

Mastering Mounting

by Chris A. Paschke, CPF, GCF



Real World Sealed Frames

A sealed frame is one that has been treated and/or prepared to tolerate extremes of moisture and humidity to protect the art inside from damage. This could be a catastrophic immediate one-time exposure (hurricane or flood) or slower, long-term degradation such as being displayed on a yacht or a moist exterior brick basement wall.

Earlier this year I sold eight original paintings to a collector in Chicago. A pair of these original water-color-and-ink florals was to be framed and prominently displayed in the

guest bathroom—where the shower would also be routinely used. So it was decided that sealing the frames would better protect the original art. A sealed frame looks no different from any other custom-framed piece, but it requires a little more depth inside the rabbet to accommodate the sand-

wich of two sheets of glass, mats, backing, and sealing products. The frame lip width should be a minimum of 3/8".

Sealing Materials

A sealed frame system helps protect art from the potential damaging effects of environmental surroundings including changing humidity, atmospheric pollutants, dust, mold, and bugs. Glass serves as a basic barrier in the front and the back of the frame package along with buffered inner boards, but the edges still remain open and accessible to moisture

"Mint Poppies" by Chris Paschke. One of a pair of 7"x22" originals framed for a bathroom as 11"x28" completed frames.



and pollution, so they must be heat-sealed to keep the elements out.

Dust covers are used in framing as a protection against minor invasion of such items, but simply replacing a paper cover with a polypropylene backing or the multilayer aluminized nylon and polyethylene barrier film does nothing to protect open edges. An alternative to a porous dust cover is Coroplast, a chemically inert, durable polypropylene fluted sheet, free from additives such as coloring agents, antistatic, and made with ultraviolet inhibitors. It does not out-

A sealed frame helps protect art from the potential damaging effects of environmental surroundings



Sealed sandwich includes UV glass, double rag mats with spacer and deckled paper accent and backing glass edge sealed with Marvelseal in an 11x28" Nurre Caxton 3998 Sage moulding.

gas; resists water, oils, and solvents at room temperatures; and is excellent for making boxes, for backing stretched canvases, and as a barrier board. It is available in various thicknesses, up to 48"x96" from numerous suppliers. However, it does not create a sealed package.

Talas, Gaylord, and University Products sell MarvelSeal 360, a flexible, heat-sealable, aluminized nylon and polyethylene barrier film that resists the passage of moisture, vapors, atmospheric gases, and pollutants. It can be used for passive humidity control during framing and lining of transport crates. It heat-seals at 350°F for long-term storage bags, such as freeze-dried foods. In a sealed frame, this impermeous film wraps around the back and up the sides of the inner sandwich to the front and is heat sealed to the front glass.

Even when not creating a full-blown sealed package, Volara helps with moisture protection. Volara is a cross-linked polyethylene closed-cell foam with a smooth surface, chemical resistance, and thermal insulation. Volara Foam Rabbet Tape is a 1/4" wide x 1/32" thick strip of Volara material coated with aggressive acrylic adhesive that adheres tightly to the frame rabbet to cover the raw wood to protect an art package. It



Volara Foam Rabbet Tape is 1/4" wide x 1/32" thick polyethylene closed-cell foam with aggressive acrylic adhesive.

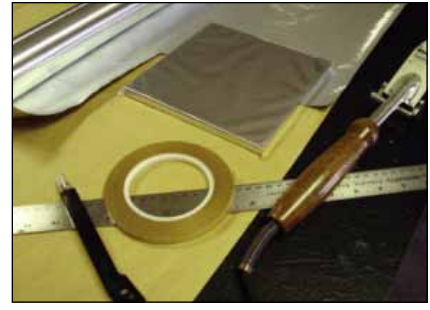
features low water absorption and vapor transmission, excellent chemical resistance, and thermal insulation.

ArtSorb is a moisture-sensitive silica material designed to stabilize moisture to offset changes in humidity. It can absorb up to five times the normal capacity of silica gel, is ideal for framed works, and displays where depth of space is limited. A sheet may be added to a package to assist in the absorption of excess moisture if it's difficult to condition the materials to 50% humidity.

P-S Tape vs. Hot Melt

MarvelSeal is eventually heat-set to seal a package but is first temporarily held to the package edges using either 3M 969, a chemically stable, high tack, 5 mil thick ATG tape, or 3M 415, a permanent, double-sided, pressure-sensitive acrylic adhesive that won't crack or yellow. It is frequently selected for polyester encapsulation. The weakest links in any sealed package are the pressure-sensitive tapes and potential air leaks at the corners or seams due to inadequate bonding. Air gaps can be created where tapes are overlapped without being flattened by burnishing or heat application.

Another adhesive option is 3M Scotch-Weld 3797 TC—formerly 3M Jet-Melt #3797—a 100 percent solid thermoplastic, high-temperature



Materials include roll of MarvelSeal 360, 3M 415, ruler, knife, and tacking iron.

resistant adhesive. Or you can use 3M Scotch-Weld 3748 TC. Both are 2"x5/8" sticks of off-white, electrical-grade, hot-melt adhesive. A 3M Scotch-Weld™ Hot Melt Applicator TC (385°F/196°C) is required to apply this adhesive. These high-temperature hot-glue sticks bond well to polyethylene (MarvelSeal) and polypropylene and are unaffected by changes in altitude, temperature, and humidity.

If selecting hot-glue sticks over tape, the application is basically the same as below, but after initially creating the heat bond—including the corners—then the final setting is done with a second go-round of heat. If hot-glue oozes from under the edge of the aluminum barrier when heat-setting, it is a sign of full melting and is not a problem. Once cooled, the barrier film should be trimmed to fit beneath the frame lip. Please note that the hot melt method can be difficult to work with and can peel off the glass at a later date.

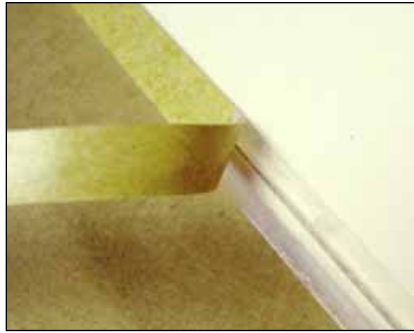
The Chicago Project

Once the mat package has been completed, a sheet of MarvelSeal was sized, allowing 1" on all sides for package completion. There was one shiny and one dull matte side. The matte finish was the side bonded to the adhesive tape and glass, so the shiny, nylon side faced the outside of the package.

Glass was required for the front of



Size MarvelSeal sheet allowing 1" beyond on all sides. Matte side is against the back of the mat.



With sandwich assembled--glass, mats with art, backing, glass--apply 3M415 tape along edge.



Burnish tape to activate adhesive prior to removing liner.



MarvelSeal around edges and stick to tape. Press the flat side of the iron working the full side from corner to corner.



Wrap matte side of film to ATG tape, shiny side out. Note the outer edge shows the film has been melted to the tape.



Securely seal corners by ironing in both directions.

the package because acrylic sheeting allows elements to pass through. The edges of the glass were dulled so they wouldn't cut through the barrier film. Then the glass edges were wiped with alcohol to remove grease and fingerprints prior to the application of the selected tape or adhesive.

The glass was then fit to the top of the mat package and 3M 415 1/4" ATG tape was run along the outer 1/8" of the top of the cleaned glass. The tape on the surface had to fully fit beneath the lip of the rabbet. The tape was activated by hand-burnishing and a bone folder for adhesion to the glass, then the release liner was removed to expose the tape one side at a time during fusion.

The silver barrier was wrapped snugly up one side, pressed and burnished onto the ATG to hold for heat bonding. Then medium-high heat was applied with a dial control (not preset) tacking iron to fuse bar-

rier and tape to the glass, making certain that each side was fully ironed from corner to corner to create a complete seal. When the aluminum film wrinkled, it had efficiently bonded to the glass. Then the opposite side was bonded. The ATG was pressed on the opposite edge, then ironed to create a bond. MarvelSeal must be fully activated and well fused along all sides and into the corners to prevent air leaks. The corners must be ironed from both directions and across the top edges. Once fused, the excess barrier film was trimmed just short of the rabbet lip width so it

wasn't visible.

This completed package was fully enclosed across the back and up the sides to the front of the matted unit. Though the process takes a little practice, once mastered it should be in the repertoire of all custom framers.

Conditioning Concerns

A serious concern in sealing is the potential for trapping elements in the package—in some cases the very elements that sealing is meant to keep out. Airborne bacteria, anaerobic bacteria (not requiring air), pollution,

Resources

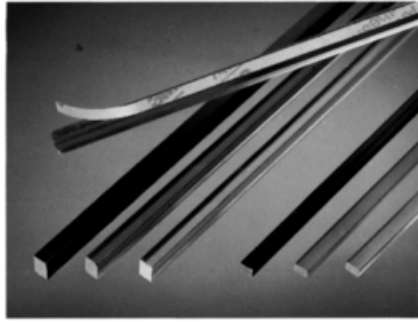
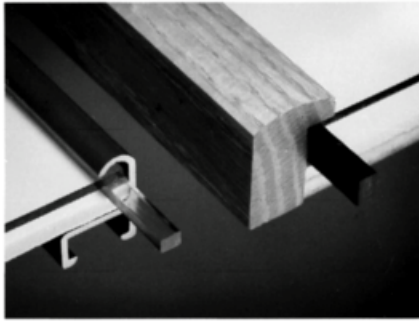
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Items

MarvelSeal, Volara, 3M 415, Coroplast
 MarvelSeal, Rabbet Tape, ArtSorb
 MarvelSeal, Adhesive backed Volara, Coroplast
 Silica Gel, Volara, 415, MarvelSeal 360
 3M 415, Coroplast
 3M Jet-Melt 3748 TC
 Scotch-Weld 3797-TC, 3748-TC
 3M Polygun TC, 3748 TC, 3797 TC

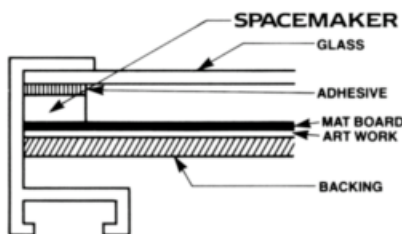
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mold, and moisture can all be trapped in the package, potentially leading to future damage. If a package is sealed in a humid environment, mold will develop inside the frame as there is no air circulation. For proper preservation, everything inside the package must be conditioned to 50% humidity at 70°F.

Here in the high mountain desert, the humidity and temperature fall into the average requirements, so no heroic measures were made to condition the materials in this project. It should be noted that the only air inside the package is within the window and between the inner boards, which amounts to very little. Since it is protected from additional humidity by being sealed, even as the temperature rises and falls any moisture remaining in the enclosed package will be easily absorbed into the boards without causing damage.

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Trim away excess silver film, leaving 1/8" fused film to glass.



MarvelSeal wrap completely covers back and edges of frame package.

Full Service

Three padded and insulated shipping boxes were created for sending eight framed originals to Chicago. Currently the "Mint Poppy" pair is happily living in a guest bathroom. Today's full-service custom frame shop should be capable of everything

from locating a custom-carved, special-ordered gold frame to creating clever mat designs and everything in between...including making a basic sealed package. ■

Art and framing courtesy of Freeman and Windt.

Chris A. Paschke, CPF, GCF, CMG, mounting editor, owns Designs Ink in Tehachapi, CA, featuring custom framing, fine art/graphic design, and consulting. Specializing in mounting, matting, design, and fine art, she teaches at The National Conference. She has written four books on mounting including *The Mounting and Laminating Handbook* (third edition) and *Creative Mounting, Wrapping, and Laminating*, available from PFM PubCo. She may be contacted through www.designsinkart.com.

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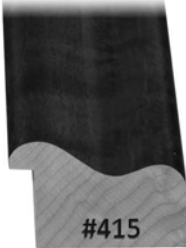
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