

Mastering Mounting

by Chris A. Paschke, CPF, GCF



The Yupo Challenge, Part 2

Synthetic papers include various grades of plastics: polyvinyl chloride (PVC), polyethylene, polypropylene, and polyester/nylon. Originally developed for use in printing design, marketing, and packaging, eco-friendly products like Tyvek, Yupo, Evolon, and TerraSkin have also been embraced by artists as a painting and mixed media surfaces. Yupo—distributed by Legion Paper—is currently the most popular.

Mounting printed ads for temporary publication is simple using high tack, pressure-sensitive rollers, or low temperature, permanent, dry mounting, but framing fine art on Yupo for long-term or permanent display can be a complex matter. Yupo artists presently favor a contemporary look they refer to as “no-

Yupo is a synthetic paper popular among artists that poses challenges for framers

frame” mounting and will most often bring in completed paintings for adhering to a rigid substrate. A number of Yupo instructors suggest

using acrylic gel paste as an adhesive. Fortunately, they usually suggest this before painting so as not to damage the surface-sensitive finished art.

In an attempt to achieve surface smoothness, Yupo artists often request Gatorboard, Dibond, or Sintra as a substrate. Gatorboard® is an extruded polystyrene foamboard bonded between two layers of Luxcell® wood fiber veneer. Its construction and ½” or 1” thickness give it rigidity for free panel mounting. It is lightweight, and available from sign suppliers up to 2” thick and 60”x120” with white or black core and self-adhesive. The black-edge has been used as a finished look in advertising and display for decades. Yupo artists also seem to favor the Gator



Preliminary wet and spray adhesive tests (clockwise from top). Spray peels from hardboard; gel on EagleCell is well bonded but shows slight honeycomb; gel on half of a ½” birch panel bonds well; gel on Sintra easily pulls off.

black core since it has the thickness and rigidity necessary for no-frame presentations.

Sintra® is a lightweight, rigid board of expanded closed-cell polyvinyl chloride (PVC) extruded into a durable sheet for signs. Generally used for photo mounting, it is available in 1, 2, 3, 6, and 13mm from sign distributors in plain or with PSA. Sintra is not the best choice for fine art due to UV intolerance and yellowing. It may not have the required thickness for large-scale support and could require a backing structure.

Dibond® is an aluminum composite material (ACM) by 3A Composites. The panel combines two 3mm aluminum surface layers with a polyethylene core, which comes with a protective surface film on both sides, making it extremely rigid although heavy in large sheets. Cutting requires a table, portable, or band saw but no lubricants, oils, or coolants. The sharp edges require smoothing, and panels may need a float frame, lifter, or posts for wall mounting.

Gel Mounting

Liquid acrylic media and PVA may be used as wet



Neschen gudy 831 was pre-mounted to hardboard; ACM; 6mm Black Sintra, 1/4" Black Gator; and 1/8" clear acrylic then half was mounted with 74# Yupo using a Drytac JetMounter roller. Left half was then mounted with painted Yupo tester to coated board using same roller.



KoolTack InstaMount HT adhesive boards tested well with Tyvek and Yupo, but have not been tested with TerraSkin or Evolon. No other commercial P-S boards held as well.



TerraSkin recoils badly at highest setting of a clothes iron but is fine with tacking iron. Heat should remain below 150F. TerraSkin UV degradable paper marketed as "paper made of stone."

adhesives with mixed media art for bonding porous materials, but synthetic papers do not absorb them. Smaller pieces of Yupo—under 22"x30"—are being mounted to cradled boxes or 3/8" hardboard using liquid medium.

Liquid medium is very lightweight and, having no viscosity, soaks into the board so it has little bonding capability for non-absorbent synthetic papers.

Yupo will bond to an absorbent, rigid substrate with Golden Extra Heavy Gel Medium. However, the end results with this thick paste may not have the desired tear strength. Golden Artist Colors says, "We do not endorse the use of our (gel) products with Yupo, and use of it must be considered experimental by nature." The gel will bond to the porous substrate—hardboard, panel or box—but cannot aggressively hold to Yupo, allowing it to be pulled from the substrate. The adhesive remains well fused to the board; it's the Yupo bond that lets go. Since Yupo cannot absorb, any guarantee of long-term fusion is simply not possible.

Bond Failure

The same is true for pressure-sensitive adhesive (PSA). Yupo and Tyvek have tested well with KoolTack InstaMount, a commercial pressure-sensitive board;

KoolTack has not been tested with TerraSkin or Evolon. Though PSA may be manually applied, it is ill advised when applying high tack PSA to smooth substrates. First, the adhesive is aggressive and does not allow for repositioning; second, there are two steps—adhesive to substrate, then art to adhesive—making it difficult to prevent trapped air, and a clean room may be advised to control dust and dirt. Remember, the application will be more difficult with larger mounts.

The incompatibility of materials causes bond failure when working with synthetics. The Golden Extra Heavy Gel is a fabulous adhesive for the fusion of porous materials. However, only select high tack films or self-adhesive products will effectively bond layers for dependable, long-term fusion. Like Yupo, Dibond and Sintra do not absorb. Therefore, PSA is only an option with Coda Cold-Mount, InstaMount, and Neschen gudy, these having all tested well with synthetic materials.

P-S Mounting

Neschen gudy® 802 is a transparent, permanent, high tack, water-based, polyacrylate (polyester) PSA film for mounting photos or digital graphics to smooth PVC, Gator, polystyrene, polycarbonate, and aluminum substrates.

Gudy 831 uses a long-fiber, non-woven paper carrier coated on both sides with high tack, water-based, acrylic adhesive. It is acid- and solvent-free and has passed the Photographic Activity Test (ISO-18916). When manually applied, gudy 831 did not meet tear strength requirements, but with a roller it was aggressive enough for Yupo. It is currently being used in Europe with rollers for bonding Yupo to large scale ACM.

Since smooth feed and consistent motion prevents hesitation lines, avoid using hand crank rollers. Since current synthetic papers are available 30" and 60" wide, roller laminators like D&K Expression 42+; Coda Cold Mount 54" or CodaMount Laminator 44"; and Drytac JetMounter 44" or 63" are all great roller machines. Coda Cold-Mount Pre-Coated Gatorboard in 1/4" and 1/2" is terrific for Yupo when used with a roller laminator. It is a great high tack, pressure-sensitive board that loves synthetics like Yupo.

In a laser printer, paper passes through rollers in the fuser assembly where heat up to 390°F bonds plastic toner to paper. A drymount press has a far lower temperature, so the question is not heat but which HA or P-S adhesive will bond to synthetic paper.

Dry Mounting

Permanently mounting Yupo is not

restricted to cold methods. Since Yupo cannot be used with laser printers, many people think it is heat sensitive. Sheet polypropylene has a temperature tolerance of more than 275°F with a melting point of 338°F.

Although heat is not a problem for Yupo, it may be a problem with other synthetics, so all should be tested prior to mounting. A household iron set on “wool” shriveled TerraSkin due to high heat. But, when the same sample was tested with a tacking iron, it was fine. HA boards at less than 150°F should be fine in terms of temperature, but they might not bond well. If mounting for matting and glazing, HA boards should be fine, but ask the artist for a Yupo scrap to test first. Also have them sign a release allowing you to mount their original—if you opt to go there.

Not all HA boards are Yupo friendly. Testing has verified that 100 percent polyester—like an encapsulated chart—may bode well for many HA products, but polyethylene, polypropylene, polyester, and nylon may not. MountCor and MountCor Canvas bond at 130°F and both love Yupo, Tyvek, and polyester encapsulates. Omega/M&M Heat Activated Mount (HAM) bond at 170°F, and Bainbridge Heat Activated Foam (HAF) mounts at 160°F to 180°F. Although both work well with synthetic papers, the maximum $\frac{3}{16}$ " HA board thickness is a limitation, unless it is in a frame.

A strong consideration against using HA foamboard for open-air mounts is the softness of the surface. Open-air display is flush mounted to the edge of the substrate with no protection against surface denting from objects leaned against it. A float frame helps prevent a painted surface from being damaged when face down against the floor, but it cannot protect contact with edges or corners of other frames



(clockwise- bottom to top) $\frac{1}{8}$ " hardboard; Coda Cold-Mount Black $\frac{1}{2}$ "; $\frac{1}{4}$ " Gatorboard with back coating to counter warping; $\frac{1}{4}$ " Black Gator (no backing); Sintra 3mm, 6mm, and 3mm black.

when carelessly stacked against a wall.

Counter mounting

Ansel Adams dry mounted all of his photographs, but he also counter-mounted them with his discarded images. Counter mounting is an invaluable technique that stands the test of time and is necessary for boards larger than 24"x36", even when placed in a float frame. It allows for thinner boards to be used as a substrate by creating equal surface tension on both sides of the mount board to help keep it flat. Wet mounting, like with Golden Extra Heavy Gel, will expand surface paper fibers, causing the board to bow when cured. By mounting the Yupo with the same weight gel to the back, bowing by the board will be neutralized and it will remain flat.

Coda Cold-Mount Pre-Coated Gatorboard in $\frac{1}{4}$ " and $\frac{1}{2}$ " has white adhesive with release liner on the front, and is counter mounted with a plastic coating on the back to aid against warping. But, thinner boards may still warp without additional float frame support if used for oversized art.

Oversized Substrates

Since Yupo is available up to 60" wide in 10 yd rolls, artists are embracing the oversized format. Large-scale 4'x8' mixed media paintings require strength,



Watercolor painted Yupo, mounted with gudy 831 to Dibond (or Sintra), mounted to 2" deep cross-braced wood cradle for large scale "no-frame" styling.

tolerance, and longevity with permanent mounts. Hence these 40"x60" and 48"x96" originals need to be mounted to rigid panels that will not warp or twist under surface tension.

EnCore® MightyCore® is a durable, rigid, smooth surface foamboard for large pieces that resists bowing and warping. MightyBull™—generally found from sign distributors—combines the dense polystyrene of MightyCore with bright-white polystyrene facers to create an ultra-durable board. The smooth, high-impact polystyrene liners are designed for digital and screen printing, but are smooth enough for Yupo and PSA. MightyCore is available up to 48"x96" in $\frac{1}{2}$ " white and black; MightyBull is $\frac{1}{2}$ " in white and P-S.

Gilman Ryno Board® HD is an extruded high-density, high-compressive, polystyrene foamboard with double-thick, clay coated, bright white or black liners. Its rigidity and structural performance offer improved resistance to crushing, warping, and denting. All of these foamboard products are best used within a frame or float frame rather than with no frame.

Substrate Hybrids

Hybrids and substrate combinations allow layers to be firmly bonded to each other, and then further reinforced

Resources	Items
www.legionpaper.com	Yupo distribution and information
www.gilmanbrothers.com	MountCor, MountCor Canvas
www.kooltack.com	InstaMount Gatorboard, InstaMount MightyTough
www.encoreproducts.com	MightyCore, MightyBull
www.graphicdisplayusa.com	(3A Composites) Sintra, Dibond, Gator
www.codamount.com	Laminators, Cold-Mount Gatorboard
www.dkgroup.com	Expression Wide Format Laminators and SuperStick adhesives
www.drytacusa.com	JetMounter Roll Laminators, HT pressure-sensitive adhesives
www.neschen.com	Neschen gudy 871, 830, 802
www.standoffsystems.com	(Gyford) Standoffs, Grippers, Edge Grips, Clips
www.framewareinc.com	Standoffs
www.conservators-products.com	Beva 371 film
www.universityproducts.com	Beva 371 film

by bonding to a third substrate to better fit the needs of synthetic materials. Yupo mounted with high tack PSA to Dibond or Sintra, which is in turn bonded to a wood cradle, would support large-scale, no-frame styling. The hollow back of the wood cradle allows for cleats or other appropriate hardware.

Other options might be PS mounting of Yupo to Sintra or acrylic and then using standoffs at regular intervals along the expanse of the panel

to maintain support and prevent warping. Contemporary grippers, edge grips, and clips allow for standoffs to be decorative while still supporting oversized panels.

Final Mount

Selecting a substrate is only half the problem. A non-absorbent synthetic also requires a compatible adhesive, frame or backing structure, and hanging hardware to all work together for a long-term fine art display. It's not the

mounting technique or the adhesive that creates the limitations for framing fine art on Yupo; it's the desire of the artist. Whether frame or rigid panel, glass or open-air, cleat hangers or cradle with wire, keep in mind that it's no longer your father's framing. Welcome to the age of thinking outside the "frame" and realizing that sometimes our twenty-first century competition may be a sign shop. **PFM**

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. She can be contacted via www.designsinkart.com.