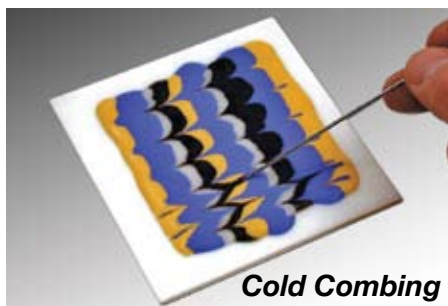


**LSM** Liquid Stringer Medium is designed to mix with any form of crushed glass to make a paste that is often referred to in the glass art world as pate-de-verre. This is an ancient technique in which glass is made by blending powdered glass of different colors into a paste. At room temperature, this glass paste can be sculpted into shapes or squeezed from bottle. At glass fusing temperatures, the glass particles bond together forming a solid. LSM is the unique binder that holds the glass particles together until they bond.



### Piping

Much like cake decorating, piping is decorating by adding lines of liquid glass instead of icing. There are many variations of piping. You can use piping to simply sign your name in glass or crisscross colored glass lines to create an intricate and original design. One very exciting variation of piping is "cold combing". Cold combing is a "cool" way to achieve the "hot" details of combed glass. The process is simple. squeeze out some colored lines of mixed LSM and comb away at room temperature. How you mix the glass and LSM will be more art than science. A few drops of water or a little more glass powder will change the viscosity of your LSM mixture. The difference of a few drops of water will make your LSM mix suitable for cold combing or signing your name.



### Mixing LSM

Mix components thoroughly. One easy way to mix is to place the ingredients into a Ziploc plastic bag and massage the bag with your fingers. To transfer the mixture to a squeeze bottle, cut off a small corner of the bag and squeeze the mix into the bottle. The ratio of LSM to glass is the same when using fine ground glass, glass powder or enamels. If the glass particles are about the texture of salt or smaller, the exact size does not significantly vary the mixing ratio.



### Ground Glass



### LSM



### Mix & Cut Corner

### Piping Mix:

Use a measuring spoon to mix equal parts of LSM and glass.

- 1 Tbsp. LSM to 1 Tbsp. glass.
- Ideally this mixture is just thin enough to flow out of the applicator and retain a round shape.
- Lines of piping mix can be added to a single unfired piece of glass, directly applied to a kiln shelf or added as decoration to a pre-fused project. The process is the same, but the heating and annealing part of the firing cycle will be based on the size and thickness of the base glass.

### Cold Combing Mix:

Use a measuring spoon to mix equal parts of LSM and glass.

- 1 Tbsp. LSM to 1 Tbsp. glass.
- Add 20 – 30 drops of water for each tablespoon of LSM.
- Ideally this mixture will flow out of the bottle without being runny.

### Cold Combing Tip:

- Allow to dry completely before firing. This will minimize the number of bubbles in the surface of the combed area.
- Fire your combed art to any temperature. A temperature of 1350°F with a 10 minute soak will produce a granular appearance. Past 1350°F, the hotter you go the smoother the finished surface will be.

### Storing Mixed LSM

If stored and racked in bottles as shown below, LSM mix will remain workable for months. If some drying does occur, renew your mix by adding a few drops of water.



If your LSM and ground glass is not flowing from the bottle end, you may need to clean or enlarge the opening. Ream the tip with a 1/8" drill bit first. If a larger opening is needed use the next drill size larger to ream the tip.

Download more LSM information!

[www.mortonglass.com](http://www.mortonglass.com)

PDF from Fuse Master includes great tips and details for using LSM.

Developed by **Fuse Master Products** Newberg, OR  
 Manufactured by **Morton Glass Works** Morton, IL