

# A Preliminary Review of Some Alternatives to PhillySeal R Epoxy Putty

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## Brief History-

Originally introduced as Pliacre over twenty years ago, PhillySeal R epoxy putty was developed by Philadelphia Resins as a marine filling compound. Relatively inexpensive, its ease of use and beneficial working properties such as low curing heat and high compressive strength (15,000 PSI) made it a popular choice for many applications in the fields of conservation and mountmaking. It consistently passed Oddy testing (silver, copper, and lead coupons) and was considered inert.



## Conservation Applications-

In conservation, PhillySeal has been used to create structural fills in the restoration of ceramics, stone, and metal objects. The consistency of the putty allowed it to be easily shaped to the size of the loss and finished appropriately, as in this example of a marble statue with PhillySeal fills shown in gray.



## Mountmaking Applications-

PhillySeal became widely used in the field of mountmaking, where it was integrated into various mount designs. Artworks with uneven surfaces or complex shapes could be supported easily by casting the epoxy putty as an interface layer, providing even support between the object and the mount or display surface.



## Product Search-

In 2007, Philadelphia Resins announced that they would cease the manufacture of PhillySeal. As a result, the Antiquities Conservation department at the Getty Museum undertook to seek out a suitable replacement product. The initial search parameter was simple: locate products with similar properties as PhillySeal for testing. As the search progressed, we discovered this was not going to be an easy task. We came across number of other products with working properties different from PhillySeal that looked promising, so we decided to expand our Oddy tests to include some of these epoxies as well. We identified a variety of less viscous pastes and quick-setting putties for testing.



## Testing-

Samples of over thirty epoxies were prepared for a standard, non-contact Oddy testing. Each product was mixed and cured 4-6 weeks in advance, then cut into 1-cm cubes that were placed in a sealed environment at a high humidity level with a metal sample coupon. Every epoxy was tested separately with silver, copper, and lead sample coupons for one month at an elevated temperature.

