Mastering Mounting: Mounting Basics

Chris A. Paschke, CPF GCF

Lecture Sponsored by The Gilman Brothers Company

Workshop Sponsored by D&K Group

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"Forty years ago 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

Noninvasive Methods

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

Invasive Methods

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

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 based more on art

80/20 Rule

80% Preservation vs. 20% Invasive

80% HA Boards vs. 20% Tissues

80% Permanent vs. 20% Film

It will depend upon your individual market

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 out a report with customer.

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

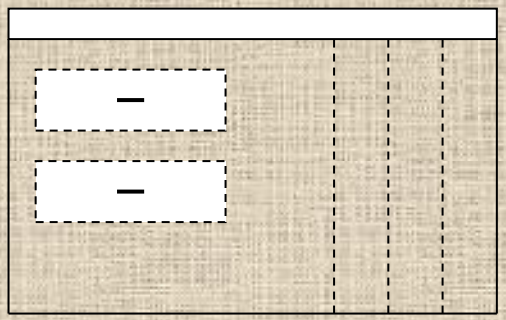
Work Station

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

Clean area...clean process

Work Room Layout

PREPARATION TABLE

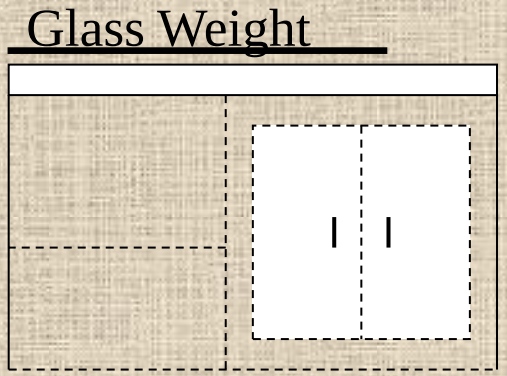


Optional vertical storage and drawers.

HOT VACUUM PRESS

Opening is level with tabletops, with optional storage shelf.

COOLING TABLE



Optional cabinet and shelf storage.

The Elements of Mounting

TTPM 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

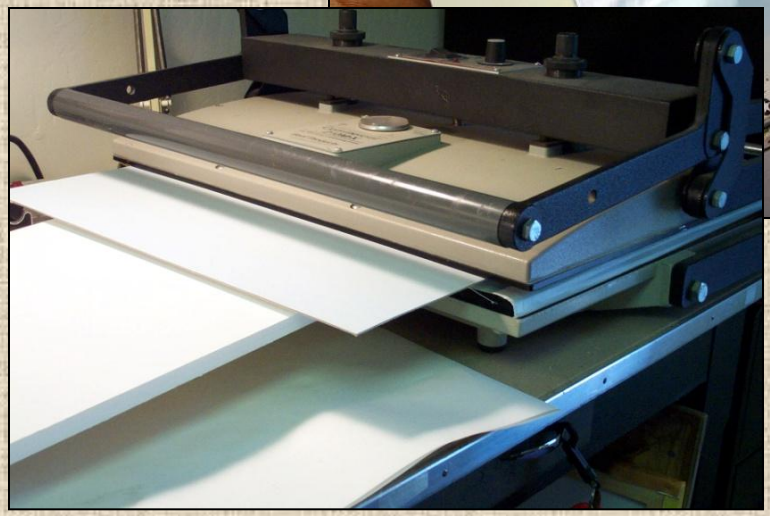
Temperature - Storage, equipment and glue

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 absorbs into the art.

Vacuum frames speed bonding time.

Wet Mounting

Pros

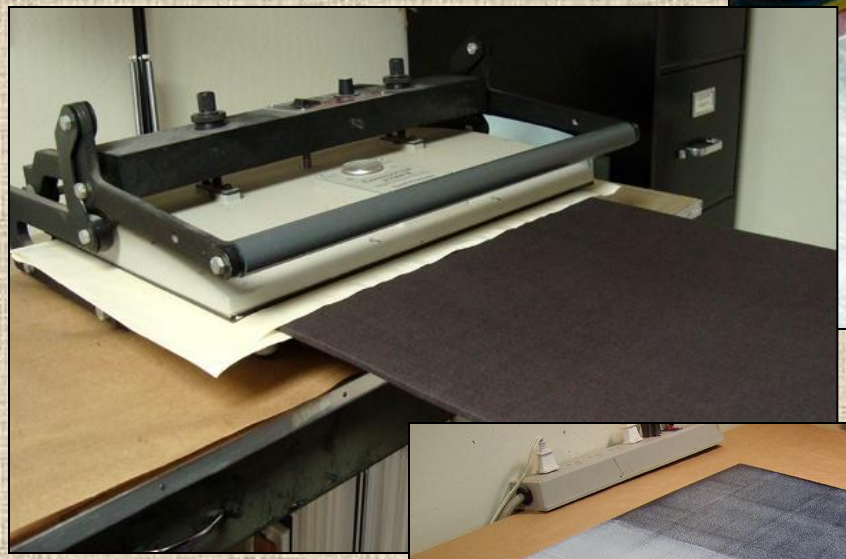
Starch lasts the test of time…scroll mounting

Reactivates with heat for mounting sheer paper and silk fabrics

Manual or with Cold frame

Cons

Fast drying




Seal
VacuGlue
300
YES
STIKFLAT
GLUE
for all purposes

Wet Mounting Application

- Roll a brayer across a glob of glue to even out adhesive.
- Apply adhesive to the substrate, not the art.
- Spread glue evenly over every square inch of substrate.
- Mist back of the print to expand fibers to match substrate.
- Align the print to the substrate across the top edge.
- Slide hand top to bottom, check alignment.
- Cover with sheet of clean Kraft paper,
- Rub from center to outer edges to eliminate air.
- Dry under weight for 4-24 hours.

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

Select applications

Inexpensive

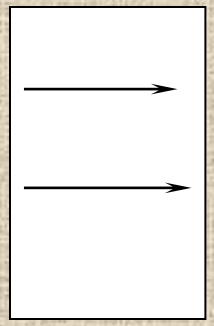
Ease of use

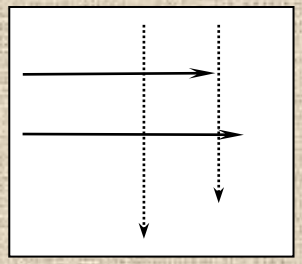
Cons

Health issues

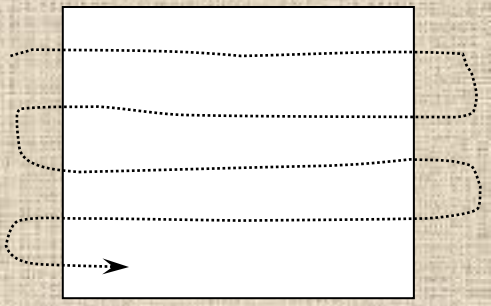
Mess & special equipment

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.

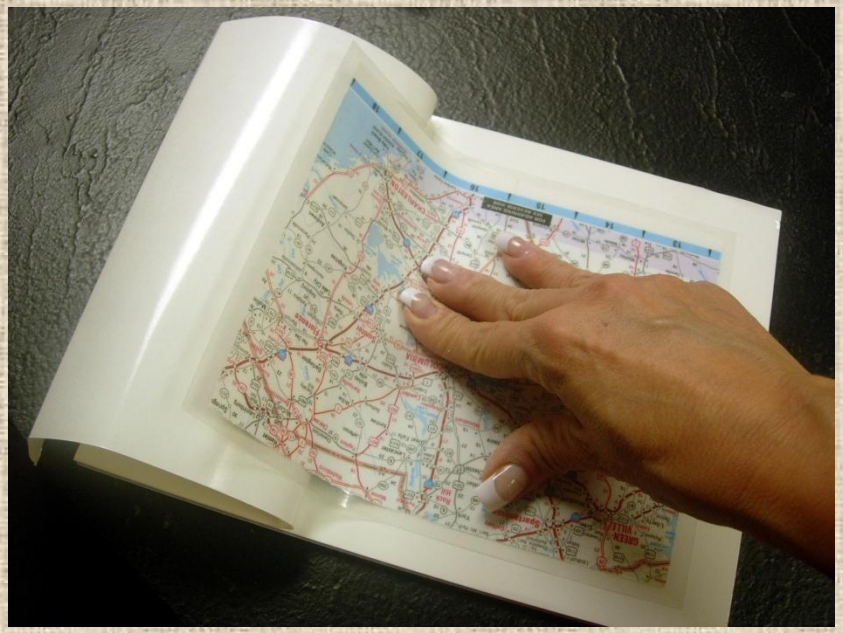
Pressure-Sensitive Mounting

Pros

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

Cons

Repositionable
Can crawl and dry out over time



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

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.

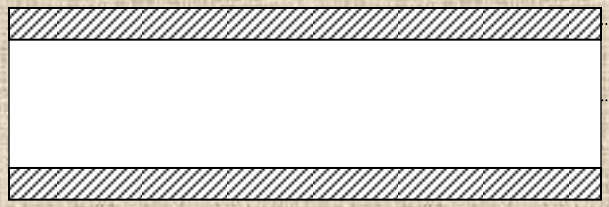
A vacuum draws moisture out automatically.

Adhesive Characteristics

- **Composition -** Tissue-core carrier vs. Film
- **Type of Bond -** Permanent vs. Removable
- **Porosity -** Breathable vs. Nonbreathable
- **Acidity Level -** Buffered vs. Unbuffered

Composition

Tissue-core

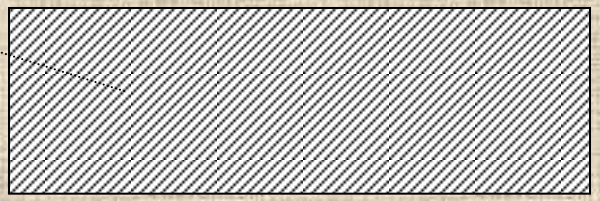


Adhesive

Carrier

Tissue core sandwiched between adhesive

Film



100% pure film no carrier

Type of Bond

Permanent

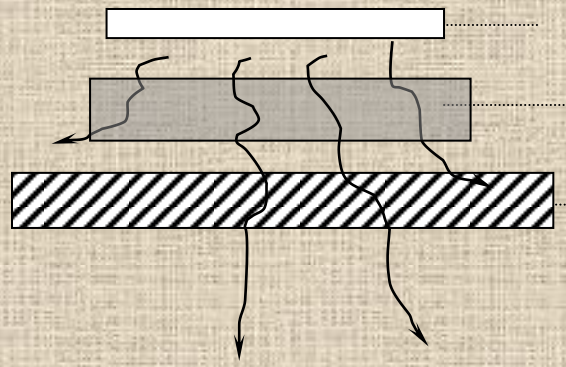
- Tear Strength vs. Longevity
- Bonds in the press at Temperature
- Solvent Removal

Removable

- Reactivates under heat
- Bonds as it Cools

Removable is NOT Reversible

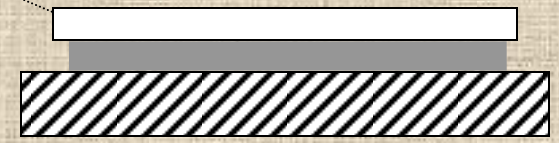
Porosity

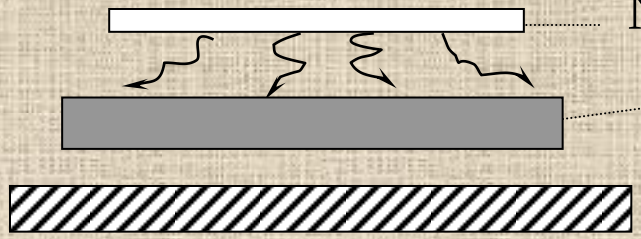


Nonporous art

Porous adhesive

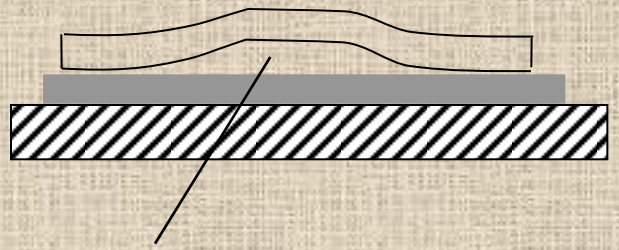
Substrate





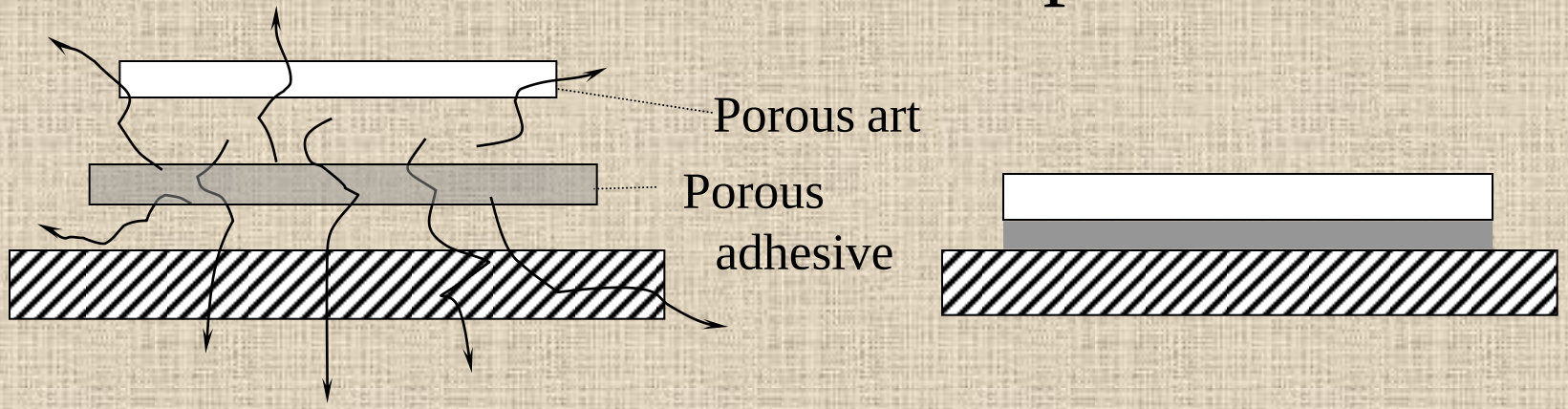
Nonporous art

Nonporous adhesive



Air trapped between nonporous surfaces

Proper Bond



Acidity Levels

- Adhesives are inert
- Carriers are what is buffered

Temperature - HA Foam Boards

High Temperature = 180°F-200°F

Most are permanent – bond in press

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

- Alcan HA Fome-Cor -180F
- Bainbridge HAF (Heat Activated Foam) -180F
- Bienfang Single Step -180F
- Hartman HartMount -185F
- Savage NuCor -180F, Filmtax ProCore - 200F

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

- KoolTack Drymount Foam -160F
- Gilman InSite HA Foam, Archival Foam -160F
- Bainbridge SpeedMount -160F

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 -130F
- Gilman MountCor Canvas -130F

Temperature - HA Foam Boards

Reversible Boards = 150°F-170°F

Designed to bond preservation items

Adhesive rubs off back of art after removal

- KoolTack 100% Reversible -150F-170F
- Bainbridge Restore -150F-170F

HA, P-S and Film Adhesive Application Comparisons

Board	Types of Art														Digitals								Time – after draw (actual)	Temperature	Board Info															
This chart is a combination of manufacturers suggestions AND the result of tested mounting results BETWEEN 2006-2008. Updated, new release and 2011 products may not match the results in this test. Copyright © Chris A. Paschke, CPF GCF, October 2013	Lightweight Porous Paper	Coated Paper-mechanical	Coated Paper-vacuum	Heavy or Textured Papers	Asian Papers	Watercolors	Original Graphic	Polyester Encapsulate	RC Photo-mechanical	RC Photo-vacuum	RA-4 Photographs		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. stable, inert	Orange peel					Rollers	Mechanical	Hot Vacuum	
Heat Activated (HA) Boards															N	N			N																				
Bainbridge Artcare Restore	X				X	x	X	x	X	X	X												15s-1m	F150-170			X	X	X						X	X	
SpeedMount	X	X	X						X	X	X												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	
Bienfang Single Step	X	X	X	X	X				X	X	X		X		X			X	X			X	X	2-3m	F180	X									X	X	
Step 150	X	X	X	X	X			X	X	X	X		X	X	X			X	X		X	X	X	15s-3m	F150		X		X						X	X	
Alcan/IP HA Fome-Cor	X	X	X	X	X			X	X	X	X		X	X	X			X	X			X	X	1.5-3m	F170-180	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	
Gilman MountCor	X	X	X	x	X			X	X	X	X					X	X	X	X	X	X	X		30s-2m	130F	X				X					X	X	X	
Hartman HartMount	X	X	x		X				X	X	X							X	X			X		1-3m	F185	X										X	X	
Savage NuCor Heat Activated Foam	X	X		X					X	X	X							X	X			X		20s-1m	F180		X		X							X	X	
Filmtax ProCore Heavy Wt	X	X		X														X	X			X		30s-1m	F200	X				X	X					X	X	
Kool Tack Preserve Foamboard	X	X	X		x	X		X	X	X											x			15s-30s	F150-160			X	X	X	x					X	X	
Drymount Foamboard Archival	X	x	x	x	x			-	X	X	X		x	x	x			x	x		x	X	x	15s-1m	F150-160		X		X		x					X	X	
Drymount Foamboard - white	X	X	X	X	X			-	X	X	X			x	x			X	X		X	X	x	15s-45s	F150-160		X		X							X	X	
Adhesive Dry Mount Films/Tissues																																							
Expression Fusion 4000	X	X	X	X	X			-	X	X	X			x	X						X	X	X	2-3m	F190-200		X		X	X						X	X	
RagMount (ClearMount)	X	X	X	X	X			-	X	X	X			x	X			X	X		X	X	X	2-3m	F180	X			X	X						X	X	
Drytac FloBond	X	X	X	X	X			-	X	X	X			x	X			X	X		X	X	X	2-3m	F180-200		X		X	X						X	X	
GicleeMount	X	X	X	X	X			-	X	X	X			x	X						X	X	X	2-3m	F190-225	X			X							X	X	
Pressure-Sensitive (P-S) Boards		NA	NA			NA	NA		NA	NA														NA	NA														
Alcan Self Adhesive Fome-Cor LT	X														X	X	X	X	X							X			X		X					X			
Bainbridge SA Foamboard	X							X			X			X	X	X	X	X	X	X		X				X			X							X			
Crescent PerfectMount Board X	X										X				X	X			X	X	X					X			X		X					X			
PerfectMount Foam	X							X			X				X	X	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			
Foam Board	X			X	X			X			X		X	X	X	X	X	X	X	X	X	X				X			X							X			
Elmer's Quick Stick HT Self Adhesive	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	X						X			
Hartman HarTac	X			X	X										X	X	X	X	X	X	X					X			X							X			
Pressure-Sensitive (P-S) Films																								NA	NA														
3M PMA	X														X	X	X	X	X	X	X					X				X						X			
Crescent PerfectMount Film	X			X																						X				X						X			
Neschen Gudy 870	X			X	X						X				X	X	X	X	X	X	X					X				X						X			
Neschen Gudy 831	X			X	X			X			X				X	X	X	X	X	X	X					X				X						X			
Drytac Media-Tac with Roller Laminator	X			X	X						X			X	X	X	X	X	X	X	X	X				X										X			

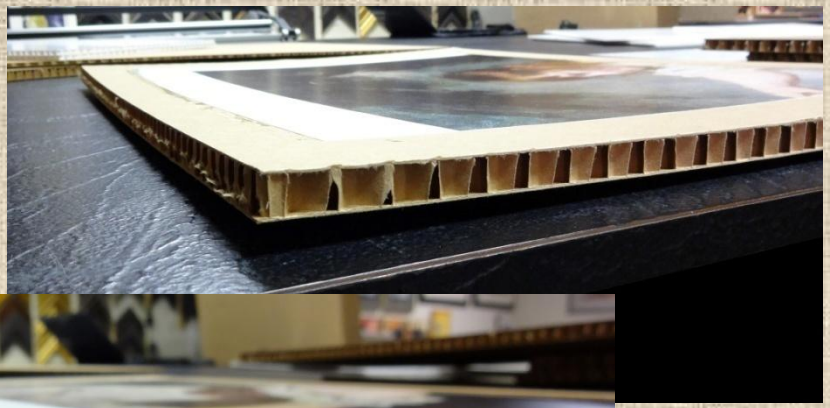
Legend: NA = nor applicable; x = moderate bond; X = good bond; **X** = excellent bond and tear strength; N = do not apply heat

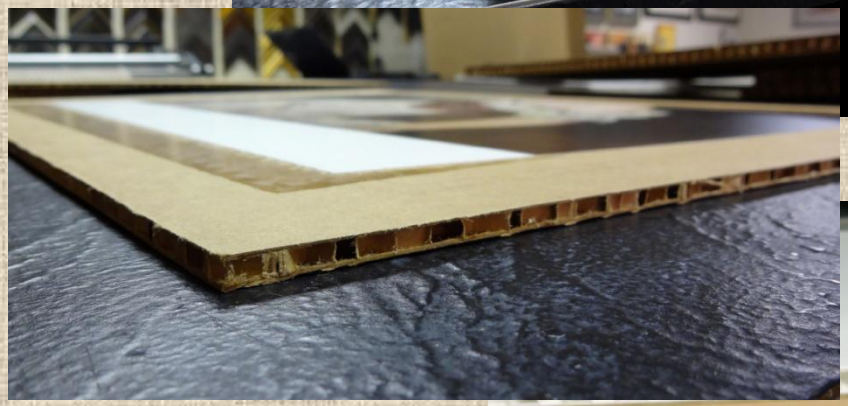
Substrate Selection

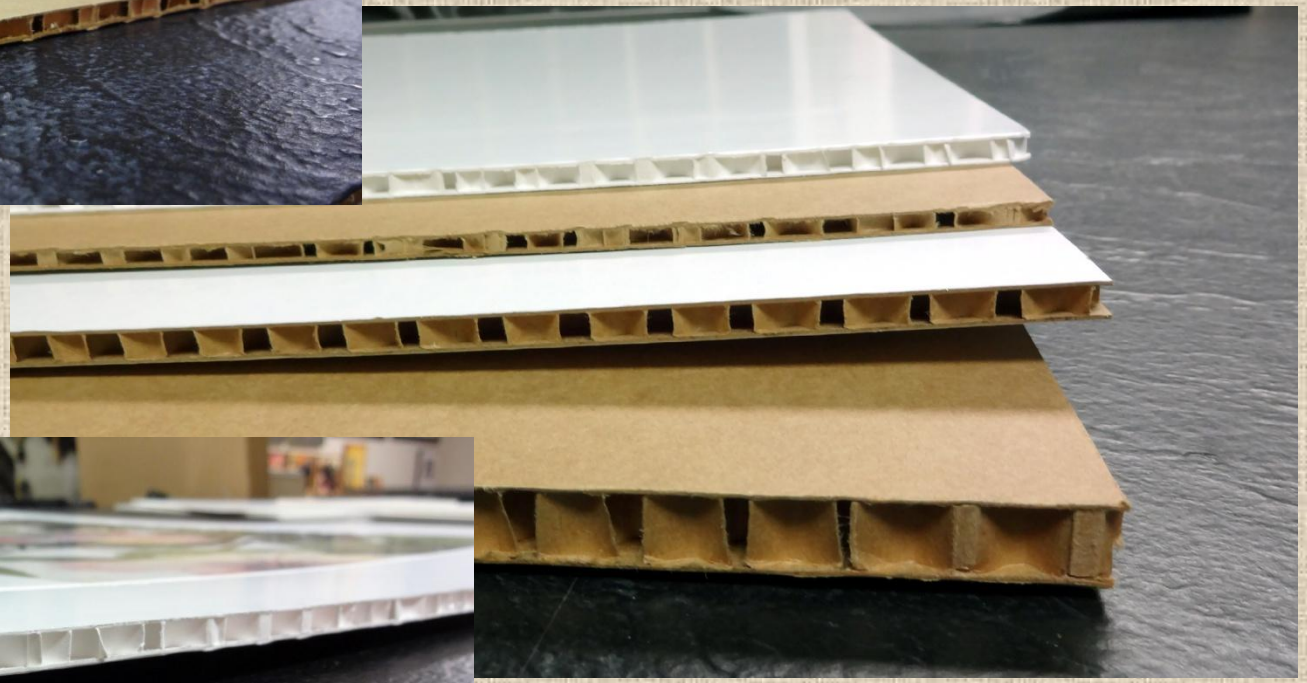
Controls Orange Peel

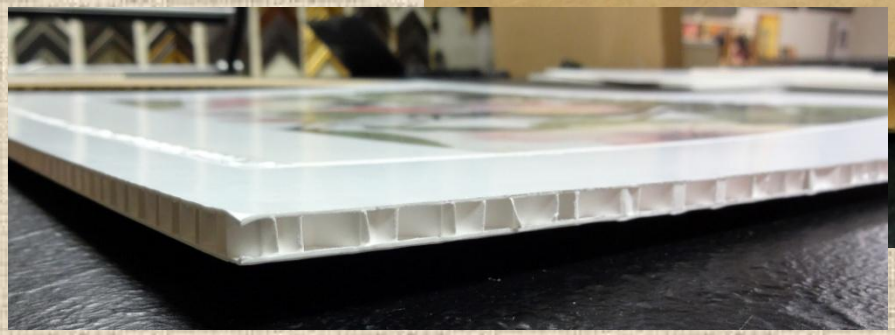
Standard Thicknesses

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…









Warping occurs when boards are too thin for image size.

Countermounting

Allows for use of thinner substrate

RC Photo on 2 ply

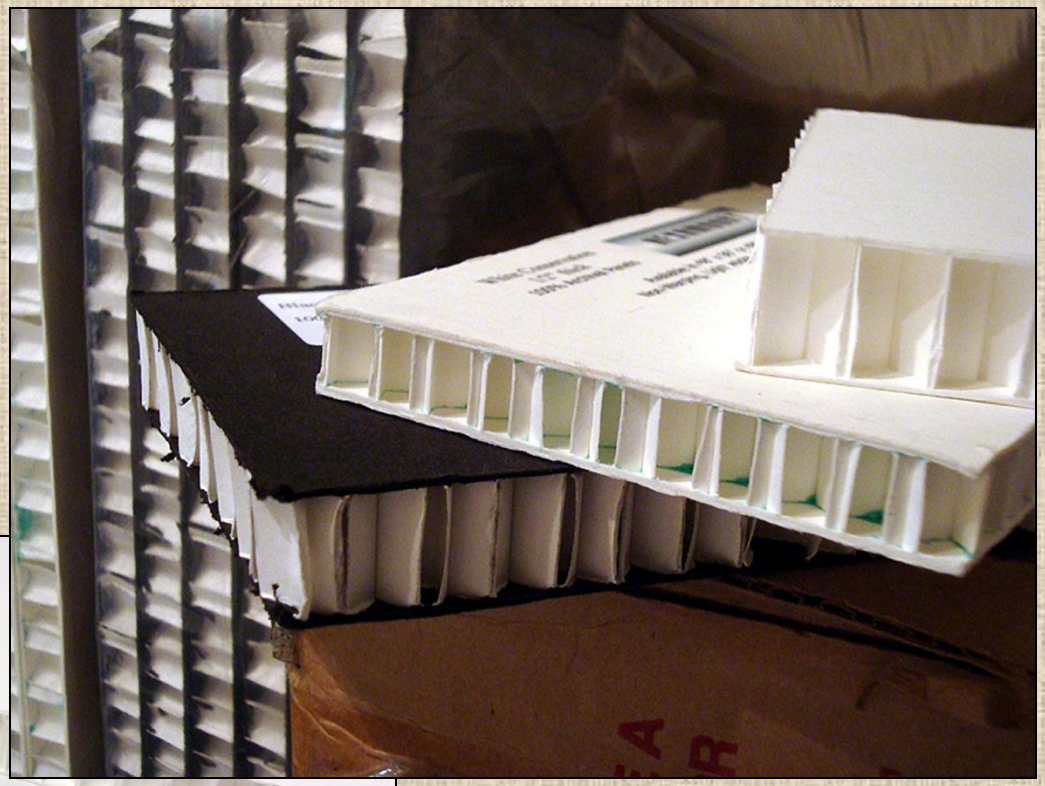
Countermounted

Print on 2 ply and 4 ply rag boards

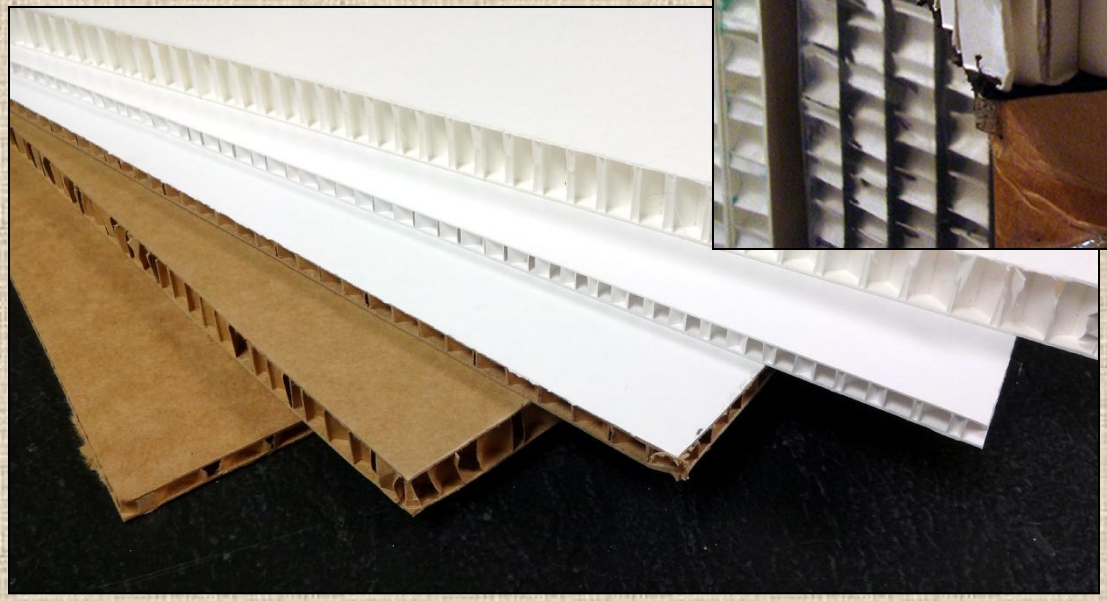
Countermounting

Wet Glue - PVA

Honeycomb Panels

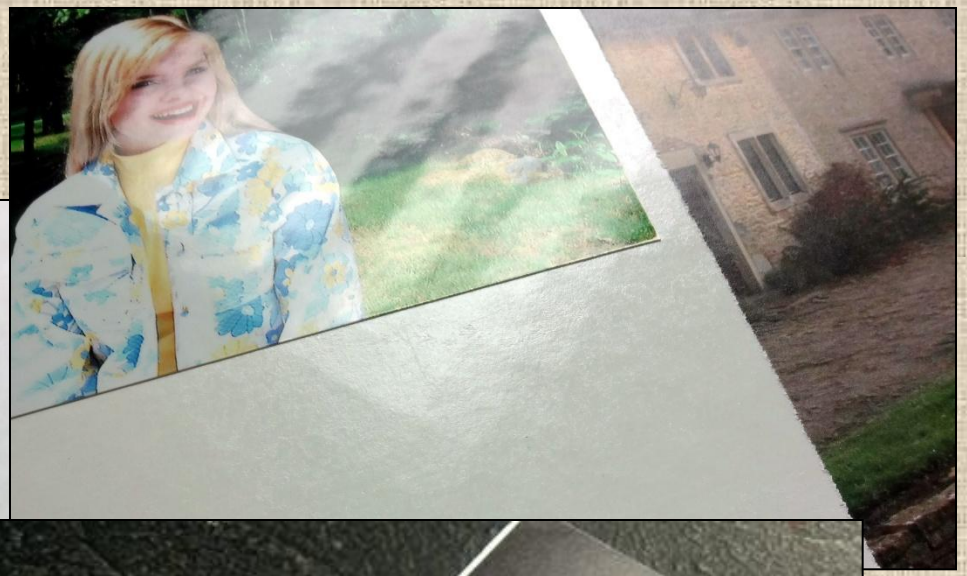


Tycore, Hexamount



Falconboard Hexacomb, Gilman Eaglecell

Orange Peel



Patterns may occur when press or RL is too tight

Release Materials

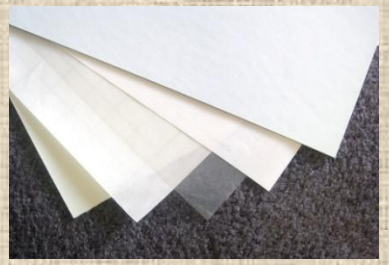
Release Materials

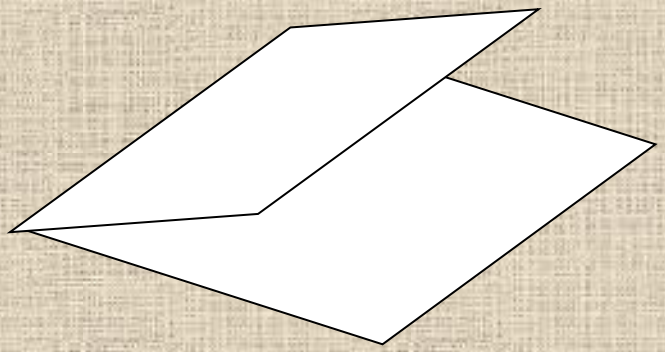
Silicone Coated

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

Laminated Lexan

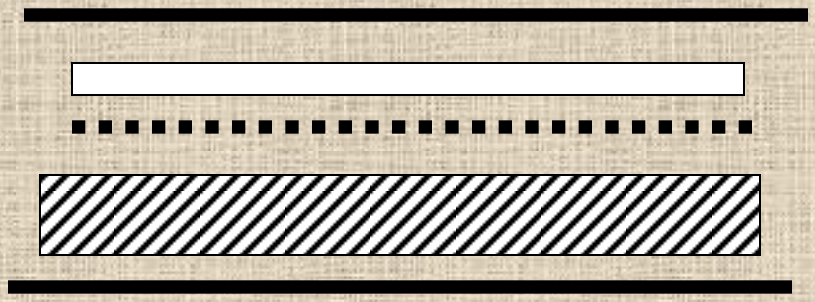
- Kool Tack Perma Lon
  - Do Not Use over 160°F
  - Only with KT boards





Release envelope

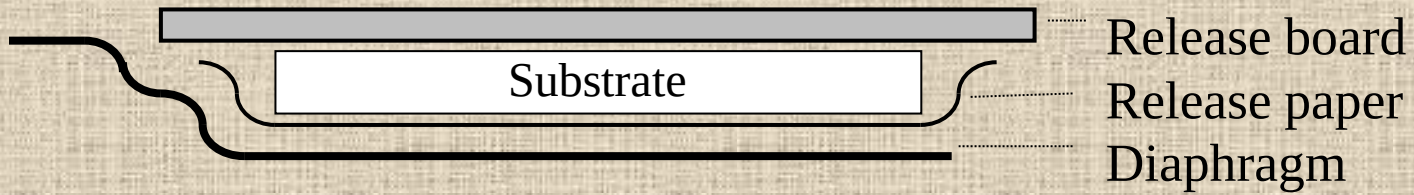
Folded release paper allows for easy handling of small projects and those with loose items.



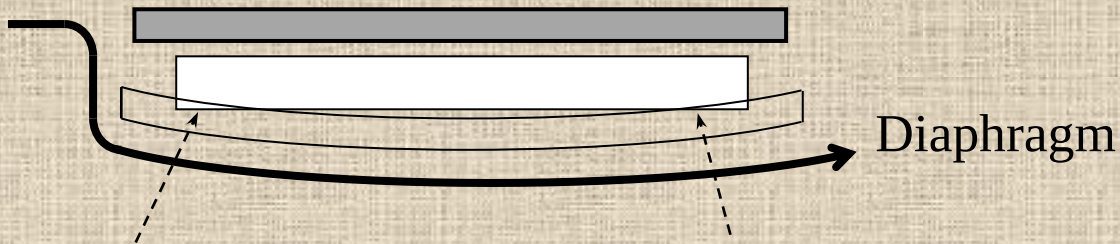
Release material
Artwork
Adhesive
Substrate
Release material

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

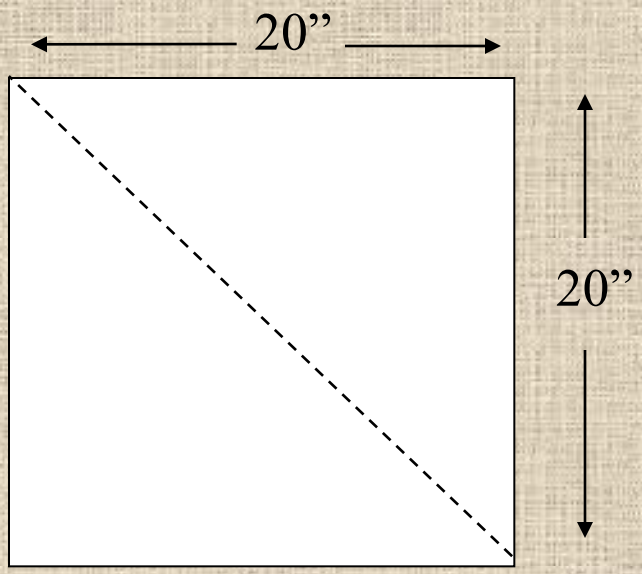
Mechanical Presses (all TTPM manual)

- Check pressure, temperature

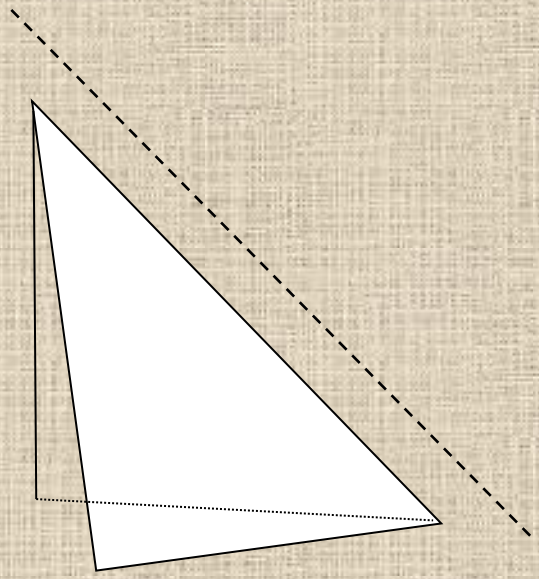
All Equipment

- Clean platens
- Change release materials every 50 hours

Pressure - 45 Degree Pattern



Score a 20x20” rectangle diagonally



Fold into 45-degree self-standing angle

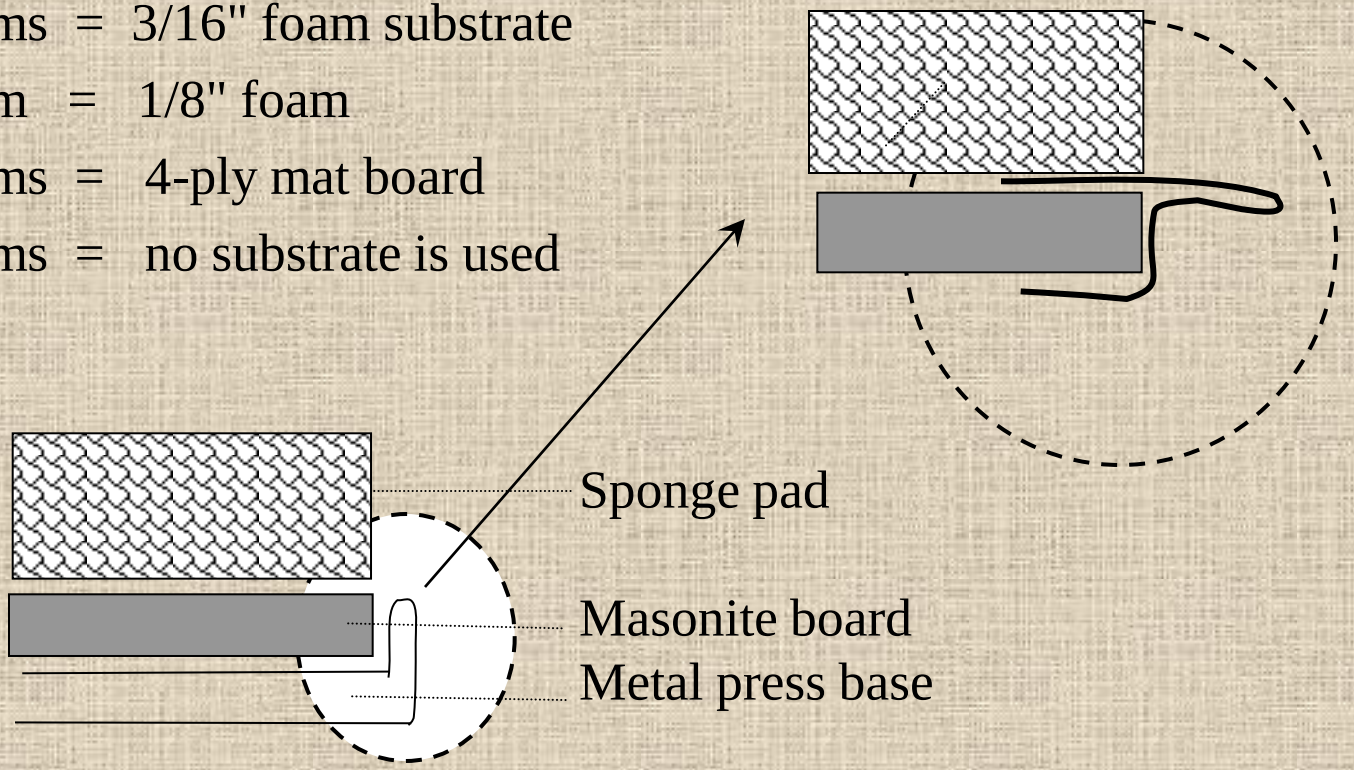
Mechanical Press Spacers

0 shims = 3/16" foam substrate

1 shim = 1/8" foam

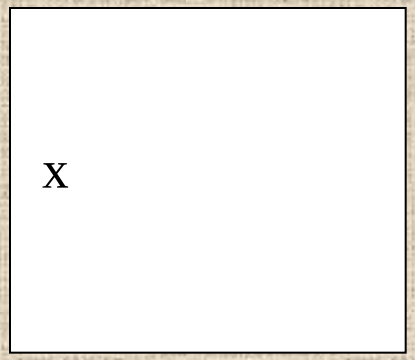
2 shims = 4-ply mat board

3 shims = no substrate is used

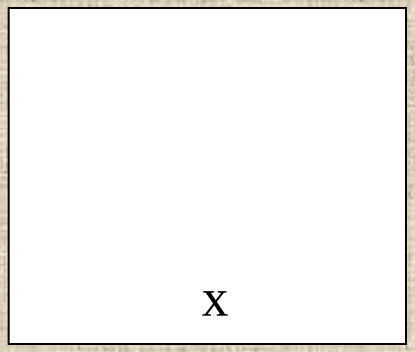


Tacking

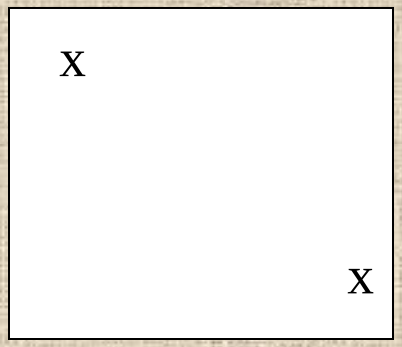
End

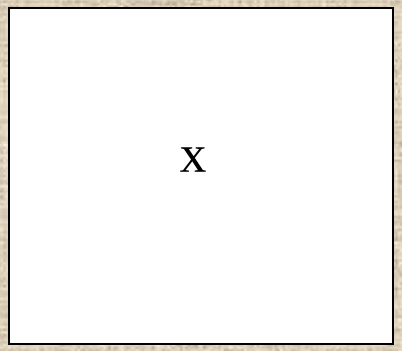


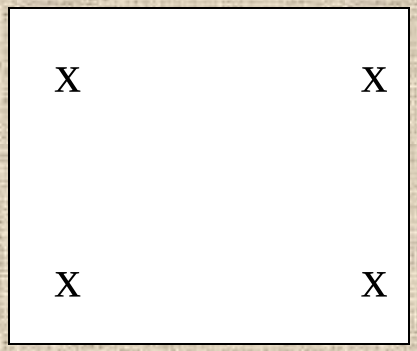
or

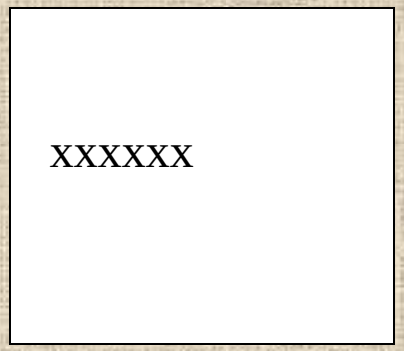


Center Side

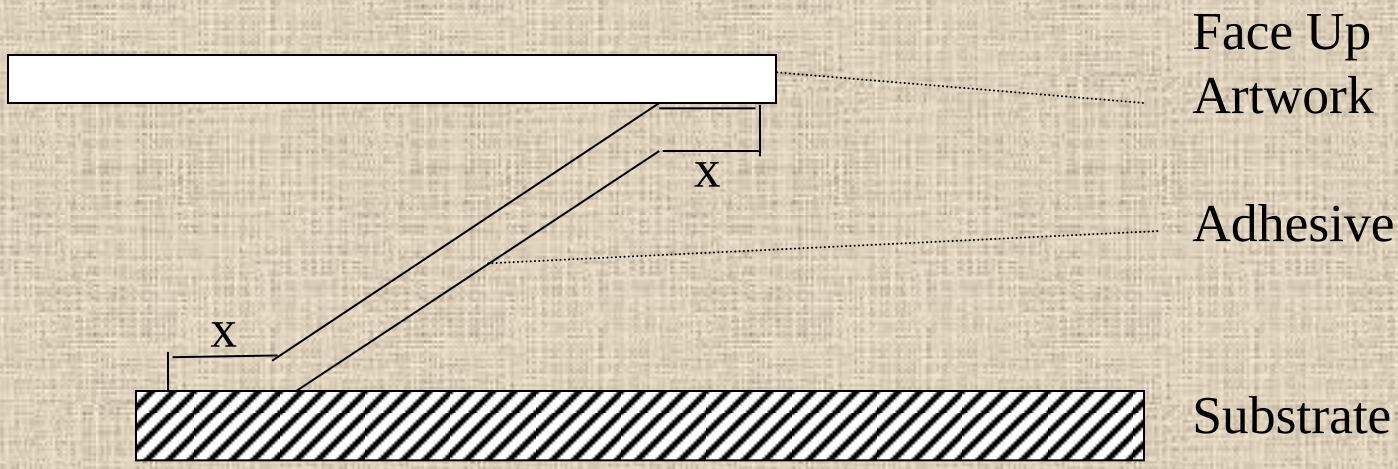








Z-Method Mounting




UNSEAL
ADHESIVE RELEASING SOLVENT

Solvents


LOW ODOR FORMULA
OOPS!
THE ALL PURPOSE REMOVER
Tar • Lipstick • Crayons
Gum • Ink • Adhesive Residue
Oil • Magic Marker • Grease
COLOR FAST FABRIC SAFE
DANGER – FLAMMABLE
HARMFUL OR FATAL IF SWALLOWED
1 U.S. Pint (473 mL)
Bienfang
ODORLESS
turpenoid
turpentine substitute
Sanford's THINNER
DANGER
BESTINE
SOLVENT
THINNER

Some problems still not covered?

Other Paschke mounting classes WCAF 2018

Mounting Basics Workshop

Sunday, 3:30pm-6:00pm

Sensitive Items

Monday, 1:00pm-3:30pm

Creative Mounting &Laminating

Tuesday, 12:30pm-3:00pm - Lecture

Tuesday, 3:30pm-6:00pm - Workshop

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661-821-2188

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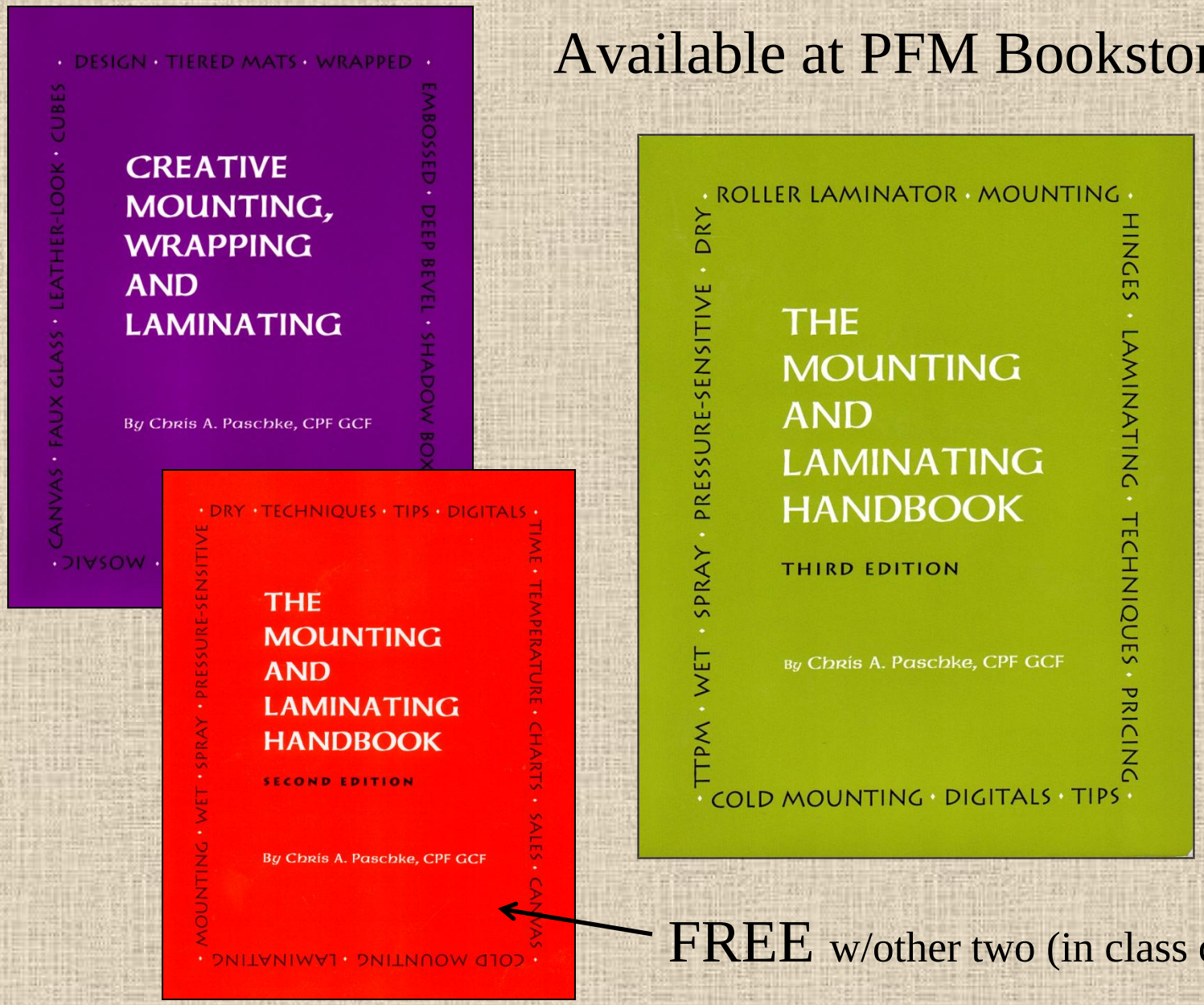
Available at PFM Bookstore



FREE w/other two (in class only)