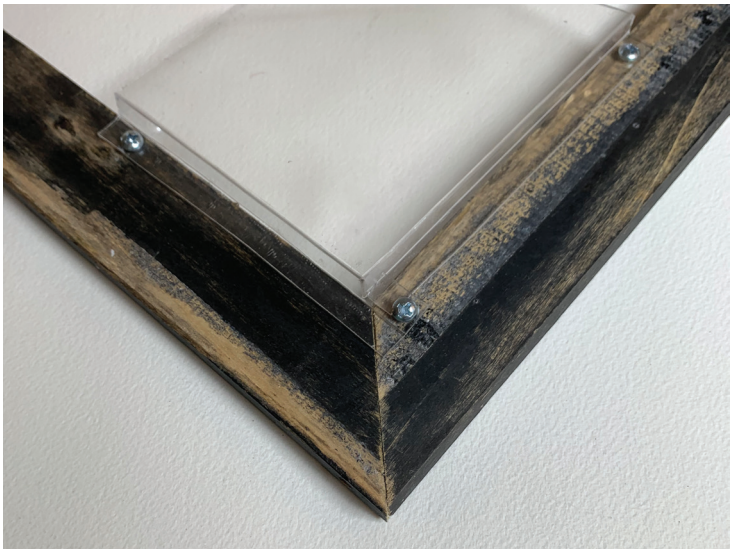
DIY Devices: Spacers and Support Tabs

How to make support and enclosure devices from two safe plastics.



The simplest method for creating extensions with PETG sheets involves mitering the corners of the strips to match the miters of the frame. If the strips are made so the ends run past the miter in a pinwheel fashion, the overlapping portion can be screwed to the adjacent part of the frame.

Preparing materials for a class can be quite instructive. Recently, working with class materials has taught me two things: how to make long, straight folds in polyethylene terephthalate glycol, or PETG (an adaptable plastic that is sold in clear sheet form under brand names like Vivak) and how to make tight folds in BoPET (a polyester film commonly sold under the brand name Mylar). These techniques enable the creation of useful devices; spacing elements made of PETG and support tabs made of Mylar, both of which can significantly expand the range of safe support devices that framers can offer.

Previously, the length of bends in PETG was limited to the width of the bending break available. Since these bending tools were designed for use with metal, width was not a primary design imperative. I sought a tool that could be pressed down in to the plastic without scratching it, since a scratch will cause the PETG to break as it is being folded. I was looking for something with a metal wheel when I realized that every framer has just such a tool—a glass cutter. An old one should be fine, since one is not looking for a sharp wheel. A straight edge can be laid onto a sheet of .04" PETG and the straight edge can be clamped down to stabilize it. Strong pressure should be applied to the cutter as it is pressed down onto the sheet as it is run along the straight edge.

Once a visible dent has been pressed into the plastic, the PETG can be hand-folded up and into position. If a simple L-shaped spacer is being made, the folded part of the plastic can be cut away from the body of the sheet with a razor knife and straight edge at a point that will create the proper width for the second side. If two folds are required, they can be pressed in and folded before being cut away from the main sheet. L-shaped strips of bent

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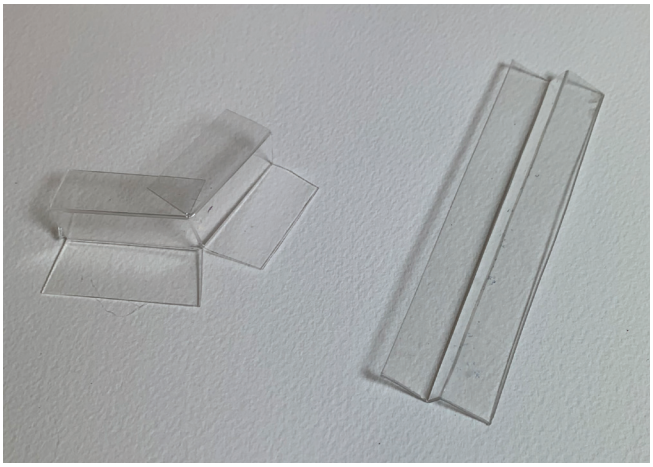


PETG sheets such as Vivak can be used to create extensions that enlarge the safe space within the frame.

PETG can be covered with handmade Asian papers (such as washi or hanji) bonded to itself with glue or to the spacer with hot melt glue. This will make spacers that can restrain items like pastel and other media on stiff supports without pressing down on the item's pigment-rich surface. This is done by the spacer's triangular shape, which has the shorter leg upper most (next to the glazing sheet) and its hypotenuse overhanging the edges of the pastel.

PETG sheets can be also used to protect canvases from punctures and vibration when screwed to the back side of their stretcher bars, since PETG can have screws run through it without cracking. It will be completely clear, making monitoring of the back of the canvas possible—something that polyflute boards cannot provide. Since it is so thin, it will not extend back from the canvas as Coroplast does, and it should perform better in fires, since it has no flutes to serve as chimneys.

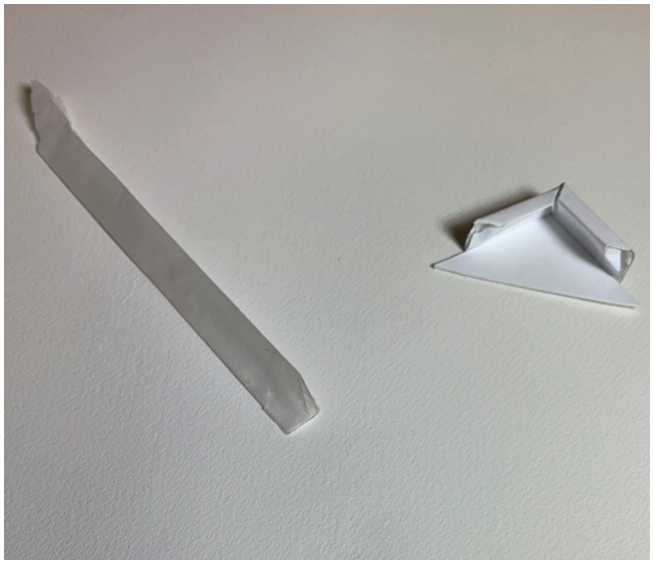
PETG can also be used to create extensions that enlarge the safe space within the frame. Here, lines are pressed into the sheet on opposite sides so it can be given 90-degree folds, creating an S shape that can be screwed to the back of the frame once the art package is safely installed. The simplest method entails mitering the corners of the strips to match the miters of the frame, but if the strips are made so the ends of alternating strips run past the miter in a pinwheel fashion, the overlapping portion can be screwed to the adjacent part of the frame and each corner will be reinforced.

For the ultimate in reinforcement, as one might need with a historic frame, an entire sheet of PETG can be sized so it exceeds the dimensions of the frame rabbet by enough material to bend and form a hollow equal in size to the rabbet dimensions and out to fit onto the back of the frame. Simply cutting out the material at the corners will enable the construction of this device, but more elaborate cuts will give greater strength as they will allow the plastic to cross the corners so it can be screwed to adjacent members of the frame simultaneously.

Making tight folds in Mylar is another modification of plastic that can be used to make useful preservation materials. Edge support strips and tabs could be fashioned from Mylar if it could be given tight folds, which would hold the edges of a paper sheet without opening. While one can bend Mylar onto itself and keep pressing until a fold develops, press and burnish as one might, these folds tend to not want to go completely flat. Applying heat to the Mylar to flatten the fold is likely to cause the Mylar to warp, rendering it aesthetically and physically useless. If the heat can be applied only to the folding portion, that could tighten it without deforming the surrounding material.

One way to do this is with friction. If the bone or plastic-folding implement is not simply pressed down hard onto the fold but instead is run as rapidly as possible along the fold with pressure, enough heat can be generated to flatten it. If the first attempt is not sufficient, the tool can be run rapidly back and forth to create the heat needed.

With tight folds in hand, new support possibilities are enabled. The British Museum has published the idea of edge support strips made of Mylar, but their design has a critical problem; their strips, which are otherwise



PETG can be covered with handmade Asian papers bonded to itself with glue or to the spacer with hot melt glue.

identical to paper strips currently in wide use, were to be bonded to the back mat with pressure-sensitive tape. Such tape may stick to the Mylar initially, but it will fail eventually, especially if any tension is put on the strips. If, however, a diagonal slit is made on each end of the Mylar strip, the Mylar can be folded to the side, creating a support tab.

This tab can be adhered along with the end of the strip using linen or paper tape if care is taken to press the tape down around the strip end and it is given time to dry completely. Both types of tape must be activated with warm water to ensure that their dextrin adhesive is fully hydrated. Such strips will always have more reflective surfaces than might be desired, but having tightly folded Mylar will increase their hold on the art on paper.

Conservation comprises finite treatments, while preservation entails continuous vigilance and adaptation. Learning from history and our materials can be an essential part of that undertaking. Being able to make support and enclosure devices from safe and stable plastic is an addition to the preservation framer's repertoire that should prove profitable and quite useful. PFM