

TO GLAZE OR NOT TO GLAZE

By James Miller, MCPF, GCF

Glazing has traditionally been looked upon as interfering with the aesthetics of oil paintings. With a growing interest in preservation framing, this view is beginning to change.

Oil paint on canvas has been called the ideal way to create art. It has a revered history, and its attributes are well known. For centuries, it has inspired artists to use rich colors and textures. Recently, acrylic paint has also become popular for its similar attributes.

A painting on canvas might endure for centuries—if the paint and canvas are prepared carefully and if the artwork is properly handled, displayed, stored, transported and maintained, and if no catastrophic damage occurs. Those are a lot of “ifs.” Accidents, stormy weather, wars, and other destructive factors can ruin important art. Even if these hazards can be avoided, aging paintings are still subject to slow deterioration from environmental exposure.

When it comes to the presentation of oil paintings, preservation has traditionally taken a back seat to aesthetics in seeing works without glazing. While glazing has long been accepted for watercolors, prints, and pastels, putting glazing in front of an oil or acrylic painting seems almost

abhorrent. After all, traditional oil painting usually has a coating of varnish to protect it. What can go wrong?

From strictly a preservation point of view, virtually all works of art should be glazed and even framed in sealed packages to prevent physical damage and environmental deterioration. In recent years, as the importance of preservation framing has grown, using glazing on oils has gained a measure of acceptance. After all, despite their durability, oil paintings are not eternal. And who knows what lost masterpieces might still be with us had they been glazed and framed by preservation standards.

Museum Environment

Putting glazing on oil paintings is essentially an issue of preservation vs. presentation. If you have complete confidence that nothing bad can happen to a painting in its display environment, why glaze? And what environment is the most ideal? Typically, that of a museum.

Framing Options for Canvas Paintings

Framing a painting on canvas can be accomplished in several ways, with varying degrees of protection for the painting.

Bad

The simplest method is to cut and join the frame to fit the stretched canvas, hold it in place with mending plates, and install the hanging hardware. If the back is left open, or covered with paper or a board slotted to create vents, then the painting will have virtually no protection from the environment.

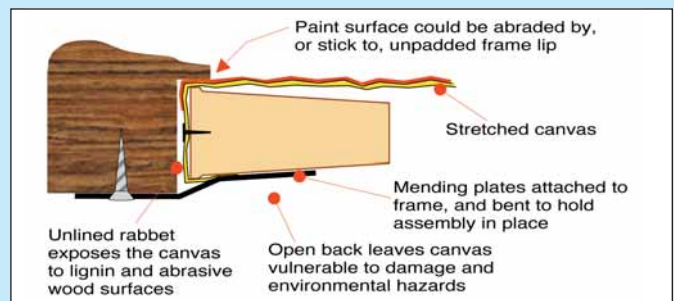


Illustration A: This method of framing paintings on canvas is unfortunately still being used. The sides of the canvas and edges of the painting may be damaged by the frame, and the open back provides no protection.

After all, museums have sophisticated systems to filter the air and carefully control temperature and humidity, complete with scientific monitoring and backup systems. Lighting is also carefully controlled. So, environmental concerns and light exposure generally are not compelling reasons for museums to glaze paintings.

Nonetheless, museum curators still glaze oil paintings under certain conditions. As Lilli Steele, a conservator with the Phillips Collection in Washington, DC, says, “We glaze the works that are most vulnerable to environmental changes, and those with inherent vices.”

Varnish

Traditionally, oil paintings are given a coat of varnish once they are dry to protect the paint. This is one reason why many feel that glazing is unnecessary. And the fact that many paintings have lasted centuries tends to back up this notion. But varnish has its limitations. It may be removed and replaced after soiling, for example, but the cleaning process is invasive. Varnish also offers little protection from environmental changes and does nothing to prevent mechanical damage, such as abrasion or punctures.

Nor is varnish generally used on acrylic paintings—and not always on oil paintings, either. Steele says, “Beginning in the late 19th century, a number of painters chose to not varnish their paintings, preferring a matte surface and rejecting the saturated appearance that results from being varnished. In the 20th century, modern artists began to thin their oils or add wax and other materials to give their works a matte or velvety or other non-traditional appearance. As a result, the surfaces of these paintings are extremely vulnerable to the lightest scratch or scuff. Glazing is recommended

for many modern paintings whose surfaces would be irreparably damaged if they were touched or received any type of blow from the front.”

Ann Hoenigswald, senior conservator of paintings for the National Gallery of Art in Washington, D.C., adds, “Historically, there have been artists who painted oil paintings with the intention that they be glazed, often as an alternative to varnish. This practice is particularly associated with 19th century artists who were concerned with the 'matte-ness' and the non-reflective surface qualities of their paintings. Pissarro, for example, sent his paintings to the 1881 and 1882 independent exhibition glazed. The critic Huysmans reporting on the 1881 show said that this minimized the 'glistening look with many shiny areas'.”

Temperature and Humidity Changes

Frank Zuccari, executive director of conservation at the Art Institute of Chicago, says that even in a carefully controlled museum environment, “a painting that is particularly fragile” might be glazed for display. By closing the frame with glazing, he says, “it is possible to create a micro-climate package. Glazing may slow down environmental changes, but not nearly as effectively as a true micro-climate would.” Micro-climate generally refers to a localized, specially conditioned environment, such as a sealed display case or “package.” In certain display locations, such as on the fringes of a museum's controlled environment, changes could occur. Zuccari says, “Glazing can be used to create a micro-climate chamber to deal with such conditions.”

Charlie Costain, director of conservation and scientific services for the Canadian Conservation Institute (CCI), seconds that idea. “The use of glazing on the front of a paint-

Good

The traditional method of framing a painting is similar but with important improvements. First, the lip of the frame is lined with padding to keep the paint from sticking to the frame. Felt, velvet, alphacellulose 4-ply board, or special foam tape like Volara can be used. Next, the rabbet is lined with a gas-impermeable barrier of glass or metal. Foil tape is the most practical. This slows deterioration and discoloration of the painting's edges by stopping migration of acid and other chemicals from the unfinished inside of the moulding. A solid backing board, without holes, provides mechanical protection and seals out dust, debris, and insects. It also slows the rate of temperature and humidity changes on the back of the canvas and dampens impact and vibrations, which could cause harmful canvas flexing.

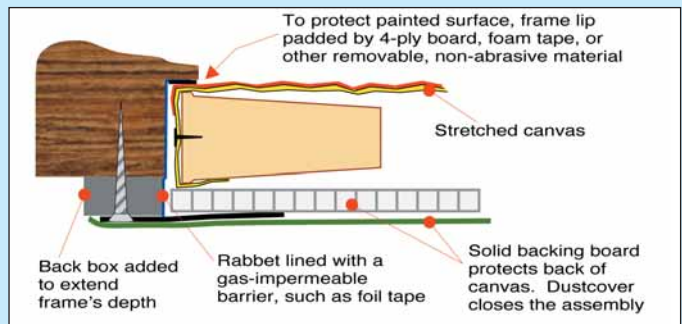


Illustration B: According to traditional practices, the popular way to frame canvas paintings is to use a solid-covered back, padded lip, and lined rabbet to protect the painting from some anticipated hazards. This illustration also shows how a back-box may be added to increase frame depth.

ing in conjunction with a backing board will certainly slow down the rate of humidity fluctuations,” he says.

Outside of museums, temperature and humidity changes may be drastic. A night-setback thermostat can cause temperatures to rise or fall twice a day, as much as 10 degrees or more. What about a cottage used as an occasional retreat or a house where open windows let humidity in?

Glazing has some unique advantages for canvas paintings. A painting on canvas consists of several layers of dissimilar materials, and these may react differently when subjected to frequent, rapid, or radical changes of temperature and humidity. Various layers may loosen and eventually separate, requiring careful conservation treatment. Ellen Baxter, chief conservator at the Carnegie Museum of Art, says, “Paintings are something like lasagna. Both have a reasonably defined layer structure and both must have integrity between their layers. The layers have to stick together without separation. Otherwise, you’ll just have noodles in sauce, or paint slithering off canvas.” The right kind of framing can help preserve

a painting's layers by slowing environmental changes.

'Breathing'

“A canvas has to breathe” is commonly given as a reason to forgo glazing (and a solid backing board). Paul MacFarland, noted framing educator and author and founder of Art Preservation Resources, researched this belief and found its earliest mention in a 1952 book by artist Frederick Taubes, *Better Frames for Your Pictures*. The author recommended, “Make one or several openings in the [backing] board to permit free air circulation.” That opinion is still popular today, but conservators have long realized that air circulation is detrimental for paintings. MacFarland points out that the renowned conservator Caroline Keck recommended the use of a solid backing board in her 1965 book, *Care of Paintings*.

In a September 2005 PFM article, “The Hole Myth,” Hugh Phibbs, PFM's preservation editor and a graphics conservation coordinator at the conservation division of the

Better

Framing a painting with optically coated, anti-reflection glazing provides all the features of the traditional method in Illustration B, plus some significant added benefits. Closing the framing package on both front and back further slows the rate of temperature and humidity changes. Glazing prevents soiling and mechanical damage, dampens impact, and filters UV light.

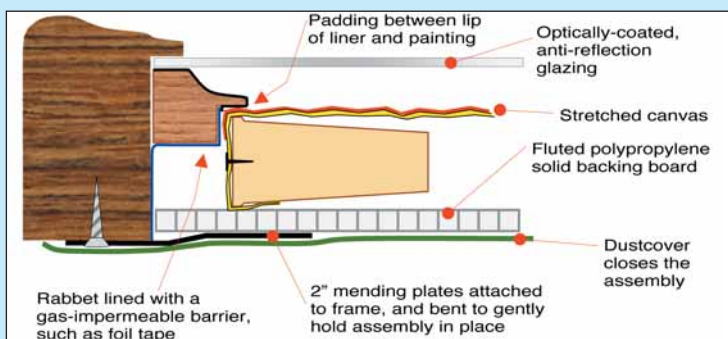


Illustration C: When glazing is used to protect the front of the painting, a generous air space between the painting and the glazing should be allowed, created by the depth of the fabric-covered liner. Otherwise, the features are similar to the traditional method in Illustration B.

Best

This design adds a few more benefits. Aluminum angle stock, available from a home improvement store, provides air space between glazing and painting and allows a painting to be framed with all areas of the canvas isolated from the framing materials. The only area of contact between the painting and the frame is on the back of the stretcher, which is covered by the solid backing board and screwed to the aluminum angle. There is no contact by the frame lip—a design that is useful when the painted edges of the canvas are shown. The aluminum pieces, attached individually to each length of the stretcher, easily allow future keying out. The frame may be built up to $\frac{1}{4}$ " larger than a painting, which can eliminate the need to plane the rabbet to reframe after keying out. The aluminum pieces also make for a tight fit by making a rigid connection between the frame lip on the front and the mending plates on the back.

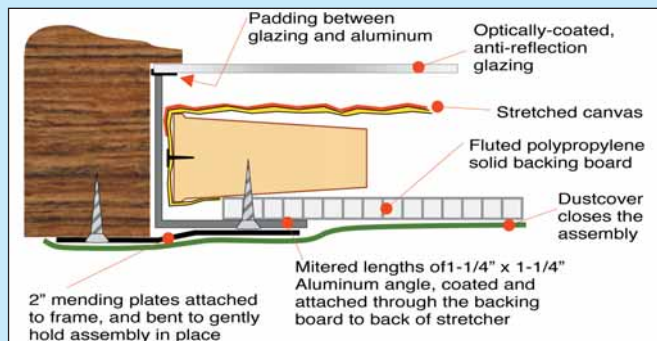


Illustration D: An improved method of framing a painting with glazing. The face and sides of the canvas may be untouched by the framing materials, and the edges are not covered by the frame's lip. The frame may also be built oversized by up to $\frac{1}{4}$ " to accommodate future keying out.

National Gallery of Art, addressed this issue. "Part of framing lore is that when a canvas is given a backing board, a hole should be cut in it to let the art 'breathe.' But what that hole actually does is to expose organic art materials to air pollution, extremes of humidity, mold spores, and ravenous insects. In that light, leaving the interior of a frame open with a hole in the backing board is not very appealing."

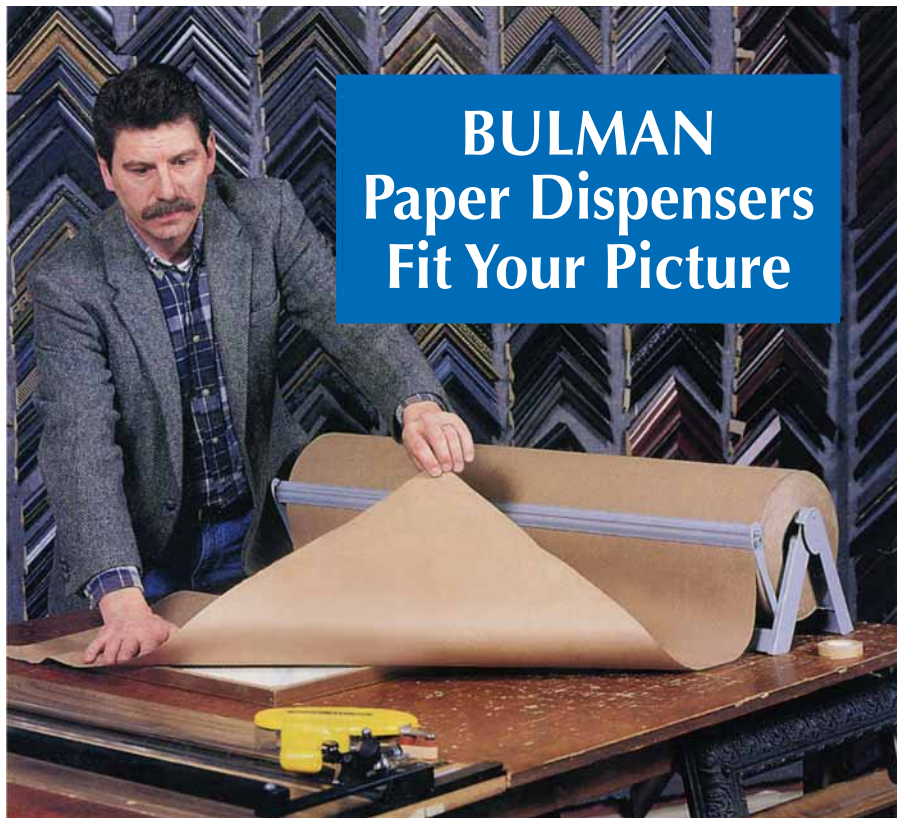
Sealing the front and back of a painting also can reduce damage from canvas flexing, which can be harmful, especially over time or if it is extreme. Glazing and a solid backing board dampen flexing due to impact or extreme vibration, common during handling and transportation. Costain says, "The use of a solid backing board certainly makes paintings more resistant to damage from shocks, and glazing would help with that as well."

Dirt and Grime

Glazing also offers protection from incidental deterioration, airborne contaminants, and soiling, such as touching by observers or spittle from conversation near the painting. Costain says, "This protective aspect from inadvertent damage is one of the biggest advantages of glazing. I would add abrasion, which you see not so much in galleries but in corporate or home environments, where people are less focused on the art and may brush against or back into it. When there are no barriers to keep viewers away, when the work is in a high traffic area like a corridor, or when a painting is in a dirty environment with dust, smoke, or food, glazing is essential to protect a painting."

The benefits of closing the frame with a solid backing board and glazing are even more important outside the museum environment. A typical corporate or consumer environment is relatively uncontrolled. Whatever accumulates in furnace/AC filters might also accumulate on a painting. Soil is routinely cleaned from walls, draperies, and furniture, but what about paintings in the same environment? Accumulated

soil may go unnoticed. Paintings can be cleaned. But for consumers, professional cleaning is unfamiliar, inconvenient, costly, and invasive. In a November 2004 PFM article, "To Glaze or Not to Glaze an Oil Painting," Phibbs says, "Even in a home, dust, cooking or heating oils, pollen, and other airborne materials can collect on the surface of the painting and their removal must be undertaken with great care, even if the painting is varnished." MacFarland adds, "One cleaning and re-varnishing of an oil painting probably costs more than the best optically coated, anti-reflection glazing." As the



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McMichael Canadian Art Collection website recommends, "Where a painting surface is particularly porous or the atmosphere especially dirty, glazing is required."

Physical Damage

Costain says glazing has the advantage of protecting a painting from water spray or leakage and may reduce scorching from fire. While museum galleries may have special provisions to deal with these hazards, no such protections exist in transit or in consumer environments. Damage is, in fact,

most likely to occur during handling, and environmental conditions are difficult to control in transit. That's why Baxter says glazing is often added "when paintings are packaged for travel or display in less than ideal conditions."

George Bisacca, a paintings conservator with the Metropolitan Museum of Art, adds that when security is an issue for a painting on display, "one solution is to put it behind glazing. Anything is going to be safer that way."

Costain agrees with Bisacca that security might also require glazing for display, especially for works associated with

political controversy or religious significance that might attract vandals. When glazing is appropriate, he feels acrylic and laminated glass both provide good protection.

Acrylic Paintings

In some ways, acrylic paintings are similar to oil paintings. However, acrylic paint dries much faster and, unlike oils, acrylic paint develops tiny pinholes all over its surface. Phibbs says that these holes are left as water evaporates out of the paint. "These holes fill with grime and cleaning them is all but impossible."

Helen McKay, a conservator with the CCI, agrees. "Cleaning the surface of acrylic paintings can be difficult, due to the paint's solubility in even 'mild' cleaning agents. Even water can remove paint constituents and pigment. Texture in the paint, such as high impasto peaks, can further complicate the cleaning process."

Aesthetics

Despite the protection offered by glazing and sealed framing, the desire for visual perfection—to see the painting exactly as the artist created it—remains strongly established in museums as well as for private collectors. Indeed, visual perfection is the prime reason to display canvas paintings without glazing. Everyone, even at museums that glaze some oil paintings, agrees that canvas paintings are



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best enjoyed when nothing separates the image from the eye. As Zuccari says, glazing “diminishes the direct experience” of the art. Ria German-Carter, a conservator at the San Francisco Museum of Modern Art, refers to glazing as a “visual barrier.” And Bisacca says, “By glazing a painting, you certainly gain benefit but compromise something of its aesthetics.”

The Preservation View

So, for all the preservation advantages of glazing canvas paintings, visual perfection still takes precedence. Other kinds of art, such as paper and textiles, are routinely framed with glazing, and protecting the art is considered more important than visual perfection. But the opposite is true for canvas paintings.

From a preservation perspective the benefits of glazing are significant, and those at the forefront of preservation believe glazing and solid backing should be given more consideration. As Phibbs' observes in his column, “Preservation requires us to look critically at all of our strategies and designs.” Ernie Robertson of Preservation Glazing, says, “Risk management is changing the practices of framing and display” for important artworks. MacFarland adds, “The preservation jury is in on glazing paintings. Framers need to protect paintings from environmental changes, soiling, and the world at large.”

How Much Does Glazing Interfere?

Advanced glazing technology is mitigating the issue of visual perfection. Few would recommend glazing paintings with plain glass or acrylic. And etched, non-glare glazing certainly is visually objectionable. To assure the most accurate portrayal of a painting's subtle colors and textures, the only glazing worthy of use is optically coated, anti-reflection glass or acrylic. These products also filter out UV light. Laminated glass is shatter-resistant, and so are acrylic glazing products.

Glazing with anti-reflection optical

coatings transmits more light than ordinary glass or acrylic, making the glazing nearly invisible. According to one manufacturer, ordinary glass transmits about 91 percent of light, while optically coated acrylic transmits 97 percent and reflects less than 1.6 percent. If this glass or acrylic is properly installed and the framed art is displayed with careful illumination, then glare and reflections virtually disappear.

Hoeningswald, who has used optically coated glazing at the National Gallery, says, “Depending on the type of painting and the control of lighting, glare and reflections may dis-


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appear with optically coated, anti-reflection glazing. There have been exhibits where the viewers have been unaware that a painting had been framed with optically coated glazing.”

Practical Glazing Issues

There are a couple of significant issues involving the use of glazing. The McMichael Canadian Art Collection states, “The most important thing to remember when glazing a painting is to keep the glazing well away from the surface of the work. Installing glazing between a frame and a liner is

one technique for accomplishing this.”

Phibbs has a similar caution. “The important thing to remember is that the paint must not touch the glazing since the paint may stick to the glazing material.” The space between glazing and painting has an added benefit. Like the air gap in a double-pane window, it acts like an insulator and slows the rate of temperature change inside the frame.

Because varnishing needs to be delayed for a long time, some artists simply omit this step and sell their paintings without it. Framers often receive new paintings with the caution, “Be careful. The paint is still soft.” Oil paintings framed with glazing at this point will see some off-gassing as the paint continues to dry, depositing a filmy residue on the glazing over time. This residue, Phibbs adds, “may require eventual unframing, so that the glazing may be cleaned. Such cleaning of the glass can be regarded as part of the maintenance of valuable items.”

The Bottom Line

As awareness of preservation grows, the traditional view is changing. Museums are giving more importance to preservation, so putting glazing on paintings is not the taboo it once was. And, with the glazing options available today, the visual impact is far less than in the past. As opinions evolve, this issue is one all framers need to look at anew, to see how today’s glazing looks to their eyes on oil paintings and to answer for themselves if the benefits of preservation do outweigh traditional aesthetics. ■



James Miller, MCPE, GCF, founded his framing business, ArtFrame, Inc., in suburban Columbus, OH, in 1988, where he specializes in preservation framing of art,

heirlooms, and three-dimensional objects. He is also an accomplished calligrapher. Miller, who holds a Bachelor’s degree in Business Administration, has served as chairman of the PPFA Certification Board, where he helped develop the MCPF exam, and has been chairman of the FACTS Education Committee. He also teaches at industry venues and writes regularly for PFM.

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