

Mokume Gane

(Moe-koo-may Gah-ney)

Hoover & Strong is pleased to announce the introduction of Mokume Gane, the Japanese art of patterning metal laminates. This style of metal manufacturing dates from feudal Japan and means "Wood Grain Metal". The style and look of patterns that can be created is limited only by your imagination.

The process of producing Mokume Gane feedstock is time consuming and not without problems. Sheets of your chosen metals (with different colors for maximum contrast) are diffusion bonded in a furnace to make a "billet". The sheets must be scrupulously clean and free from oxides, tarnish and grease for this process to work. Bonding must take place in an inert or reducing atmosphere for it to be successful. Once bonded, the billet is then carefully forged and rolled to sizes suitable for either direct patterning or for square wire sections. For any number of reasons there is always potential for the sheets in the billet to "de-laminate" or split apart. Unfortunately, in most cases when this happens you have to scrap part of or maybe your entire billet. You can easily become frustrated, and have a great deal of value invested in a billet that you can no longer use.

This is why the production of Mokume Gane jewelry has been the niche of those brave and committed enough to adopt this lengthy process and accept the potential failures inherent to it. Suppliers of ready-bonded billets are few, so we decided to make it easy for you by offering the following combinations, ready for you to pattern and process into beautiful jewelry designs.

We Offer Three Types of Mokume Gane Feedstock

- Un-patterned square wire in 4.5mm and 6.0mm sections
- Un-patterned sheet 3mm thick.
- Patterned sheet 0.5mm thick in four popular designs:

Random design

Raindrop design

Snake Skin design

River design

Mokume Gane Pattern Metal Combination

All Hoover & Strong Mokume Gane products are available in the following metal combinations:

Traditional Japanese Mokume Gane Alloys Bonded To Sterling Silver.

These consist of alternate layers of the following metals, all starting and ending with sterling silver:

- Copper and sterling silver (CU/STR)
- Shakudo and sterling silver (SHA/STR)
- Shibuishi and sterling silver (SHB/STR)

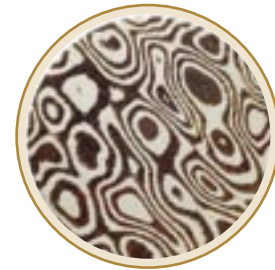
Shakudo (Sha-koo-doe) is an alloy of 4% gold, 96% copper.

Shibuishi (Shib-oo-eechee) is an alloy of 15% silver and 85% copper. These traditional metals can be patined to give a range of colors for the jeweler.

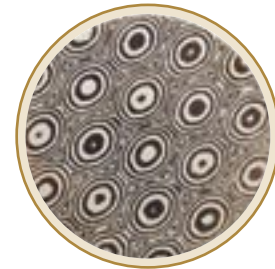


These rings were bonded and patterned exclusively by Andrew Nyce Designs, Inc.

Photography by www.nyceimages.com



Random (FP1)



Raindrop (FP2)



Snakeskin (FP3)



River (FP4)



These Mokume Gane examples are made exclusively by The Michael Daniels Collection

Karat Gold Alloys Bonded To Sterling Silver

These consist of alternate layers in the following 2-alloy and 3-alloy combinations, all starting and ending with sterling silver.

2-alloy combinations:

- 18k royal yellow gold and sterling silver (**18R/STR**)
- 14k palladium white gold and sterling silver (**14D/STR**)
- 14k red gold and sterling silver (**14P/STR**)

3-alloy combinations:

- 18k royal yellow gold/14k palladium white gold/sterling silver (**18R/14D/STR**)
- 18k royal yellow gold/14k red gold/sterling silver (**18R/14P/STR**)
- 14k red gold/14k palladium white gold/sterling silver (**14P/14D/STR**)

All Karat Gold

Hoover & Strong also offers all karat gold alloys, starting with 18k royal yellow gold.

3-alloy combination:

- 18k royal yellow gold/14k palladium white gold/14k red gold (**18R/14D/14P**)

Mokume Gane Product

Un-patterned Square Wire

All Hoover & Strong Mokume Gane square wires are manufactured from diffusion bonded 17 sheet billets. After bonding, the billets are hot forged and drawn/rolled to size. There are numerous patterns possible from Mokume Gane wire, the majority of which are generated by twisting the wire, and then a combination of rolling and removing metal to expose layers and reveal the pattern. While this produces very popular patterns to use for rings, it is also very unique in terms of manufacturing. The number of twists done to the wire and the depth of the cut necessary to achieve a pattern will be dependant on how many "repeats" of the pattern are required, the size of the ring and also the height of the ring. Matching the pattern where it joins can be difficult as well. Different sizes and heights require their own patterning schedule. Due to the large number of patterning techniques, Hoover & Strong cannot supply Mokume Gane pre-patterned wire stock, the jeweler must create the uniqueness of the pattern themselves.



Un-patterned Wire Feedstock

USE THESE CODES WHEN ORDERING UN-PATTERNED SQUARE WIRE STOCK

Karat Code	Product Code	Metal Combination and Description for 4.5mm or 6mm
M11	WSQ	Copper – 8 layers/STR – 9 layers square wire
M12	WSQ	18R – 8 layers/STR – 9 layers square wire
M13	WSQ	14P – 8 layers/STR – 9 layers square wire
M14	WSQ	14D – 8 layers/STR – 9 layers square rod
M15	WSQ	18R – 4 layers/14D – 4 layers/STR – 9 layers square wire
M16	WSQ	14P – 4 layers/14D – 4 layers/STR – 9 layers square wire
M17	WSQ	18R – 4 layers/14P – 4 layers/STR – 9 layers square wire
M18	WSQ	18R – 5 layers/14D – 8 layers/14P – 4 layers square wire
M19	WSQ	SHA – 8 layers/STR – 9 layers square wire
M21	WSQ	SHB – 8 layers/STR – 9 layers square wire



Good Ring Join



Bad Ring Join

Un-patterned Sheet

All sheet products are also manufactured from diffusion bonded billet, but this time 29 sheets are bonded. This is also hot forged and rolled to size. To pattern the sheet, the surface is cut and ground to expose the multiple layers, and then

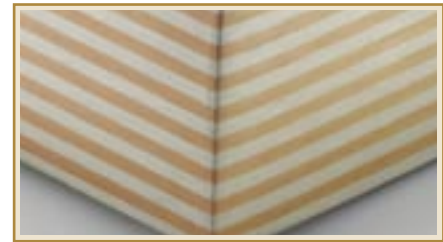
rolled flat to give the final pattern. An alternate method is to punch into the surface and remove metal from the opposite side, which will now be raised. This will again expose the multiple layers required to make the patterns.

USE THESE CODES WHEN ORDERING UN-PATTERNED SHEET STOCK

Karat Code	Product Code	Metal Combination and Description for 3mm un-patterned sheet
M31	BI	Copper - 14 layers/STR - 15 layers
M32	BI	18R - 14 layers/STR - 15 layers
M33	BI	14P - 14 layers/STR - 15 layers
M34	BI	14D - 14 layers/STR - 15 layers
M35	BI	18R - 7 layers/14D - 7 layers/STR - 15 layers
M36	BI	14P - 7 layers/14D - 7 layers/STR - 15 layers
M37	BI	18R - 7 layers/14P - 7 layers/STR - 15 layers
M38	BI	18R - 8 layers/14D - 14 layers/14P - 7 layers
M39	BI	SHA - 14 layers/STR - 15 layers
M41	BI	SHB - 14 layers/STR - 15 layers



Un-patterned Sheet Feedstock



Un-patterned Sheet Feedstock Close-up

Patterned Sheet

All patterned sheets are supplied at 0.5mm (0.020") thick, a popular size with Mokume Gane artists. This can be manipulated to form most types of jewelry from inlaid rings to earrings to pendants. Pre-patterned sheets come in the designs shown on the front, all offering unique opportunities for the jeweler to create unique jewelry.

So, if you want a 2" X 1" piece of raindrop patterned sheet in 14k palladium white gold and sterling, order: 2" X 1" M34 FP2. See examples to the right.

CODES FOR PATTERNED 0.5MM SHEET STOCK

Product Code	Designs
FP1	Random
FP2	Raindrop
FP3	Snake Skin
FP4	River

Other Quantities

All Hoover & Strong Mokume Gane products can be ordered in the following quantities:

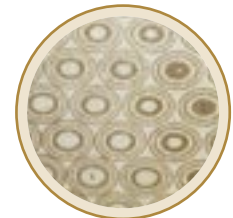
	6mm Square Wire	4.5mm Square Wire	3mm Thick Sheet	0.5mm Patterned Sheet
Min Size	1"	1"	1" x 1"	1" X 1"
Max 1-piece size	12"	12"	3" x 6"	3" X 12"

All dimensions must be ordered in one inch increments.

Patterned Sheet Examples



M35 FPI
18k royal gold/
14k palladium white gold/silver
Random



M34 FP2
14k palladium white gold/silver
Raindrop



M37 FP3
18k royal gold/
14k red gold/silver
Snake Skin



M36 FP4
14k red gold/
14k palladium white gold/silver
River

Silver Bi-metal Sheet

Bi-metal sheet is an ideal product for engravers or sterling silver jewelers who require karat gold accents. It consists of a layer of karat gold bonded to a layer of sterling silver. The karat gold layer can be engraved, gouged or removed by any method to expose the sterling silver layer underneath, resulting in a pleasing decorative effect. These are offered in:

3 x 3", 6 x 3", 9 x 3" and 12 x 3" sheets.



Bi-metal Sheet Cross Section



YOU CAN HELP PRESERVE OUR PLANET'S FUTURE.

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Hoover & Strong, a truly earth-minded refiner and manufacturer, has provided socially and environmentally-responsible products and services for over 95 years.

It is our moral obligation to continually respect basic human rights around the world and to protect the environment by conserving energy and recycling.

All HARMONY Metals and Gems™ share the exquisite beauty and elegance of virgin precious metals, diamonds and gemstones. There is absolutely no difference in appearance, quality, or value.

It just makes sense to buy 100% recycled metals and conflict-free diamonds and responsibly-sourced gemstones!

Show your customers your commitment to the environment and choose to buy HARMONY Metals and Gems™ today!

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