $\pm .008$ " (.20 mm)
<u>Match Position</u> (Measuring from the face of the flooring)	
.547" (13.89 mm)	$\leq .008$ " (.20 mm) difference or space between bottom of tongue & top of lower groove lip

Must be slight contact/friction between the bottom of the tongue and the top of the lower groove lip.

<u>Match Fit</u>	
Tongue thickness	.250" (6.35 mm), - .004" (.10 mm) to +.008" (.20mm)
Groove width	.250" (6.35 mm), + .012" (.31 mm)
	>.003" (.076 mm) to $\leq .012$ " (.31 mm) difference or space between the thickness of the tongue, and the width of the groove

<u>End Match/Squareness</u>	
Square	< 3" (76.20 mm) – No more than 5% of product >.016" (.41mm) un-square
	≥ 3 " (76.20 mm) – No more than 5% of product >.005" (.13mm) per inch (25.40 mm) of width un-square

The end match squareness applies to products that have been properly end matched and products with no end match.

Thickness
.725" (18.42 mm) to .760" (19.30 mm), thickness of each individual manufacturer will vary upon thickness of board at time of unfinished manufacture, the amount sanded off, and the mil thickness of the finish.

The thickness must be $\pm .005$ " (.13 mm) within each specific product. This is an area where proprietary thickness products will be allowed. To become certified, manufacturing thickness guidelines/tolerances must be sent to the NWFA office.

Over/Under-Wood for Flat Finished Surfaces

(This is a manufacturer tolerance, not an installed tolerance.)

Beveled Edge and Beveled/Square End Joint	None, .014" (.36 mm) max. allowed
Micro-Beveled Edge and Beveled/Square End Joint	None, .012" (.31 mm) max. allowed
Square Edge and End Joint	None, .010" (.25 mm) max. allowed

No tolerance established for distressed or hand scraped surfaces.

Bevel

Bevel tolerances are proprietary to individual manufacturers. The bevel must be the same throughout the entire product. Detailed description must be supplied to the NWFA office/inspector upon request.

General Edge Descriptions:

Beveled edge:	> .045" (1.14 mm)
Micro beveled edge:	> .025" (.64 mm) to ≤ .045" (1.14 mm)
Eased edge:	≤ .025" (.64 mm)

Moisture Content Guidelines

The Moisture Content Standard

Flooring is manufactured with moisture content between 6% and 10% with a 5% allowance for pieces outside that variance.

If manufactured to higher or lower moisture content than the standard, it must be stated on the packaging and the inspectors must know this prior to the inspection.

Grading Guidelines

Certified flooring is graded in accordance with the manufacturer appearance guidelines. Appearance guidelines are all proprietary to individual manufacturers. All strip/plank/wide plank flooring designated within that appearance grade name must conform to that description.

Certified flooring is certified in accordance with the specifications set forth in the NWFA/NOFMA manufacturing standard and the manufacturer appearance guidelines.

A copy of the proprietary grade rules/names must be supplied to the NWFA office in order for it to be inspected and designated to be certified.

The Off-Grade Appearance Standard

A 5% tolerance for pieces not in compliance with the desired appearance grade is allowed. Appearance rules are determined by the flooring manufacturer. The manufacturers' appearance grade rules must be supplied to the NWFA office 10 days prior to any inspection and any revisions must be supplied when updated.

Gloss Level Guidelines

Standard

The gloss level is ± 5 of the stated gloss level sheen for each individual product. The manufacturer specifications will dictate their standards for each product.

Finish Adhesion Guidelines

Standard

The cross hatch test for adhesion will follow the ASTM Standard D3359, classification 4b: 95 % or better finish adhesion.

Board Length Guidelines

The NWFA/NOFMA Average Board Length Minimum Standard

Factory finished flooring is generally designated by two or three appearance grades. The following average board length minimum standards apply:

Less than 3" (76.20 mm) Board Width (Strip)

Appearance Grade	Average Board Length Standard
Comparable to a Select and Better	36" (914.40mm)
Comparable to a #1 Common and Better	30" (762.00 mm)
Comparable to a #2 Common	22" (558.80 mm)

3" (76.20 mm) to 5" (127 mm) Board Width (Plank)

Appearance Grade	Average Board Length Standard
Comparable to a Select and Better	33" (838.2 mm)
Comparable to a #1 Common and Better	28" (711.20 mm)
Comparable to a #2 Common	22" (558.80 mm)

Board length guidelines apply to the following species: Red Oak, White Oak, Hard Maple, Beech, Birch, Hickory/Pecan, Ash, American Black Cherry, and American Black Walnut.

For boards wider than 5" (127 mm) (wide plank) the manufacturer establishes the average board length minimum standard that must be maintained. This information must be supplied to the NWFA office 10 days prior to any inspection and revisions must be supplied when updated.

The Average Board Length Minimum Standard applies to the total footage of any one shipment consisting of 1,000 sq. ft. (92.9 sq. m.) or greater amounts.

No individual piece of flooring shall be shorter than 9" (228.6 mm) in length.

Color Match Sample Guidelines

Standard

Color match sample matches the product to master color sample boards at time of manufacture. Color match/blend is a visual inspection. New flooring may not match sample boards in a showroom due to the light sensitivity of the different species of wood.

Square Footage Guidelines

Standard

Square footage (coverage area) per box should meet or exceed the stated square footage (coverage area) per box, based on the average of any one shipment consisting of 1,000 sq. ft. (92.9 sq. m.) or greater amounts. An end match allowance shall not be utilized in square footage (coverage area) calculations.

Crook Guidelines

Standard

< 3" (76.20 mm)	.031" per lineal foot (.787 mm per 305 mm), but not to exceed .155" (3.94 mm) for any piece
≥ 3" (76.20 mm)	.021" per lineal foot (.533 mm per 305mm), but not to exceed .105" (2.67 mm) for any piece

Finish Warranty Guidelines

Standard

The manufacturer establishes the warranty guidelines/standards.

Packaging Guidelines

Standard

All packages of factory finished flooring are required to be marked/designated by the appearance grade, color (or species if applicable), and /or identification marking supplied by the manufacturer.

The actual packaging, other than the above mentioned, is established by the manufacturer.

Board Identification Guidelines

Standard

Each manufacturer has an identification process for its flooring, which must be made available to the NWFA upon request.