

Laguna Moroccan Sand Casting Clay Mixing Instructions - fire to cone 5

per 50 lbs. clay

Barium Carbonate (optional)	7 grams
Soda Ash	13.5 grams
Sodium Silicate (Water Glass)	1 1/4 to 1 3/4 fluid oz.
Water	10 1/2 to 11 1/4 litres

Mixing Procedures

1. Before you begin mixing, put on a good quality respirator mask to protect you from inhaling dust.
2. Measure water carefully and pour water indicated for your size batch into the slip tank.
3. Accurately measure the minimum amount of sodium silicate indicated for your batch and add a like amount of water in a measuring cup. SET ASIDE. NEVER ADD SODIUM SILICATE FULL STRENGTH TO A BATCH OF SLIP.
4. Accurately measure the amounts of soda ash and barium carbonate indicated for your batch size. SET ASIDE.
5. Add barium carbonate and soda ash (which you have previously measured in step 4) into one quart of warm water. (Warm water aids in mixing the chemicals.)
6. Turn mixer on and add diluted soda ash and barium carbonate (which you prepared in step 5) to the water which is in the tank. Mix for 5 minutes.
7. While the tank is still mixing, slowly add 1/3 of the clay indicated for your batch size to the water.
8. Add 1/3 of the sodium silicate solution (as mixed in step 3) to the batch.
9. After mixing a short time, allowing the sodium silicate to thin the batch, add 1/3 more of the clay. Allow clay to mix into the batch.
10. Add 1/3 more of the sodium silicate solution. This will again thin the batch.
11. After mixing a short time (approximately 10 minutes), add the final 1/3 of your clay to the mixer.
12. The last 1/3 of the sodium silicate should be added at this time.
13. The mixing time should be approximately as follows:

50 lbs.	1 1/2 hours
100 lbs.	2 hours
300 lbs.	3 hours
1000 lbs.	4 hours
2000 lbs.	5 hours

Mixing will cause the sodium silicate to blend into the clay and water. Therefore, the batch will thin as it is mixing. For this reason, the slip maker should not judge the consistency of the slip until it is completely mixed or the batch could become over-deflocculated and too thin.