

Excessive Humidity During Installation

Properly installing hardwood sports flooring requires attention to expected peak humidity in the facility. Humidity has a direct affect on wood moisture content, and consequently the expansion that occurs across the surface of the flooring.

The region of the country, available mechanicals, and expected operation of the mechanical units, determines expected peak wood moisture in each installation. The attached USDA map provides a general range of wood moisture for each region of the country.

On occasion, unusually high humidity may persist to create abnormal conditions. Such instances may lead to moisture in the wood that exceeds the expected maximum for the facility. This will cause excessive flooring growth beyond expansion anticipated during normal seasonal humidity cycles.

Installation **should not** continue when flooring moisture content may exceed the anticipated peak. Continuing installation under these conditions:

- may cause excessive tightening of the flooring strips creating cupping of the wood or buckling of the system,
- and will typically create excessive gaps between flooring strips during dry winter months,
- also, may cause finish and paint chipping along flooring strip edges from significant expansion and contraction of the wood.

Expected environmental conditions for the occupied facility must be established before during and after installation for compliance with Aacer Sports Flooring and the Maple Flooring Manufacturers Association (MFMA) guidelines.

***USDA MAP PROVIDED WITH THIS BULLETIN

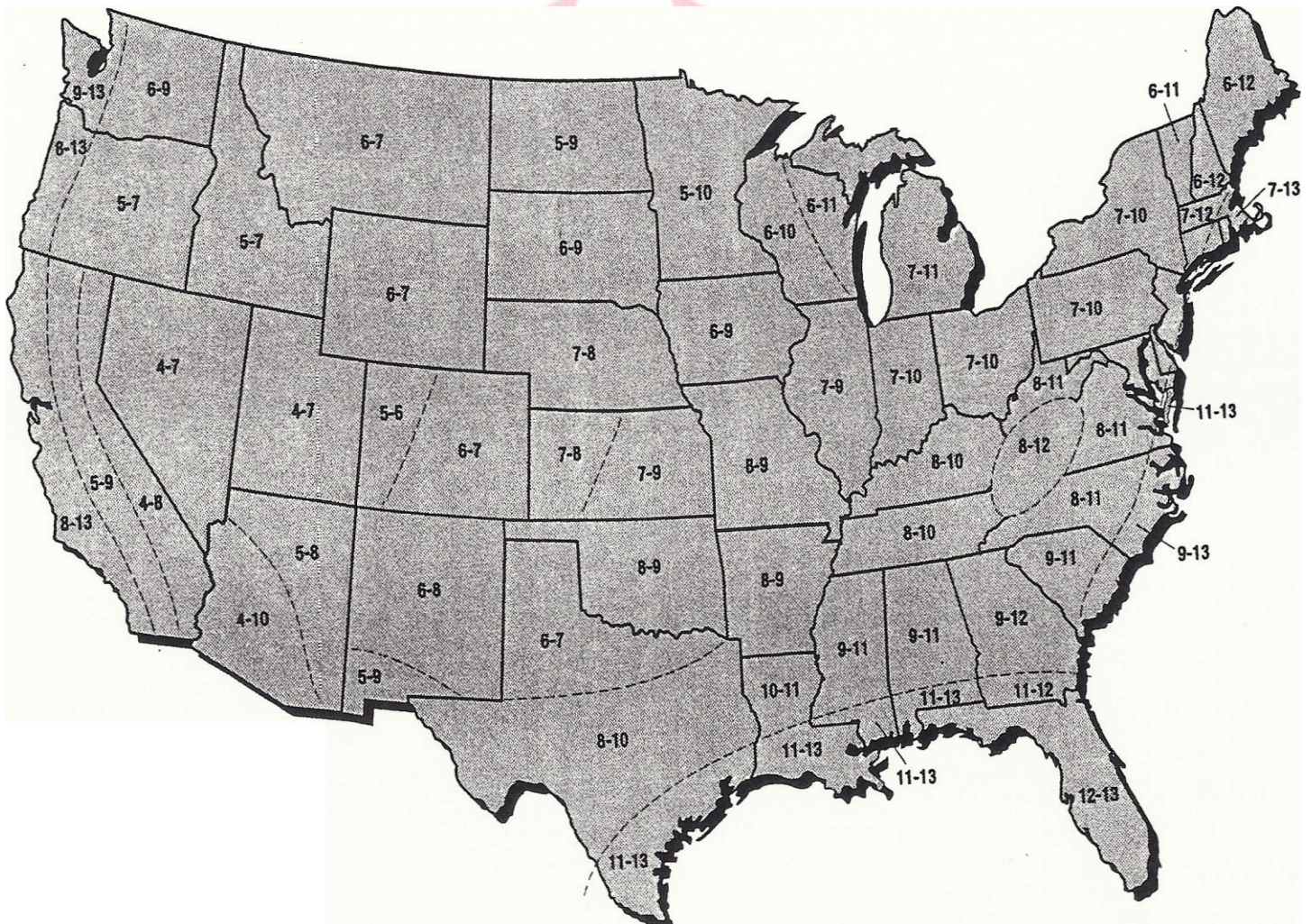
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WOOD MOISTURE CONTENT BY AREA

FROM FOREST PRODUCTS LABORATORY
U.S. DEPARTMENT OF AGRICULTURE

Variation of average moisture content for wood used indoors:

For each set of figures: The first number represents the average moisture content measured during January, and the second figure is the average moisture content during July.



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DETERMINING EXPANSION ROW REQUIREMENTS

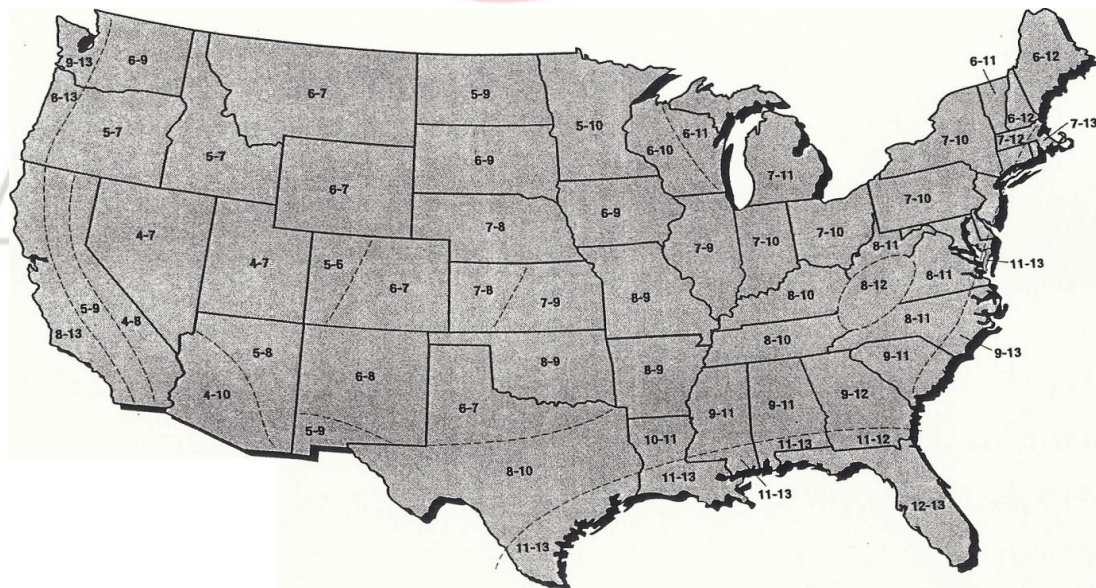
- ___ Expected peak moisture content (MC) based on:
- A. USDA map of historical averages,
 - B. or temperature and humidity range (Table 1),
 - C. or controlled environment of 35%-50% = 9% MC
- ___ Subtract current wood moisture content (MC)
- ___ Expected wood moisture content increase
- ___ REQUIRED EXPANSION SPACING (Table 2)

EQUALIBRIUM WOOD MOISTURE CONTENT									Table 1
TEMP	RELATIVE								
	35	40	45	50	55	60	65	70	
60	7.0	7.8	8.6	9.4	10.2	11.1	12.1	13.3	
70	6.9	7.7	8.5	9.2	10.1	11.0	12.0	13.1	
80	6.8	7.6	8.3	9.1	9.9	10.8	11.7	12.9	
90	6.7	7.4	8.1	8.9	9.7	10.5	11.5	12.6	

To Assure Proper Spacing:

- moisture meter must be accurate
- expected peak moisture content (MC) must be correct,
- based on anticipated average high humidity conditions
- moisture content must be checked and recorded twice daily,
- and expansion adjusted accordingly

Required Spacing for 2-1/4" Hard Maple				Table 2
MC Increase	Expansion Spacing			
	1/16"	3/32"	1/8"	
1%	22 rows	-	-	
2%	11 rows	17 rows	-	
3%	8 rows	11 rows	15 rows	
4%	6 rows	8 rows	11 rows	



MAP FROM FOREST PRODUCTS

LABORATORY DEPARTMENT OF AGRICULTURE

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