

JUST PAINT INFORMATION SHEETS

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Developed in collaboration with Conservator James Bernstein and Golden Artist Colors, Inc.

Environmental Conditions for Successful Canvas Stretching

ART AND ENVIRONMENT: Making Materials Work for You

The behavior of art materials is greatly affected by changes in environmental conditions in the immediate vicinity. In the artist's case, it is the ambient studio temperature and humidity. This often-overlooked fact dramatically affects the success of canvas stretching. Ideal conditions for painting materials lie in the ranges of 64 to 76 degrees temperature, and 44 to 55% relative humidity. These are the same ranges museums try to maintain for storage and display of their painted art collections. If an artist stretches a canvas under conditions outside of these ranges, proper canvas tension is misjudged and thrown off. The same canvas that may look fine the day of stretching in the studio, may look terrible under controlled atmospheric conditions. Depending upon the temperature or the humidity, the fabric may relax, become slack and distort with bulges or puckers; or it may become drum-tight, to the point of warping the stretcher and pulling painting corners away from the wall.

Thus, every artist should have temperature and humidity gauges (combination

thermometer/hygrometer) in the studio so that ambient conditions may be checked regularly. Gauges are available as traditional needle-dial indicators or as battery-operated digital meters (the latter are approx. \$20 to \$30 online or at hardware and electronic stores). Purchase one, or a few, and display them in strategic locations in the studio.

For successful stretching, the studio space must be closed off sufficiently so that some semblance of stable environment may be maintained throughout the procedure.

One of the first things that will be noticed is how greatly conditions vary, depending upon the outside weather, the time of day and the degree to which lighting, heating or cooling is "on" or "off". Also, opening windows and doors will throw the ambient conditions off wildly. Get in the habit of regularly checking the temperature and relative humidity several times each day and becoming familiar with the quirks of your studio environment.

Since all materials are affected by environmental conditions, tweaking the ambient temperature and humidity will enable the artist to gain maximum performance from the materials. I heartily recommend increasing the temperature and humidity of the studio just prior to and during the canvas stretching process. Elevating the temperature will increase the flexibility and 'give' of fabrics, especially those with pre-primed grounds. Elevating the ambient relative humidity (moisture in the air) will also relax and swell organic materials. It takes time for materials to absorb heat and humidity and to settle-in accordingly, so plan ahead, set out the materials and give them several hours to acclimate before starting the work.

The temperature may be raised in a number of ways: turning up the room heat, running hot air blowers, allowing the sun to come in, or turning on more lights. Incandescent or infrared flood lamps or radiant heaters can be very helpful for bringing up the warmth of materials in the immediate vicinity, if heating the entire studio is impractical.

The humidity usually takes longer to diffuse into materials. Also, humidity is relative: as the temperature of a fixed body of air is increased, the air can hold more moisture, so the relative humidity percentage drops. To bring the humidity level back up, moisture may be introduced by portable room humidifiers, electric tea kettles (with automatic shut-off!) or misting with spritzers (not the immediate stretcher and fabric, but the surrounding area).



A home-made overhead frame with infrared heat lamps may be raised and lowered via pulleys. Warming pre-primed canvas makes it supple and much easier to stretch. (Courtesy of John Annesley Co.)

I have used all of the above methods in varying combinations; the bottom line is, use whatever will work. Raising the T and RH will encourage canvases and pre-primed grounds to relax, become more flexible and to give more freely for stretching. After stretching is completed and the painting is returned to mid-range temperature and humidity, the canvas will be beautifully taut and firm.



The humidity-temperature gauge clearly reads 48% RH (relative humidity) and 71° F.

I almost always recommend securing a stretched canvas with pushpins and then setting the canvas aside for a day or two. This gives the fabric a chance to settle-in and acclimate to the stretcher. After that time, the true state of stretching may be assessed and adjusted if needed, prior to the final securing with staples or tacks.

Observing and adjusting the temperature and moisture in the studio will improve many aspects of the painting process,

stretching being just one of them. For instance, applying an acrylic dispersion ground on a dry day will cause the ground to dry very quickly, reducing flow and working time; conversely, applying ground on a humid day will give much more pot and working time.

For further discussion and resources regarding canvas preparation and stretching, see:

Bernstein, James. *A Remarkable Way to Stretch Canvases (and other Essentials of Canvas Preparation)*. JUST PAINT New Berlin, NY: Golden Artist Colors, Inc. Issue 17, September 2007.

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