Paschke Online

Designs Ink Publishing Article Archive and Reference Library
Articles by Chris A. Paschke, CPF GCF CMG

"Mounting Encapsulates"

November 2000

In September I explained surface laminating and how it differed from encapsulation, and then addressed the differences between polyester and vinyl laminates. Then I promised to look into the mounting of encapsulated pieces in a future article. Though encapsulated charts, cards, menus and posters are not really three-dimensional *objects*, but they could fit into this topic because they are somewhat out of the ordinary, when it comes to handling and framing.

COLD LAMINATING

Lamination is the process of applying a durable, clear plastic film to a flat surface for the purposes of protection and enhancement. Some items that may be sensitive to the heat seal laminates would be ideal candidates for cold laminating processes. Photographs, maps, brass rubbings, and thermographic papers can be easily pressure-sensitive laminated using roller equipment. Heat seal films may be used as either surface laminates or encapsulates using this equipment.

Though cold surface lamination is the solution to large format framing problems, by the elimination of glazing from the equation, it is merely another variation on the laminate theme. Just as it may be tough to visually tell the difference between a wet, spray, p-s, or dry mounted poster it is the same for heat vs. cold laminates. Cold lamination may be done on one or both sides, so an encapsulate could be either cold or hot applied. In either case the resulting two-sided polyester laminate will have the same bonding issues as a heat mounted one.

COMMERCIAL PRESSURE-SENSITIVE MOUNTING/LAMINATING

The highly aggressive nature of the above roller pressure-sensitive adhesives recommends against using them in a cold vacuum frame. As already noted, roller laminators are large commercial double roller machines designed for use cold, or with one or both rollers heated for adhesive and/or laminate application. They range in size from 40" to 80" wide are used dominantly in production photo labs, advertising agencies, and commercial graphics houses, and are able to mount and laminate at the same time. PVC (vinyl), polyester and polypropylene over-laminates and encapsulates are all used for surface protection.

Adhesives are extremely high tack and are made up of a wide variety of acrylic pressure-sensitives. The machines operate somewhat like an old fashioned wringer washer, but unlike heat seal encapsulators, are capable of mounting to boards up to 1" thick. These machines are rarely found in the picture framing market.

PROFESSIONAL REEFERENCE MATERIALS…THOSE CHARTS

Generally speaking, when an two-dimensional image (like a poster) has been brought in to be framed it will need to be glazed in some way, or surface laminated to protect it from the elements. When an encapsulated poster or chart has been brought in it will not require glazing since it has already been protected from the elements by the laminate.

The majority of the time it has been professionally encapsulated using a polyester laminate and a roller laminator type of system. These charts are often encapsulated in mass by production houses then sold to professionals as reference materials. It is considered a service by these chart manufacturers to offer them in a durable, protective, grommeted, format so the professional investing in them can simply hang and use them. No fuss, no muss.

These encapsulates are produced as maps, navigational charts and descriptive educational charts. Not only are they beautifully encapsulated, they have been done so with a heavy mil film, making them very stiff. Great washable charts that will last forever, but a bear to frame! It might be prudent to mention at this time that although a polyester film my indeed last the test of time the inks its is sealing may not. The laminate may have UV-blockers but the print inks most likely will still fade with time regardless of the timeless nature of encapsulated polyester films.

These charts are often seen in chiropractor's offices, massage therapy salons, and veterinary hospitals. The professional one sided charts are often used as educational and explanatory aids, for showing muscle groups, joints, ligaments, and

skeletal connections. A great idea, a perfect reference source, and sometimes these charts are even printed as two sided images.

Over the years I've had numerous clients come to me wanting to have these charts framed for their office. Framing the encapsulated image sounds like a quick, easy, relatively inexpensive solution to decorator push pins. "Sure," the client thinks, "I can have this glued down to a board and put it into a simple *cheap* metal frame for a few dollars and really class up the presentation in the office." It will definitely help make a much more professional presentation than the simple encapsulated chart with two brass grommets on wall hooks, or push pins. But it's not that simple.

THE CHALLENGE

On the PPFA Hitchhikers email program, questions and problems are often thrown out into the forum for feedback. The issue of "how to mount" this type of heavy polyester chart so it will permanently lay flat and not require glazing, is indeed the challenge. Most of the time the customer does not wish matting, they only want it glued down flat with a frame around it. And the two-sided charts really exacerbate the problem of framing altogether.

These encapsulated items are commercially produced using roller laminators using a variety of laminate thicknesses, many quite heavy. Since polyester will not absorb adhesive moisture, there is no wet, spray, or dry mount adhesive aggressive enough to hold slick polyester encapsulates to a substrate. Shall I repeat that line? There is NO wet, spray, or dry mount adhesive that will hold slick nonabsorbent polyester to any substrate.

I have seen answers on the internet that suggest all types of adhesives that effectively hold these projects in place for framing. I cringe every time I read that. I have read that heavy tack wet glues or pastes will really hold an encapsulated chart down very well as long as it has been sanded and then weighted during drying. Bottom line...no amount of sanding or scuffing the back will allow the adhesive to penetrate the polyester so that the adhesive can saturate to bond it to the base (diagram 1).

Diagram 1

An adhesive must saturate the item to be mounted and the substrate to bite into and hold on

A nonabsorbent mounting and substrate will disallow the adhesive to saturate and the resulting lack of hooking together will let the bond fail over time.

There was an episode this past year which complicated this mounting dilemma by the customer requesting the encapsulate be mounted to a ceiling tile. There are exceptions to every situation and this was yet another extreme. It's not bad enough to deal with mounting a nonabsorbent item to a regular porous substrate, now let's attempt to mount to a ceiling tile. Now that's thinking outside the box, or frame in this case.

I think the very concept of doing this has been spawned by manufacturers and their commercial use of heavy laminate films as floor graphics placed in the aisles of K-Mart. These are highly durable P-S films that have been surface laminated (not encapsulated) and roller prepared with a high tack P-S adhesive on the back with a release liner for peel and stick capability for floor placement.

THE SOLUTION

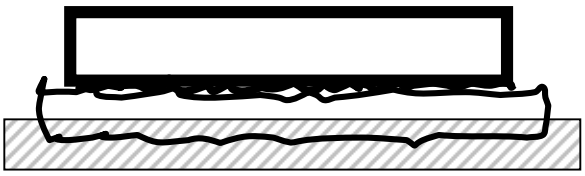
The real solution is to return to the source. Only a truly aggressive, high tack pressure-sensitive applied with a high-pressure roller machine will hold the laminate in place without bubbling for framing. Locate the nearest large commercial production lab and subcontract the project to them for mounting. Supply the mount board larger than actual size, and then trim to the desired size after mounting.

So why won't the other mounting methods work? As seen in diagram 1 the adhesive of choice must be allowed to partially soak into or saturate both the item being mounted and the substrate in order to lock it all together into the most permanent bond. If one of the surfaces is not capable of saturation, the mounting will only be as good as the chemical bond between the materials.

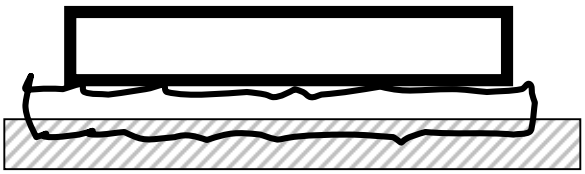
Depending on the selected adhesive the resulting mounting might appear quite good. The operative word here is *appear.* Think for a moment of how many times a mounting has appeared to be flat and well bonded until the next morning when the trapped air pockets lifted the poster and bubbles were revealed.

The encapsulated mounting might look terrific today, tomorrow, or even for a few weeks, but unless there is an extreme of tack and pressure during the initial bonding process to offset the lack of absorption, the bond could fail at any time. And we all know how "redos" cut down on confidence and profits.

Diagram 2



A scuffed surface will allow for more hills and valleys for the adhesive to grab better than a smooth surface as below, but the lack of saturation still limits permanent bond.



Though a scuffed/sanded surface will improve the hills and valleys allowing for a high tack P-S to better cling to it than a smooth surface (diagram 2), it too can let go over time. How much time, is impossible to tell. They are all subject to the elements and once any adhesive with moisture and tackifiers (wet, spray, P-S) dries out, it will lose its grip.

THE FINAL ENCAPSULTION
So it seems regardless of the best wet adhesive, wallpaper paste one might find to paste polyester encapsulates to a paper surface board, they can't really be trusted for the long term. If you could actually melt the plastic itself into the board the way a few of the Quick Glue/Krazy Glue formulas do by somewhat dissolving the plastic into the bonding surface then it would indeed be permanent, but imagine what that could also do to the chart inside.

High tack P-S and a high pressure commercial roller laminator really is the correct answer to the question...or clear push pins.
END

For more articles on this topic look under **Articles by Subject.**

Additional information on mounting basics is found in
The Mounting and Laminating Handbook, Second Edition, 2002, and *The Mounting And Laminating Handbook, Third Edition, 2008*. *Creative Mounting, Wrapping, And Laminating, 2000* will teach you everything you need to know about getting the most from your dry mount equipment and materials as an innovative frame designer. All books are available from **Designs Ink Publishing** through this website.

Chris A Paschke, CPF GCF
Designs Ink
Designs Ink Publishing
785 Tucker Road, Suite G-183
Tehachapi, CA 93561
661.821.2188
info@designsinkart.com