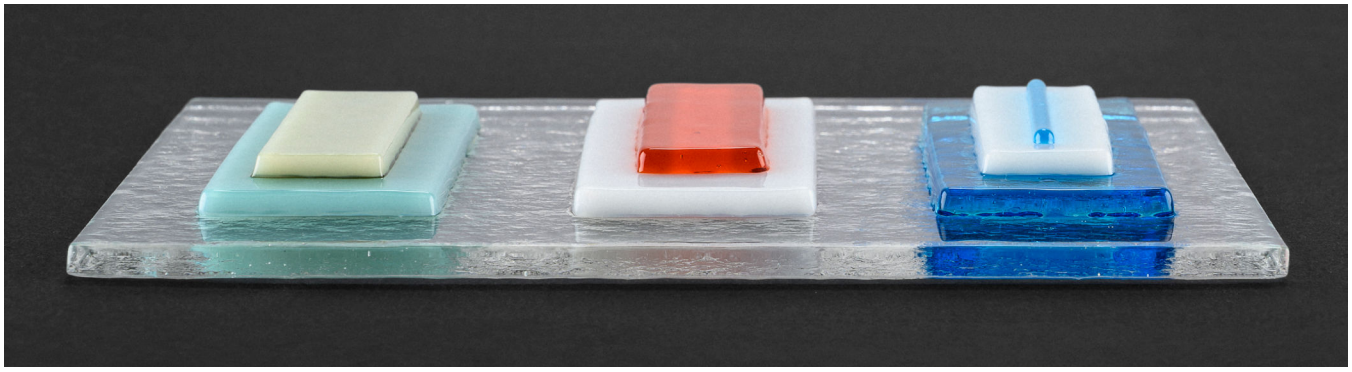
STUDIO TIPS

# Tips for Tack Fusing: Annealing



When writing a firing schedule for tack fusing, there's a lot to consider. This document focuses on an important consideration for success: annealing. Tack fused projects are often uneven in thickness and require longer firing schedules to ensure uniform temperature during annealing and cooling. Pair the guidelines below with *Annealing Thick Slabs* for a recipe for success!

## About Tack Fusing

Tack Fusing is a kilnformed glass technique that involves fusing pieces of glass together while maintaining some or all of their unfired form and texture. This relatively lower temperature process:

- Ranges in process temperature, approximately 1275–1450 °F / 690–788 °C
- Covers a range of effects
  - *Lower Temperatures*: sintering, fuse-to-stick.
  - *Higher Temperatures*: smoother, softened surfaces, sometimes referred to as "contour fuse".
- Often involves firing works of varied thicknesses, and heating and cooling them uniformly is crucial to their success.
- Generally results in works that require special attention for additional firings, like slumping.

## Annealing Tack Fused Projects with Variation in Thickness

1. Determine the thickness of the thickest area of your project. Add up sheet glass layers rather than measure. For example, a 6 mm base with three layers of 3 mm is 15 mm.
   - Measure pre-fired pieces prior to assembly.
   - Estimate applications of frit.
   - Overestimate rather than underestimate.
2. Refer to *Annealing Thick Slabs* and follow the chart for **at least 2× the thickest area**. Example: for a 15 mm thick project, follow the chart for 30 mm or thicker. Program the recommended *Anneal Soak/Hold* at 900 °F / 482 °C and follow the chart from there.
3. Avoid aggressive venting. Allow the work to cool with the kiln door and vents closed.

**Additionally:**

- Planning to refire? When reheating projects with variations in thickness, we recommend a slow ramp in the first segment, below 1000 °F / 538 °C, to minimize the risk of thermal shock. Properly annealed works are less prone to thermal shock in subsequent firings than ones that that were poorly annealed.
- Check pre-programmed schedules as they may not be a good fit for your project.
- We recommend firing on an elevated kiln shelf that allows for air and heat circulation. We advise against stacking shelves.
- Some kilns anneal better than others. For example, top-fired fiber kilns may require even more conservative firing schedules (annealing for 3× the thickest area) to achieve successful results.

For support in determining other parts of a tack fuse firing schedule as well as a guideline for reheating, see *Writing Firing Schedules for Fusing & Slumping*.

## Resources

*Annealing Thick Slabs*, article
*Tips for Tack Fusing*, video
*Writing Firing Schedules for Fusing & Slumping*, article

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