

# HUMIDIFICATION INFORMATION BULLETIN

Humidification of the showroom can be cost effective

## BENEFITS TO DEALERS

A thorough understanding of humidity and how it affects guitars is essential to guitar store management. Many producers of high-quality, solid wood guitars are requiring their dealers to maintain a safe level of humidity in their stores. Guitar dealers are discovering that their stock of high-end acoustic guitars is at risk when their store's humidity becomes excessively low or high. The information in this guide is provided to you as a dealer of fine instruments so that you will gain an understanding of how to control the humidity in your store.

Proper humidification of the showroom can be cost effective. Dealers should experience higher sales volume due to the improved condition of the guitars in store stock.

## HOW DOES RELATIVE HUMIDITY AFFECT GUITARS?

Every organic, porous substance tries to equalize to the surrounding air, both in temperature and humidity. Wood also equalizes to the surrounding conditions. When wood takes on moisture, it swells, and when wood gives up moisture, it shrinks. This is a physical characteristic of wood.

Fifty percent relative humidity is considered optimum for effective preservation of wooden objects like guitars. If the humidity in your store stays around 50% relative humidity, you minimize the risk that guitars will become damaged. We believe that if these levels are maintained in a music store, then the instruments in inventory will benefit by remaining stabilized and close to factory specification.

## WHAT CAN YOU DO?

Guitars will display symptoms of improper moisture content, and these symptoms can be detected. Remember, just because a guitar has not yet cracked doesn't mean that it is in good condition. Use the chart on back to determine the condition of your guitars.

Keeping a watchful eye on your guitar inventory will help you maintain proper humidity and keep your guitar stock in perfect shape.



**Martin & Co.**  
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### **LOW HUMIDITY**

Low humidity is usually more of a problem. The guitar slowly dries, the wood slowly shrinks and the top slowly lowers, bringing the strings along with it. With no other way of relieving the stress, the wood cracks.

The obvious answer is to use a humidifier. The largest problem lies in determining how humid you should make the air, so you will need a hygrometer to measure humidity. Hygrometers are available in various price ranges with less expensive models sacrificing accuracy. For large stores with extensive inventory, a professional humidity monitor is probably more appropriate.

### **EXCESSIVE HUMIDITY**

Guitars that are exposed to excessive humidity begin to swell. When they reach their limit, seams separate, bridges become loose and action is unbearable. Humidity can be subtracted with a dehumidifier. In the summer, when it is humid outside and you air-condition your store, you are in effect dehumidifying your store. In some areas additional dehumidification may be required, and there are desiccant and refrigerant varieties of dehumidifiers available.

### **TYPICAL EFFECTS OF HUMIDITY CHANGES ON GUITARS**

#### **AT 60% RELATIVE HUMIDITY OR ABOVE**

High levels of humidity can be detrimental as well. Typical symptoms are tarnished frets and strings, corrosion to nickel, chrome or gold plating material on tuning machines, swelling of the top and other wood components, high action and loose braces and bridges.

#### **AT 50% RELATIVE HUMIDITY**

All guitars in store are in good condition.

#### **AT 40% RELATIVE HUMIDITY**

Guitars may begin to show sharp fret ends. The area of the fingerboard that extends over the body may begin to develop a small crack from the 12th or 14th fret down toward the soundhole.

#### **AT 35% RELATIVE HUMIDITY**

Tops begin to shrink; the surface of the soundboard may look and feel rippled or "dried in." Sharp fret ends will be more evident. Instruments just arriving in the store do not show these symptoms since they have not been exposed.

#### **AT 30% RELATIVE HUMIDITY**

A guitar or two may crack, but even those that are not cracked have lost a considerable amount of moisture and the tops are sunken. Often a higher saddle is necessary to make the guitar playable.

#### **AT 25% RELATIVE HUMIDITY**

More guitars crack. A lot of fret filing is needed.