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## Mounting Encapsulates

In the September issue, I explained surface laminating and how it differed from encapsulation, and then addressed the differences between polyester and vinyl laminates. This month, I'm discussing the mounting of encapsulated pieces. Though encapsulated charts, cards, menus, and posters are not three-dimensional objects, they fit into this category because they are somewhat out of the ordinary when it comes to handling and framing procedures.

### **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 heat seal laminates could 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 roller equipment.

Although cold surface lamination is the solution to large format framing problems—by eliminating 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, pressure-sensitive, 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 applied with or without heat. In either case, the resulting two-sided polyester laminate will have the same bonding issues as a heat mounted one does.

### **Commercial Pressure-Sensitive Mounting and Laminating**

The highly aggressive nature of the roller pressure-sensitive adhesives mentioned above 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 predominantly in production photo labs, advertising agencies, and commercial graphics houses; and can be used to mount and laminate at the same time. PVC (vinyl), polyester, and polypropylene over-laminates and encapsulates are all used for surface protection.

The adhesives have an 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, they are capable of mounting to boards of up to 1" thick-

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ness. These types of machines are rarely found in the picture framing market.

### **Professional Reference**

#### **Materials... Those Charts**

Generally speaking, when a two-dimensional image (like a poster) has been brought in to be framed, it will need to be glazed or surface-laminated to protect it. 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, you will find it has been professionally encapsulated using a polyester laminate and a roller laminator type of system. These charts are often encapsulated en masse 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 that is investing in them can simply hang and use them. There's no fuss, no muss.

These encapsulates are produced as maps, navigational charts, and descriptive educational charts. Not only are they beautifully encapsulated, they are done so with a heavy mil film which makes them very stiff. They are great washable charts that will last forever, but a bear to frame!

It might be prudent to men-

tion at this time that although a polyester film may indeed last the test of time, the inks being sealed may not. The laminate may have UV-blockers, but the print inks will still most likely fade with time regardless of the timeless nature of encapsulated polyester films.

These charts are often seen in

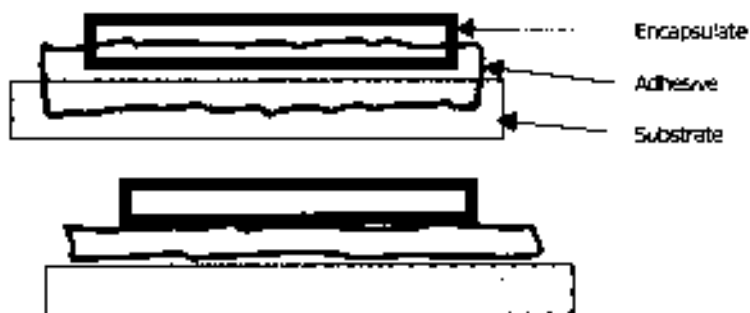


Diagram 1: An adhesive must saturate the item to be mounted and the substrate to bite into and hold on.

chiropractors 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 who want to have these charts framed for their office. Framing the encapsulated image sounds like a quick, easy, and relatively inexpensive solution to decorator push pins.

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 for a nice presentation in the office. It will look much more professional than the simple encapsulated chart with

two brass grommets on wall hooks, or push pins." But it's not that simple.

### **The Challenge**

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 want matting; they only want it 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 thickness—many of which are 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 non-absorbent polyester to any substrate.

I have seen answers posted on various online framer forums that suggest all types of adhesives to 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. The bottom line is

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 (see Diagram 1).

There was an episode this past year which complicated this mounting dilemma when the customer requested the encapsulate be mounted to a ceiling tile. There are exceptions to every situation and this was yet another extreme. As if it's not bad enough to deal with mounting a non-absorbent item to a regular porous substrate; let's attempt to mount to a ceiling tile as well. Now that's thinking outside the box—or frame, in this case.

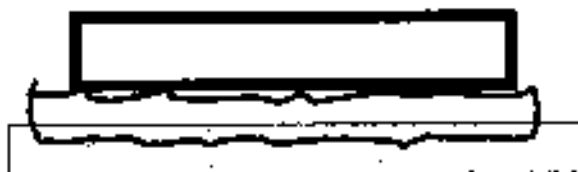
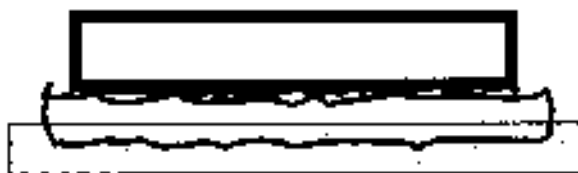
I think the very concept of doing this has been spawned by manufacturers and their commercial use of heavy laminate films as floor graphics placed in the aisles of mainstream retail stores. These are highly durable pressure-sensitive films that have been surface laminated (not encapsulated) and roller prepared with a high tack pressure-sensitive 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. This will lock it all together



*Diagram 2: A scuffed surface (as seen in the top diagram) will allow for more hills and valleys for the adhesive to grab better than the smooth surface shown in the lower diagram. However, the lack of saturation still limits permanent bonding.*

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.

Although a scuffed or sanded surface will improve the hills and valleys, allowing for a high tack pressure-sensitive to cling better than it would to a smooth surface (see 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, pressure-sensitive) dries out, it will eventually lose its grip.

### ***The Final Encapsulation***

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

High tack pressure-sensitive and a high pressure commercial roller laminator is the correct answer to the question... or there's always the clear push pins. ■