



Data Sheet

Mokume-gane

22k Gold/Sterling Silver Rod
& Random Sheet



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22K Gold/Sterling Silver Rod

COMPOSITION:

42% 22K rose gold, 58% sterling silver.
15 layers total. Seven(7) 22K gold layers. Eight(8) sterling silver layers. The sterling layers are twice as thick as the gold.

DENSITY:

Noticeably more dense than sterling silver. Average empirical density of 7tr oz/cubic inch or 13.2 grams/cubic centimeter.

APPROX MELTING POINT:

Starts to melt at 1475°F, melts at 1640°F.

ANNEALING:

Anneal like sterling silver at 1150°-1325°F, either with a torch and flux coating or in an inert atmosphere furnace. Do not heat above 1325°F.

DO NOT QUENCH!

CHARACTERISTICS:

Sterling silver based mokume-gane works very much like sterling silver. When forging or rolling do not reduce the cross section by more than 50% without annealing. Cold twist and forge only. Anneal when the rod starts to feel hard. Avoid excessive annealing.

PATTERN DEVELOPMENT:

Patterns may be developed by twisting, forging and stock removal.

SOLDERING:

Use the same considerations as if soldering sterling silver. Gold or silver Easy and Medium solders may be used.

ETCHING:

Use all chemical solutions with proper ventilation, safety equipment and supervision.

Etching the final piece is desirable because it lowers the sterling; creating a 3D topography. The lowered sterling will then take a patina and remain dark against the bright gold.

Prior to etching, remove any smearing of the surface metals. Use a 35% Nitric Acid solution in water. Watch this process carefully to avoid over etching. Use fresh acid solutions only. Old acid may deposit silver on the gold, dulling the color. Neutralize in a baking soda solution and rinse well in running water.

PATINA:

For best results clean the surface well with soap to remove all oily contamination. Prepare the surface by rubbing with fine pumice. Traditional liver of sulphur can be used effectively. Dissolve a small amount in warm water forming a light brown solution. Warm the metal under running water. Then gently rub a small amount of the solution on the whole surface and rinse. Continue alternating application with rinsing until the color is achieved. The sterling should take on a black/brown color.

Antique Patina should be diluted and applied as suggested above. At full strength a variety of colors can be achieved even on the gold.*

*NOTE:

All patinas are temporary. The environment they live in will affect them in many ways. They will often respond to the chemistry of the wearer. Waxes and lacquers can be applied to help stabilize the colors but in themselves should be considered temporary fixes.

22K Gold/Sterling Silver Random

COMPOSITION:

42% 22K rose gold, 58% sterling silver.
Twenty Seven(27) total layers. Thirteen(13) 22K gold. Fourteen(14) sterling silver including the sterling back. The sterling layers are twice as thick as the gold.

DENSITY:

Noticeably more dense than sterling silver. Average empirical density of 7tr oz/cubic inch or 13.2 grams/cubic centimeter.

APPROX MELTING POINT:

Starts to melt at 1475°F, melts at 1640°F.

ANNEALING:

Anneal like sterling silver at 1150°-1325°F, either with a torch and flux coating or in an inert atmosphere furnace. Do not heat **above** 1325°F.

DO NOT QUENCH!

See the 22K Gold/Sterling Rod for more specification and working guides.