

## **Architectural Stained Glass Techniques**

### **Kiln-Fired Glass Painting**

The process of painting, staining and enamelling glass which is then fired in a kiln until molecules of the vitreous painting medium have bonded with molecules of the glass, achieving a long-lasting, chemically stable form.

Tracing and matting refer respectively to the application of line and tone to a section of glazing using various brown and black pigments mixed with gum arabic, while enamelling uses a wide range of colours that are mixed into ground glass and applied using techniques that include air-brushing and silk-screen printing

### **Acid Etching**

The process of etching a glass surface using hydrofluoric acid. 'Flashed' glass, with a thin layer or layers of pigmented glass fused onto a thicker white (clear) substrate of glass is often etched with acid to reveal the differing layers of glass and thus add detail.

### **Sandblasting**

Sandblasting is a way of abrading the glass surface using compressed air and sandblast grit. As with acid etching, 'flashed' glasses may be modified by the process.

### **Lamination**

The process of bonding glass sheets together using chemical adhesives.

Resin and silicon techniques in use since the early 1990's can be seen today in contemporary stained glass panels world-wide.

### **Leaded Stained Glass Panel Construction**

From an initial design a cut-line or 'cartoon' is made that contains information relating to the colours and artwork that will appear in the finished panel. Using machine made and mouth-blown glass the pieces are cut to size using the cartoon as guide (English method) or templates are made of each piece and these are then used to cut the required design from the sheet glass (continental method).

Once the glass is cut it can be 'leaded-up' using H-section lead of varying width, typically a wider lead will be used at the perimeter.

At each lead intersection tallow flux is rubbed onto the joint and then solder (a lead/tin mix) is applied with a hot iron to complete the matrix of leading.

'Cement' is worked into the remaining gaps between the glass and lead, waterproofing and stabilising the structure of the finished panel.

Finally the panel may be polished using lead-blackening (grate-blackening).