



What is Moisture Content? How does it affect floorings?

Moisture content is a measure of the amount of water or water vapour contained within a substance. It can be helpful to think of it as the percent by mass of water in a sample of a mixture or form of matter. This measurement is a variable factor for most substances and can change with weather and temperature.

Moisture content means a lot to flooring, as floorings that have a higher percentage are at a higher risk of high expansion or contraction rate, which can cause cupping or crowning. In some extreme cases, the floor will buckle up. These cases will lead to a high cost in terms of money and time to repair.

**MOISTURE CONTENT OF WOOD
AT VARIOUS TEMPERATURES AND RELATIVE HUMIDITY READINGS**

Temperature (°Fahrenheit)

40	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
50	1.4	2.6	3.7	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3	12.4	13.5	14.9	16.5	18.5	21.0	24.3	26.9
60	1.3	2.5	3.6	4.5	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	14.6	16.2	18.2	20.7	24.1	26.8
70	1.3	2.5	3.5	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	14.4	16.0	17.9	20.5	23.9	26.6
80	1.3	2.4	3.5	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	14.2	15.7	17.7	20.2	23.6	26.3
90	1.2	2.3	3.4	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	13.9	15.4	17.3	19.8	23.3	26.0
100	1.2	2.3	3.3	4.2	5.0	5.8	6.5	7.2	7.9	8.7	9.5	10.3	11.2	12.3	13.6	15.1	17.0	19.5	22.9	25.6
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	98
	Relative Humidity (percent)																			

Chart taken from Wood Handbook: Wood as an Engineering Material, (Agriculture Handbook 72), Forest Products Laboratory, U.S. Department of Agriculture.

Cupping



Crowning



Characteristic	Traditional bamboo	Red Oak Solid	Laminate flooring	Strand Woven bamboo
Hardness	1'380 Psi	1'290 Psi	1'400-1'500 Psi	2'600 Psi
Density	750 kg/cm ³	700 kg/cm ³	>= 910 kg/cm ³	1'030 kg/cm ³
Formaldehyde emission	<= 1.5 mg/L	0.4 mg/L	1.5 mg/L	0.1 mg/L
Impact resistance	10 mm	9 mm	<=8 mm	6 mm
Moisture content	12.0%	10.1%	7.0-8.0%	7.8%
Abrasion resistance	6'000 turns	5'000 turns	9'000 turns	16'000 turns
Water absorption swell rate	3%	10%	<= 2.5%	0.7%

What is the difference between bamboo and other common flooring?

Indoor wood flooring has a moisture content ranging from 6-19%, depending on its species and plank-making process. Take the most common Red Oak as an example; it has a 10.1% of moisture content. Bamboo flooring gives a much more stable 7.8%.

Verdee strand woven bamboo flooring is strictly controlled at the level of 8–12% in terms of moisture content during the manufacturing process, which gives the best performance under the temperature of 40-100°F and a relative humidity of 35-80%. This grants it 70% more stable than normal hardwood in terms of heat expansion and contraction rate.



Verdee Strand Woven Bamboo Flooring – Nature Series/ Natural Colour – Hotel Indigo, Hong Kong

Contact



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