

Big Sculpture for little

Stone Coating

By Tj. Aitken

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To the sculptor:

Tj's studio photographs and notes have been laid out to best show the process he developed over several years. The text includes discussion on tools and techniques as they are used on the pieces, as well as errors and how to fix them. All three books are intended as studio guides for experienced sculptors, yet they stress simple, inexpensive tools and materials. Some items reappear from earlier books for the artist who has just one volume.

Content - The stone Coat Process Outlined

From the earlier books- *Big Sculpture for Little-*

Book 1 *Scaling Up* - Create a maquette, enlarge to full scale by creating a block to carve

Book 2 *Carving Foam* –Carving the piece to be coated, techniques and tools

Book 3 -Stone Coating-

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The Nature of Cement Based Material

Cement based material has five basic stages with varying transitions between them:

1st Liquid. It is most liquid right after mixing. The fluidity can be adjusted with plasticizer. When very fluid, you can pour it. Aggregate will tend to settle with gravity. Your mix will determine how fluid it is initially. It will never be more fluid as you work unless agents are introduced or it has too much water which can float to the top. We take advantage of this fluid state to pour it into cracks and get tight bonds, and sometimes use the leveling character to smooth out a surface area. Typically in our application we have about 5 to 10 minutes like this.

2nd Gel state. It slumps less as the liquid is absorbed and it begins to harden. This happens much faster when it is spread out thin, in our application it is minutes. It is important to get the material moved to where you want it in this state, and do any adding or subtracting as it is all semi fluid. Late in the gel state it will not model and adding or subtracting is very difficult. This makes very small detail tricky as they dry out fast and you have little time to catch it in the right state to sculpt detail. Small detail will also be very fragile in the late gel stage and very easy to destroy.

3rd Early set. As the gel state changes to a more rigid state the material is dangerously fragile. You can compress it in broad deep areas, and sort of burnish it with trowels, but thin material may be too dry to attempt to move it. If it crumbles under your tool at this point it may not hold together at that place once set. Knowing when to get off is very important to our thin wall technique. We get to this state over an entire surface in about 45 minutes to an hour. We work in small batches to insure we have achieved our surface before this takes place. Successive areas of small batches will work together well each adhering to the last. Batch intersections want to be close in timing unless there is a natural crevasse, seam or form that we can come up against where we do not have to fair the surfaces together. Some texture creation depends on this state to simulate stone conditions. But in general after about 90 minutes we must leave it alone.

4th Green state. From early set to green takes several hours depending on temperature and the formula. A general rule is 6-8 hours undisturbed. Once the material is set it slowly hardens for the next 24 hours when most strength is achieved. 48 to 96 hours it generates full strength. Plastic covering holds in moisture and prevents warping. In the green state we can carve and sand surfaces relatively easily. Wet sand paper and chisels for scraping will get a lot done for you that is very difficult at full cure. Baby sitting a piece is crucial to efficient work. Just the right timing means easy finishing, where another 7 hours it will take a great deal of tool dulling, paper consuming effort. A little more time and it is diamond grit only. It is slightly fragile while green so precaution must prevail. We do much more scraping and stroking and *no hammering*.

5th Cured. (Like rock). If you have to tool it now you better have power and diamond grit. But polishing can certainly be achieved in this fashion. Stains can be applied now to give it rich patina just like Mother Nature produces. Polymer modified cements were designed to adhere better, spread thinner, and create a barrier to water seepage. Our formula is pretty good at these factors. To protect against weather and staining we want to seal the surface with commercial product. This provides opportunity to deal with that last few microns of surface and get a gloss like a polished stone without as much elbow grease. Sealer will be discussed in later pages.

What You Need to Make Stone Coat

Cement making is as old as the Coliseum in Rome, but our stuff needs finesse. You place the fluids in a clean container and add the dry materials slowly while mixing. But long before this moment we have done a lot of preparation.

Accurate measurement is very important to strength of material. Our formulas optimize ingredients for strength. Too much fluid and it gets weak. Very careful math and pre measured batches will reduce errors which you do not want on the surface of your piece. You will need a good scale, calculator, containers, scoops and mixers. For a life size piece you will have anywhere from 25 lbs. down to 1 gram of material to measure. I recommend a good digital scale that will deduct a tare. I'm told the best deals on these are at head shops. (I've been using an old grocer's scale and a triple beam so long that I've never needed to change to digital).

Managing and measuring pigment: I use paper folded foursquare and opened on the scale to hold the precious little dust mounds of pigment. A Popsicle stick can scoop a small portion for deposit on the paper. The dust stays in the folds until you tip it up and pour into the bowl. For trials and finding your specific color use the reverse measure technique. (Weigh your stock, use what you need, reweigh the stock, subtract).



A notebook is a must for charting your formulas and reducing batch sizes. A calculator should be near by as well. You will inevitably need to make a little more material to patch or finish something that needs to match what you did earlier. If you're in it for the long haul, you may need to reproduce a formula two years out, so dating and labeling is a good idea for your notes. Timing and temperature have great effects on cement based material so heat control is to be noted as well. For me the shop is not like July in January.

Surface Coat Application



Here you see surface coats painted on and cross hatched with the brush. Then the palette knife was used to trowel and create a directional "grain" to the wet material. When you sand it you will see the cream lines where the trowel strokes occurred. This can be used to your advantage as a feature of the stone in your final surface. If ignored you may get a color variegation you do not want.

