

# Planning Ahead

By Patty Zimmerman

The appeal of art glass for adding beauty and mystery to communal and commercial space has been recognized for more than a thousand years. In medieval times, the installation of stained glass often took place years after the construction of the building. The same holds true today. In many cases, a client who wishes for stained glass windows may not even begin such a campaign until years later. For churches, planning and fundraising for windows usually follows after the construction debt is under control. The stained glass may come about two or twenty years after the time of construction, but the success of installation is influenced by the amount of prior planning that has taken place.

Today's building team has the wonderful option of choosing an integrated frame specifically designed to receive stained glass within a double or triple glazing, but able to function indefinitely with only the exterior layer of glazing installed. A popular supplier of these is J. Sussman, Inc., which creates them in wide range of designs typically favored by churches; these include Gothic, round top, rose, and an assortment of rectangular ones.

When installing a stained glass-specific frame at the time of construction is not opted for, the existing window frames and trim will largely determine how easily the installation will proceed. If the window openings were not originally specified with this future development in mind, the installation of stained glass with protective glaz-

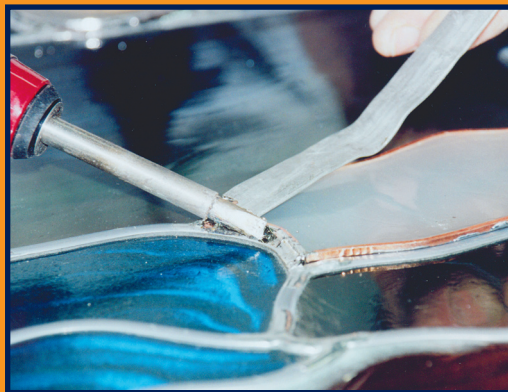
ing can be a frustrating, expensive retrofit. In a worst-case scenario, this may require either the drastic solution of replacing the frames because the sash cannot accommodate a double glazing, or the unattractive and inconvenient (for maintenance) choice of installing protective glazing on the outside of the frames.

On the other hand, if frames and trim are selected to accommodate stained glass from the outset, installation can be relatively economical, efficient, and highly successful. In the ideal scenario, the existing frames would be stained glass-specific, and even the trim choices would have been thoughtfully made so as not to require modification or replacement. Following are some of the primary considerations to keep in mind regarding stained glass installation.

## GOOD FORESIGHT AT ST. PIUS X



A CSS artist cuts glass on a light table, guided by the pattern piece beneath.



A second layer of glass or "plate" is soldered to the panel to add visual depth.



Each panel is secured separately. Small ventilation screens or "breathers" have been inserted into the frame to release heat and moisture from between the existing and new glazings.

# for Stained Glass

There are a variety of types and styles of stained glass, most of which are assembled using lead strips or “comes” to join the pieces of glass and to edge the panels. Perimeter leads are typically 5/16" thick, so this is the relevant measurement for the stained glass within the frame. For a double-glazed installation with stained glass and protective glazing, an adequately sized sash is essential to accommodate interior trim, stained glass, a parting stop, protective glazing, and caulk. (See Figure 2.)

When stained glass is an unanticipated addition, one of the biggest challenges becomes whether the framework will allow two glazings to be configured so that one can be accessed without disturbing the other; that is, the interior glazing set from the inside and the exterior glazing set from

the outside. If the existing configuration requires that both are set from the interior, for instance, then the interior glazing must be removed each time one needs access to the exterior. This is not only inconvenient, it also causes unnecessary disturbance of the art glass and results in a significant additional expense for work on the outer glazing.

Another issue to consider for a stained glass retrofit is the finish trim—how wide it is and how many fasteners secure it into place. A wider trim that is flush with the edge of the sill will need to be trimmed after the stained glass is added. Thus, in the initial planning, it is wise to select a narrower trim that will not have to be either modified or replaced. Ease of removal is also important for the original trim. If it is to be nailed in place initially, avoid nailing into the cor-

ners, which can make removal unnecessarily difficult. In the project profiled in this article, the interior trim was originally put in with grommets and screws, which expedited the stained glass installation.

In most stained glass windows, more than one panel comprises the overall window, which leads to the next element for consideration, and that is re-bars. Stained glass involves two types: T-bars and saddle bars. T-bars attach to the sides of the frame for horizontal support between panels. In the stained glass-specific frames, T-bars are integrated and the stained glass panels are created to fit the size of the openings. Otherwise, T-bars must be custom installed, possibly notched for a flush result, and attached to the frame.

Saddle bars span the surface of the

Foresight on the part of the building team at St. Pius X in Cambridge, Wisconsin, saved time and money for the client by preventing the need for retrofitting any of the windows' elements. It also contributed to the overall aesthetic quality of the project. (Photos by Larry Wellenstein.)



Finish trim is reinstalled after the window is in. The dark bar in the center is the T-bar, which was added.



The exterior glazing remained intact through the stained glass installation.



The completed windows add beauty and inspiration to the worship space.

## LEAVING ROOM FOR STAINED GLASS

If the choice is made not to install frames that are stained glass-specific at the time of construction, it can still be allowed for as a future development.

### ANTICIPATING STAINED GLASS

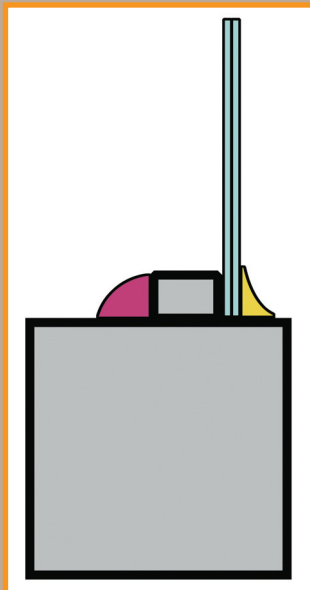


FIGURE 1

### WITH STAINED GLASS INSTALLED

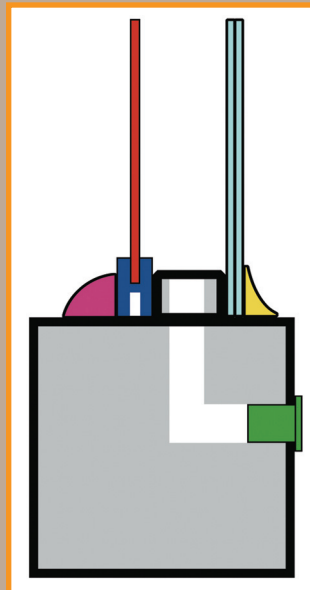



FIGURE 2

### DO:

- Make the frame a minimum of 2-1/4" wide.
- Choose narrow finish trim, allowing room for a 3/4" parting stop and a 5/16" stained glass glazing to be added.
- Set protective glazing from the exterior far enough out that it can remain there with the stained glass installed.
- Use safety laminate glass if there is a concern about protecting the stained glass. With the polycarbonate sandwiched between panes of glass, it offers strength without the risk of yellowing.

panel to provide additional support within the panel itself. New stained glass windows will most often have saddle bars known as "fins," which are flat bars soldered to the panel for maximum support. Round or square saddle bars attached to the panel with tie wires are usually found on older windows. With any type of frame, saddle bars should be considered in the specification of the trim on the interior face of the window. If the original trim is deep enough to be notched for the support bars—as opposed to being cut through to go around them—the results will be stronger and more aesthetically pleasing.

Taking a proactive approach to a future with stained glass is a win-win-win situation for the building team, the client, and the stained glass studio. The result of selecting frames and trim that best accommodate art glass contributes greatly to achieving an installation that is economical, efficient, and aesthetically successful. 

Patty Zimmerman



Patty Zimmerman is a project manager for Conrad Schmitt Studios of New Berlin, Wisconsin. Conrad Schmitt Studios has been active in the creation and conservation of stained and etched glass for religious and civic buildings throughout the U.S. for more than a century. The full-service decorative arts studio also provides decorative painting, murals, mosaics, sculpture, and statuary.

## SPRI FORMS ROOF EDGE TASK GROUP

SPRI, the national organization representing sheet membrane and component suppliers to the commercial roofing industry, has formed two task groups to focus on increasing understanding and awareness of ANSI/SPRI ES-1. This roof edge standard was created by SPRI to improve the safety and longevity of commercial roofs. ES-1, Wind Design Standard for Edge Systems Used with Low-slope Roofing Systems, provides specific requirements for testing and calculating wind resistance for roof edge systems.

The SPRI ES-1 Education Task Group is chaired by Bob LeClare, vice president of sales at W.P. Hickman Co., a roof edge manufacturer. SPRI ES-1 Technical Task Group is led by Brad White, vice president of sales for Metal-Era, Inc., a roof edge manufacturer.