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## AeroMarine Underwater Potting Compound

AeroMarine Underwater potting compound is used for encapsulating circuitry and splicing cables. Most applications tend to involve immersion in sea water, although the product is suitable for many other applications.

### Features:

- Room temperature cure
- Low viscosity
- Simple, noncritical 1-1 mix ratio
- Negligible shrinkage

### Specifications:

Viscosity:	2000cps
Color:	Black
Work life:	5 minutes@70F
Cure time:	12 hours@70F
Shore Hardness:	75A
Dielectric Strength:	450 volts/.001"
Volume Resistivity:	$1.3 \times 10^{14}$ Ohm/Cm
Tensile elongation:	150%
Tensile strength:	650psi
Maximum temperature:	105°C

### Directions for use:

Mix the resin and hardener in equal parts by volume. AeroMarine Underwater Potting Compound begins to gel in about 5 minutes, depending on the size of the batch and the temperature.

Apply to clean dry surfaces. Cleaning with acetone, alcohol, or MEK is recommended. Sanding or abrading surfaces generally increases bond strength.

### **For industrial or professional use only**

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## Best practices when using urethane elastomers

**Never mix less than about 3 ounces of product.** When manufacturers design and test their resins they normally write the specifications for 100 gram batches, which is about 3 ounces. There are two bad things that can happen when mixing a smaller batch. Because the sample is small, it is much more difficult to get the mix ratio correct. Also, these mixtures are exothermic, meaning that they generate heat in order to cure. A tiny batch does not generate enough heat to cure the resin properly.

**Avoid mixing with drill motors.** Mixing with an electric drill can cause a few problems. Frequently they don't get into every corner of the mixing container. Also, if they spin too fast they can generate friction in the resin causing it to exotherm out of control resulting in premature curing. Powered mixing also can generate a lot of air bubbles.

**If you use a mold release, let it dry for a while.** A spray can of mold release contains a lot of solvents and propellants- these compounds need to evaporate off the surface so they don't cause bubbles.

**Don't vary the mix ratio.** Unlike some polyester resins, altering the mix ratio to vary the cure cycle doesn't work with urethane elastomers.

**Consider mixing everything twice-** especially if you are a beginner. Mix the two components together, then transfer the mixture to another container and mix them again. The theory is that the liquids clinging to the sides and bottom of the containers don't get mixed well. By transferring the mixture to another container, you are assured that everything is well mixed. Any unmixed material stays in the first container.

**Mix in plastic containers.** Paper cups contain moisture which may adversely affect the polyurethane. Avoid waxed paper cups because the wax may melt and contaminate the resin.

**How to avoid air bubbles-** Air bubbles in urethanes are almost always caused by moisture. Do everything possible to avoid moisture getting into the mix. This includes replacing the lids onto the containers promptly after use as well as avoiding using the product during rainy days or times of high humidity. Avoid pouring against an unsealed water based product such as plaster or hydrocal. Consider sealing plaster or hydrocal with something such as Krylon Clear Acrylic. We stock an aerosol nitrogen blanket called "Extend-It" that can increase the shelf life of the urethane during storage.

**Avoid mixing a large batch-** At least until you are familiar with the product. The larger the batch, the more exotherm or heat is generated in the cure cycle. If you are casting a large part, consider mixing small batches to make the process more manageable. Thickness of the pour also affects the exotherm and cure speed. A very thin pour will take much longer to cure than a thick pour.



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**Shake or stir well before use-** The liquid components may settle in the containers during storage. Therefore it is a good idea to shake or stir the components separately before mixing.

**Test-** Always make a test determine the feasibility of your process. There are many unforeseen factors that can affect the outcome of your project. Running a controlled test may be inconvenient, but it can make the “Learning Curve” of processing these products much easier.