856-764-2501 (phone) 856-764-2503 (fax) Website: www.wflooring.com

EQUALIZING YOUR WOOD FLOOR TO THE SPECIFIC JOB SITE CONDITIONS

Solid Wood Floors, both unfinished and pre-finished, MUST be equalized properly before installation. Please follow these recommendations for equalizing:

Background to equalizing Solid Wood Flooring

Wood is a natural porous material, which continues to breathe even after installation and finishing. Wood has a cellular structure, which expands as it picks up moisture and shrinks when it gives moisture off. It is this movement which can cause cracks, separation, cupping, swelling and lifting of your wood floor.

All wood will eventually acclimate itself to its surroundings. This is known as reaching the equilibrium point. The exact equilibrium point to be reached by all wood elements on a job site can be accurately predicted by taking relative humidity and temperature readings at the site and then use the chart below to find the expected equilibrium moisture content. The numbers in the middle of the chart are the equilibrium point that all wood elements will reach.

	Relative Humidity					Relative Humidity					Relative Humidity					Relative Humidity				
Temp	**5%**	**10%**	**15%**	**20%**	**25%**	**30%**	**35%**	**40%**	**45%**	**50%**	**55%**	**60%**	**65%**	**70%**	**75%**	**80%**	**85%**	**90%**	**95%**	**98%**
30 F	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
40 F	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	33.5	14.9	16.5	18.5	21.0	24.3	26.9
50 F	1.4	2.6	3.6	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.3	11.2	12.3	13.4	14.8	16.4	18.4	20.9	24.3	26.9
60 F	1.3	2.5	3.6	4.6	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 F	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 F	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	26.0
90 F	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 F	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

From US Dept of Agriculture "Wood Handbook as an Engineering Material"

Wood flooring in service is usually exposed to both long-term (seasonal), and short-term (daily), changes in relative humidity and temperature. Thus, wood is virtually always undergoing slight changes in moisture content even after installation. Different parts of the country have varying equilibrium points. And each area may vary greatly season to season. So a given equilibrium point in June may be different from one in December on the same site. In addition, a wide range of equilibrium points can be experienced between job sites in the same locale, determined by individual heating/cooling systems and/or specific site variables such as being next to a lake, etc.

The practical objective of equalizing your solid wood floor to the individual job site levels, prior to installation, is to minimize the amount of subsequent movement after installation. With no one equilibrium moisture content right for all situations, only your installer, with their critical knowledge of local conditions, used in conjunction with proper testing and planning, can establish the proper equilibrium point at which to install your solid wood flooring.

As manufacturers, we produce our solid wood flooring to industry standards of 6 - 9% moisture content. However, this may not be low/high enough for your installation. Therefore, it is imperative your installer follows these recommendations for equalizing solid wood flooring. WFI shall not be responsible for any shrinkage/swelling or other movement of the floor after installation as WFI does not control any of the job-site variables - only the installer and end user can do so.

Recommendations for Equalizing Solid Wood Flooring

Proper Method to Equalize Solid Wood Flooring - Your installer should:

1) Establish the job-site specific target equilibrium point the flooring should be installed at by taking into account all of the following variables:
    - Existing relative humidity and temperature
    - planned or existing heating/cooling systems
    - planned or existing dehumidifying or humidifying systems
    - measure other existing wood elements to see what equilibrium point they have reached
    - projected seasonal variations at the site and estimated average equilibrium point
2) Moisture meter the flooring upon job site arrival.
3) If the flooring is too high in moisture content for the job-site, it must be allowed to dry out and shrink prior to installation. If it is too low, it must be allowed to pick up moisture. This can be accomplished by removing the flooring from its packaging and completely spreading out all of the individual pieces to allow good air circulation around them, until such time as they fully equalize to the moisture content desired.

Tip - To speed up the equalizing process you can build piles of flooring by criss-crossing the pieces in an open stack and using fans to force air over/through the stack. Periodically take reading of the moisture content of the flooring as you monitor its movement towards the desired equilibrium point. By using a two-pin type moisture meter with insulated pins you can take reading at both the surface and the care of the wood flooring. This will enable you to tell the direction the moisture content in the flooring is moving, how quickly it is moving there and when it has reached the desired equilibrium point. Once the flooring has reached the target equilibrium point it is now ready to be installed.