

Mastering Mounting

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Shadow Boxing Made Easy Part 2

In the May issue I presented "Shadow Boxing: Part One," including a basic one-piece box and a window showcase. To recap, I discussed traditionally constructed boxes then covered the basic format of alternative designs, including those for corner finishing. This month I'll conclude with cove designs and platform dimensional boxes, maintaining the same concept of one-piece box construction, then finish with a short discussion on mouldings and frame depth.

Cove Designs

Once the concept behind a one-piece box is understood then slanting the walls to create a cove box is not as confusing. The degree of the cove angle is determined by the wedge or pie piece of mat or foam board removed from the corner of the box before folding. As with a one-piece design, the length of any given side (not the height) may only be as long as the inside of the frame it is required to fit into, plus allowance. This is important to remember.

When a 90° box corner is created, the entire square corner must be removed to allow the hinged sides to fold up into a cubed corner (Diagram 1). To begin shaping the cove slant of the sides consider the width of the box bottom in order to accommodate the object or items to be showcased. Then, add the height of the sides (or walls) of the box. Allowances must be taken away for the thickness of the selected substrate as previously mentioned in Part One.

Determining Depth and Wall Height

A one-piece box is easy to calculate for depth. If the frame is no larger than 6" x 6", and the sides are 1", the foam blank for the box shape will be cut 8" x 8". By scoring 1" sides the box floor will be 6" x 6" and the sides will be 1" high. It stays a perpendicular corner box.

But a cove has a slanted side which impacts the depth. Using the same 8" x 8" blank, making the floor of the box 4" and the sides 2" high ($4+2+2=8$), the slant depth will be about 1" from the glazing. With a 2" square floor and the walls 3" high ($2+3+3=8$) the depth becomes about 2" (Diagram 2). Based upon the mathematical equation for determining the longest side of an isosceles triangle ($A^2 + B^2 = C^2$) the actual side height may be calculated in relation to the desired box depth (Diagram 3).

A 2" wall height at a 45° angle will allow a little more than 1" of box depth, while a 90° angle will allow the full 2". When working with a fixed outside dimension for a shadow box frame (sample 6"x 6"), in order to increase the depth of the box the angle of the sides must increase, and the base width must decrease (Diagram 3a).

Working from a fixed foam board blank (8" x 8") adding wall height makes a deeper box, but the floor of the box is made equally smaller. That's simple subtraction. However, in the real framing world if the floor must remain 4" square

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and the walls must be 3" deep to accommodate a 2" object, then the blank must be enlarged to 10" x 10" or $4+3+3=10$ (Diagram 5). The full length of the side of the box after trimming away corner pieces must stay the same size as the inner rabbet of the frame. This means that a 6" x 6" frame may not house a box wider than 6" x 6" total width plus allowances when assembled (Diagram 4).

Practical Sample Box

A small 2" x 2" x 2" three-dimensional figurine might place well in a cove with only a 3" base but the wall height will require adequate depth to also accommodate the 2" depth of the object. Since the walls are slanted, a 2" wall height will result in about a 1" box depth.

With 3" walls there will be nearly 2" of cove depth. The blank needs to be sized to accommodate the required 3" floor for the object first, then the sides are added $2\frac{1}{2}" + 2\frac{1}{2}"$ for a foam box blank of 8" square, 3" x 3" for a 10" square. If this figurine is not to be glazed but merely presented in this box to mount on the wall, this depth would be adequate (Photo 1). Always remember frame allowances as well as the thickness of the foam board or matboard that will increase the measurement after the walls are folded into place (Photo 2).

Mounting and Assembly

Once the blank has been selected and sized, if it requires mounting that would be the next step. Cold mounting methods of wet, spray, pressure-sensitive or heat setting with dry mount adhesives include all the mounting options. The samples in this article were all dry mounted using a pure film adhesive (Seal Fusion 4000) at 200°F in a 210M-X mechanical press for two minutes, though any hot vacuum press will also work. Once mounted, regardless of the method, the box must be cooled or placed under a weight to ensure proper bonding.

Turn the blank upside down and mark off the inner box floor. If it is to be a 3" x 3" box or a 16" x 20" box, draw that on the back of the blank. This will automatically establish the side widths selected earlier. Keep in mind the actual inner dimensions of the box frame and allow for board widths and expansion.

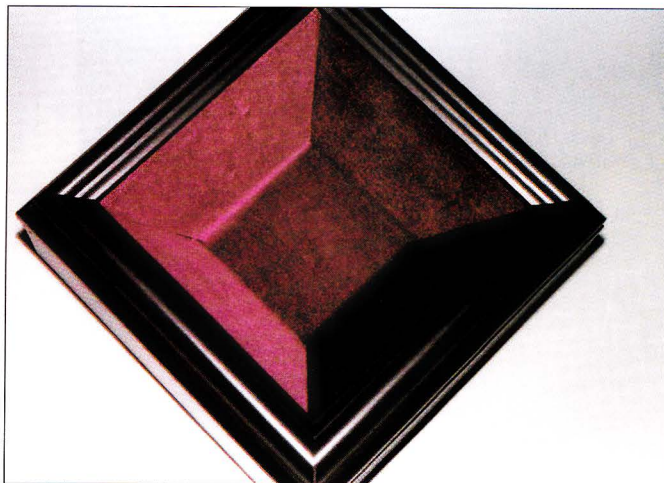


Photo 1

This cove box has an 8" x 8" foam blank dry mounted with fabric. It has a 3" floor and $2\frac{1}{2}"$ sides and fits into FrameMica Boxer 6" x 6" square, plus allowance.

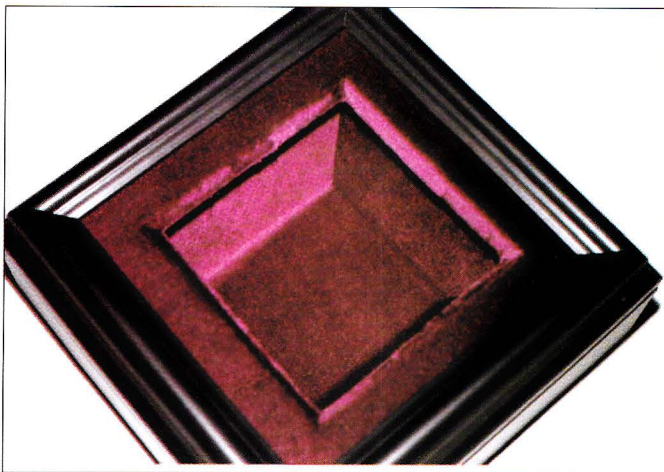


Photo 1a

Variation on a theme, a window showcase cove box with $\frac{3}{8}"$ wrapped foam mat topping the 4" x 2" x 2" box. See PFM May 1999, "Mastering Mounting" for details.



Photo 2

The fan of foam blanks (photo front) illustrates the varying wall heights all achievable with the same 8" x 8" blank. They are all wedged out at $\frac{1}{8}"$ from the corner to maintain fitting into the same 6" x 6" FrameMica Boxer shadow box.

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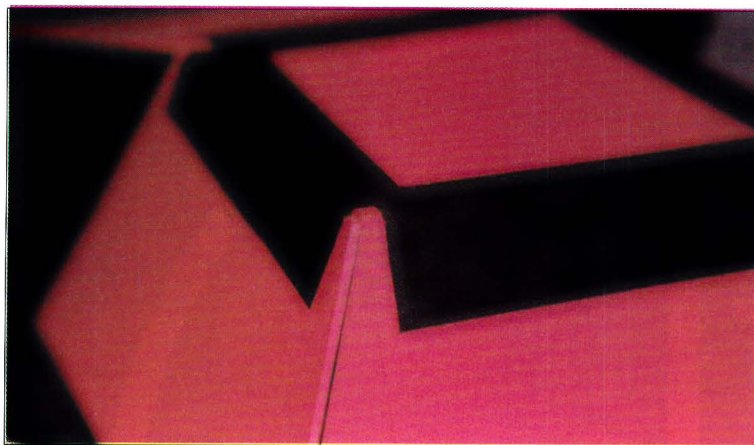


Photo 3
Detail of the linen tape reinforcement at the seams of the Moorman Suede Mat box. 10" x 10" box with 4" floor and 3" sides.

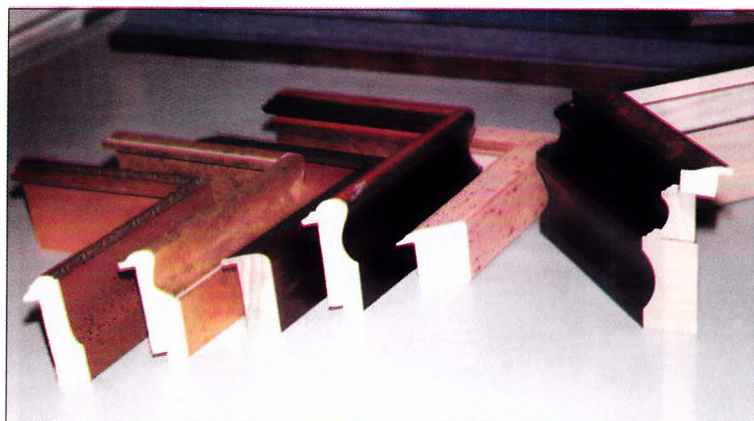


Photo 4
Samples of various deep shadow box mouldings, including those from Larson-Juhl (laid out to the left), Presto (stacked at right), and featured in other photos FrameMica Boxers. Some are wonderfully stackable.

If the frame is to be 6" x 6" then the widest part of the shadow box is about 5½", which allows for ⅜" foam thicknesses and frame allowances. The distance from the corner tip of the 8" square blank will always be the same if working from the same sized blank regardless of wall height variations (Diagram 4).

With a ruler, mark from the corner in both directions of the box blank, at the calculated measurement, 1½" in the sample diagram. Connect the 1½" mark to the corner of the box floor to establish the wedge to be removed. With a clean, sharp, new blade, cut through the box to remove the corner wedge. Next, score all four sides of the box floor at the mark to create the hinge (Photo 3). Cut down to the surface papers, but not all

the way through the board, from apex of the corner wedge to apex of the next.

Moorman suede board as well as other mat-boards have a tendency to separate at center ply so reinforcing the hinges with linen tape is necessary; white for light colored boards, black for dark boards. Burnish the linen with a bone burnisher into the stepped shape of the hinge itself. After the hinges have been reinforced, bind the corners together with the same tape. This time do not allow the tape to step into the corner; pull it snugly around, making sure the front corners match cleanly. Extra fabric should be wrapped around any top raw foam edges to prevent them from being exposed under too narrow a rabbet, as illustrated in May.

Fitting

The only tips on fitting involve sewing or affixing the items in place. The 3M #3797-TC Jet-Melt hot glue sticks and the 3M Polygun-TC are a great acid-free version of hot glue that don't appear to outgas, and studies currently show long-term holding of its acid neutrality. Mighty Mounts and sewing also work very nicely. There are much better choices than silicone adhesive for use in an enclosed box.

Cove boxes create a natural triangular shape at the sides of the box that disallow it to be nailed or tacked without an additional support board. This will also provide additional security and protection of threads and pin backs that are otherwise exposed on the box back (Diagram 6).

Platform Dimensionals

Seems like all the variations of boxes available are merely slight alterations on the basic concept. The Window Showcase (Photo 1a) is a cove box with a wrapped window mat as featured in May. Another option is the platform dimensional box, so named for its availability to create multiple layers for mounting fliers, papers, photos, or objects at different heights as in Mikado box, also featured in May.

Platform dimensionals are embossed one-piece boxes

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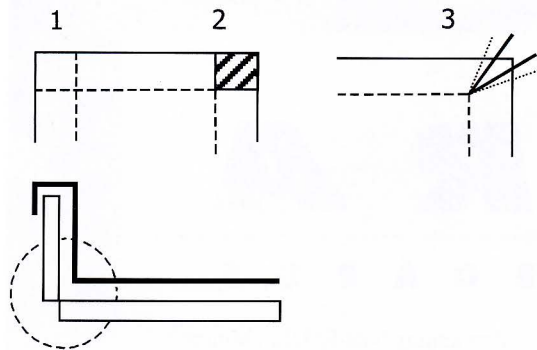


Diagram 1

Corners 1, 2 and 3 reflect:

1. Scored uncut box
2. 90° cutout corner
3. Cove format respectively

The width of the wall plus the dimension of the floor will impact the slant of the cove. Adversely the wider the removed wedge at the corner, the steeper the wall.



Diagram 2

When sizing a 6" x 6" box for a frame, the box may be dramatically altered for depth by the height of the wall vs. the width of the floor or box backing. All three designs can be achieved from the same sized 8" x 8" foam board blank.

Diagram 3

The match ($A + B + C$) may be calculated based on the isosceles triangle created by the slant, or it may be estimated through common sense.

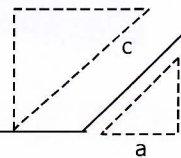


Diagram 3a

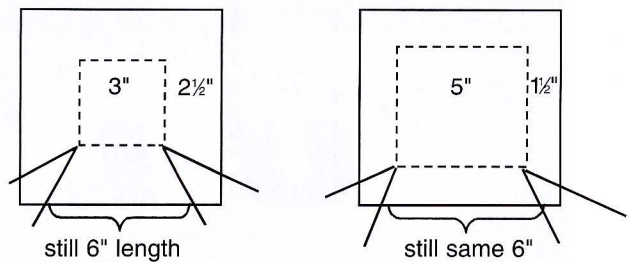
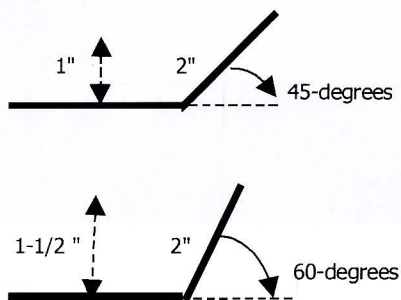


Diagram 4

As the walls are made wider, the floor will lessen, and the depth will be increased. All other dimensions are proportional.

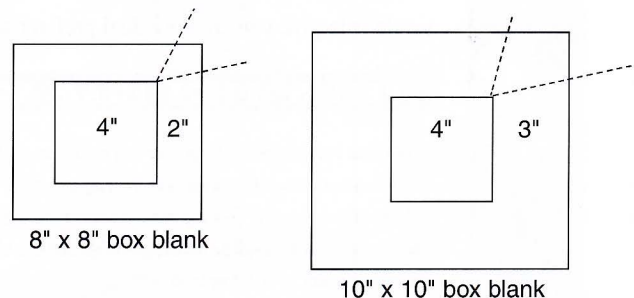


Diagram 5

To maintain the same size floor and increase the wall height, the box blank must be enlarged. The wedges removed from the box corners will also require enlarging to maintain the same frame end size.

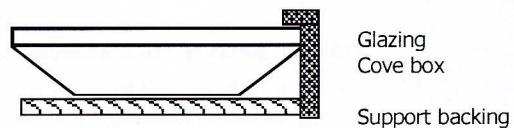


Diagram 6

Supporting the cove box when fitting into a frame requires a foam or more solid support backing that fits into the frame itself. Then tacks or points may be driven into the moulding to hold it in place.

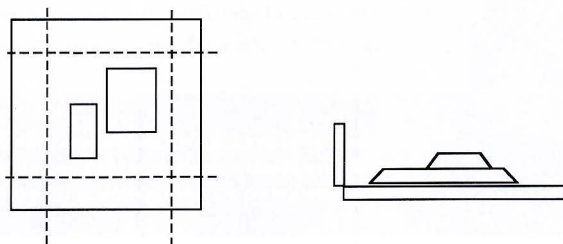


Diagram 7

Platform dimensionals are nothing more than an embossed one-piece box design. The left diagram indicates the scored lower one-piece box with the embossed pieces placed for mounting. The right diagram shows the profile elevation of the possible double embossed layering for added depth.

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with a template cut for mounting and placement of the background shapes. The concept is the same as explained in "Wrapped and Embossed Mats," (PFM April 1998) except it uses the template to create the backing of the box rather than the top mat.

Begin by sizing the box, complete with sides, and the template, exactly the same. All templates used must be made of paper matboard in order for the heat to transfer through the papers to the adhesive beneath. If an $\frac{1}{8}$ " platform is desired, use an 8-ply mat, for a $\frac{3}{16}$ " platform a 12-ply mat, and so on. If a double embossing is desired, then the platform on top of a platform (Diagram 7) will require two templates.

Cutting and Mounting

Size and score the basic one-piece box in Part One. Draw the inner box floor on the template and design placement of the platforms. Bevel cut the platforms with a small handheld cutter, keeping your cutting hand inside the platform shapes to ensure the bevel is slanting in the correct direction. Turn the template facedown and insert platform puzzle pieces back into the template, apply ATG tape and position the box blank over the template to transfer pieces to the box floor.

Apply adhesive, fabric, and template, then place into dry mount press or under a weight to dry depending upon selected mounting technique. If the platform design was sketched directly onto the template it will turn out reversed when transferred to the box floor. For intricate platform placement, draw design directly onto the box floor, trace onto tracing paper and transfer the pattern reversed onto the template.

After the platform has been completed, cut the corners, wrap the edges and affix the appropriate tabs or cove mat completion corners as in a one-piece box. Fill the box and fit it into the frame for completion.

Shadow Box Mouldings

Fortunately, there are numerous companies who have made an effort to help accommodate the framer in his

search for mouldings deep enough to handle these boxes. And when there are not single mouldings deep enough there are plenty that may be successfully stacked. Photo 4 shows samples of five different profiles from Larson-Juhl alone that work with deeper boxes. As you can also see from the sample, the profile second from the left (same as fourth) is also cut to be stacked. The three at the right are from Presto and though they appear to be regular mouldings turned on their side, they are indeed marketed as stackable mouldings for shadow boxing and deeper framing requirements. The FrameMica Boxer moulding used in the other photos has also been developed specifically for shadow boxes and for stacking. These are just three of the companies meeting framer concerns over the hot memorabilia craze. Check with your local or regional supplier for mouldings deep enough to accommodate shadow and cove mat designs.

Where to Go and What to Frame

You don't need to go anywhere—frame it all! Everything brought in and things you haven't even thought of yet. The more samples there are on the wall, the more ideas there will be to attract customers when they walk in. Never hesitate to make suggestions about what can be added to the memorabilia customers bring in. It could increase the size of the shadow box and in return, increase the profits. If you plan to offer great customized box variations such as cove mats, window showcases and platform dimensionals, they need to be up the wall or in a small 8" x 10" version, and kept behind the counter as a sales sampler.

Think beyond the shadow box. My best designs and one of the best box sellers I create does not involve glazing at all, but uses cove designs to protect and showcase small valuable antiques for a regular client I deal with from Maine. The samples are conservationally mounted and framed to best showcase small sealed 2" x 3" domed glass antique frames in a vertical way on the wall, rather than on the table easels previously used by the customer. There are wonderful ideas surrounding you—just think about the possibilities! ■