

Technical Bulletin: Bow/Skew and Linear Pattern Distortions

Your Dickson Flooring is a textile product, which visible side is structured by parallelized yarns in warp direction; these are combined, through weaving process, with yarns in weft direction. A fabric is a fine, living, and unique product; perfect perpendicularity of warp and weft yarns does not exist. Vinyl woven floors will always show natural distortions of the woven structure, warp and/or weft, which will highlight the typical aspect of weaving.

Aware of the fact that this natural phenomenon could alter the final aesthetic result, if surpassing a definite limit, Dickson has implemented a specification for the whole range of woven flooring.

Weft distortion
Dickson limit value = 2%

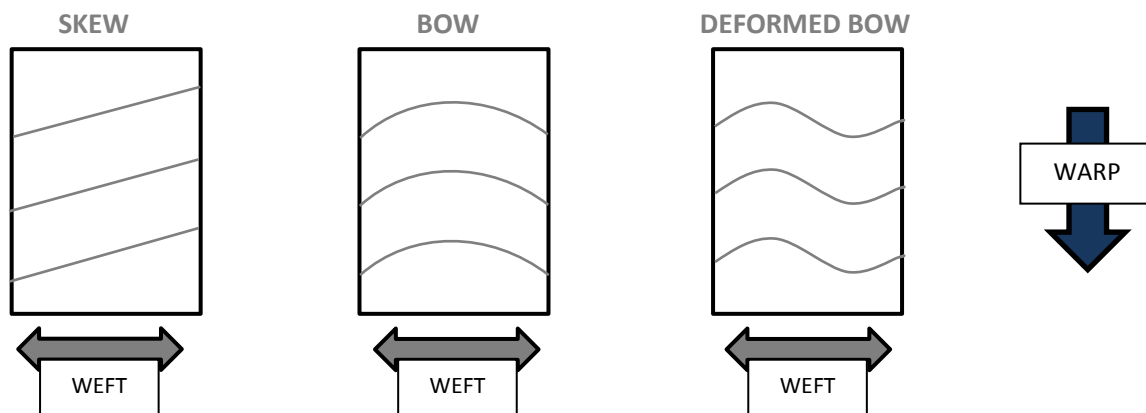
Quality Policy is the foundation of the Company, and each square meter manufactured, is subject to a series of tests managed internally. Measurement and control of distortions are systematically considered, and any value established outside the specification compels us to downgrade the product.

This distortion phenomenon does not affect any of the other technical performances of the product. Dickson Flooring have been designed for the most demanding public areas – hotels, offices, shops, restaurants ...

DICKSON QUALITY CONTROL PROCEDURE

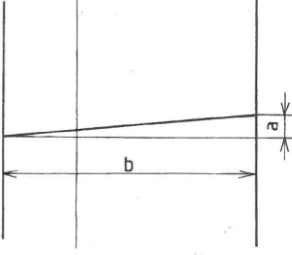
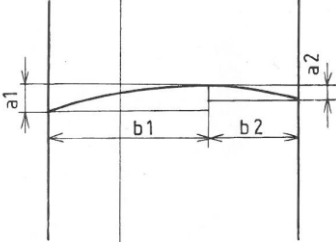
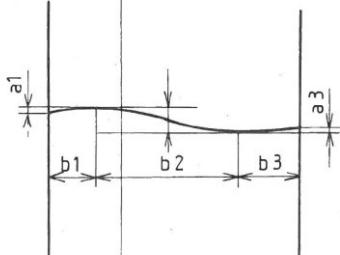
1) Distortion in weft direction ; tolerance limits on angular difference (bow/skew distortion)

Non-perpendicularity is calculated by measuring the angular difference between weft yarns (fills) and warp yarns. The angular difference is a way to quantify distortion of the fill track. If you consider the total width of the product, from one edge to the other, this distortion may have different shapes:



Measurement of angular gap according to the NF G07-163 standard:

Track of a fill is marked with a pencil; then, arrow is measured by comparison with the theoretical linear fill, perpendicular to warp direction.

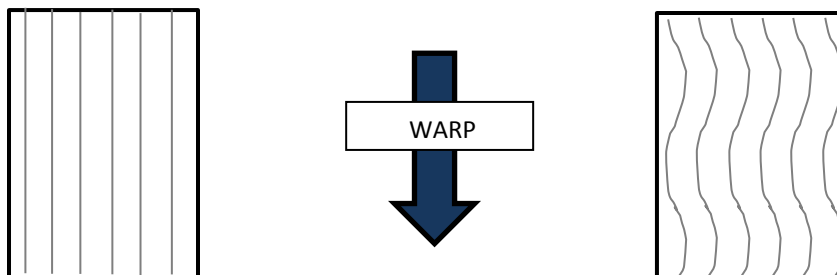
Distortion type	SKEW	BOW	DEFORMED BOW
Quality Control measurements			
Calculation of angular difference (EA)	EA = a/b x 100	<ul style="list-style-type: none"> ➤ a1/b1 x 100 ➤ a2/b2 x 100 if a2/b2 > a1/b1, EA = a2/b2 if a1/b1 > a2/b2, EA = a1/b1	<ul style="list-style-type: none"> ➤ a1/b1 x 100 ➤ a2/b2 x 100 ➤ a3/b3 x 100 EA = highest of the 3 values below
Practical applications ROLL	a = 3 cm b = 200 cm EA = 1,5%	a1 = 2 cm a2 = 1 cm b1 = 140 cm b2 = 60 cm a1/b1x100 = 1,4% a2/b2x100 = 1,7% EA = 1,7%	a1 = 0,5 cm a2 = 1,5 cm a3 = 1 cm b1 = 50 cm b2 = 90 cm b3 = 60 cm a1/b1x100 = 1,0% a2/b2x100 = 1,7% a3/b3x100 = 1,7% EA = 1,7%
Practical applications TILES	a = 1 cm b = 50 cm EA = 2,0%	a1 = 0,5 cm a2 = 0,3 cm b1 = 30 cm b2 = 20 cm a1/b1x100 = 1,7% a2/b2x100 = 1,5% EA = 1,7%	a1 = 0,5 cm a2 = 1,5 cm a3 = 1 cm b1 = 50 cm b2 = 90 cm b3 = 60 cm a1/b1x100 = 1,0% a2/b2x100 = 1,7% a3/b3x100 = 1,7% EA = 1,7%

According to the NF G07-163 standard, the angular difference is the maximum slope which is designed by the curve between one summit of the curve and the edge, or between 2 summits. If several angular differences may be measured on a same fill (cases 2 and 3), the highest angular difference is recorded. This value is compared to the tolerance limit defined by Dickson: 2%

Any value out of the 2% tolerance limit leads to the downgrading of the product

2) Distortion in warp direction ; linearity of ends

Far less usual than distortion in weft direction as described before, this phenomenon is revealed by a warp yarn track similar to a more or less strong wave in warp direction.



To be noticed: even with the strictest tolerances, these phenomena may be visually accentuated depending on conditions, patterns and/or colours combinations. If walls of the room are not perfectly right, woven patterns of the flooring will appear as non-parallel to the wall or to the nearby panel. An experienced professional installer will be able to optimize the final visual aspect.