

Make Your Own Oil Paste

There are times when we need to attach parts that have been fired. Slip or normal clay will work for this as long as sufficient time is allowed for the metals to fuse together. That's true, but a kind of paste has been developed specifically for this purpose. And here's a breakthrough—now you can make this paste yourself. This article will describe the process and illustrate the testing process that leads us to endorse this method.

MAKING THE PASTE

The special ingredient is lavender oil, an essential oil sold in health food stores and other places that carry herbal medicines. This will probably come in a small bottle with an eyedropper top. Careful reading of the label will tell you that this is a mixture of oil, water, and alcohol. It is also possible to buy a stronger version, but that is not recommended. A bottle will cost about \$10 and will probably last for several years.

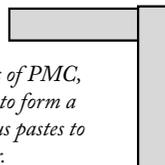
One method is to add the oil to PMC3 Slip. The proportions are not specific, but a full container of slip will probably require 25–35 drops of lavender oil. If you have a half-empty container, reduce the number accordingly. Stir well, cover, and allow the mixture to mingle overnight. The desired consistency is similar to normal slip, though perhaps a bit creamier. Add more oil or water to achieve a workable consistency.

If you have dried pieces of PMC around, you can also make lavender paste from that starting point. Sand the dry chunks, working over a piece of paper so you can collect the dust. Add equal parts of lavender oil and water, mixing as you go until the consistency is smooth and creamy. Again, allowing the mix to mingle seems to improve it. As the paste dries out, add equal parts of water and oil.

You can use lavender paste like any slip, but its specialty is in joining fired metal pieces. The pieces should be clean; if you have tumbled or polished them, run them through a quick firing to burn off any residues. Apply the lavender paste with a brush or a needle, set the pieces together, and fire as shown below.

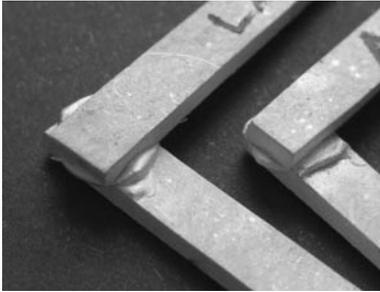
OUR TESTS

To test the strength of bonds made with various pastes, we first rolled out a sheet of PMC+ and cut it into regular lengths. These were fired for 30 minutes at 1650° F. Pairs of bars were attached at right angles to make an L-shape. These were fired at various temperatures, then cooled. The legs were grasped in pliers and pulled apart, a bit like you'd pull the legs of a wishbone. The legs would



After making fired strips of PMC, we joined pairs of pieces to form a right angle, using various pastes to cement the parts together.





This close-up shows two of the brackets after firing. In each case, an equal and generous puddle of paste was used to make the joint.

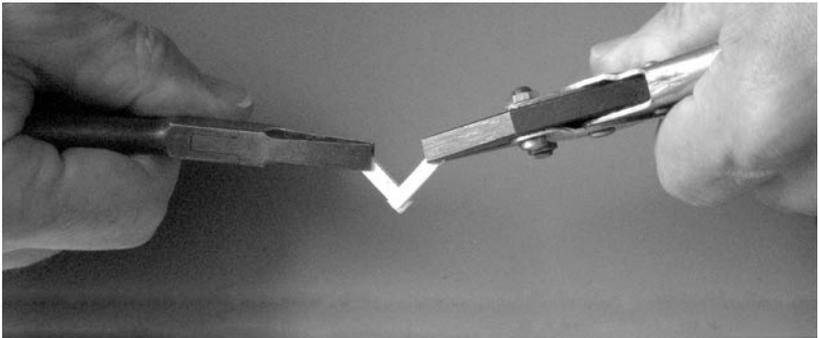


The pieces were pulled until the joint failed. By observing the amount of curve that appears before the break, we can compare

bend a little then in most cases the joint came apart. By comparing the angle achieved before breaking, it is possible to compare the strength of the bonds.

As you can see, the homemade lavender paste was the strongest mix tested. In fact, two of the three samples are not broken... our tester wasn't able to pull the pieces apart! Is this a scientifically rigorous test?

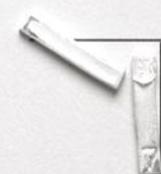
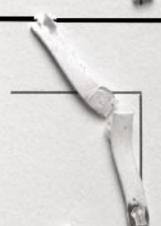
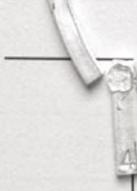
No, of course not. But this is the sort of expensive and time-consuming test that few people can do on their own. The Guild is happy to offer this new paste and our data to our members. Please let us know how it works for you.



Each of the L-shaped pieces was fired for 30 minutes, using the three most familiar temperature settings. Each one was then grasped in pliers and pulled apart until the joint failed. In three cases, the tester was not able to break the joint.



Strength Comparison Test Results

Temp. °F	Lavender Oil	Art Clay Oil Paste	PMC3 Slip
1470	 DIDN'T BREAK		
1560	 DIDN'T BREAK		
1650			 DIDN'T BREAK

The test results show that lavender oil out performed the other oil paste and normal slip at all temperatures. It is always best to fire as long and as hot as possible, but it is good to know that you can achieve a strong bond even when the presence of glass, sterling, or other components require a lower temperature.

OTHER USES OF LAVENDER OIL

Aroma therapists use lavender oil to promote relaxation, to reduce stress, and to soothe anxiety. A friend mentioned that he mists a bit onto his children's pillows to help them to a peaceful sleep.

Of particular interest to metalsmiths, lavender oil is used

to ease the pain of burns and to reduce the risk of scarring. Jewelers in the know keep a bottle of lavender oil at their bench in anticipation for the inevitable minor burns that arise when soldering.

