Shining Wave Metals

Data Sheet

Mokume-gane

18K Yellow Gold/Palladium 950 Rod

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18K Yellow Gold/Palladium 950 Rod

COMPOSITION:
Approximately 65% 18KY and 35% Palladium 950 by weight. The relative layer thickness is about 4 to 5, Pd 950 to gold. Nineteen (19) layers, alternating 18KY (10) and Palladium 950 (9).

QUALITY MARK:
60% 18K though this has no legal standing in the USA.

MELTING POINT:
Starts to melt at 1668˚F (908˚C). There is no eutectic interaction between the two component metals.

SOLDERING:
Solder with Medium to Easy 18K gold solder.

ETCHING:
Etching is not recommended.

ANNEALING:
Recommended annealing temperature is 1475-1525ºF (800º - 825ºC). This material may be torch or kiln annealed. This is about a bright red-orange in a dark room, if done by eye. Soaking at the annealing temperature is not recommended. Protection from oxygen by coating with flux or annealing in a reducing atmosphere will maintain the brightness of the gold. **DO NOT QUENCH AFTER ANNEALING**. Let air cool to about 700ºF (370ºC) before cooling rapidly. A note to the impatient: speed cooling can be done by resting the hot metal on a heavy steel plate. Pickle as needed. Over-annealing in frequency, time and temperature is not recommended. Over annealing can cause excessive grain growth and significantly weaken the metal.

PATTERN DEVELOPMENT:
This mokume is easily formed by raising, cold forming, die striking and sawing. Anneal after a 40% - 50% reduction has been achieved. Cold forge only. **DO NOT HOT WORK THIS MATERIAL AS DOING SO WILL VOID THE WARRANTY.** Use a solder that flows at a temperature lower than the melting point of the 18KY. The ends of the rod may be sealed with hard 18K gold solder during the initial stages of rolling or forging, though this is not done during the fabrication process. The solder can be filed off when nearing the final shape of the work.

Heavy buffing is not recommended as it may smear the layers and muddy the pattern. Use abrasives and tools that cut rather than grind. If a rotary tool is used, it is often best to remove tool marks with abrasive paper or water stones before buffing. Matte finishes will show the color contrast best. Sandblasting or glass beading can produce interesting results; experimentation with surface finish is recommended before determining a final form.

This mokume can be enameled on with enamels that work on gold and palladium.

Please see the following guide on twist patterning: http://tinyurl.com/b4wvjyp

NOTE:
Take proper safety precautions when using any chemicals or tools. This information represents the best knowledge and experience regarding the use of Shining Wave Metals products by their manufacturer, however it is not guaranteed to produce an expected result and is no substitute for experimentation by the user of these products.