

Test firing a new kiln

Each new kiln should be tested for possible temperature differences (hot spots) and specific temperature response (to see what affects are produced at different temperatures. You can't rely on any kiln schedule as being reliably accurate in your kiln. Every kiln is different. One might produce a full fuse at 1450 while another require 1475 to produce the same results. You'll save yourself a lot of unsatisfactory firings by learning exactly what to expect from your kiln.

TEST 1 (for hot spots)

1. Cut a number of 1/2" x 3" strips of glass (all same colour and kind).
2. For every strip, cut 2 squares about 1/2" (any glass).
3. Place two squares under each end of the 3" strips so the strip is suspended like a bridge.
4. Without having them touch each other, fill your kiln with as many strips as you can.
5. Fire your kiln to 1200 with a 10 minute hold.
6. After firing, check each strip to see if any slumped differently than the others.

TEST 2 (for slump temperature accuracy).

1. Using the same materials, repeat TEST 1 at different temperatures (1200, 1225, 1250) to determine how much slump is achieved at each temperature.
2. You might also try the same test with varying hold times to see how that affects the degree of slump.

TEST 3 (for fuse temperature accuracy)

1. Cut a quantity of 1" or 3/4" squares (all same glass).
2. Fire a batch to 1350, than another batch to 1400, than another to 1450. Use a 20 minute hold for all firings.
3. Compare the results from each temperature firing. These will show you what to expect at different temperature firings.
4. Changing the hold time will also change the effect, but not as much as changing the temperature.

TEST 4 (to calculate shape change).

1. Cut a quantity of 1" or 3/4" squares (all same glass).
2. In a single load, place one as a single layer, a stack of 2, a stack of 3, and a stack of 4.
4. Fire to 1450 with a 20 minute hold.
3. This will show you how the glass changes size and shape depending on how thick it is. Glass wishes to be 1/4" thick and if given time and temperature will get its wish. Single layer will contract in order to become thicker. Double layer will remain stable. Triple layer will expand as it becomes thinner.

The firing temperatures suggested are for COE 96 glass. For COE 90 add 25 deg. For clear float add 50 deg.
