

## SECTION 2 ♦ CARE & STORAGE

(Including: Care and Moisture Considerations Before, During, and After Installation)

### GENERAL

#### 1 INFORMATION

1.1 **GRADES** - None; care and storage requirements are the same for all architectural woodwork projects, regardless of Grade specified or required.

1.2 **BASIC CONSIDERATIONS**

1.2.1 Architectural woodwork should be treated like fine furniture, particularly that which is constructed of wood, finished with a transparent finish system.

1.2.2 Except for true oil-rubbed surfaces, modern finishes do not need to be polished, oiled, or waxed.

1.2.2.1 Application of polishing oils, cleaning waxes, or products containing silicone may impede the effectiveness of touch-up or refinishing procedures in the future.

1.2.3 **RELATIVE HUMIDITY AND MOISTURE CONTENT**

1.2.3.1 The space in which architectural woodwork is to be installed needs to be engineered with appropriate humidity controls to maintain its optimum relative humidity.

1.2.3.2 Wood for architectural use needs a moisture content within an optimum range.

1.2.3.2.1 The table and map below (USDA Forest Service, Agriculture Handbook No. 72) shows the Optimum Moisture Content (MC) and the Indoor Relative Humidity required to hold such MC within the general areas of the United States and Canada. NOTE - Some of these areas have additional micro-climates not shown or referenced.

Geographical Location	Optimum Moisture Content (MC)		Optimum Indoor Relative Humidity
	Exterior	Interior	
Most of U.S.; Ontario and Quebec in Canada	9-15%	5-10%	25-55%
Damp Southern Coastal areas of the U.S.; Newfoundland and Canadian Coastal Provinces	10-15%	8-13%	43-70%
Dry Southwestern U.S.	7-12%	4-9%	17-50%
Alberta, Saskatchewan, and Manitoba in Canada	10-15%	4-9%	17-50%

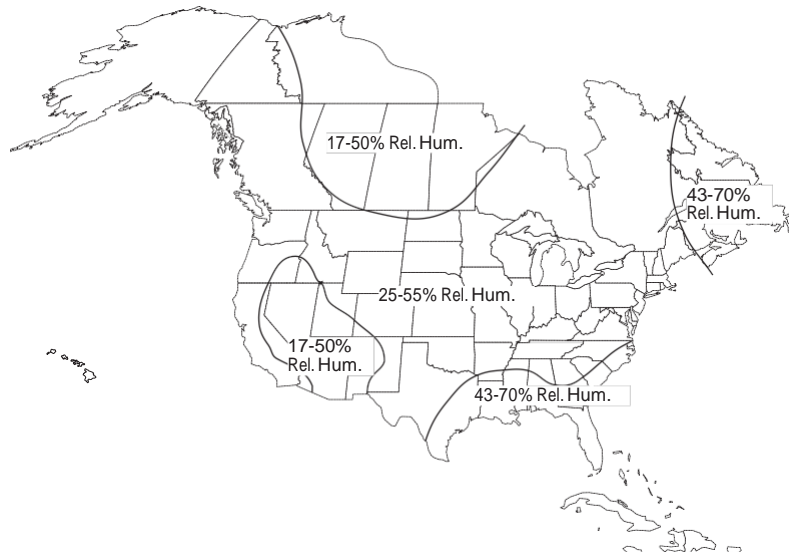


Fig. 2-1

## GENERAL

### 1.2 BASIC CONSIDERATIONS (continued)

1.2.4 Architectural woodwork, when properly finished, is relatively durable and resistant to moisture.

1.2.4.1 Prevent direct contact with moisture, and wipe it dry immediately should any occur.

1.2.4.1.1 Allowing moisture to accumulate on, or stay in contact with, any wood surface, no matter how well finished, will cause damage.

### 1.2.5 DIMENSIONAL CHANGE PROBLEMS

1.2.5.1 For centuries, wood has served as a successful, renewable material for architectural woodwork, and as history has shown, wood products perform with complete satisfaction when correctly designed and used.

1.2.5.1.1 Problems directly or indirectly attributed to dimensional change of the wood are usually, in fact, the result of faulty design or improper humidity conditions during site storage, installation, or use.

1.2.5.2 Wood is a hygroscopic material, and under normal use and conditions all wood products contain some moisture. Wood readily exchanges this molecular moisture with the water vapor in the surrounding atmosphere according to the existing relative humidity.

1.2.5.2.1 In high humidity, wood picks up moisture and swells.

1.2.5.2.2 In low humidity, wood releases moisture and shrinks.

1.2.5.3 Oxidation is a reaction of acids in wood (e.g., tannic acid), with iron, oxygen, and moisture, whether this be relative humidity or direct moisture.

1.2.5.3.1 Control of moisture is a simple way to protect wood products from stains as a result of oxidation.

1.2.5.4 Together with proper design, fabrication, and installation, humidity control is an important factor in preventing dimensional change problems.

1.2.5.4.1 As normal minor fluctuations in humidity occur, the resulting dimensional response in properly designed construction will be insignificant.

1.2.5.5 Architectural woodwork products are manufactured as designed from wood that has been kiln dried to an appropriate average moisture content and maintained at this condition up to the time of delivery.

1.2.5.5.1 Subsequent dimensional change in wood is and always has been an inherent natural property of wood.

### 1.3 RECOMMENDATIONS

1.3.1 Maintain an interior relative humidity every hour of every day, within the ranges shown previously in this section.

1.3.1.1 Uncontrolled extremes such as those listed below will likely cause problems:

1.3.1.1.1 Relative humidity, above or below the ranges shown previously in this section.

1.3.1.1.2 Sudden changes in the allowable relative humidity, especially when it is repetitive.

1.3.2 Remove oil or grease deposits; use a mild flax soap, following its directions for dilution.

1.3.3 Do not use abrasives or chemical or ammonia cleaners on fine architectural woodwork surfaces.

1.3.4 Accomplish routine cleaning with a soft, lint-free cloth lightly dampened with water or an inert household dust attractant. Allowing airborne dust, which is somewhat abrasive, to build up will tend to dull a finish over time.

1.3.5 Avoid excessive or repetitive impact, however lightly applied. The cellular structure of the wood will compact under pressure. Many modern finishes are flexible and will show evidence of impact and pressure applied to them.

## 1.3 **RECOMMENDATIONS** (continued)

- 1.3.6 Avoid localized high heat, such as a hot pan or plate, or a hot light source, close to or in contact with the finished surface. Exposure to direct sunlight will alter the appearance of fine woodwork over time.
- 1.3.7 Use the trims, cabinets and fixtures, paneling, shelving, ornamental work, stairs, frames, windows, and doors as they were intended.
  - 1.3.7.1 Abuse of cabinet doors and drawers, for example, may result in damage to them as well as to the cabinet parts to which they are joined.

## 1.4 **ACKNOWLEDGEMENTS**

- 1.4.1 **RESPONSIBILITY** for dimensional change problems in wood products resulting from:
  - 1.4.1.1 Improper design rests with the design professional.
  - 1.4.1.2 Improper relative humidity exposure during site storage and installation rests with the contractor.
  - 1.4.1.3 Humidity extremes after occupancy rests with the owner.