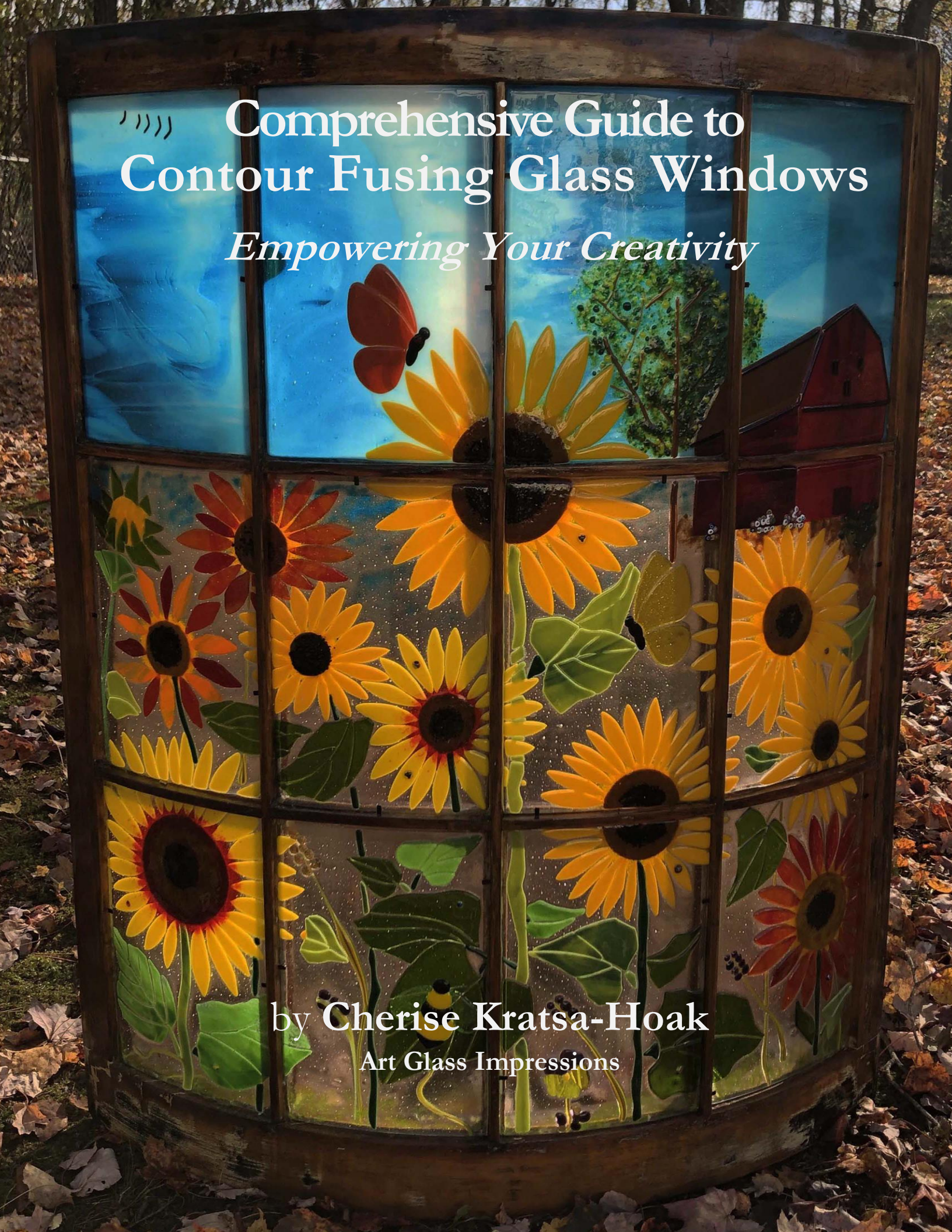

Comprehensive Guide to Contour Fusing Glass Windows

Empowering Your Creativity

by **Cherise Kratsa-Hoak**

Art Glass Impressions

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Introduction

My name is Cherise, and I have been fusing glass for twenty-six years. Like many glass artists, I began by teaching myself—there were no instructors in my area at the time, so my studio became my classroom. Over the years, I've taken courses, learned a variety of techniques, and refined methods that work reliably in my own kiln.

One technique that was never offered in those early classes was **contour firing**—especially for glass windows. Through years of research, testing, and trial-and-error, I developed a contour-firing process that allows for layered designs while maintaining precise sizing for window frames. Today, this has become the most requested firing method among the students I teach.

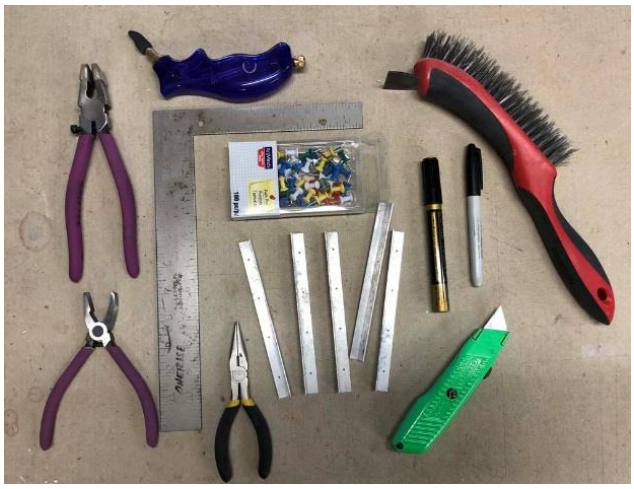
I am often asked why I contour fire instead of full fuse firing. While I do occasionally full fuse pieces, I prefer contour firing for windows because it allows me to create depth and multiple layers without excessive glass spread. When working within existing window frames, maintaining accurate dimensions is critical. Contour firing makes it possible to return each finished panel to its original opening—something that is far more difficult when glass spreads during a full fuse.

That said, the methods in this guide *can* be adapted for full fuse firing. It simply requires additional patience, careful test firings, and an understanding of how layered glass behaves at higher temperatures.

This guide will walk you step-by-step through the process of **designing, cutting, firing, and installing fused glass windows** using contour firing techniques. You will learn two different construction methods, each with its own advantages and considerations. It is important to understand both approaches before committing to your final layout and installation method.

A terminology section is included to help clarify language commonly used in fused glass work. Having a clear understanding of these terms will support both your design decisions and your technical confidence as you work through the process.

Common Supplies Used in this Guide



Specific tools may vary depending on frame condition and installation.

Blocking Stick for Panes
¼" wide x ½" high
Length will be the size of the panes

Can be cut from any wood

Installation Tools

Installation Methods for Contour Firing Glass Windows

There are two primary methods for installing contour-fired glass designs into reclaimed window frames. The finished design can be installed from either the **front of the window (Side A)** or the **back of the window (Side B)**, depending on the construction of the frame and the goals of the design.

Understanding these two installation methods is essential. The method you choose will directly affect how your glass is designed, layered, fired, and ultimately secured within the frame.

Before moving into pattern layout or glass cutting, take time to closely examine your window frame—specifically the **muntins and fillets**. Familiarity with these structural elements will help you fully understand how each installation method works and allow you to make an informed decision about which approach best supports your design.

The following sections outline each installation method in detail, including when and why one approach may be preferred over the other.

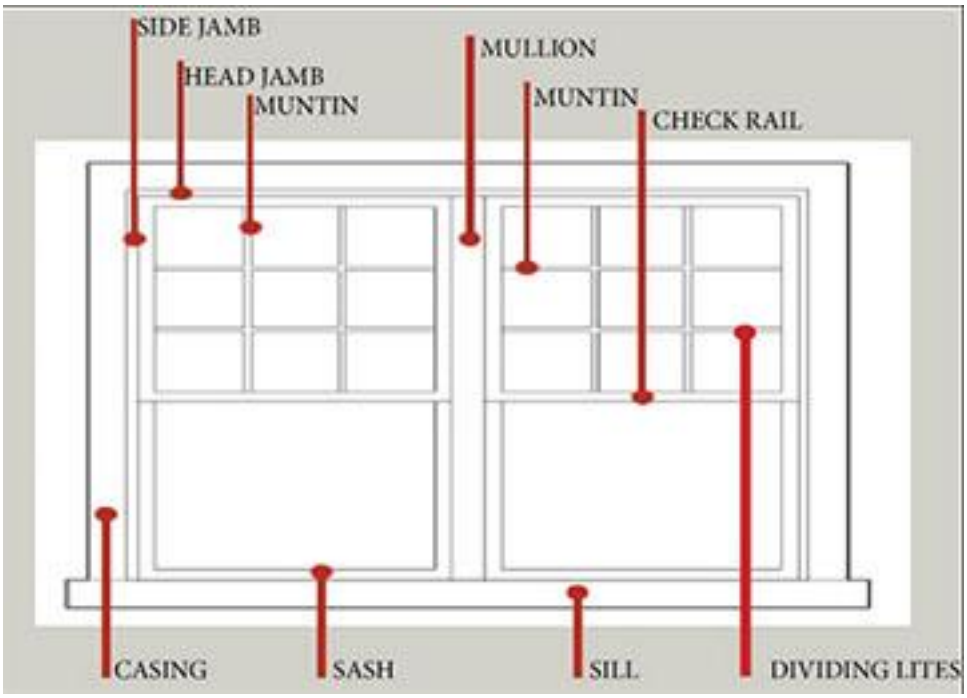


Illustration 2 - Labeled diagram of common window frame components, including muntins and mullions, for reference when evaluating installation methods.

Choosing the Front of the Window

To determine which side of the frame will serve as the front of your finished design, place the frame over your pattern and view it from both **Side A** and **Side B**. Evaluate how the muntins interact with your design elements and choose the orientation that best supports the composition.

Illustration 6. *Pattern placed behind a reclaimed window frame to evaluate design placement and muntin interaction when choosing the front-facing side of the window.*

There is no single correct choice. The final decision should reflect both the structure of the frame and your personal design intent.

Selecting Your Installation Design Method

Now that the frame has been cleaned and your pattern has been resized to fit, the next step is selecting the installation method that will guide your design layout and construction.

Begin by deciding which side of the window frame will serve as the front of your finished design:

- **Side A** — the decorative, rounded muntin side
- **Side B** — the fillet side with narrower muntin lines

Next, determine how your glass will occupy the frame:

- Will your design consist of **two solid panes of glass** filling the entire opening, or
- Will you use **base glass with a design that does not extend across the full width and height** of the frame?

Note:
Repeat this tracing process on **all copies** of your pattern to maintain consistency throughout the project.

Next, select one pattern copy and cut it apart along the traced lines to create individual pane templates.

Important:
Cut **directly on the traced lines**, not outside of them. Even small deviations can result in poor fit later and may require recutting both pattern pieces and design elements.

Supporting the Pattern Pieces

Measure and cut thin pieces of cardboard to fit inside each pane opening of the window frame. These cardboard supports elevate and stabilize the pattern pieces during layout (see **Illustration #13**).

Place each pattern piece on top of the cardboard support inside the frame, then position the corresponding base glass pane directly on top of the pattern (see **Illustration #14**).

Illustration #13

Thin cardboard supports placed inside each pane opening to stabilize and elevate pattern pieces during layout

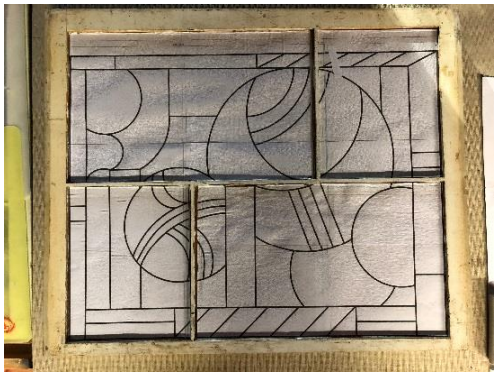


illustration #14

Pattern pieces positioned on cardboard supports beneath the window frame, aligned and ready for base glass placement

Firing the Design

At this point, your pattern is fully laid out, cleaned, and temporarily glued together, and you are satisfied with the overall composition. It is now time to fire the glass.

By this stage, you should already have a contour-firing schedule established and your kiln prepared. Carefully load the panes according to your standard firing practices and proceed with the firing schedule appropriate for your glass and design.

The first pane out of the kiln is always an exciting moment. Allow the glass to cool completely before handling, then inspect each piece for fit, alignment, and surface quality before moving on to installation.

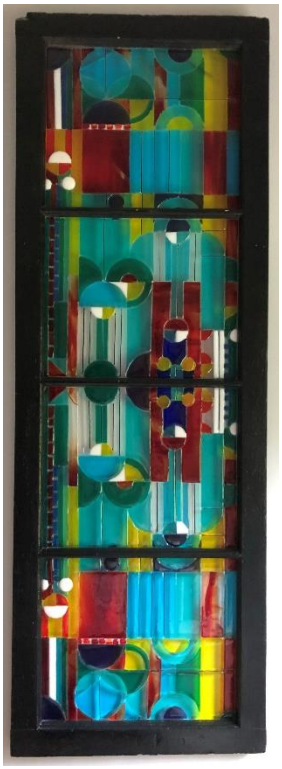
Painting the Frame and Attaching Hardware

While your glass panels are being fired, take time to plan and complete the finishing of your window frame. This may include painting, staining, sealing, or other decorative treatments appropriate for the frame material and final display location.

Any hanging or mounting hardware should be attached to the frame before installing the fired glass. Completing this step, in advance, to prevent unnecessary stress on the glass and allows for easier handling during final assembly.

Allow all finishes to fully cure before proceeding with glass installation.

Examples of window installations



- **Additional step-by-step window projects and firing strategies are included in the full guide.**