

Mastering Mounting

by Chris A. Paschke, CPF, GCF



Adhesive-Coated Substrate Boards

Adhesive-coated boards have become quite commonplace in today's framing market. Heat-activated and self-adhesive pressure-sensitive products seem to dominate over the traditional use of tissues and the board of your choice. Original drymount tissues and films made pre-1945 were shellac-based and often bonded at temperatures over 200°F. Reformulations and the use of synthetic adhesives since the 1970s brought average tissue temperatures down to 185°F to 190°F. Then came heat-activated boards. In 1992 Hunt Manufacturing launched SingleStep™ using Seal Products adhesive and Bienfang® foamboard as the first heat-activated substrate.

Heat-Activated Boards

HA foamboards have an extruded polystyrene core substrate with clay-coated or neutral pH facing papers that have adhesive applied to one side. Many

Substrate boards with adhesive coatings are becoming increasingly common. Here's a look at what's available in today's marketplace.

come with slip sheets, which may be used as a single-use cover sheet to keep exposed adhesive from transferring to a laminator or press and to protect surface-sensitive boards during storage. The adhesive coating

applications vary on products. Generally, the adhesive smooths out during bonding, but occasional orange peel may occur.

Current HA boards are available as permanent, removable, and reversible, with temperatures running from a low of 130°F to a high of 190°F. Permanent

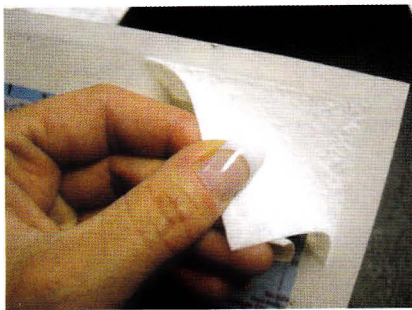


Adhesive (L) has a definite pattern while the coating (R) is smoother. Thin images can allow orange peel to show through after mounting if the adhesive does not flatten when melted.

HA boards bond in the press as all layers reach required bonding temperature, and the bond may only be broken with a chemical solvent. Permanent boards—including EnCore SingleStep®, Alcan Fome-Cor®, HartAct™ (formerly HartMount)—have adhesives that bond between 180°F to 190°F, with an average vacuum press dwell time of four minutes. SpeedMount is lower at 150°F to 160°F as a medium temperature, with a short dwell time of 15 to 30 seconds.

Gilman MountCor® is a new very low-temperature, permanent HA board that bonds at 130°F in 30 seconds in a mechanical press. It bonds at such a low temperature that it is unique in the market and readily mounts all heat-sensitive items including thermographics—laser prints (dry toner color copies), dye sublimation, dye transfer, thermal transfer—as well as thermal, piezo, solvent, latex, and UV-curing inkjet prints with no damage. The 130°F temperature makes it safe for mounting all digitals.

Removable HA boards—including Bainbridge HAF, NuCor, and Kool Tack—activate as all layers reach temperature in the press, but they bond outside the press as they cool under a weight. They have a moderate activation temperature of 150°F to 160°F, with a shorter dwell



This polyester encapsulated map tears the top layer of adhesive and paper from the board after mounting giving the HA board great tear strength.

time of one to three minutes. Using these HA products in hot vacuum presses will require the draw time to be added to manufacturer-suggested dwell times.

Reversible HA boards—Restore, Preserve, and Preserve Ultra—have the same activation temperatures as removable boards but with a shorter dwell time of 150°F for 15 seconds to one minute in a mechanical press. Reversible boards have a much lighter bond, and art may be removed from the substrate and returned to its original state with no adhesive absorption or residue left behind. There are only two truly reversible HA boards, Bainbridge Artcare Restore and Kool Tack Preserve Ultra (which has been reformulated from Preserve and Acid Free Foam Boards).

For any HA board to bond properly, it should have tear strength once fused. That means the top layer of adhesive and paper should rip from the board if dry-peeled after mounting. Though porous paper is expected to bond well to all boards, Bainbridge HAF, Alcan HA Fome-Cor, and Gilman InSite all excellently hold polyester encapsulated maps as well. Add MountCor, KT Drymount, SpeedMount, and HartAct to that list for RC photograph bonding. When it comes to lightweight fabrics, only HAF, EnCore SingleStep, and HA Fome-Cor



(Fanned L-R) P-S foamboards: Gilman (LT and HT), Alcan (KLT and HT), HarTac, EnCore, United Industries (black and white), Coda (Foam and 1/4" Plastic coated Coda-Foam), Bainbridge.

hold lightly at best, and none tackle digital canvases well at all. Kool Tack is very aggressive with tear strength for light, heavy, and coated papers as well as RC traditional and digital photos, but not for fabrics or canvas.

High Density HA Substrates

High density (HD) board is becoming more popular with the demand of larger substrates, wide format printing, and roller laminators. Because of their density, these boards have longer dwell times than the HA foamboards mentioned above, at 35 to 45 seconds and moderate temperatures of 150°F to 160°F and neutral pH neutral adhesive. Kool Tack Mighty Tough compares to Gator™ board for its rigidity, smoothness, and warp-resistance and is available up to 1/2" thick, 48"x96". Kool Tack GATOR™ board is available 3/16" thick to 48"x96".

Kool Tack Competition Plate HA, comparable to Dibond or Alucobond aluminum composite material (ACM) plus adhesive, is a 3mm thin ACM that is half the weight of aluminum and easily cuts with Fletcher-Terry 3000 multi wall cutter. It activates at 160°F to 170°F for



Paper core boards: Bainbridge, Savage FilmTax, PerfectMount X and XX, Coda single and double weight.

two to three minutes—a slightly higher temp and longer dwell time. Kool Tack offers Competition Plate as both HA and P-S.

Paper Core HA Boards

For correct bonding to occur in any press, all items in the mounting package must reach full bonding temperature (160°F) for the designated time (30 seconds). Since foamboard is an insulator rather than a conductor of heat and only the release material, art image, adhesive, and top surface paper need to reach bonding temperature, foamboards bond at slightly lower temperatures with shorter dwell times than paper core boards. There are .048" to .050" thin HA "archival" alpha cellulose, and rag boards along with non-preservation grade substrates that are economical and cost effective for production operations and when prints and photos are to be fitting into a maximum 3/8" rabbet.

Pressure-Sensitive Adhesives

Self-adhesive (also known as self-stick, peel-and-stick, and sticky) boards are

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www.foamboardsource.com
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Items

SA Sintra, SA Komatex, SA Gator, Gilman, Elmer's Alcan, Elmer's, Gilman, United Industries SA Gator, SA Sintra, SA Ryno, HA boards SpeedMount, HAF; HA and SA boards SA Foam, Board, Gator, Hardboard and Styrene



Coda hardboard, counter-mounted Gator 1/2" and 1/4", Gator, Coda Styrene in assorted thicknesses and colors.

cold-mount, pressure-activated mounting substrates with thermoplastic adhesives known as P-S and PSA. They are dry, synthetic adhesives that are clean, easy to use, odorless, use no solvents, and are neutral pH and chemically inert. P-S boards are available as high tack and repositionable low tack versions, which cure to maximum bond under weight after roller application or burnishing.

There are three levels of tack avail-



New Insta Mount PS boards series from KoolTack, including Competition Plate.

able with pressure-sensitive adhesive: high, medium, and low. High tack is aggressive and the most difficult to manually apply since it has no repositioning potential and immediately grabs to smooth nonporous or coated stock with no forgiveness. Medium tack—considered low-tack in the framing industry—is the one most frequently used in picture framing. It may be somewhat repositionable during mounting with porous papers,

but even repositionable P-S boards will grab more aggressively to a smooth or coated material. Low tack is most often found as a temporary positioning tack used in preparation for other bonding as laminates with liners or Post-it notes. It is not suitable for the longevity required for mounting.

Self-Adhesive Boards

Application and end use temperature affects P-S bond permanence. Moisture is also a physical barrier to adhesion and long-term bonding. A permanent, high-tack, P-S bond applied at room temperature may fail at freezing temperatures if placed outside or in an excessively humid bathroom. Coldness to the touch is an indicator of moisture content in boards, making dry storage imperative for P-S materials. If boards are damp, permanence is threatened. Just as removable pressure-sensitive adhesives may not always remove, per-

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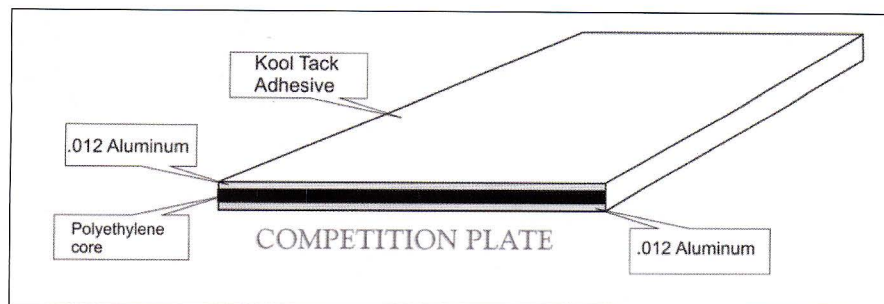
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manent pressure-sensitives may not always be permanent.

Most P-S boards have inert, stable, neutral pH adhesives applied to a selected substrate and require weighting 12 to 24 hours after being burnished or rolled for a fully cured bond. Bainbridge Self Adhesive Foam and Mount Boards are initially repositionable, curing to permanent after weighting. Crescent Perfect Mount® Boards are repositionable and available on standard cream, solid black, and white-core foamboards with adhesive on buffered surfaces. EnCore Premium Tac repositionable board may be adjusted, removed, and reapplied for accurate placement, then set through rollers or firmly burnished to activate and cure. Alcan Fome-Cor® Self Adhesive Foam Board is available in repositionable Low Tack (LT) or immediate bonding Hi Tack (HT), both having a smooth surface.



KoolTack offers Composition Plate as either HA or P-S.

As mentioned above, high tack boards have more immediate grab. EnCore SA Foam Board is a permanent pressure-sensitive adhesive with double clay coating in 3/16" as white and Black-On-Black® Foam Board. Gilman HT Self Adhesive Foam Board is faced with clay-coated paper and high tack pressure-sensitive adhesive that becomes permanent after curing. Hartman HarTac™ is a permanent P-S adhesive mounted to foamboard that cuts easily with a utility knife, has a memory, and will maintain its thickness when pressure is applied.

Paper Core SA Boards

Cardboard mounts are made of natural paper fibers that are hygroscopic, allowing them to absorb and give off moisture in response to environmental humidity. This change in moisture content causes cardboard to expand and contract, so once a print has been mounted on one side of a cardboard mount it can result in a bow or warp in the board. This effect becomes more pronounced as the size of the board is increased. Styrene sheets are an excellent alternative to



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traditional cardboard mounts.

Orange peel occurs with some paper core P-S products such as PerfectMount XX and Savage FilmTax. As with most thin mount boards, Cold-Mount® Single Weight (a 40-point 1/16" thick cardboard mount) and Double Weight (an 80-point 1/8" thick cardboard mount) are only suitable for mounting smaller prints because the fiber core is affected by changes in moisture content and may warp or bow.

High Density SA Boards

Gilman Self-Adhesive Ryno Heavy-Duty (HD) foamboard is dense, moisture-resistant, high density foamboard with double-thick liners available in white and black, 4"x8", 1/4" thick, and larger. The pH neutral surface contains UV inhibitors to reduce yellowing and resists moisture absorption for extra warp resistance.

Gatorboard® is a multi-layer composite of extremely dense and durable polystyrene foam that resists crushing, denting, bending, or warping, though it can puncture or fracture if receiving a direct hit. The exceptionally rigid, smooth surface is uniform and may be lightly sanded for a blemish-free finish. It has a light, durable core of polystyrene foam, bonded on both sides to wood fiber veneers impregnated with a resin for durability and moisture-resistance. It may be cut with basic woodworking tools and won't tear, chip, or shred. Coda Cold-Mount® Gatorfoam 1/2" and Cold-Mount® Hardboard—a 1/8" thick wood product with two smooth, tempered surfaces—are two other HD alternatives. Also, KoolTack is launching a new P-S InstaMount line that includes Composition Plate, Gator, Mighty Tough, and foamboard.p

Pressure-Sensitive PVC

Styrene mounts have no natural fibers in them; are not affected by variations in moisture content in the environment; and remain stable, flat, and warp-free even when they are subjected to large changes in humidity. They are also less prone to edge and corner damage. Still, selected styrene substrates must be thick enough to support large, oversized images. The Coda Cold-Mount® Styrene is available as .040" (about 3/64", 1mm) and .080" (about 3/32", 2mm) thick, white, plastic sheets coated on one side with permanent Cold-Mount® P-S adhesive.


Sintra and Komatex are solid, all-plastic PVC boards available in assorted thicknesses, sizes, and colors for roller-mounting prints, photos, and digitals. Komatex® compares to Sintra® as both are closed-cell, expanded plastic, high-density polyvinyl chloride (PVC) sheets, which

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are neutral pH, with minimal out-gassing for long-term preservation use. Sintra is a homogeneous material that allows ease of cutting without regard for grain. It is available in nine thicknesses from 1mm to 13mm in white, black, and colors.

CodaFoam® is a foamboard coated on both sides white PVC plastic shell. Cold-Mount® Precoated CodaFoam is stiffer than standard foamboard, PVC sealed, and cannot absorb moisture, making it less likely to warp. It is available 1/8" and 1/4" thick. United Industries Ultra Core Peel N' Stick boards are rigid, warp- and dent-resistant, lightweight digital-imaging panels with poly-coated white and black papers over extruded polystyrene core.

Final Mount

Whether HA or SA board is selected, you should never choose by price. Though cost is definitely a consideration, it remains only one factor in the decision-making equation. Consider roller vs. press, size requirements, weighting and curing time, long-term bond permanence, thicknesses, and rigidity. ■

Note: Many of the boards covered in this article have been tested and are included in an HA-PS comparison chart that accompanies the website version of this article.

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 can be contacted via www.designsinkart.com.

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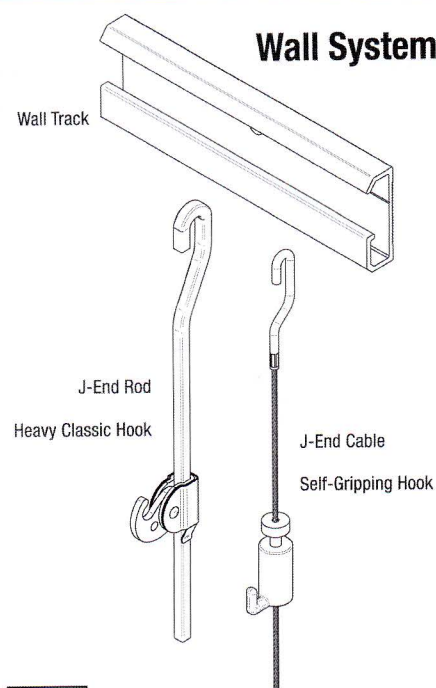
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