

A Creative Garment Shadowbox

A new shadowbox design made from aluminum composite material saves time in attaching garments and easily opens and re-closes

By James Miller, MCPF, GCF

Frugal customers are looking for new ways to save money when having garments framed without sacrificing quality or decorative features. This presents a dilemma for framers, because attaching the garment inside the frame is a labor-intensive task, usually involving sewing or nylon tags, and a supple garment may require an internal filler/support board. Depending on the garment, the preservation requirements, and the customer's appearance preferences, attaching it might take hours, making the labor item the highest-cost element of the framing.

Here is a new shadowbox design that saves time in attaching garments and that easily opens and re-closes. The garment can be hung on a standard or custom-made hanger, eliminating the need for labor to attach the garment permanently. Customers may appreciate being able to remove and replace the garment quickly and easily, especially since they are not paying extra for that feature and are saving money in the process.

The shadowbox also offers another design benefit because the box is made from aluminum composite material (ACM), also known by such brand names as DiBond®, ePanel®, and Alucobond®. Aluminum composite material consists of three layers, a core of PVC (polyvinyl chloride)



A sports jersey hangs in a creative shadowbox made from aluminum composite material and embellished with a removable aluminum face frame and personalized matboard designs.

sandwiched between two thin layers of aluminum. It is relatively lightweight, rigid, thin, and the very smooth, hard surfaces on both sides generally come painted. Some framers know ACM as a superior mounting substrate for photographic images, and it also offers benefits in making shadowboxes.

These sheets are commonly found in graphic design applications, such as making signs and constructing large displays and trade show booths. Most framing suppliers



The Fletcher-Terry FSC cutting machine is designed for heavy duty applications, including ACM cutting and V-grooving.



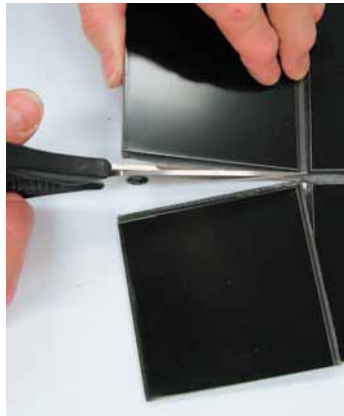
The roller-type cutter makes smooth, rounded edges on ACM up to 4 mm thick. The new V-grooving tool for FSC machines lets you fold ACM sheets into shadowboxes.



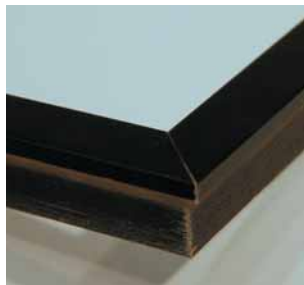
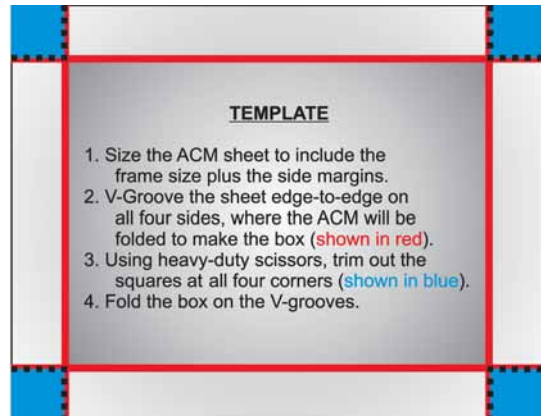
The V-grooving tool fits into the FSC machine's holder and cuts neat, 1/4" wide V-grooves in ACM up to 4 mm thick.

have not yet begun selling them, but ACM sheets are readily available from distributors of sign-making materials and some plastic sheet and tube distributors. A standard 48"x96" sheet, 2 mm or 3 mm thick, is available in the \$35 to \$65 price range and will produce two 32"x 40"x4" deep shadowboxes, plus one or two smaller ones. Compared to the cost of most shadowbox mouldings, this is an economical material.

For cutting ACM, the most practical choice is a roller-type cutter, which makes neatly rounded, perfectly smooth edges up to 4 mm ACM thickness. Roller-type cutters are available for some framing tools, including the Fletcher-Terry FSC cutting machine. ACM also could be cut with a saw, but the edges would be rough and require extra finishing work. The key to building shadowboxes from ACM is a new V-grooving tool from Fletcher-Terry, available only for the FSC cutter. Using these tools, a framer can quickly and precisely cut and V-groove an ACM sheet so that it can be folded into a sturdy, lightweight box of nearly any size.



After V-grooving, heavy duty scissors are used to trim out the square scraps in each corner.



The inner frame holds the sides of the ACM shadowbox together. Note that it is cut and joined with the rabbet on the outside, not the inside.

Use a strap clamp to hold the folded sides of the ACM shadowbox tightly against the inner frame while you install flathead screws from outside the box.



The thin aluminum skin on ACM indents easily, allowing the flat-head screws to countersink themselves as they are installed.





At any time, a mat background can be slipped into the frame after the screws are removed from one side.

This shadowbox design consists of three basic elements: the ACM shadowbox, which holds a hanger for the garment; an inner frame to hold the sides of the box together; and a face frame to hold the glazing and decorative mats. The ACM comes in a number of thicknesses and colors, but I prefer to use 2 mm or 3 mm, either black or white for shadowboxes.

Creating the Shadowbox

First, size a sheet of ACM and draw an accurate template of the shadowbox on the masking. After that, place the ACM sheet in an FSC cutting machine and align the marks with the laser-cutting guide. Using the V-grooving tool in the machine, cut V-grooves on the lines of the template. Heavy-duty scissors are used to trim out the squares of ACM in the four corners. At this point, leave the protective masking on both sides of the ACM. The V-grooves will be about 1/4" wide, and when the 2 mm or 3 mm sheet is folded, the centers of the folds will be in the centers of the V-grooves.

Next, cut and join the inner frame out of any standard moulding turned backward, with the rabbet facing the outside instead of inside. An inexpensive matte black wood moulding works well, since this frame is hidden when the face frame is in place. Measure carefully so that the unfinished rabbet surface will fit snugly inside the folded ACM box. Using a strap clamp to hold the folded ACM box's sides snug against the inner frame, install flathead screws through the outside of the box and into the frame. Because the ACM's aluminum surface is thin, the screws will countersink themselves as they are tightened.

After this, the lip of the inner frame will extend beyond the perimeter of the ACM box. When the standard aluminum sectional face frame is installed, its inside edge will fit over the inner frame's lip, holding the face frame in place. At any time, a matboard background of any color can be slipped inside the shadowbox by removing the screws on one side. For a more decorative finish, the ACM can also be printed on prior to cutting.

It is now time to cut and join a standard aluminum sectional face frame to fit neatly over the lip of the inner frame, such as



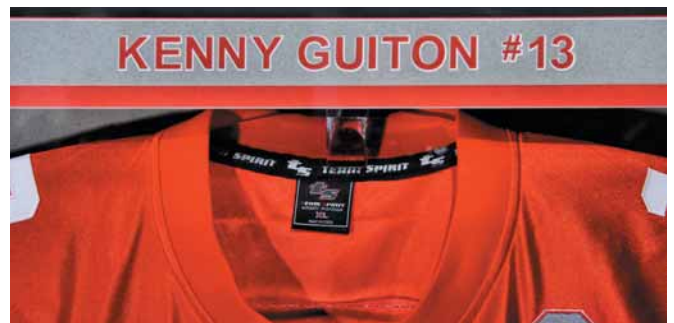
Heavy Duty Dual Lock fasteners by 3M hold the fabricated acrylic hanger securely to the inside-top of the ACM shadowbox.



The hanger can be easily removed and replaced without tools using the Dual Lock fasteners.



Some garments can be slipped over the installed hanger.



Personalize the framing by including a photo and statistics and using a CMC to cut the player's name into the mat. The football in the corner was also cut out of mat-board.



the 05-21 profile frame used in this example. Measure carefully. Assemble this frame as usual, including your choice of glazing and decorative matting, but install thin strips of foamboard under the mat to hold the materials snug in the frame, instead of using a backing board. Especially in large garment frames, such as this 32"x40" jersey frame, a UV-filtering acrylic works well including, when a customer's



Complete the assembly by slipping the face frame over the lip of the inner frame on the ACM shadowbox.

budget allows, Museum Optium Acrylic. Glass could also be used, and that would cost less. But that does increase the possibility of breakage, since a customer would be handling the face frame separately.

After constructing these subassemblies, install the hanging hardware. A sturdy two-point hanging system is necessary, not only to keep the shadowbox straight and well-supported on the wall but also to resist upward movement when the face frame is removed and installed on the wall-mounted ACM shadowbox. Any standard security hanging system would be appropriate, attached to the back of the ACM box by small flathead machine screws. The new Fletcher-Terry Wireless hanging system, which is shown here, works well and requires no special tools for installation.

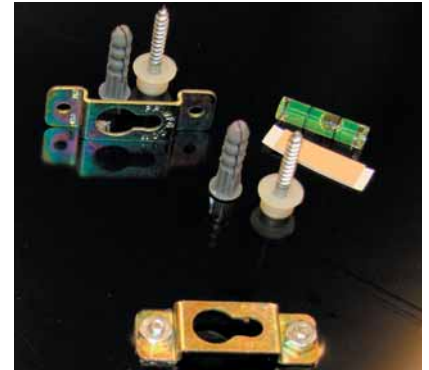
The hanger inside the box needs to be configured for the type of garment displayed. For this football jersey, a standard, fabricated acrylic hanger sold by Gemini Moulding was used. Its rectangular mounting bracket has two countersunk holes pre-drilled and a generous surface area, about 1-1/2" x 5". This hanger to be easily removable, so instead of screws, 3M Heavy Duty Dual-Lock fasteners were attached to the inside top of the ACM shadowbox. Ordinary hook/loop fasteners probably would not be strong enough for this, so the alternative would have been to use pre-drilled screw holes. The jersey in this display has a neck hole that can be slipped over the hanger attached to the box, but some garments might require removing the hanger.

The face frame can be as decorative as you like. This display has been personalized with the player's name and number cut into the top margin using the CMC, and his photo-



This end view shows how the lip of the inner frame extends past the perimeter of the ACM shadowbox to hold the face frame in place. (Detail) The standard-profile aluminum sectional face frame fits snugly over the inner frame's lip.

A sturdy two-point hanging system is essential for a shadowbox that opens and re-closes. The Fletcher Wireless hanging system includes keyhole-type brackets attached to the frame, a unique marking system for accurate placement of the screw anchors, and a level.



graph and statistics are included as well. The football in the lower-right corner was also cut from standard alphacellulose matboards using the CMC. For a project like this, it may be tempting to design a team logo into the mat. However, to avoid copyright infringement or paying a licensing fee to the school, it may be preferable to use standard fonts and layouts.

After the customer hangs the ACM shadowbox on the wall, the garment can be easily hung inside. No tools are needed to install the face frame; it simply slips over the inner frame of the ACM box.

This sort of shadowbox design saves labor and money for framers in framing garments, which translates to greater profit and marketability. It also results in a creative, attractive frame that is convenient and provides savings and versatility for customers. ■



James Miller, MCPF, GCF, founded his framing business, ArtFrame, Inc., in suburban Columbus, OH, in 1988, where he specializes in the preservation framing of art, heirlooms, and three-dimensional objects. Miller, who holds a Bachelor's degree in Business

Administration, has served as chairman of the PPFA Certification Board, where he helped develop the MCPF exam, and has been chairman of the FACTS Education Committee. He is also the author of *The Complete Guide to Shadowboxes and Framing Objects*, published by PFM Seminars Books.