

**NWFA/NOFMA
INTERNATIONAL
STANDARDS
FOR
FACTORY FINISHED
SOLID WOOD
FLOORING**

Developed and administered by the NWFA

**FACTORY FINISHED
CONFIGURATION GUIDELINES
AND MACHINING TOLERANCES**
(March 7, 2011)

Based upon 3/4" (19.05 mm) standard thickness flooring

Other thicknesses will be allowed to be certified as a proprietary thickness.

Note: Machining tolerances are measured at time of manufacture only and with a moisture content of $\geq 6 - < 10\%$ mc. After leaving the manufacturing facility/warehouse; the manufacturer has no control over the product. Moisture content, cut of the board, site conditions, etc. will affect the machining tolerances after manufacturing.

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Item

Standard

- **Standards should be maintained *AT ALL TIMES* to the actual measurements, *NOT* the acceptable allowance.**

Width

Actual width $\leq 3/4"$ (82.55 mm), $\pm .005"$ (.13 mm)
 $> 3/4"$ (82.55 mm), $\pm .008"$ (.20 mm)

Match Position (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.

Match Position

Tongue thickness .250" (6.35 mm), $-.004"$ (.10 mm) to $+.008"$ (.20mm)
Groove width .250" (6.35 mm), $+.012"$ (.31 mm)

- The tongue thickness should never be within .003" of the groove opening width.
- Difference between the tongue and groove engagement shall not exceed .012" (.31 mm).

End Match/Squareness

Square $\leq 3/4"$ (82.55 mm) - 2% at .031" (.79 mm) unsquare; or 5% at .016" (.41mm) unsquare
 $> 3/4"$ (82.55 mm) - 2% at .01" (.25 mm) unsquare per 1" (25.40 mm) of width, or 5% at .005" (.13 mm) per 1" (25.40 mm) of width.

- 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 how thick it was at time of unfinished manufacture, amount sanded off, and the mil thickness of the finish.

NOTE: 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 each individual manufacturer. 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 a moisture content of ≥ 6.0% to < 10.0% mc with a 5% allowance for pieces outside that variance.

- If manufactured to a higher or lower moisture content than the standard, it must be stated on the packaging and the inspector/s 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 each individual manufacturer. All strip/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 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 for each individual product. The manufacturer specifications will dictate what their standards are for each of their products.

FINISH ADHESION GUIDELINES

Standard:

Cross hatch test for adhesion will follow the ASTM Standard D3359, classification 4b, 90% or better finish adhesion.

BOARD LENGTH GUIDELINES

The Average Board Length Standard & Compliance –

Factory finished flooring is generally designated by 2 or 3 appearance grades, thus the following average board lengths apply.

Equal to or less than 3¼" (82.55 mm) Board Width

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

For boards wider than 3¼" (82.550 mm) the manufacturer establishes the average board length 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.

COLOR MATCH SAMPLE GUIDELINES

Standard:

Color match sample is for the product to match 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:

Footage per box should meet or exceed the stated footage per box. This does not include any end match allowance.

CROOK GUIDELINES

Standard:

≤ 3¼" (82.55 mm) 3/32" = .094" (2.39 mm) for boards ≤ 3' (914.40 mm) or 5/32" = .156" (3.96 mm) for boards > 3' (914.40 mm)
> 3¼" (82.55 mm) 1/16" = .063" (1.60 mm) for boards ≤ 3' (914.40 mm) or 3/32" = .094" (2.39 mm) for boards > 3' (914.40 mm)

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 their flooring which must be made available to the NWFA upon request.