Topic A110-

A Discussion of Casting Materials

There are lots of different materials you can cast into alginate. There's plaster, Forton MG, Silicone, Wax and gypsum cements like the LifeCAST product sold by LifeCasting Arts retailers.

Plaster: Just too soft for almost all lifecasting work. Most plasters are in the 800-1200 psi range which means you can scratch them with your fingernail even when completely set. Adding beer to the plaster ("beer stone") just about triples this strength which still isn't quite hard enough for most work- and the casting will smell like beer for a very long time.

Forton MG: Forton is a great product. It consists of a liquid polymer that is added to gypsum cement in addition to, or sometimes in place of, the water. This strengthens the gypsum and produces a very hard, smooth surface. It can also help with the entrapment of air bubbles. You can add bronze powder to the first coat inside a face cast or a torso cast and get a casting that looks sort of like a bronze. Forton and the bronze powders get pretty expensive however and for most work just isn't necessary.

Silicones: Addition silicones or RTV (room temperature vulcanizing) rubbers can be poured against alginate. The silicone can be colored and the result is a soft sculpture with amazing detail. For certian types of projects it is great, but for most, the silicone is just too soft and the coloring is kind of weird. They can be painted with special paints, but that's a lot of specialized work far beyond the skill level of most hobbyists. Silicones are also very expensive.

Wax: Pouring up wax castings is usually reserved for those doing a real bronze sculpture. The wax positive cast is "invested", the wax is burned out of the investment and hot metal is poured in. If you ever get a chance to go to a bronze foundry, take it. The process is fascinating and the molten metal is "not to be believed".

LifeCAST Gypsum Cement: Plaster is a type of gypsum cement, but as we've seen is pretty soft when set. LifeCAST is also a gypsum cement, but has a final set strength of between 8000 and 9000 psi. This is strong enough that you cannot scratch it with a fingernail, but soft enough that it can be worked with hand tools. This facilitates small "fixes" that might be necessary. Some gypsum cements are much harder than this- ranging up to over 20,000 psi. While this may sound good, "working" the set casting requires power tools and is too hard in our estimation. LifeCAST is also quite inexpensive.

Acrylic and Urethane Resins: Some resins work great, and others do not. The problem is water. Alginate is like a wet sponge and the inside surface will be wet throughout the curing time of the resin. If that's a problem for your resin, then its a problem. Do a small test before committing to a whole project.