Mastering Mounting: Understanding the Basics

Chris A. Paschke, CPF GCF

Sponsored by Décor Moulding and Supply

West Coast Art & Frame Expo, Las Vegas 2024

"In 1972 mounting was simple...
paper, photos and fabrics. Heated vacuum presses did not yet exist in framing, and spray adhesive, corrugated cardboard and masking tape were state-of-the-art.

Today we have paper and coated paper; photos and digital photos; fabrics and dye-sub canvas; and that's just tip of the iceberg.

Welcome to mounting in the 21st century!"

- Chris A. Paschke, CPF GCF

Mounting Review

Noninvasive Methods

- Natural Starch
  - Hinges
  - Kozo Backing
- Cold Alternatives
  - Edge Strips, Pockets
  - Mylar/Encapsulation
  - Sink Mount
  - Static Mount
  - Velcro Mount
  - Lacing
- HA Reversible Board

Invasive Methods

- HA Dry Mounting
- HA Roller Laminators
- Cold Mount
  - Cold RLs
  - Vacuum Frame
  - Commercial Wet Glue
  - Commercial Paste
  - Spray Adhesive
  - Pressure-sensitive
- Manual Applications
  - Wet, PSA, Spray

Invasive Mounting Longevity

- HA Dry Mounting
- HA Roller Laminator
- Cold Mount with Machine
  - Cold RLs
  - Vacuum Frame
    - Commercial Wet Glue
    - Commercial Paste
  - Spray Adhesive
- Manual Applications
  - Commercial Wet Glue
  - Pressure-Sensitive
  - Spray Adhesive

Adhesive Methods/Choices

Used to be based on cost, now is based more on art.

80/20 Rule

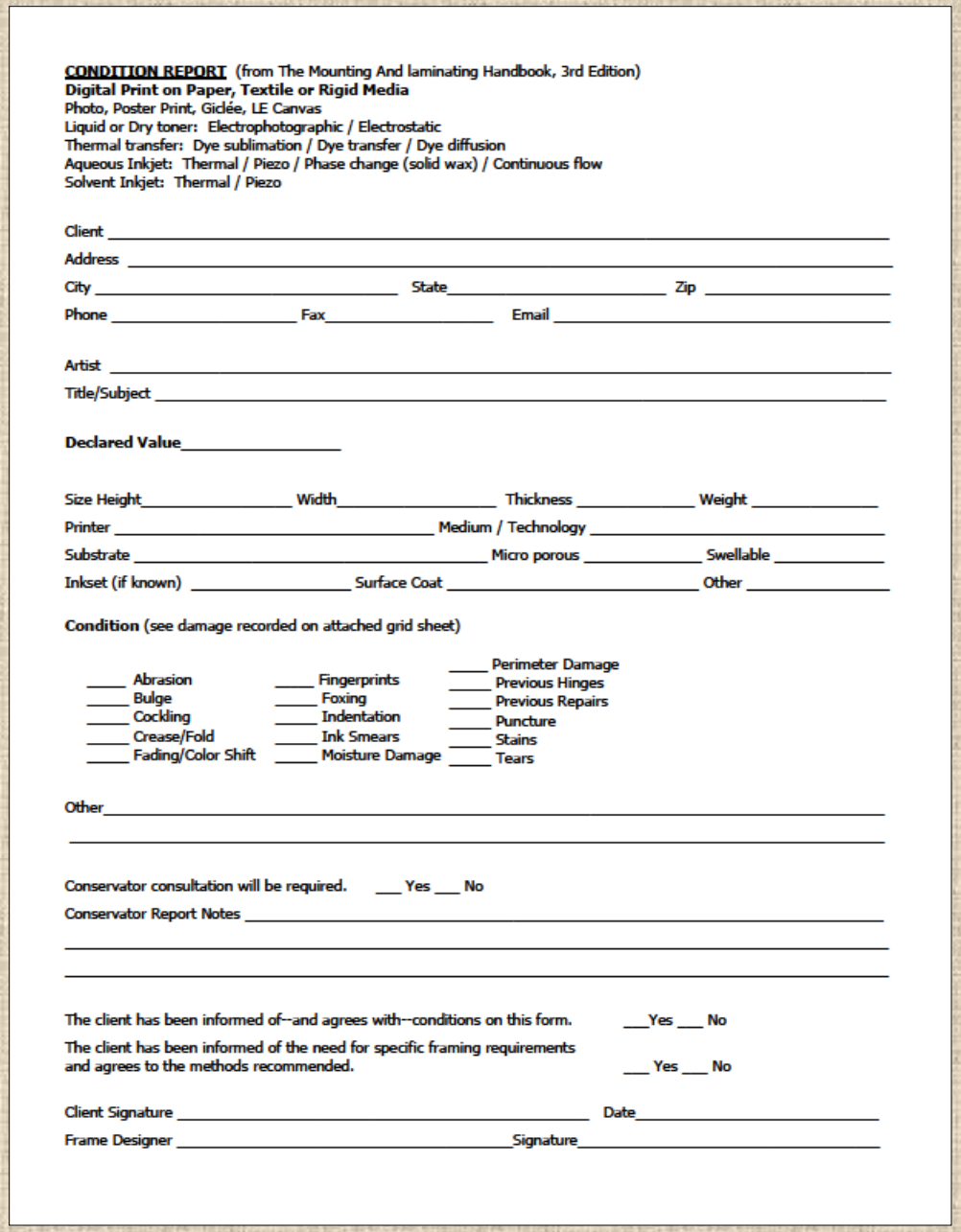
80% Preservation vs. 20% Invasive

80% HA Boards vs. 20% Tissues

It will depend upon your individual market, but could be 70% - 20% - 10%

Condition Reports

- Paper
- Photography
- Digitals
- Textiles
- Paintings



CONDITION REPORT (from The Mounting And laminating Handbook, 3rd Edition)
Digital Print on Paper, Textile or Rigid Media
Photo, Poster Print, Giclée, LE Canvas
Liquid or Dry toner: Electrophotographic / Electrostatic
Thermal transfer: Dye sublimation / Dye transfer / Dye diffusion
Aqueous Inkjet: Thermal / Piezo / Phase change (solid wax) / Continuous flow
Solvent Inkjet: Thermal / Piezo

Client _____
Address _____
City _____ State_____ Zip _____
Phone _____ Fax_____ Email _____

Artist _____
Title/Subject _____

Declared Value_____

Size Height_____ Width_____ Thickness _____ Weight _____
Printer _____ Medium / Technology _____
Substrate _____ Micro porous _____ Swellable _____
Inkset (if known) _____ Surface Coat _____ Other _____

Condition (see damage recorded on attached grid sheet)

____ Abrasion	____ Fingerprints	____ Perimeter Damage
____ Bulge	____ Foxing	____ Previous Hinges
____ Cockling	____ Indentation	____ Previous Repairs
____ Crease/Fold	____ Ink Smears	____ Puncture
____ Fading/Color Shift	____ Moisture Damage	____ Stains
		____ Tears

Other_____
_____

Conservator consultation will be required. ___ Yes ___ No
Conservator Report Notes _____
_____
_____

The client has been informed of--and agrees with--conditions on this form. ___Yes ___ No
The client has been informed of the need for specific framing requirements and agrees to the methods recommended. ___ Yes ___ No

Client Signature _____ Date_____
Frame Designer _____Signature_____

Condition Reports*

1. **Art on Paper or Document**
2. **Photography on Paper or Plastic Media**
3. **Digital Print on Paper, Textile or Rigid Media**
4. **Needleart and Textile**
5. **Paintings on Stretched Support**

Always fill the report with your customer.

*Appendix: The Mounting And Laminating Handbook, 3rd Edition

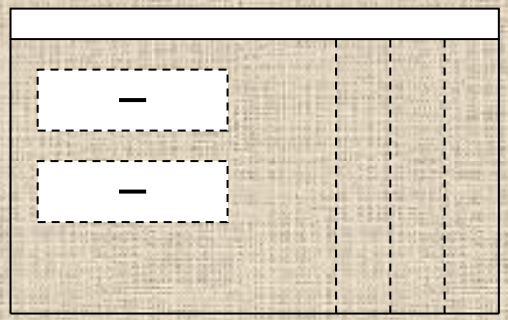
Work Station

- Equipment Placement
- Ergonomics
- Keep away from cutters and saws
- Lighting – need to see the dirt

Clean area...clean process

Work Room Layout

PREPARATION TABLE

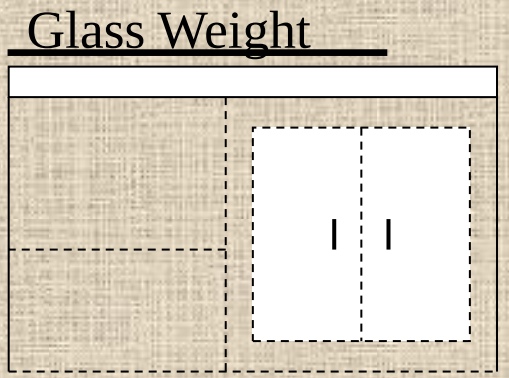


Optional vertical storage and drawers.

HOT VACUUM PRESS

Opening is level with tabletops, with optional storage shelf.

COOLING TABLE



Optional cabinet and shelf storage.

The Elements of Mounting - TTPM

TTPM is required procedure

TTPM applies to ALL mounting methods

TTPM is there to help

TTPM will help locate the problem

How much **time** was allowed?

What **temperature** was used?

Was it weighted (**pressure**) a full 24 hours?

Was **moisture** properly controlled?

TTPM

Time - Correct time is always required

Tack time, Open time, Draw time, Dwell time

TTPM

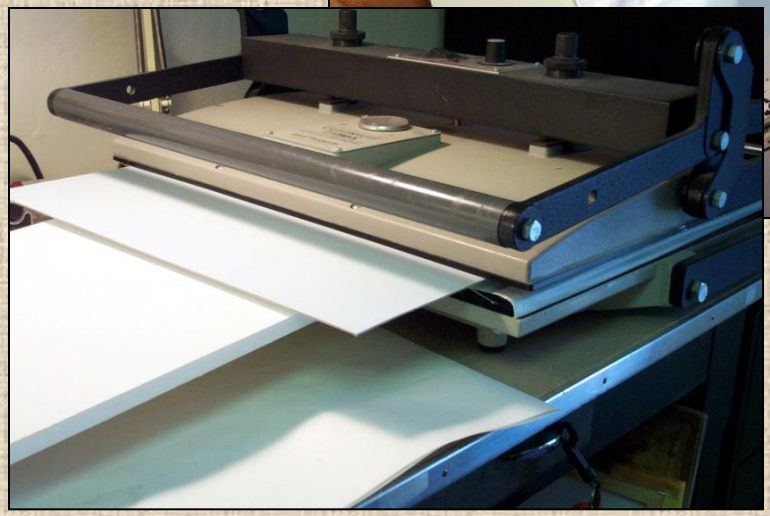
Temperature - Storage, equipment and glue

Even Wet and Spray are 60F - 90F degrees

TTPM

Pressure - Good technique and adjustments

Weighted to Dry, Cure and/or Cool



TTPM

Moisture - Required control in all methods

Wet Mounting

TIME

Drying time is the time required for total cure, 3-24 hrs.

TEMPERATURE

Extremes of heat, humidity, or cold lessen permanency.

PRESSURE

Plate glass increase bonding, but a vacuum frame is best.

MOISTURE

Too much moisture may absorb into the art.

Vacuum frames speed bonding time.

Wet Mounting

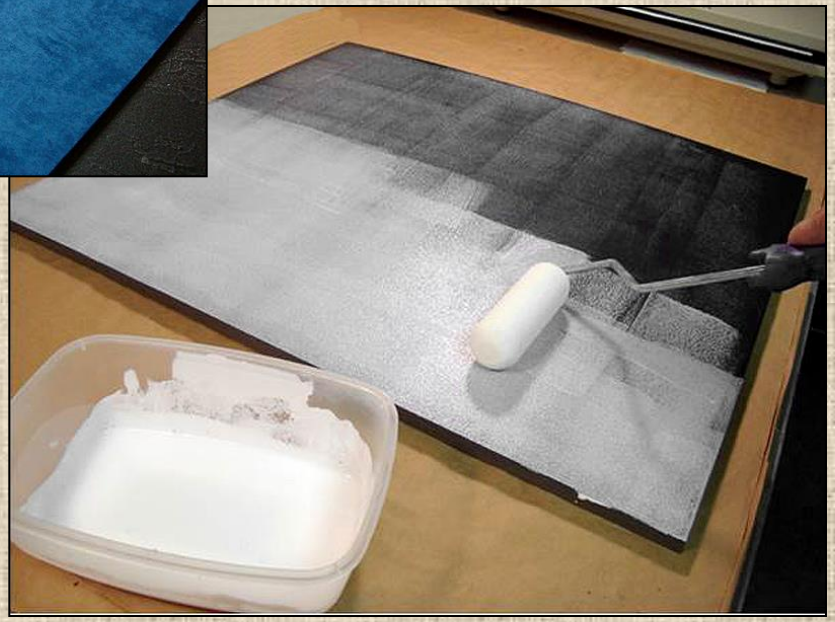
Pros

Starch lasts the test of time…scroll mounting
Commercial glue for manual or cold frame
Reactivates with heat

Cons

Clean up
More time intensive

Traditional
Starch



Commercial
Adhesive

Commercial Wet Glues

Polyvinyl acetate (PVA) white glues are permanent.
Ethylene-vinyl acetate (EVA) is reversible.

All Purpose = light for paper, RC photos

Brands = Décor 610, Lineco Neutral pH

Paste = heavier for posters, RC photos, fabric, vinyl

Brands = Décor 980, LION 10554, YES!

Vacuum Mount = bonds to wood, Masonite, MDF, foam…

Brands = Décor 3649, LION 6201, Fredrix Lamin-all…

Fabric = bonds fabrics to matboard, liners, MDF…

Brands = Franks Fabric Glue

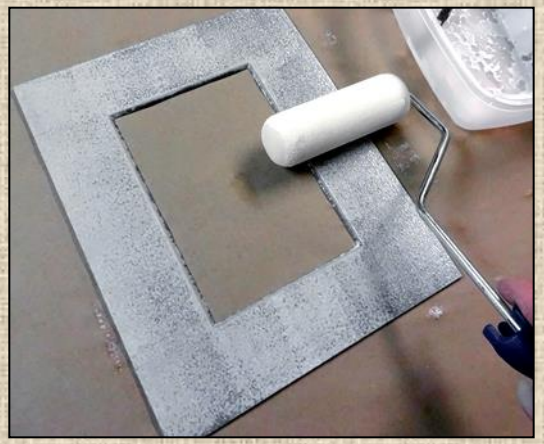
Raphael Miracle Muck

Décor 1340

Wet Mount Application

Tips

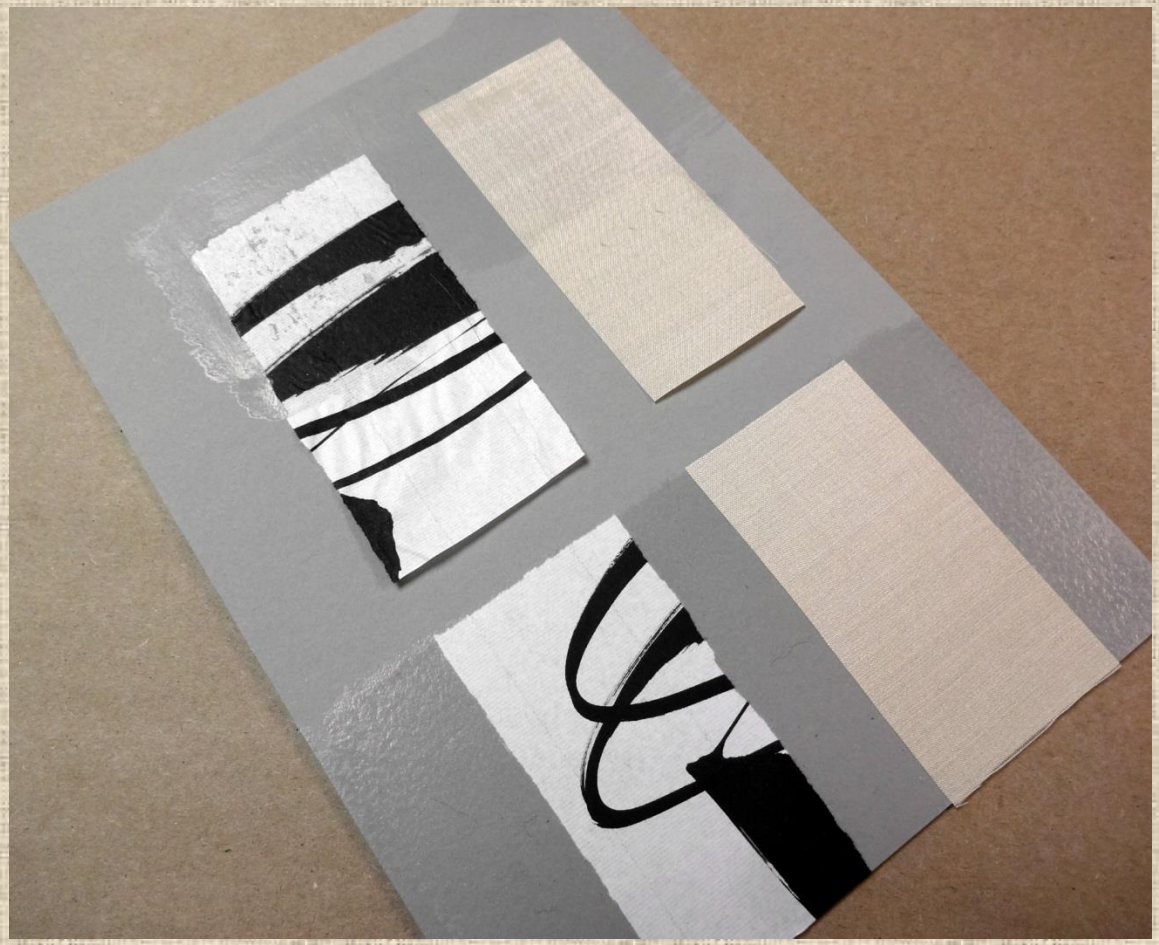
- Sponge rollers apply smoother layers.
- Apply layer, apply second layer in opposite direction.
- Mist back for print to expand fibers.
- Align print to the substrate across the top edge.
- Rub from center to outer edges.
- Dry under weight for 4-24 hours.
- Or use cold vacuum frame.



Wet/Dry Application

Adhesive absorption is visible in wet mounted upper two.

Lower samples were wet/dry mounted preventing absorption.



Wet/Dry Application

Tips

- Apply two coats, let each dry.
- Set press between 180ºF-190ºF.
- Align the fabric and press to hold.
- If wrapping a window, refit fallout.
- Insert into heated press between release papers for 2-5 minutes depending on the substrate, size, fabric, and press.

Spray Mounting

TIME

Open time is the window for mounting, 3-10 min.
Bond time is the curing time for permanent bond.

TEMPERATURE

Most manufacturers have a suggested temperature range.

PRESSURE

A vacuum frame is recommended for maximum pressure.

MOISTURE

Condition the art and substrate to the same environment.

Spray Mounting

Pros

Inexpensive

Ease of use

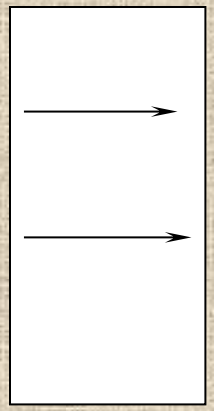
Cons

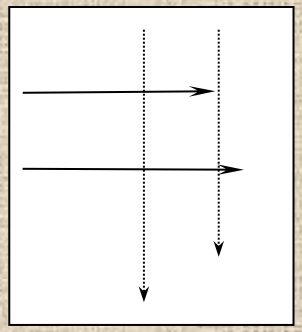
Health issues

Messy

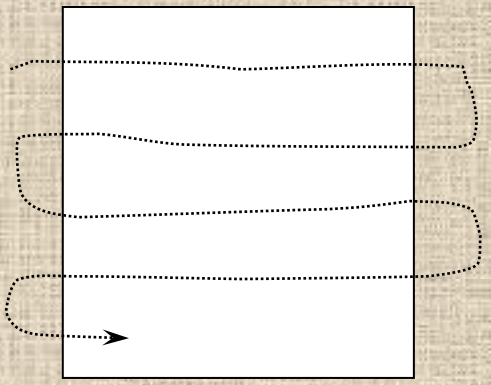
Special equipment

Spray Mounting





Apply spray then rotate substrate 90-degrees



Begin off the left edge and continue past the right. This may be done in one continual motion or in separate left to right passes across the substrate.

Pressure-Sensitive Mounting

TIME
Maximum bond achieved after 24 hrs.

TEMPERATURE
The warmer the materials, the more aggressive the bond.
Extremes of heat and cold can affect the long-term bonding.

PRESSURE
A weight or vacuum frame should be used.

MOISTURE
Damp materials will not bond.

Pressure-Sensitive Mounting

Pros

Low, Medium, High Tack
Repositionable
Easy to Use
Variety of Choices – film and carrier

Cons

Repositionable
Could crawl or dry out over time

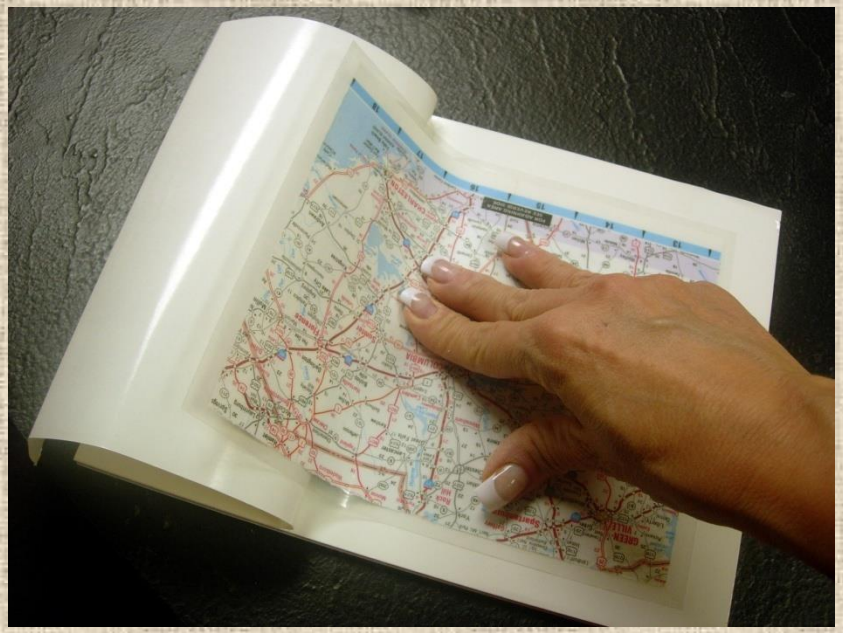
Pressure-Sensitive Adhesives

Films

PMA (3M Positionable Mounting Adhesive)
Gudy 870 (Gudy O - no carrier)
Crescent Perfect Mount (clear carrier)
Gudy 831 (Gudy V - long fiber sheer carrier)

Boards

Crescent Perfect Mount
Bainbridge SA
Gilman SA HT
KoolTack InstaMount
Gilman Resilient
Gilman Resilient Align (repositionable)



- Remove top liner
- Position on board
- Cover with liner
- Burnish from center
- Weight to cure

PSA Mounting for RL

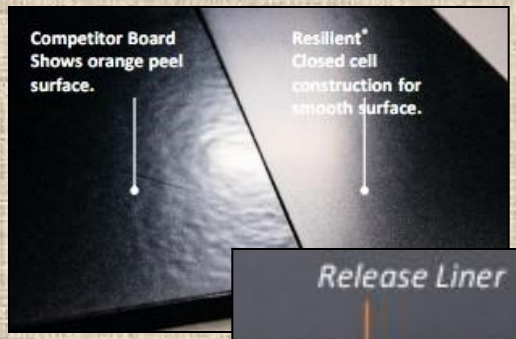
Commercial substrates: *(top to bottom)*

- Acrylic
- 1/4" Gatorboard
- 1/8" Gatorboard
- Dibond (ACM)
- 1/8" Hardboard
- 3/8" Coated Hardboard

- 1/2" Resilient® Soft Touch Board

Resilient® Soft Touch Graphics Board

- Gilman new release graphics boards 1/2" - 1"
- Velvet black, closed cell foam, spring-back technology
- Chip and crush resistant, lightweight, easy trim
- Wall display or frame ready



Resilient®ALIGN

- Permanent Non-Tack PSA Mounting Board
- Pressure-activated adhesive surface
- Manual mount with squeegee or RL
- Ultra smooth, moisture resistant, stays flat

Dry Mounting

TIME

Dwell time is that required to activate and create the bond.
Average vacuum press 4 min, mechanical press 1-2 min

TEMPERATURE

No standard temperature for all adhesives, about 130F-190F

PRESSURE

The force that compresses air from between bonding layers.
A mechanical press is manually set, a vacuum is automatic.

MOISTURE

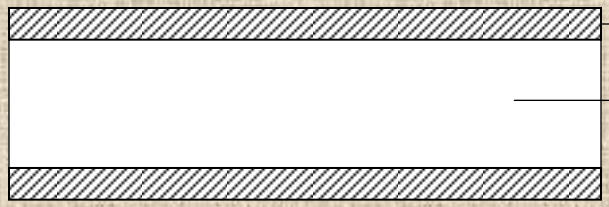
Steam is created at 225F, predrying may be required.
A vacuum draws moisture out automatically.

Adhesive Characteristics

- **Composition -** Tissue-core carrier
  Films Discontinued
- **Type of Bond -** Permanent vs. Removable
- **Porosity -** Breathable vs. Non-breathable
- **Acidity Level -** Buffered vs. Unbuffered

Composition

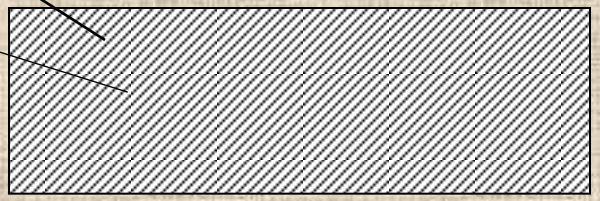
Tissue-core



Adhesive

Carrier

Film



Tissue core sandwiched between adhesive

100% pure film, no carrier
discontinued

Type of Bond

Permanent

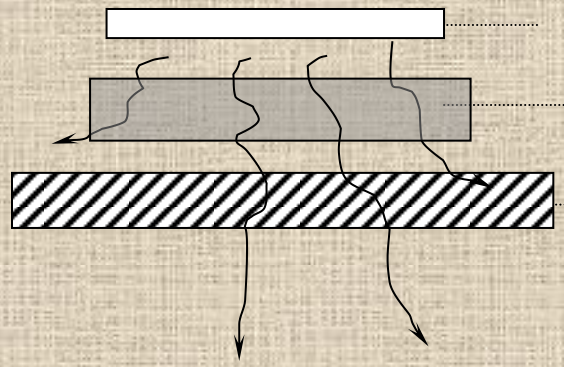
- Tear Strength vs. Longevity
- Bonds in the press at Temperature
- Solvent Removal

Removable

- Reactivates under heat
- Bonds as it Cools

Removable is NOT Reversible

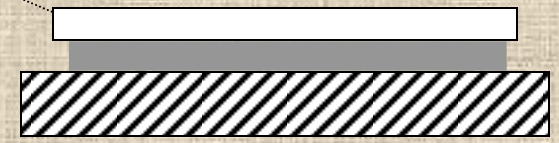
Porosity

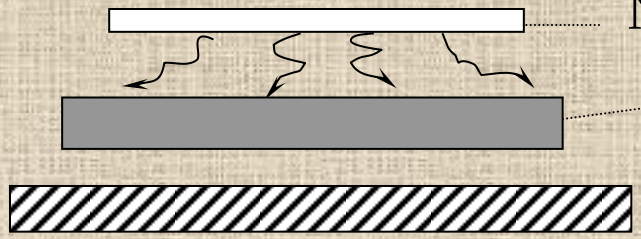


Nonporous art

Porous adhesive

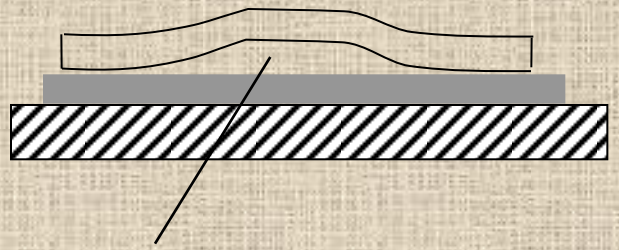
Substrate





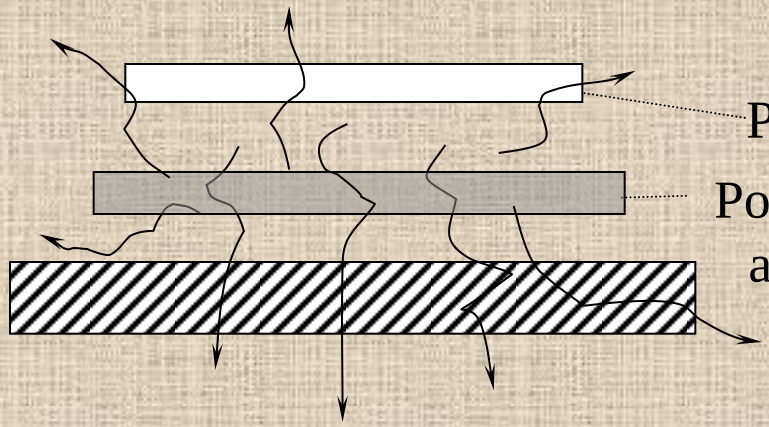
Nonporous art

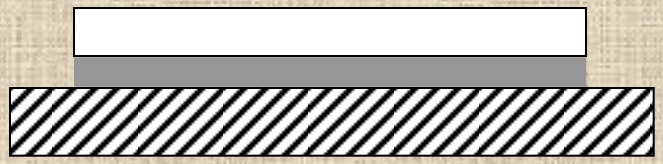
Nonporous adhesive



Air trapped between nonporous surfaces

Proper Bond





Acidity Levels

- Adhesives are inert
- Carriers are buffered

But…None of That Matters Anymore

FotoFlat, MT5, ColorMount, Unimount, Promount,
Fusion 4000, Flobond, Flexmount, Versamount
Techmount, Drychival, RagMount, GicléeMount,
ClearMount, and others…have all been discontinued.

Leaving D&K NTMT and BufferMount
Drytac Trimount, and
Décor Permanent Dry Mount Tissue

So, it is...what it is.

Temperature - HA Foam Boards

High Temperature

Traditionally noted as **180°F-200°F**

Most are permanent – bond in press

Bond 1-3 minutes mechanical, 4 minutes vacuum after draw

- Crescent HA Fome-Cor - 165°F-170°F
- Bainbridge SpeedMount - 180°F-190°F

Temperature - HA Foam Boards

Medium Temperature = 150°F-160°F ±

Many are removable - bond outside press under weight

Bond 30 seconds mechanical, 1-3 minutes vacuum after draw

- Bainbridge HAF (Heat Activated Foam) - 160°F-180°F
- KoolTack Drymount Foam -160°F
- KoolTack ACM - 160°F-165°F
- Gilman InSite HA Foam -160°F

Temperature - HA Foam Boards

Low Temperature = 130°F

Permanent, stable and inert

Bonds 30 sec -1 minute mechanical press, 2 minutes vacuum

Safe for all digitals

- Gilman MountCor Acid Free -130°F
- Gilman MountCor Canvas Acid Free -130°F

Temperature - HA Foam Boards

Reversible Board = 150°F-170°F

Designed to bond preservation items

Adhesive rubs off back of art after removal

- KoolTack 100% Reversible -150F-170F

HA-PSA-Film-Wet Adhesives and Comparisons 2023

Board	Types of Art														Digitals								Time – after draw (actual)	Temperature	Board Info												
This chart is a combination of manufacturers' suggestions, claims and tested mounting results between 2006-2008. Not all new release products since 2011 have been tested. Copyright © 2011 Chris A. Paschke, CPF GCF Updated Copyright © 2014 Chris A Paschke, CPF GCF Updated Copyright © 2023 Chris A Paschke, CPF GCF	Lightweight Porous Paper	Coated Paper-mechanical	Coated Paper-vacuum	Heavy or Textured Papers	Asian Papers	Heavy Watercolor Paper	Original Art	Polyester Encapsulate	RC Photo-mechanical	RC Photo-vacuum	RA-4 Photographs	Creative Applications	Fabrics / Textiles	Raw Canvas	Digital Canvas	Electrophotographic Copy	Electrostatic / Laser Copy	Dye Sublimation	Thermal Transfer	Thermal (dye) Inkjet	Thermal (pigment) Inkjet	Piezo Inkjet	Digital Canvas			Permanent	Removable	Reversible / Preservation	Cure or Cool under weight	Neutral pH or stable & inert	Orange peel	High Density	Oversized Mounts	Manual	Rollers - cold	Roller - hot	Mechanical	Hot Vacuum
Heat Activated (HA) Boards															N	N			N																	
Bainbridge SpeedMount	X	X	X						X	X	X											F	1-3m	F150-160		X		X							X	X
Heat Activated Foam (HAF)	**X**	X	X	X	X			**X**	**X**	**X**	**X**		X	X	**X**			X	X		X	X	1-3m	F160-180		X		X							X	X
Crescent Heat-Activated Fome-Cor	**X**	X	X	X	X			**X**	**X**	**X**	**X**		X	X	X			X	X			X	X	1.5-3m	F165-170	X										X	X
Gilman InSite Heat-Activated Foamboard	**X**	X	X	X	X			**X**	**X**	**X**	**X**							X	X		X	X		15s-1m	F160	X				X						X	X
MountCor	**X**	**X**	**X**	X	**X**	x		**X**	**X**	**X**	**X**					**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	30 sec	F130	X				X						X	X	X
MountCor Canvas	**X**	**X**	**X**	**X**	**X**	X		**X**	**X**	**X**	**X**		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	1-3m	F130	X											X	X
Kool Tack Preserve 100% Reversible	X	X	X	x		x	x	F	X	X	X											x		15s-30s	F150-160			X	X	X	x						X	X
Drymount Foamboard	**X**	**X**	**X**	x	x	x		-	**X**	**X**	**X**			x	x			X	X		X	**X**	F	15s-45s	F150-160		X		X							X	X	X
ACM Competition Plate	**X**	X	X	x	x	x			**X**	**X**	**X**							X	X		X	X		15s-45s	F160-165		X		X		x					X	X	X
Pressure-Sensitive (P-S) Boards		NA	NA			NA	NA		NA	NA													LT	HT	R												
Bainbridge SA Foamboard	X										X				X		X	X	X	X	X	F	x		x	X		X	X				X	X	X		
Crescent PerfectMount Foam	X				X						X				X	X	X	X	X	X	X	F	x		x	X		X	X				X	X	X		
Drytac PS Gatorfoam	**X**			**X**	**X**			**X**			X		X	X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		x		X		X	X		X	X	X			
Foam Board	**X**			**X**	**X**			**X**			X		X	X	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		x		X		X	X		X	X	X			
Gilman High Tack Foam	X			X	**X**						X				X	X	X	X	X	X	X	F		x		X		X	X			X	X	X		
Gilman Resilient Align	**X**			x	**X**			X			**X**		F	F	F	**X**	**X**	**X**	**X**	**X**	**X**	**X**	F	x		x	X				X				X	X		
Resilient Mount Soft Touch Graphics Board	**X**			x	**A**			X			**X**		F	F	F	**X**	**X**	**X**	**X**	**X**	**X**	**X**	F		x		X		X	X		X	X	X			
Kool Tack InstaMount	**X**	x	x	**X**	**X**			**X**			**X**					**X**	**X**	**X**	**X**	**X**	**X**	**X**	F		x		X		X			X	X	X		x	x
PSA Films (used with substrates of choice)							NA																LT	HT	R												
Crescent Perfect Mount Film (flat, 2 release liners)	**X**				X						X	X				X	X	X	X	X	X	X	F	X		x		X		X	X			X	X		
Gudy 831/Gudy V (rolled, sheer carrier)	X				X						X					**X**	**X**	**X**	**X**	**X**	**X**	**X**	x		x		X		X	X			X	X		
Gudy 870/Gudy O (rolled, no carrier)	X				X						X					**X**	**X**	**X**	**X**	**X**	**X**	**X**	x		x		X		X	X			X	X		
PMA (rolled, no carrier)	X				X						X					x	x	x	x	x	x	x	F	X				X		X	X			X	X		
Wet Glue		NA	NA				NA		NA	NA													M	W/D	CV				NA		NA						
Decor All Purpose Mounting Adhesive #610 (PVA)	**X**			**X**	**X**	**X**		-			**X**	**X**	**X**	**X**	**X**						**X**	**X**	**X**	X	X		X			X		X	X			X	X
Decor All Purpose Mounting Glue #980 (paste)	**X**			**X**	**X**	**X**		-			**X**		**X**	**X**	**X**						**X**	**X**	**X**			X	X			X		X	X				
Decor Fabric Mount Adhesive #1340 (PVA)	**X**			**X**	**X**	**X**		-			**X**	**X**	**X**	**X**	**X**						**X**	**X**	**X**	X	X	X	X			X		X	X			X	X
Decor Vacuum Mount Adhesive #3649 (veg starch)	X			**X**	X	**X**		-			**X**		**X**	**X**	**X**						**X**	**X**	**X**			X	X			X		X					
Frank's Fabric Glue (PVA)	**X**			**X**	**X**	**X**		-			**X**	**X**	**X**	**X**	**X**						**X**	**X**	**X**	X	X		X			X		X	X			X	X

Legend: NA=Not applicable; x=Moderate bond; X=Good bond; **X**=Excellent bond and tear strength; N=Do not apply heat over 130°F
LT=Low tack; HT=High tack; R=Repositionable; M=Manual application; W/D=Wet/dry application (200°F/2-5 min); CV=Cold vacuum application

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Substrate Selection

Controls Orange Peel

Standard Thicknesses

Up to 8x10"	4-ply Mat Board, X board
8x10"- 16x20"	1/8" Foam, 2X board
16x20"- 32x40"	3/16" -1/2" Foam, 3X board Honeycomb Falconboard
32x40"- 40x60"	1/2" Foam or Gatorboard Hardboard, MDF
40x60"- 48x96"	3/4 " Honeycomb Panels Tycore, Hexamount…

Countermounting

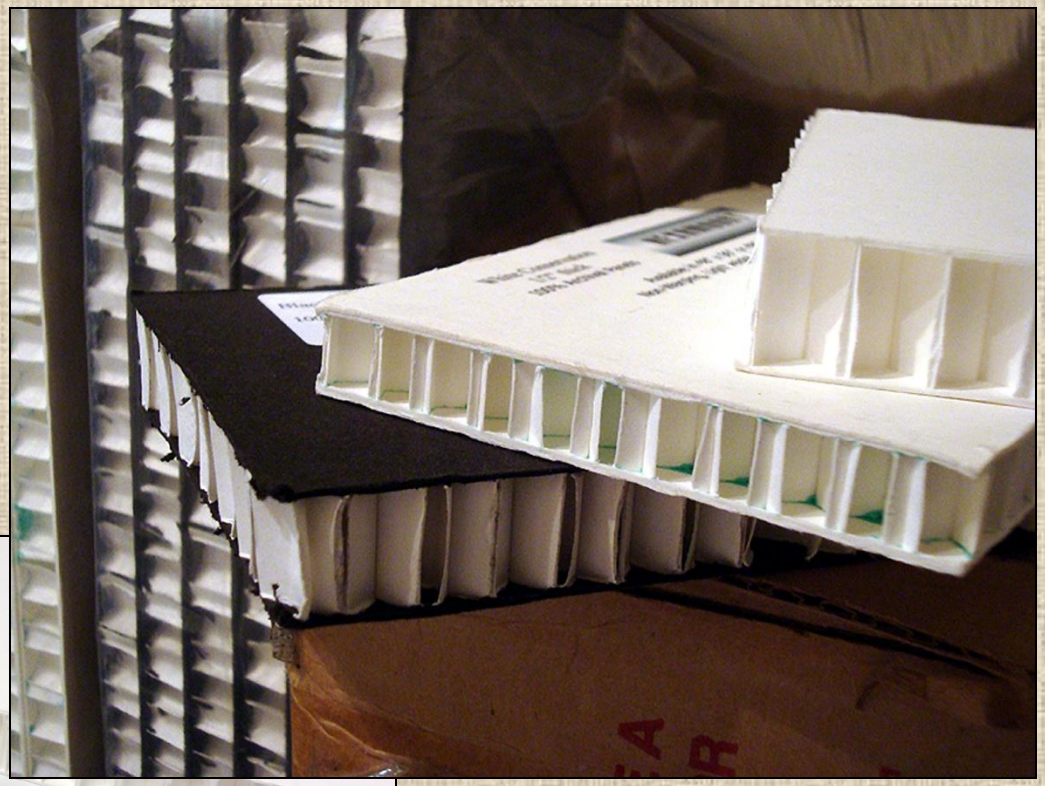
Allows for use of thinner substrate

RC Photo on 2 ply

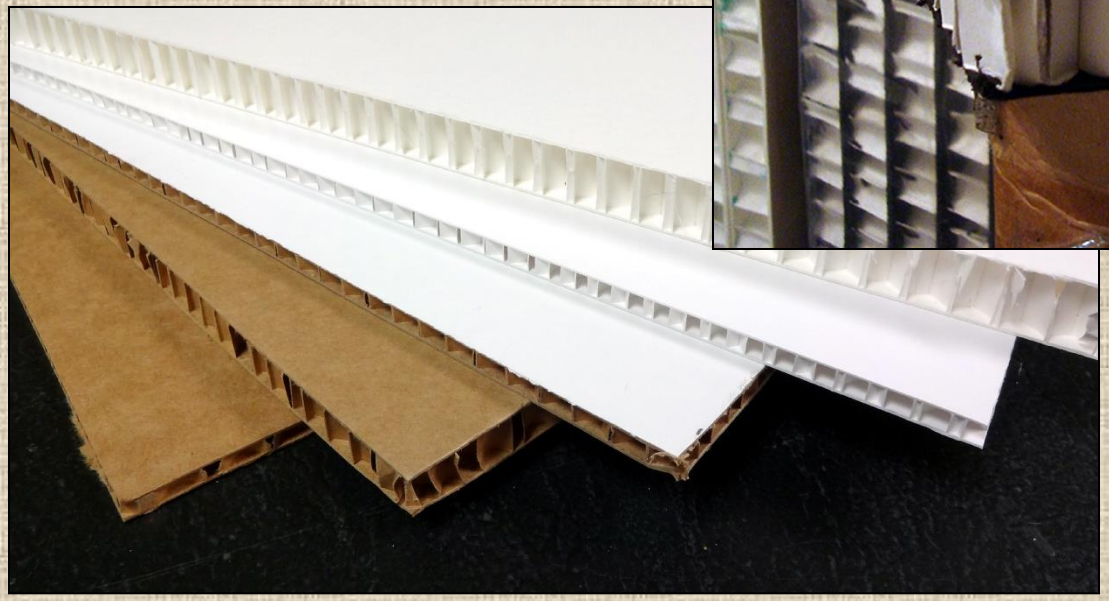
Countermounted

Print on 2 ply and 4 ply rag boards

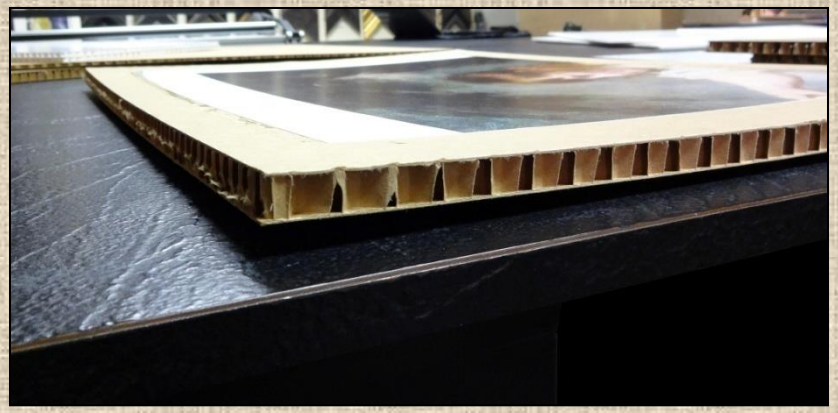
Honeycomb Panels



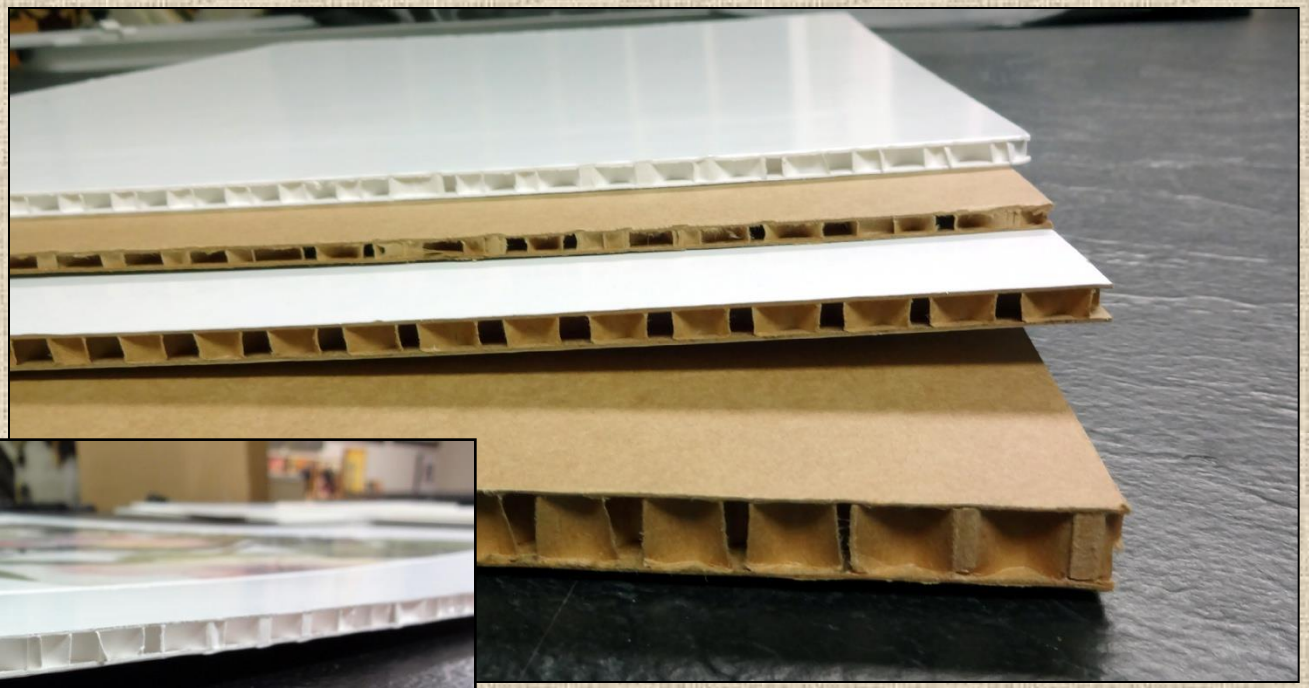
Tycore, Hexamount

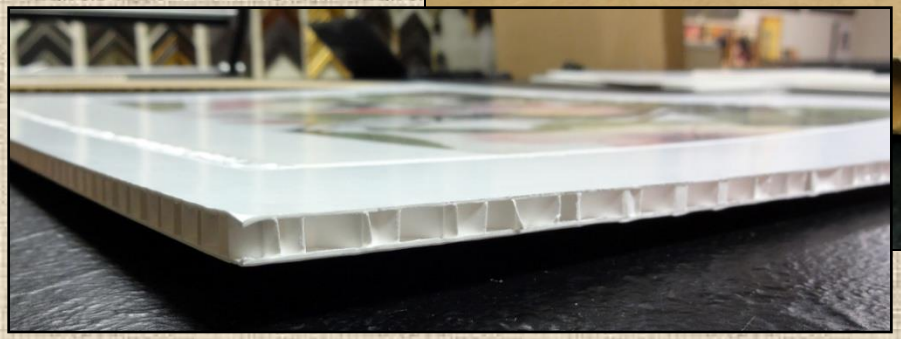


Falconboard Hexacomb, Gilman Eaglecell

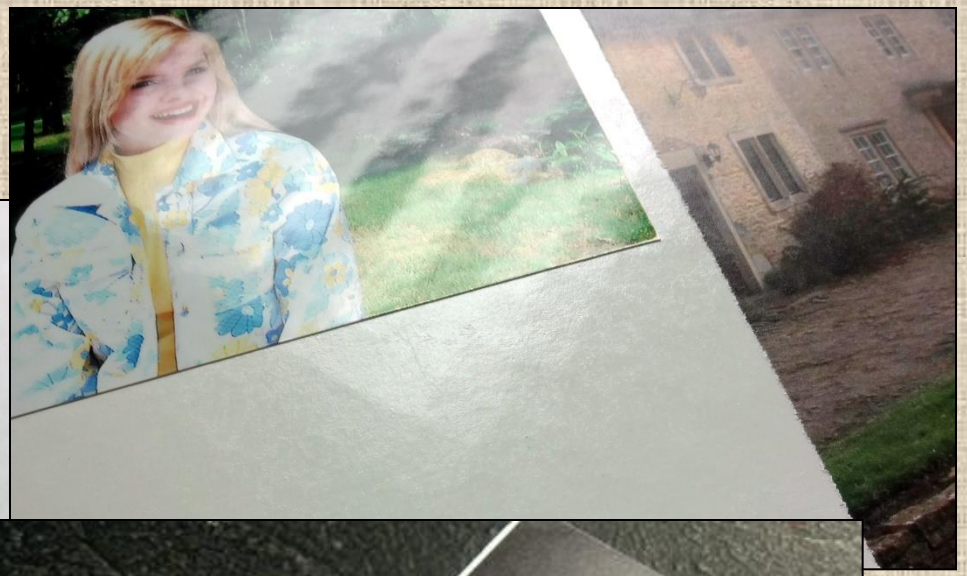


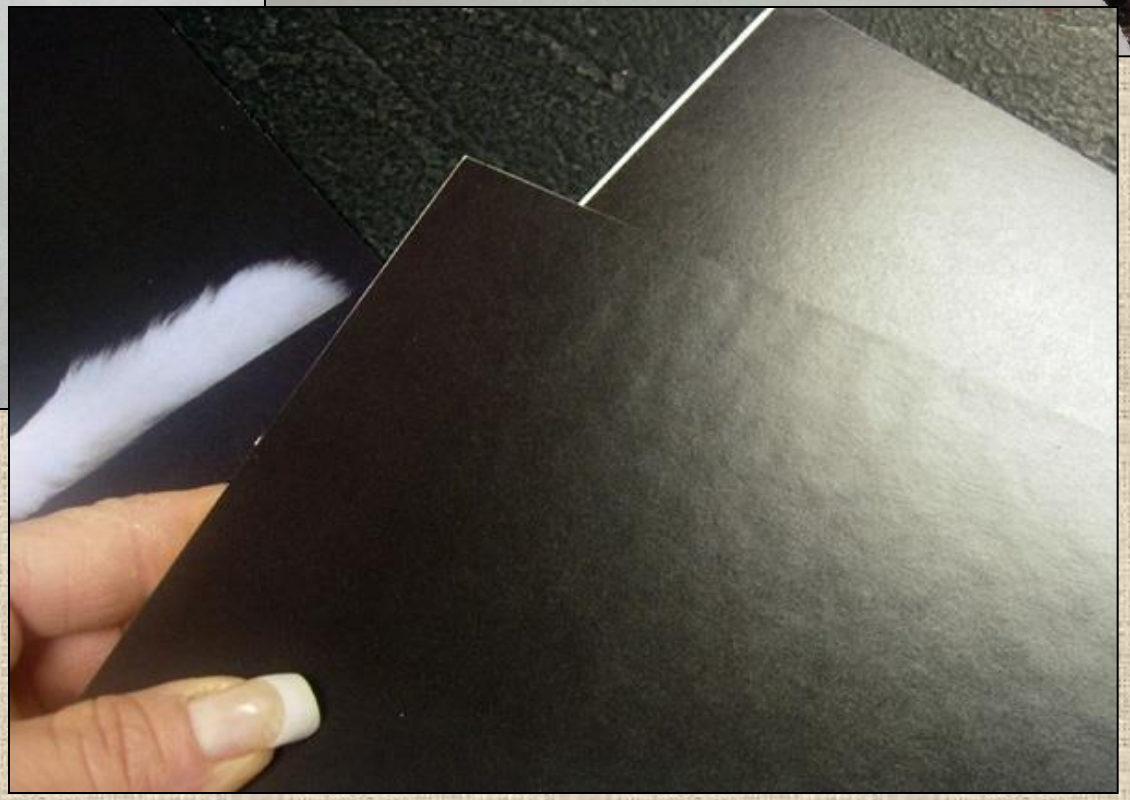
Warping occurs when boards are too thin for image size.





Orange Peel



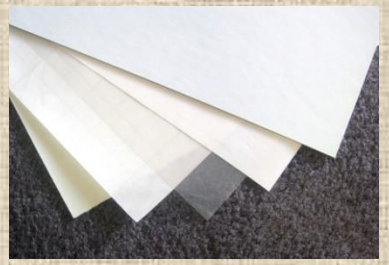


Patterns may occur when press or RL is too tight

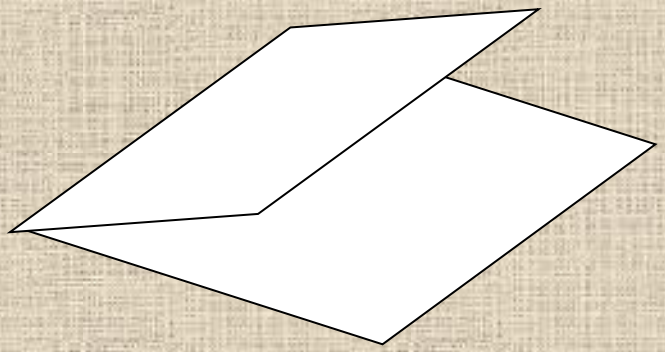
Release Materials

Silicone Coated

- Clear Release Film - Mylar
- Double-Sided Paper - Lightweight
- Single-Sided Lightweight - Liner paper
- Single-Sided Paper - Heavyweight
- Release Boards - Commercial
- In-house Release Boards

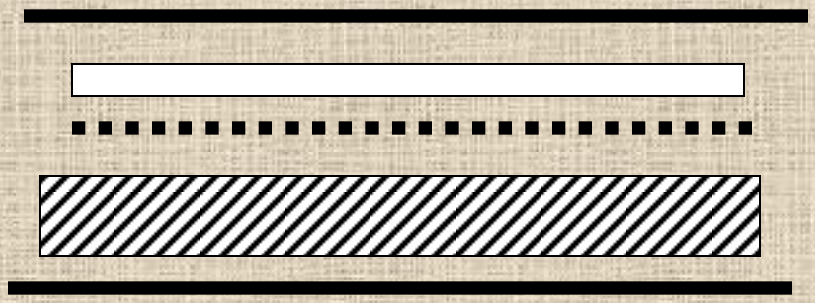


Release Materials



Release envelope

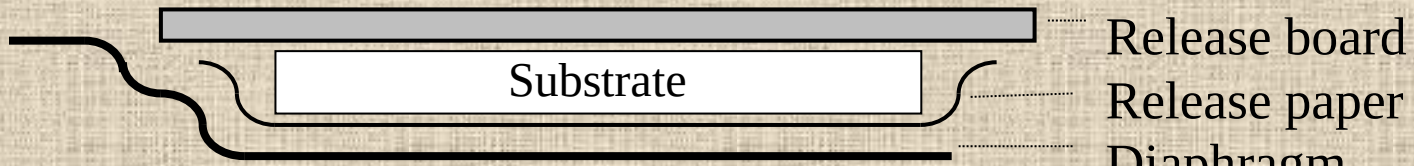
Folded release paper allows for easy handling of small projects and those with loose items.



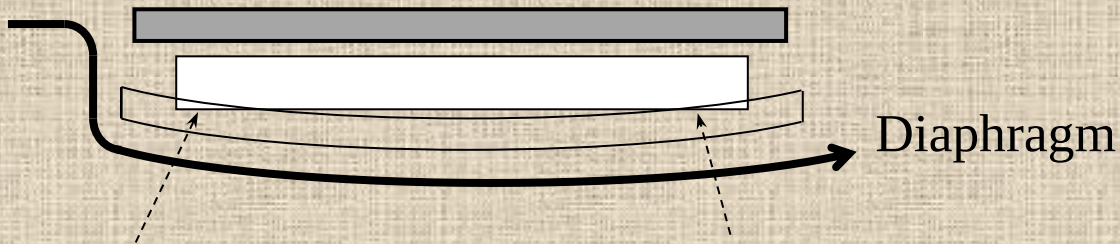
Release material
Artwork
Adhesive
Substrate
Release material

Release Boards in Vacuum Press

Release Board Top Only



Release Boards Top and Bottom



Greater pressure at corners allows for air bubbles

Daily Maintenance

Vacuum Presses (control TT, PM automatic)

- Morning - run once empty and closed
- Evening - run once open

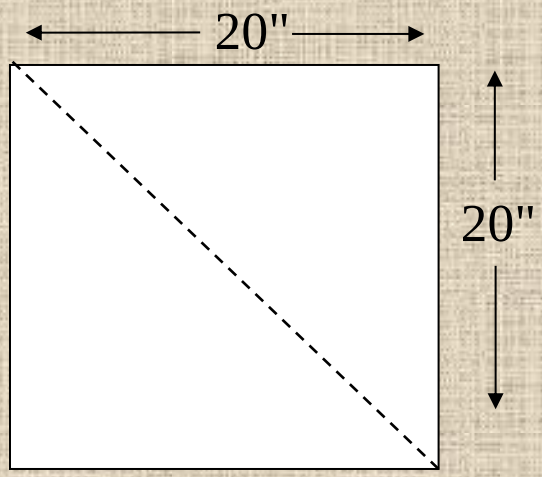
Mechanical Presses (all TTPM manual)

- Check pressure, temperature

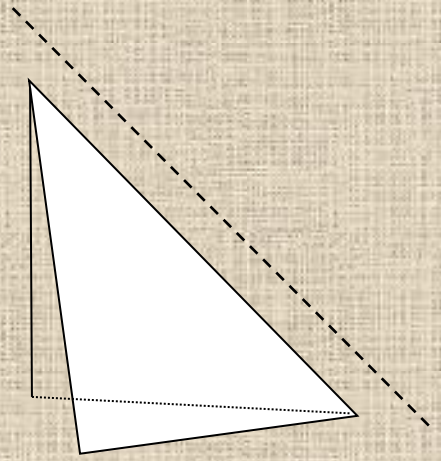
All Equipment

- Clean platens
- Change release materials every 50 hours

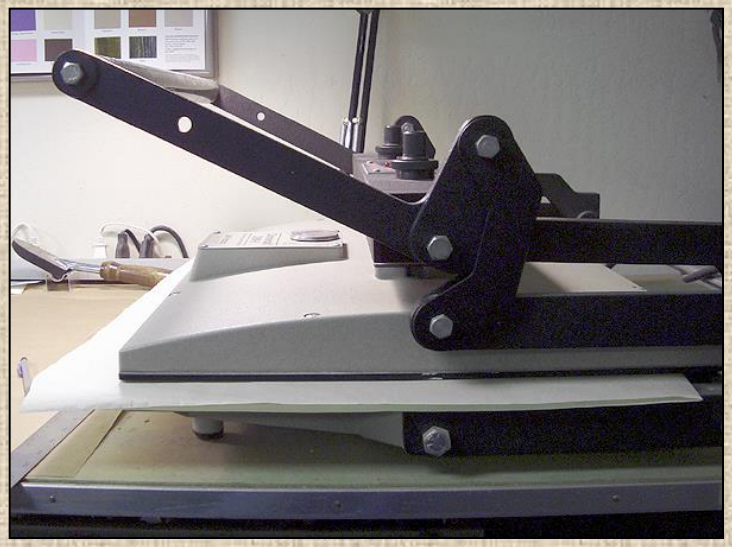
Pressure - 45 Degree Pattern



Score 20x20" rectangle diagonally



Fold into 45-degree self-standing angle



Arm too low,
too loose

Always adjust press with all layers inside to insure proper pressure

Arm too high,
too tight

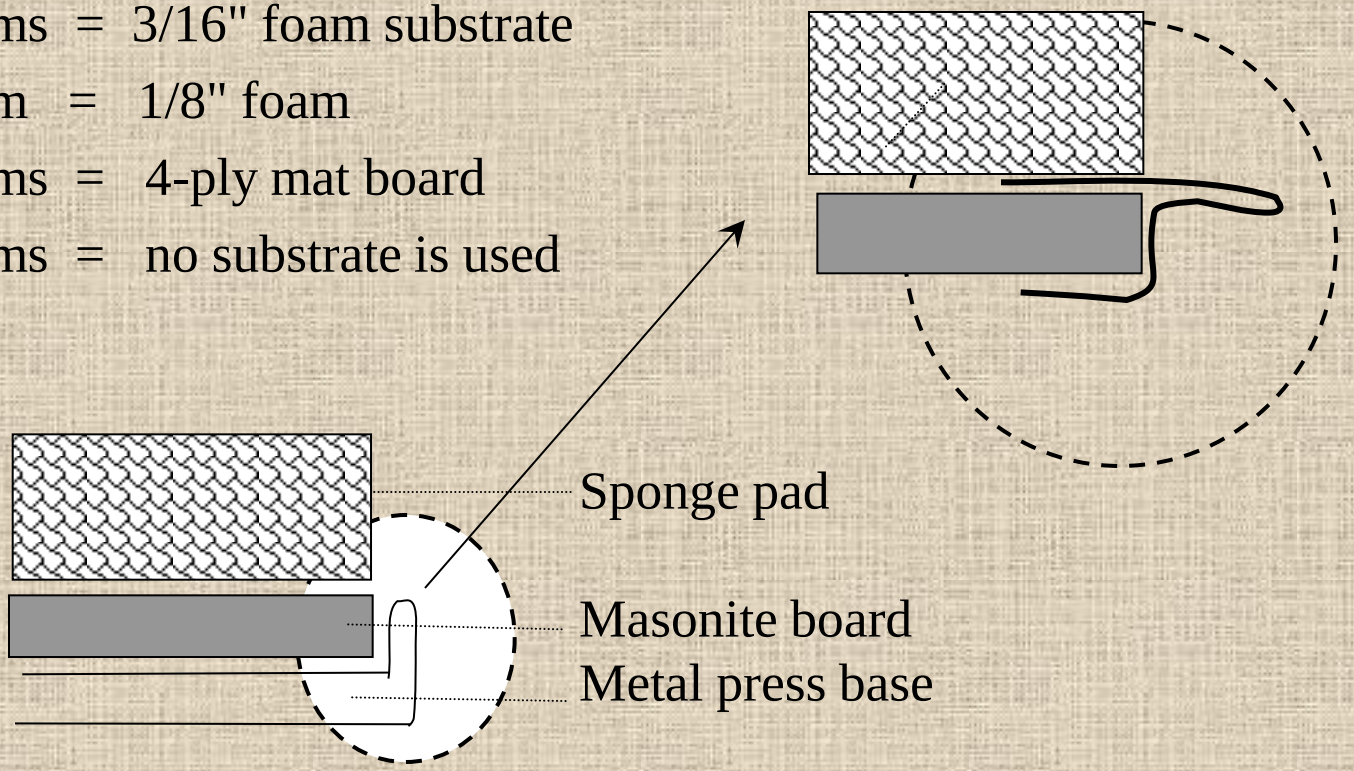
Mechanical Press Spacers

0 shims = 3/16" foam substrate

1 shim = 1/8" foam

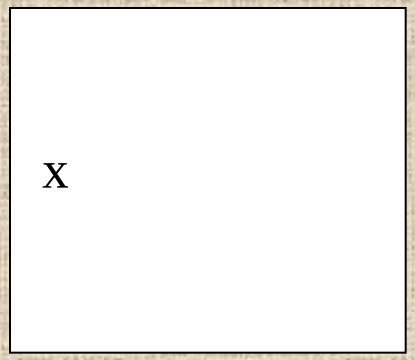
2 shims = 4-ply mat board

3 shims = no substrate is used

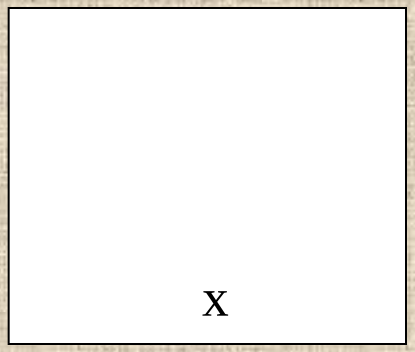


Tacking

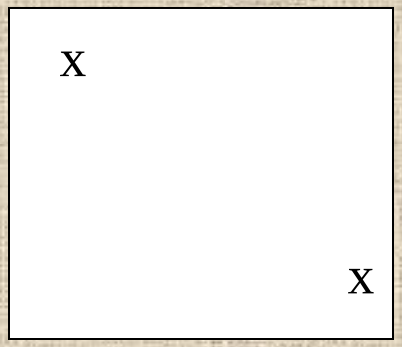
End

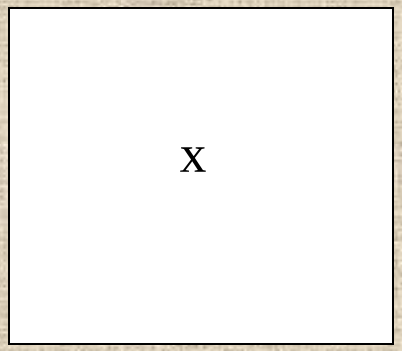


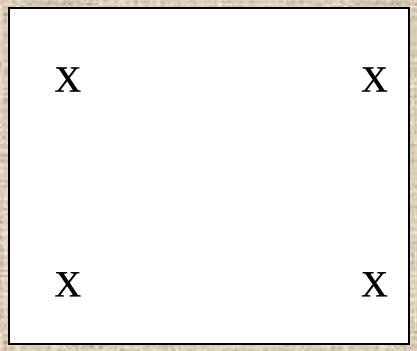
or

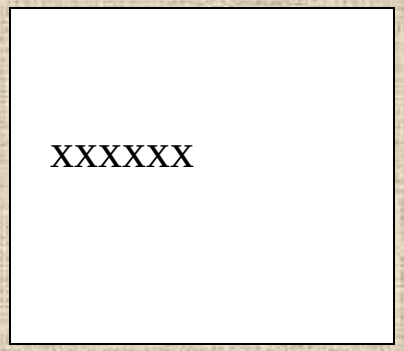


Center Side

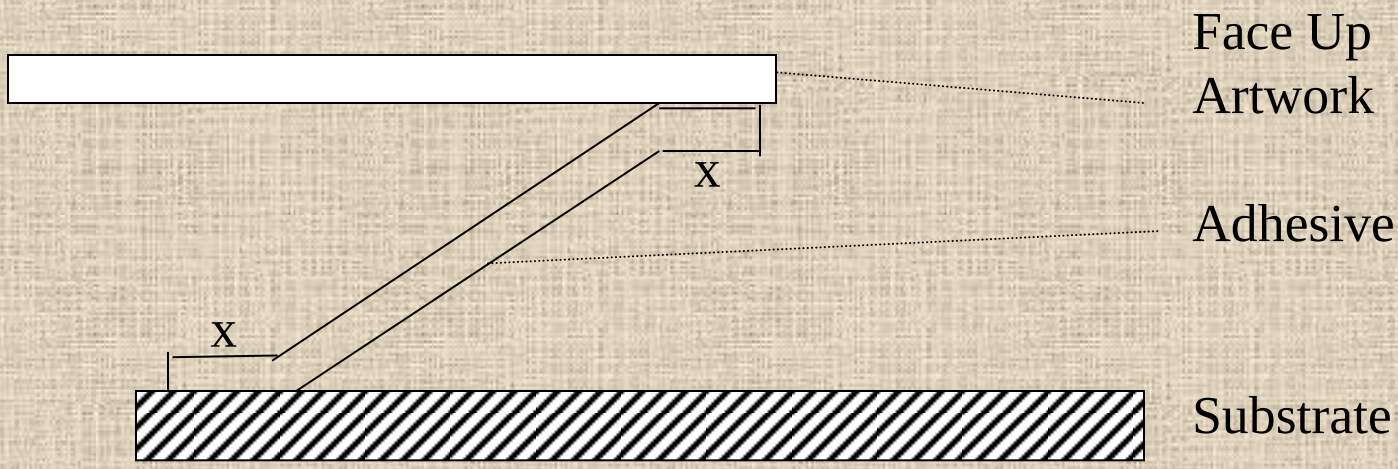








Z-Method Mounting




UNSEAL
ADHESIVE
RELEASING
SOLVENT

Solvents


LOW ODOR FORMULA
OOPS!
THE ALL PURPOSE REMOVER
Tar • Lipstick • Crayons
Gum • Ink • Adhesive Residue
Oil • Magic Marker • Grease
DANGER – FLAMMABLE
HARMFUL OR FATAL IF SWALLOWED
Bienfang
ODORLESS
turpenoid
turpentine substitute
DANGER
THINNER
BESTINE
SOLVENT
THINNER

Overwhelmed yet?
Some problems still not covered?
Other Paschke mounting classes at WCAF 2024

Mastering Mounting: Sensitive Items
Monday, 3:30-5:30pm

Mastering Mounting : Float Frame Trends
Tuesday, 9:00-11:00am

Mastering Mounting: Handling Digitals
Tuesday, 12:30-2:30pm

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661-821-2188

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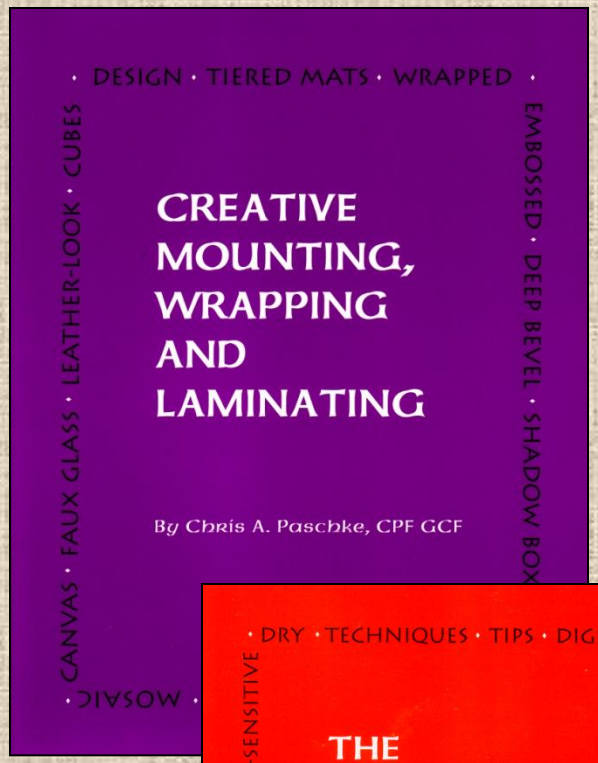

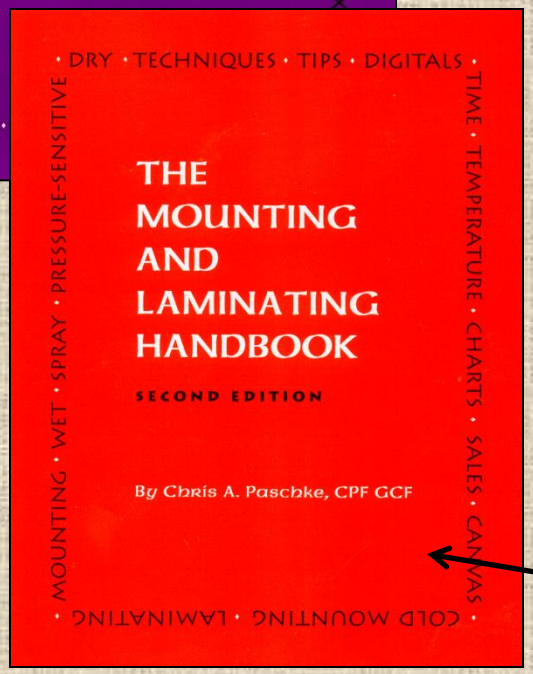

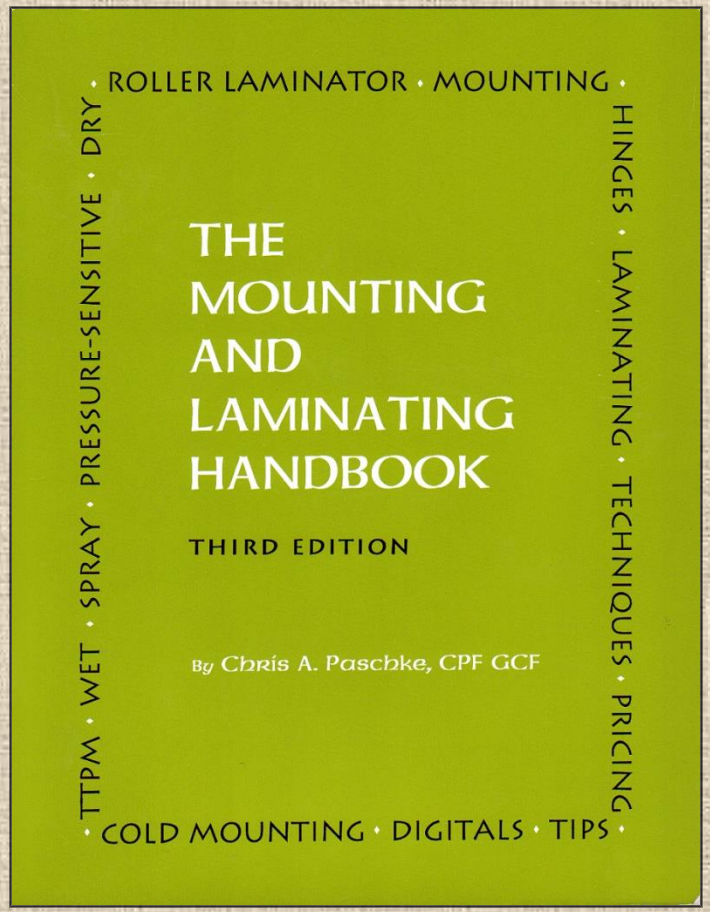

FREE w/other two (in class only)