

# Mastering Mounting



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## *Pre-Adhesived Boards (pressure-sensitive and heat-activated)*

While looking through past articles that I have written, I noticed I had not given time to the topic of pre-adhesived boards. These are mounting boards that have had adhesive applied to them during their production and are ready for mounting when you receive them. They may be designed for either cold or hot mounting applications; with or without liners; and may be tacky to the touch or smooth and dry. They have numerous benefits including: time savings for high production shops; overall ease of use; health concerns; and an economical approach to mounting.

### *Pre-Adhesived Materials*

Cold pressure-sensitive adhesives are also known as P-S and PSA. Thermal activated adhesives are also known as HA or heat-activated dry mount adhesives. There is a significant difference between “ready to mount” products and the more time intensive preparation of sizing tissues, films, and boards prior to bonding.

Pressure-sensitive adhesives are thermoplastics, which require no moisture or heat for application. Although there are P-S products that are available as films with single and double release liners, I am concerned with the P-S boards here. PSA is a permanently tacky substance that bonds to a poster, photo, or digital image at room temperature with only the application of pressure. They are meant to always retain their tack and this is why they have less permanent bonds than heat-set adhesives. They are dry, synthetic adhesives that are clean, easy to use, odorless, and use no solvents.

### *High, Medium, and Low Tack Pressure Sensitives*

There are three levels of tack available with pressure-sensitive adhesives: high, medium, and low tack. High tack is aggressive and most difficult to handle since it has no repositioning potential. They will immediately grab to a smooth nonporous or coated stock (i.e. a photo) with no forgiveness.

Medium tack is the one most



Photo 1: Board Assortment—An assortment of P-S and HA boards are available from numerous manufacturers within the framing and sign industries. Clockwise from lower right corner are an assortment of boards including: Bienfang Single-Step; CodaFoam ¼" Cold Mount; Bainbridge P-S; Crescent Perfect Mount 4-ply/8-ply and ¾" foam; Foam-Cor Low Tack P-S; Gatorfoam High Tack P-S; assorted Cold-Mount boards from Coda; and International Paper P-S Self-Adhesive Mount Board.

frequently used in picture framing. It may be somewhat repositionable during mounting with porous papers, but even repositionable P-S boards will grab more aggressively to a smooth or coated material.

Low tack is not suitable for the longevity of framing demands, and is least likely to be found on boards. It is most often used for temporary positioning in preparation for other bonding, as with HA adhesives such as laminates with liners (i.e.: PrintGuard or Tullis Russell Hot Press Heat-seal Film).

### ***Pressure-Sensitive Permanence***

PSAs may be either permanent or removable. (In this case, permanent means impossible to remove without destruction of the substrate or mounting.) Historically, coated papers are the most difficult to adhere (RC photographs, for example) because of their lack of absorption. They require softer, more aggressive, pressure-sensitive adhesive to bond well. This makes high tack the best choice.

Application temperature versus use temperature will affect bond permanence. A permanent high tack pressure-sensitive applied at room temperature may fail at freezing temperatures, or in an excessively humid bathroom. High moisture content also makes pressure-sensitive adhesion difficult. Moisture is a physical barrier to adhesion and long-term bonding.

Cool to the touch is often an indicator of moisture content in boards, so learn to really feel what you are touching when selecting boards. If you use only cold

mounting methods, it is nearly impossible to dry out moist materials prior to mounting for a truly permanent bond, making them prone to bond failure. Therefore, dry storage is imperative.

Just as removable pressure-sensitives may not always “remove,” permanent pressure-sensitives may not always be permanent. Never select a pressure-sensitive product without knowing the display conditions where the project will be used.

### ***Supporting Documents and Information***

Technology evolves and adhesives have changed over the years. In “The Permanence and Care of Color Photographs” by Henry Wilhelm in 1993, 3M Company states the following for their tapes and adhesives in relation to longevity and archival applications: “3M tapes and adhesives form a physical bond to surfaces that are not soluble in water. They can be loosened with solvents or reversed with heat but...are not without risk of damage to the artwork...we know most of our adhesive products have an indefinite age...we do not have a test that will predict how a product will hold up after 50 or 100 years...these products are designed for general purpose use in bonding on items of limited value...” A more current report from 2001, ISO 18902:2001, International Standards Organization (section 4.5 Adhesives) states: “pressure-sensitive adhesives have poor stability characteristics and should be avoided.”

Even when the elements of

proper mounting (time, temperature, pressure, moisture) are attended to, and when all pre-adhesed boards are mounted to manufacturer’s specifications, there are still limitations. With cold mounting PSAs, we may never know for sure how long they will hold since there are too many variables.

Decorative art is not in need of archival applications and it is likely under normal conditions that P-S boards will hold adequately for most framing applications. When an image is applied by hand to a P-S board it may only activate 20-25% of the adhesive capability. In order for the adhesive to have a higher percentage of activation it needs to be run through high pressure rollers or burnished down after application (though it is difficult to hand burnish through a board). The higher the adhesive tack and the more aggressive the pressure during the initial bond, the better the longevity of any P-S adhesive board.

### ***Pressure-Sensitive Boards***

Pressure-sensitive boards have their basic P-S adhesive film already applied to a mount board or foam board with a protective release paper liner that is removed before mounting. Although some are considered acid-free, always remember that permanently attaching anything to a backing board is never archival. It is not only that an adhesive will damage artwork, but rather the fact that adhesive soaks into the art. This makes it non-conservation. Check specifications for P-S board prod-

ucts in the framing industry from manufacturers including: Crescent Perfect Mount Boards, Hartman Hartac Boards, Savage Nucor, Hunt/Bienfang P-S Boards, and International Paper Self-Adhesive Fome-Cor and Gator boards. Also check the low, medium, and high tack factor. Know what you are using.

Having just returned from the PPFPA Conference in Orlando under the presentation of PMA (Photo Marketing Association), I have located many new potential products for framers. Though I have not yet tested them for this industry, there are additional manufacturers and distributors of pressure-sensitive boards available through the digital and photo companies not mentioned here.

### ***Heat-Activated Adhesives***

Now, let's examine pre-adhesived boards requiring heat. Dry mounting adhesives are easiest to understand when examined by their four basic characteristics. Once the type of bond (permanent or removable); physical composition (tissue-core or film); porosity (breathable or non-breathable); and acidity level (tissue pH) have been identified, then all adhesives may be compared and matched up.

The difference with pre-adhesived heat-activated boards is not the type of adhesive as much as it is the impact of the elements. HA boards appear to be more like the adhesives from the side of a tissue-core adhesive that has been applied to a board instead of a carrier. So rather than a roll of tissue with adhesive on either side of it, the HA board is a thin layer of adhe-

sive applied to a 4-ply, 8-ply,  $\frac{1}{8}$ " or  $\frac{3}{16}$ " board instead.

### ***Basic Boards in Framing***

There have been a series of HA boards in the framing market for at least the past 10 years—most of them having somewhat the same basic nature. They have heat-activated adhesive applied to an existing substrate that will mount in any heat system at an average mounting temperature of 185°F in two to four minutes. Adhesives vary in their smoothness of adhesive application which in turn affects the results.

Some boards have a thicker adhesive, allowing them to be used with fabrics, while others are better geared to porous papers. I have seen pre-adhesived HA boards that have such highly textured (not smooth) adhesive applied to the board that it encourages orange peel even under thin paper prints (much like what can occur with an RC photo).

### ***Not Just Another Pretty HA Board***

There is one HA board that stands alone in its category—Speed-Mount by Bainbridge. Its adhesive application is even and smoothly applied. Unlike other HA boards on the market, it activates in a mechanical press at 150°F in 15 seconds for mounting photos and porous paper.

Though some thicknesses of paper and nonporous media may require an increase in temperature to 170°F or additional time in the press of 30 seconds, to date it stands alone in the framing industry. What appears as a thinner

application of adhesive to the board surface makes it less desirable for the mounting of fabrics.

### ***Shopping by Price***

Originally, HA pre-adhesived boards were designed to equal the base price of a sheet of mounting board and a piece of tissue adhesive. It wasn't a higher priced product, but rather an alternative to traditional dry mounting materials. It targeted the production framer and the custom framer who needs quick turnaround times.

Purchasing a pre-adhesived HA board strictly by price is not the best idea. One must consider the physical characteristics of the board. Examine the product for cleanliness, making certain it appears free from dirt and alien particles. (We have enough trouble keeping mountings clean from dust in our shops.) Also check for the actual adhesive application. Is it smoothly applied and does it appear even across the surface?

Also consider the time and temperature requirements of the boards when shopping. It might be in your best interest, with the likeliness of digitals and photos becoming the norm, to notice that digitals frequently tolerate 150°F but not necessarily 170°F, and most often not 185°F at all. SpeedMount may run 10-15% higher to purchase than the other HA boards, but the low temperature makes it very appealing. Regardless of the product, if any item is selected for a special or specific mounting situation (i.e.: photos or digitals), that added cost should be passed onto the retail price of the project.

### ***Familiar Names and Faces***

Pre-adhesived boards are available in the framing market from all the usual suspects. The makers of sticky tapes, adhesive films, and board products as mentioned earlier in this article are your sources for P-S boards. heat-activated, pre-adhesived boards come from the familiar board manufacturers and dry mounting companies. There are also assorted private label brands. Be certain to check all for the adhesive coating, mounting temperature, and basic tackiness of the board during storage. Also check porosity for use with photos.

### ***Final Mounting***

Pre-adhesived boards may not be for everyone. In fact they really don't fit a fine art preservation custom framing repertoire. Still, they are an innovative approach as an alternative form of adhesive application when mounting paper and photos. If production mounting is an element in your market then pre-adhesived boards might be the answer. Whether cold or hot, there is a product for the speed conscious. ■