

CoreLite Kiln Shelves for Glass

Corelite Kiln Shelves are extruded hollow refractory materials that are double sided diamond wet ground for extreme flatness. They are available in a variety of sizes including rounds, half rounds, rectangles and large ovals for glass kilns. You should evaluate the type of glassware and firing schedule to decide what is the best option. The cellular structure of CoreLite will allow the shelves to heat and cool much quicker than traditional solid kiln furniture.

Large Oval CoreLite slabs/shelves represent a big step for glass and pottery kiln firing. The biggest advantage being the elimination of joints associated with the traditional use of two half round shelves and a rectangle to form an oval. However, older industrial experience, and more current studio scale instances show there are limitations to how a large single piece oval can be used safely and effectively. **Failure to adhere to these general guidelines could result in cracking of the shelf and possible loss of ware or glass work.**

Manufacturer's Guidelines for Use – Large Corelite shelves

1) Posting:

Posts are an effective way to create multiple layers for decking. Glass and tile ware do not typically have a tremendous mass, which means you will not exceed the strength of the shelf. Glass kilns are most commonly electric heat. As such, they do not create a great deal of air circulation, with the minor exception of convection created by air expanding as it heats. Traditional solid shelves would heat and cool slower, so an air gap below the shelf was an advantage. CoreLite shelves are hollow and therefore have a built in air pocket, therefore posting does not represent an advantage as the shelves will naturally heat and cool faster. You can post CoreLite shelves if you like, but test to see if any advantages are derived from laying the shelf flat on the bottom of the kiln.

2) Surface Coverage:

Do not use a large oval CoreLite shelf if your singular or combined glassware covers less than 1/2 of the total surface area. Small surface area coverage on a large shelf will concentrate the heat into a very small area and impart a great deal of thermal stress on the edge of the plate and it will definitely crack and break the shelf. If you have smaller work to fire, you will need to use smaller shelves.

3) Heating and Cooling Rates

All glass kilns have a broad range of heating ramps and many will heat up at rates well beyond what is suggested for glass or refractory. **We would not suggest heating at a rate any greater than 200 F per hour**, particularly if the surface coverage is low. If you are accustomed to heating at a faster rate, you have probably been using a configuration of smaller shelves (for example: 2 half round and a rectangle). A large shelf without joints must absorb and shed heat at a rate that will allow the ceramic to grow and shrink without thermal shocking. Most glass production has 1000 F as a critical hold temperature. The ideal heat-up schedule would entail heating and cooling rate of 140-160F / hour. The critical hold temperature of 1000 F is true on the way up to your peak temperature and on the way back down. **Holding at 1000 F on the heat up for 1 hour is suggested and another 1 1/2- 2 hours on the cool down.** This should not affect the glass and will allow the shelf to accommodate and relieve the stress. A concept that is very familiar to glass working.