MOUNTING SUBSTRATES OF TODAY

By Chris A. Paschke, CPF, GCF

FROM FOAMBOARD TO ALUMINUM, THESE SUBSTRATES WORK WITH A RANGE OF FRAMING JOBS.

A substrate is a board or other media to which a framer mounts an artwork. Selecting the right substrate is as important as selecting the correct adhesive and technique and method to mount. Whether used for mounting or as a filler board, rigidity is the main purpose for substrates. Almost any rigid surface may be used as a mounting substrate, including glass, foamboard, ACM (aluminum composite material), Masonite, or paper ply boards. Higher acidic levels are found in chipboard, greyboard, MDF (medium-density fiberboard), hardboard, Masonite, and plywood. It is important to be consistent with material selection throughout the entire job. If acid-free mats are chosen, then acid-free mounting substrates and neutral pH adhesives should also be used.

MATBOARD

Matboard, a paper-based product available in 4-, 6-, 8-, 10- and 12-ply thicknesses, is used as a natural spacer between glazing and artwork. Though most often used for matting, 8-ply or thicker rag is also used by artists as a substrate for drawing, painting, pastel, encaustic, and mixed media. True ragboard originates from cotton linters broken down to fibers then molded into board. Museum ragboard is a market phrase designed to acknowledge the board may be used to safely house valuable collectibles.

Warping of large mounted pieces is a common problem when selecting 4-ply matboard as a substrate and should not be used as a mounting surface if the print is any larger than 16 x 20". Using too thin a substrate for too large a mounting will encourage warping of the mountboard. Though countermounting helps compensate for warpage, it is better to select a thicker board for larger pieces.

Crescent's Unbuffered Museum Solids, previously known as photo boards, are unbuffered, solid color, 100% cotton for photographs and textiles requiring a low alkaline environment, naturally acid- and lignin-free, fade- and bleed-resistant, without the benefit of added calcium carbonate levels. They are available as neutral colors of black, cream, antique white, and white. The white boards have a slight color variation from buffered white cotton boards because of the lack of calcium carbonate.

This artwork featuring a blue heron was mounted on Crescent's notFoam, a corrugated board product.

FOAMBOARD

Foam center boards are extruded polystyrene with assorted clay-coated, acid-free (2% calcium carbonate buffer), colored, or 100% cotton rag surface paper. Lightness, rigidity, and ease of cutting are the primary benefits of foamboard. Since 2001, the International Standards Organization has acknowledged paper-covered polystyrene as an approved substrate for use in enclosures. Boards are available white or black core with white and black surface papers in 1/8", 3/16" and 1/2" thicknesses, and

are used more than any other board for mounting in the US.

Foamboards undergo the highest degree of prolonged heat and pressure when dry mounted, making them more susceptible to edge crushing. They will physically melt as they reach internal temperatures of 230˚F, but will compress around the outer edges from the pressure exerted during standard mounting, especially in a hot vacuum press. Compressed outer edges of foam in no way effects the actual bond and is a natural end product of using a vacuum press. If uncrushed square edges are required, it is necessary to mount on a slightly oversized board, then trim it down.

Acid-free foamboards may be used as filler or backing behind hinged 4-ply museum board preservation applications. Use of acid-free foam maintains a more consistent use of neutral materials in a framing package when all other boards are acid-free and/or buffered. Also, 100% cotton rag covered foam meets surface paper preservation quality backing requirements for hinging or mounting. Black surfaced foam works well for control of ghosting and color tinting, or to create a contrast bevel for an unframed poster edge.

HIGH-DENSITY FOAMBOARD

Heavy-duty foamboards offer a foam center with double-thick surface liners. The biggest difference with heavy-duty foam is the toughness of the inner core and the outer coating. High-density boards are becoming more popular with wide format printing. High-density products include Gilman Brothers' Ryno Board HD, a high-compressive foam resistant to crushing, warping, and denting with extra-thick coated surface paper; United Industries' Ultra Board, a heavy-duty, all-plastic foamboard with a high-impact litho-grade polystyrene surface and extruded polystyrene core; 3A Composites' Jetmount Board, an extruded polystyrene foam laminated between 11-point clay-coated paper liners, resisting dents with exceptional durability; and 3A Composites' Gatorfoam, an extruded polystyrene bonded between two layers of wood fiber veneer, making it stronger and more durable than other foam products. Though more difficult to cut, it is extremely smooth, rigid, and resistant to warping—perfect for oversized mountings.

CORRUGATED MATERIALS

Ranging from basic, inexpensive brown cardboard to heat-resistant plastics, corrugated materials still remain popular. The blue-gray or white rag, corrugated, acid- and lignin-free buffered boards are well suited as spacers or preservation backing. Coroplast (corrugated plastic or polyflute) is a rigid, chemically stable copolymer of polypropylene and polyethylene; while similar to corrugated fiberboard, it is easier to clean and repels moisture. They are not appropriate as a mounting substrate as they have ridges that may show, but are used as backing or filler boards.

Crescent's notFoam Corrugated Board features a white, 3/6" thick, acid-free surface with Kraft core and backing (see page 24). It is recyclable, compostable, and sustainable, composed of both E-flute for high-quality printing with a thickness of 1/16" and 1/8" of B-flute for rigidity.

HONEYCOMB PANELS

Panels are the perfect rigid substrate for heavy textiles or

stone artifacts, but the added thickness requires additional frame depth. They are lightweight, heat resistant to 300˚F, resist denting, cut easily, and are dimensional stabile. Hexacomb Falconboard is made from reusable, renewable, and 100% recyclable kraft paper honeycomb material. Eaglecell is 100% recyclable paper core with lightweight warp resistance and triple-thick, bright white clay-coated surface papers, available in both white and Kraft core options. Though all are hot and cold mountable, as with corrugates, excessive mounting pressure can leave unwanted surface patterns.

Hexamount Conservation board has a lignin-free core made from unbuffered certified virgin fiber alpha cellulose white wood pulp available as standard conservation with 100% cotton outer ply museum with black or white facing paper. Tycore is favored by museums for mounting of valuable collectables because of its superior lightness and strength. The honeycomb interior has cell structure that are the source of the board's strength and rigidity which is made of chemical pulp and adhered to alpha cellulose conservation facing boards with a polyvinyl acetate (PVA) adhesive.

HARDBOARD

The most common hardboard substrates are bamboo, 1/8" hardboard, untempered Masonite, 1/4", 1/2" or 3/4" plywood, pine, and MDF. Acid content and porosity are always an issue, so hardboards are not considered suitable as a preservation substrate—though that is not true for every discipline. With the advent of wide format printing and the ability to print an image to almost anything, hardboards have become more acceptable in the US, though it is the renewable bamboo panel that has been most embraced.

SYNTHETIC BOARDS

Sintra Board is a durable, lightweight, UV and moisture-resistant PVC board that can be cut, routed, heat-formed, bonded, and screen printed. It is a plastic PVC rigid composite material for indoor and outdoor use usually used in signage, available in many colors up to 2" thick. Komatex expanded PVC sheets are lightweight closed-cell, rigid PVC with a matte finish available in 12 standard PVC colors, plus black and white. It is corrosion and moisture-resistant, may be sawed, drilled, bent, and fabricated, and is not harmful to the environment.

ALUMINUM COMPOSITE MATERIAL

Dibond is a lightweight but rigid and durable aluminum composite material made of two prepainted sheets of .012" aluminum bonded to a polyethylene core. It is available in numerous solid colors and assorted metallics, in 3mm thickness and in 4' x 8' sheet sizes. Originally designed for signage, it is best cut with a rotary saw, and is easily curved with a pyramid roller, hydraulic press, or pipe clamp. **PFM**

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Owner of Designs Ink in Tehachapi, CA, is a professional picture framer with over four decades of experience. She is an artist, a National Conference educator, has authored numerous magazine series, including The Essence of Design, Design Concepts, and Digital Directions for PFM, and has four self-published books on mounting. She currently writes the Mastering Mounting column for PFM and is a contributing writer to The Artist's Magazine, The Pastel Journal, and Watercolor Artist Magazine. She was honored with the PPFA Award of Distinction for Leadership 2008, the Vivian Kistler Recognition for Innovation Award 2010, and the PMA Distinguished Service Award 2012.