

How to Weatherize a Cello

Care & Repair of Cellos

Extreme changes of humidity and temperature can damage your instrument

- Protect your instrument during summer and winter
- Detect changes in humidity within the case
- Restore moisture within an instrument



By Richard Ward

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Heat and humidity can cause the hide glue bonding the seams to flex and eventually give way.

In 1974, a colleague moved from Miami to Salt Lake City to attend the Violin Making School of America, bringing along a violin he had purchased in Miami a couple of years before. The violin was a Breton made in Mirecourt in the mid-19th century. Shortly after it arrived in Salt Lake City, the violin was set out in the living room of his apartment. Then late one night, he heard a rather loud “pop” in the living room—the top of the violin had cracked its entire length.

Why? It’s hard to imagine two more different climates than Miami (hot and humid most of the time, and near sea level)

and Salt Lake City (cold, dry, and nearly a mile high). Much to the dismay of my colleague, the violin—accustomed to warmth and humidity—had gone into shock with the change of conditions.

While this is an extreme example, most stringed instrument owners are less than certain about how to prevent damage caused by changes in humidity. Stringed instruments are made of wood, a material that expands when it absorbs moisture, and contracts when it dries. To further complicate matters, the two different types of wood used in building instruments—soft spruce for the top and harder maple

for the back and sides—expand and contract at different rates. At the extreme, these changes can cause extensive damage requiring expensive repairs, as in the case of the ill-fated Breton violin. They can also cause the edges (or seams) to open, a much easier and less expensive repair.

Actually, the seams of a stringed instrument are designed to open when needed. The edges are sealed with hide glue that releases, or opens up, under climatic pressure. Other stronger glues won’t allow for this kind of “safety valve,” and the instrument (especially the top) routinely will crack. As a result, older instruments with many repaired cracks tend to suffer even more injury from climate changes.

Ideally, a stringed instrument should always be kept in a moderate environment of about 60–70°F with 50 percent humidity. A few are fortunate enough to live in a region with these constant conditions, but most of us do not. In much of the United States, winters are cold—with heated homes driving the indoor humidity down to 10 or 15 percent—and the summers are often hot and humid. If you live in the American Southwest, where it’s hot and dry a good deal of the time, you need to take extra measures to stabilize the conditions inside the instrument case. In addition to physical damage, stringed instruments suffer tonally from humidity changes.

A dry climate will often cause the tone to become hard, edgy, and dry. Conversely, excess humidity causes instruments to sound dull, thick, and unresponsive.

So how do you maintain the correct temperature and humidity around your instrument? The two basic approaches to consider are managing the humidity within the instrument itself and addressing the climate in the instrument's storage area, that is, in the case. There are many commercial products available, and some home-grown solutions, that take one or the other approach. Here are a few options:

INSTRUMENTAL DEVICES

Some players prefer to use a humidifier that goes in the instrument rather than in the case; others decry this practice, fearing that it could expose the wood to direct contact with water. The best-known product of this type is the Dampit, sold in many stores. Models for a cello range from \$17.50 to \$20 each. (Similar products include the Humitron, distributed by RDM Enterprises.) The concept is simple: the Dampit is a flexible, perforated green tube with a sponge inside. After moistening the sponge, insert the Dampit into one of the f-holes and leave it in the instrument when you're not playing it. When the sponge inside the Dampit dries out, you simply re-moisten it. The drier the climate, the more frequently you need to check the moisture level (in very dry conditions, two Dampits may be needed—one in each f-hole).

However, cello makers and dealers—and players—are split in their acceptance of this type of product. Some say you need to check the Dampit diligently in very dry climates to make sure it is consistently moist. And some claim that the Dampit itself can damage an instrument by introducing too much moisture into the instrument's internal environment. Despite the differing opinions between makers and dealers, most musicians accept this product due to its simplicity.

IN-THE-CASE HUMIDIFIER

If you want to control the climate in the case, there are several ways to go. A good place to start is to look for a padded case cover, much like the ones made by Bobelock and Mooradian (mooradian.com). (Note that Mooradian also manufactures covers that other companies sell under their own labels.) These bags offer insulation to protect against both hot and cold weather. And there are other alternatives, though there's no consensus on their value.

You might also consider adding a hygrometer and a humidifier to your case, or buying a case that's equipped with these accessories. A hygrometer measures the level of humidity, while a humidifier can correct dryness. An in-case humidifier often comes in the form of a small tube filled with water-saturated material that releases moisture at a controlled rate.

Many cello cases include a built-in hygrometer and a vaporizer bottle. I find that the little vaporizer bottles don't provide enough humidity in very dry conditions, but they do work in more moderate situations. In its more expensive cases, Musafia (musafia.com) includes a humidifier that looks like a short tube. It is perforated and filled with a sponge, like a Dampit, but mounted inside the lid of the case—a rather clever idea. San Francisco Symphony assistant concertmaster Jeremy Constant reportedly purchased a Musafia case partly for its humidifier. "When you're touring in the winter, it's a godsend," he explains, "because everything is so horrifically dry. [Sponge-like humidifiers that fit inside an instrument] are a losing effort unless you are willing to have one in each f-hole."

For the do-it-yourselfer, Radio Shack sells a small combination digital thermometer and hygrometer that you can keep in your case. It costs about \$25. For a homemade humidifier, some musicians use a plastic 35mm-film canister, perforated with several holes and with a sponge inside (moistened as needed). This is mounted inside the case with Velcro. One musician I

PLAY IT SAFE

Even if you use a humidification system in your cello case, you should take additional steps to protect your instrument. I strongly recommend the following:

- Avoid exposing your cello to extremes in temperature or humidity.
- Never leave your instrument in a closed car. Besides the possibility of theft, on a hot, sunny day the temperature in the passenger compartment can rise to 120°F. On a cold day, well, you get the idea.
- Never put your cello in the trunk of your car, especially when it is hot.
- Don't store your instrument near a heater or air conditioner.
- Inside a concert hall, give your cello 15 minutes in an open case to adjust to temperature and humidity changes in the indoor environment.

know uses a travel soap container, also perforated and with a sponge inside.

A more elaborate and reportedly efficient in-case approach is the Stretto system, distributed by Shar Products (sharmusic.com). It includes a hygrometer and thermometer to monitor the climate, and several perforated pouches that you moisten as needed to maintain the appropriate humidity level. The system costs about \$79, the humidifier alone costs \$44.

Another case humidifier is the Arion (arionmusic.com). It employs what the manufacturer calls "hydrogels enclosed in a space-age plastic that allows moisture to consistently escape through its walls." The Arion costs about \$20.

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