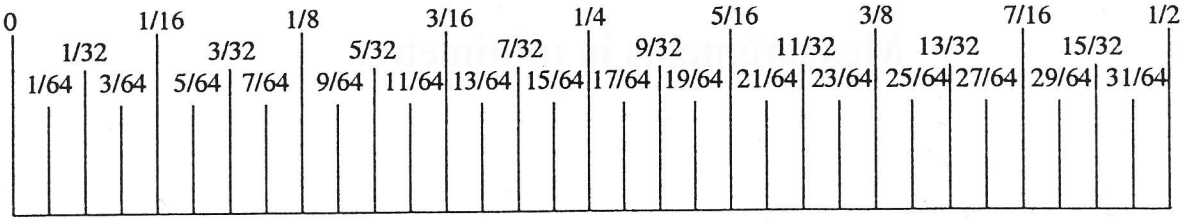
Wood Expansion and Contraction Table - Imperial

This table shows the amount a 10" board could change as a result of seasonal fluctuations in moisture content. It is assumed that the wood is stored indoors and will have a change of moisture content of 10% if unfinished, and 3% if finished on all surfaces with several coats of lacquer or varnish. The amount of change along the length of a piece of wood is too small to consider. The amount of change in a direction tangential to the growth rings is approximately twice the amount of change in a direction radial to the growth rings.

	10% Unfinished		3% Finished	
	Tangential	Radial	Tangential	Radial
White Ash	18/64	11/64	5/64	3/64
Basswood	21/64	15/64	6/64	4/64
Yellow Birch	21/64	16/64	6/64	5/64
Black Cherry	16/64	8/64	5/64	3/64
Sugar Maple	23/64	11/64	7/64	3/64
Red Oak	20/64	10/64	6/64	3/64
Yellow Poplar	19/64	11/64	6/64	3/64
Western Red Cedar	11/64	6/64	3/64	2/64
Eastern White Pine	14/64	5/64	4/64	1/64
Red Spruce	18/64	9/64	5/64	3/64
Balsa	17/64	7/64	5/64	2/64
Mahogany	12/64	8/64	4/64	3/64
Teak	9/64	5/64	3/64	2/64



Fractions of an Inch

Wood Expansion and Contraction Table - Metric

This table shows the amount a 25cm board could change as a result of seasonal fluctuations in moisture content. It is assumed that the wood is stored indoors and will have a change of moisture content of 10% if unfinished, and 3% if finished on all surfaces with several coats of lacquer or varnish. The amount of change along the length of a piece of wood is too small to consider. The amount of change in a direction tangential to the growth rings is approximately twice the amount of change in a direction radial to the growth rings.

	10% Unfinished		3% Finished	
	Tangential	Radial	Tangential	Radial
White Ash	6.9	4.3	2.1	1.3
Basswood	8.3	5.9	2.5	1.7
Yellow Birch	8.2	6.4	2.5	1.9
Black Cherry	6.3	3.3	1.9	1.0
Sugar Maple	8.9	4.3	2.6	1.3
Red Oak	7.9	3.75	2.4	1.1
Yellow Poplar	7.3	4.1	2.2	1.2
Western Red Cedar	4.4	2.1	1.3	0.6
Eastern White Pine	5.4	1.9	1.6	0.5
Red Spruce	6.9	3.4	2.1	1.0
Balsa	6.8	2.7	2.0	0.8
Mahogany	4.5	3.3	1.4	1.0
Teak	3.6	1.9	1.1	0.6

Measurements in millimetres