

## MightyCore Heavy-Duty Foam Board Tech Guide

MightyCore is one of the strongest, most versatile rigid foam board products on the market today. Easy to work with and incredibly durable, MightyCore is the perfect choice for a variety of projects. And it's available in White and Black-On-Black in 1/4" and 1/2" thicknesses along with several variations and sizes. It's free of toxic chemicals such as chloroflourocarbons (CFCs) and formaldehyde.

### Smooth Outside. Solid Inside.

On the surface, MightyCore boasts a smooth paper cap sheet with an underlying moisture barrier that protects the 16 pt. base paper. The ultra-smooth paper finish provides excellent ink coverage and adherence for flat bed printers. This moisture barrier helps prevent warping, bowing and twisting and creates a "no preparation" surface for printing with UV-curable inks. The specially engineered paper laminate readily accepts most glues, inks, and paints.

### Stronger, Durable, Versatile

The MightyCore heavy-duty liners resist denting, bending, crushing, cracking and splintering. Its dense polystyrene core is an upgrade from regular foam board. It cuts easily and cleanly; use a knife by hand for straight simple cuts, and a machine for more intricate patterns. Its white surface allows dramatic printing results and it works exceptionally well with vinyl graphics. MightyCore is ideal for mounting graphics and digital images to create signs, screen prints, point-of-purchase displays and exhibits.

MightyCore has been tested in a humidity chamber at various temperatures and humidity levels and has remained extremely stable throughout.

Because MightyCore is free of toxic chemicals such as CFC's and formaldehyde it is safer and easier to work with.

*We encourage you to test MightyCore before you begin a project to determine the best tools, settings and techniques for your specific applications.*

## MANY MOUNTING OPTIONS

MightyCore gives you excellent results with various methods of mounting including dry, spray and roller laminating. Whatever mounting method you choose, be sure your board surface is clean and free of dust or dirt before you begin.

### A FEW MOUNTING TIPS

#### Tips for eliminating surface blemishes and wrinkles:

- Check for misalignment of adhesive roll, excess pressure or unparallel rolls that may cause wrinkles.
- Keep equipment clean; trapped dirt or lumps of hardened adhesive can create small bumps.
- Use a fresh roll or sheet of transfer adhesive.
- Check back of prints and wipe them down before they pass the roll nip.

#### Tips to eliminate bowing

Potential for bow is increased with oversized panels due to weight alone, but can be minimized with large panels by upgrading to 1/2" thick MightyCore, counter mounting on the reverse side or by using a wood frame for added support.

*CAUTION: Paper separation can occur if stressed. Mounted sheets cannot be removed from MightyCore without causing damage to the paper liner.*

## Roller Laminating

MightyCore Pressure sensitive is MightyCore with a permanent pressure sensitive coating on one side. With its easy to peel release liner, cold mounting using this board increases production.

MightyCore may also be used in these applications:

- When working with a cold roller laminator use a pressure-sensitive adhesive.
- When working with a hot roller laminator use a heat-activated adhesive.

## Dry Mounting

We do not recommend dry mounting with MightyCore. High temperatures can deform the product and cause it not to perform the intended application.

## Special Applications

MightyCore may be used as a sturdy backing in non-archival applications, such as shadow boxes, and mounting heavy items.

## EASY TO CUT

You can cut MightyCore easily by hand or machine. We recommend hand cutting for simple, straightforward cuts, and machine cutting for more intricate patterns and 1/2" products.

### Hand Cutting

A wall cutter produces a very clean, straight cut and is the best tool to use when trimming boards to size or cutting multiple sheets.

For optimum cutting by hand, use a knife with a thin, short blade. We recommend the No. 1 X-ACTO® knife with a #11 blade, X-ACTO board cutter and the X-ACTO utility knife. Mat cutters, power cutters and single-edge razor blades can all be used for manual cutting.



Always be sure your knife blade is clean and sharp. A dulled, burred or broken tip may tear the paper liners or cause bunching of the foam producing rough, uneven edges. In addition, a soft cutting surface, such as the X-ACTO self-healing mat, is an excellent tool to produce a clean smooth edge and protect the tip of your blade. At the first signs of tearing to the paper or foam, change your blades.

When you're ready to cut, use a straight edge or metal ruler as a guide to ensure precise, straight cuts. Hold the blade edge at a 30-degree angle to allow more of the cutting edge to do the work. Use steady pressure as you begin cutting, pulling the blade along the length of your guide. Don't force the blade or saw back and forth. Additional passes along the same cut may be required, especially if you're cutting through a 1/2" board.

**WARNING:** X-ACTO blades are extremely sharp. Use with caution. Wear safety goggles.

### Machine Cutting

For machine cutting, we recommend using the Piranha Black & Decker® carbide tooth blade on a table saw, radial arm saw or circular saw. MightyCore can also be cut with a very fine band saw. Using a piece of scrap board under the bottom edge of the board being cut will help prevent rough edges. As a finishing step after machine cutting, sand any rough edges.

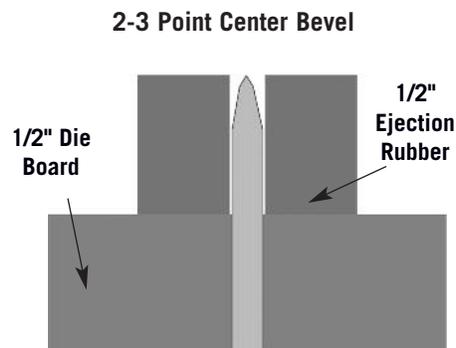
### Routing

Routing is generally not recommended in the foam board industry because of the sensitive nature of the product's paper liners. However, testing has

shown that you can produce a clean finished edge with the proper router bit. As with wood, masonry, concrete or metal, the correct router bit will determine the success of routing a double laminated paper board. We recommend a "compression spiral router bit," also called an "up-shear/down-shear router bit," which is specially designed for the spirals to work in both directions, cutting up as well as down. As a finishing step after routing, sand any rough edges. **See [www.cronsrud.com](http://www.cronsrud.com) for more information on router bits.**

### Die Cutting (See diagram below)

MightyCore 1/4" board can be die-cut using a 3-point center bevel and 1/2" medium density ejection rubber. A side bevel will also work in most cases. Because MightyCore is a full 1/4" thick, use a 1/2" dieboard when constructing the die.



### Flatbed Cutting

MightyCore 1/4" and 1/2" board create exceptional results in flatbed cutters. To prevent uneven edges or ripped paper, change your blade.

## PERFECT FOR PRINTING

MightyCore is great for printing because the smooth paper surface readily accepts most water-based and UV inks. There is no need for surface preparation prior to printing; however, a clear sealer may be used. For best results, be sure your boards are clean, dry, clear of dust and oil-free. You may want to purchase tack cloths from your ink distributor to wipe down your boards before printing, especially if the boards have been cut down at the distributor, leaving debris on the surface.

### A FEW PRINTING TIPS

You can successfully print on MightyCore with roller coating, flexographic processes and other reproduction methods that accommodate flat sheets.

For screen printing, choose screen mesh sizes based on the line of detail you desire for your project, as well as the ink manufacturer's recommendations. After printing, you can either air or jet dry your job. Allow about 30 minutes for air drying; jet drying only takes a few seconds. Gloss enamel inks require slightly longer drying times. We recommend that you test a small sample before you start a final production run.

EnCore has worked with Digital Printer Manufacturers to test our foam board/machine compatibility. For UV Curable inks, we recommend MightyCore and MightyPrint™ Expressions for its extra-rigid core and choice of impeccable printing surfaces.

For solvent-based inks, we recommend White Foam Board, PilloCore and MightyPrint™ Glossy.

## GREAT FOR GLUING

MightyCore easily accepts most glues. Simply follow the manufacturer's instructions for the glue that you are using. We suggest using a roller coater, sprayer, paint brush or paint roller for easy application.

*Note: Modeling cements and "super" adhesives are solvent-based glues and may damage the polystyrene core. Use them with caution, and only after you have tested them first.*

### Edge-To-Edge Gluing

We recommend hot melt glue, Elmer's white glue or carpenter's glue for edge-to-edge gluing. Apply a thin coat to the edge of one board and press firmly against the edge to be joined to it. Hot melt glue will set up almost instantly; other glues require varying drying times. Secure the edges together with pins or clamps until the glue has dried. If you are gluing curves, angles or corners together, reinforce them with interior supporting ribs.

### Surface-To-Surface Gluing

To join two MightyCore boards together, use hot melt glue, rubber cement, contact cement, spray adhesives or Elmer's white glue. Apply sufficient adhesive to one board and then firmly press the two boards together.

For best results, clamp the two boards or "weight" them gently while the adhesive sets.

If you use rubber or contact cement, remember to use a slip sheet between the surfaces to avoid accidental gluing before the surfaces are properly positioned.

Don't try to reposition surface mounted materials after the adhesive has set; you might inadvertently damage the surface of the board.

## WORKING WITH VINYL

**CAUTION:** MightyCore should be used with caution when working with vinyl lettering. Vinyl lettering successfully adheres to MightyCore; however repositioning vinyl letters or removing them will damage the surface paper.

## GROMMETS AND SCREWS

MightyCore holds grommets and screws effectively and more securely than any other heavy-duty foam board, without cracking the surface.

*Should you discover additional techniques and recommendations not covered here, we welcome hearing from you. Please send your ideas to:*

*Encore Products  
2020 West Front Street  
Statesville, NC 28677*

*For basic product information, sales literature or the name of a distributor near you, please call Customer Service:  
1-800-873-4868*

**WARNING:** *MightyCore is flammable and may constitute a fire hazard if improperly used. Do not expose the product to open flame or other ignition source.*

*Elmer's makes no warranty of any kind, expressed or implied, as to merchantability, fitness for particular purpose, or in any other manner with respect to MightyCore. Elmer's Products, Inc. Columbus OH, 43215-3799.*

### EnCore™ Products

A division of Elmer's Products, Inc.  
2020 West Front Street  
Statesville, NC 28677

**Customer Service:** 800-873-4868

**Fax:** 704-871-8671

**Hrs.** 8:00 am – 5:00 pm (EST)

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