

Veberod Bulletin

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Hidden fancy sapphire pendant featuring natural patterned billet of mokume gane

Mokume Gane

Eye-of-the-wood-grain metal gives subtle organic look to high-end jewelry

In the seventeenth century, powerful regional families and military leaders known as Shoguns dominated Japan. During this time martial arts was part of everyday society and the Samurai's sword became a powerful icon, the pinnacle of the metalsmiths art. Artists were free to work in whatever materials they chose without regard to whether "precious" or not, and to pursue originality of design and intrinsic beauty, creating the ultimate blades and ornaments. Out of this culture came one of the most striking artforms in the jeweler's arsenal of techniques. Mokume gane, meaning *eye of the wood grain metal*, consists of alternating layers of contrasting metal fused together and patterned by deformation and forging. Although the techniques were developed over 300 years ago, they are still considered among the most difficult to master and require a considerable investment in time and materials.

Mokume Gane can be created with many different metal alloys, but the most common are silver, copper, shakudo (traditional Japanese alloy containing 95% copper and 5% gold), shibuishi (traditional Japanese alloy of roughly equal parts copper and silver), and gold alloyed to various colors. The stack of different layers of metal is known as a billet. Billets can be purchased already fused under controlled conditions, or can be created in the shop by someone with an abundance of skill and patience. The sheets of metal are thoroughly cleaned and stacked eight or more layers deep in some type of steel containment block. The block needs to exert pressure on the stack of metal sheets so that when they reach the proper temperature for fusing, there will not be any gaps. The fusion of the sheets takes place near the melting temperature of the metal, which can be achieved with a kiln, a forge, or even with torches. It is important to be able to observe the sides of the billet during firing to accurately determine when the fusing has commenced. On the other hand, it is also important to control the atmosphere at the surface of the billet, preventing access to oxygen. Commercial production of billets is accomplished with a hydraulic press in a furnace where the

atmosphere can be replaced with nitrogen or argon.

Once the billet is created, it is up to the jeweler to create patterns by removing material, deformation and forming. Each time after material is removed, the billet is forged or flattened to bring the resulting pattern to the surface. The result is a series of eyes and wavy lines reminiscent of wood grain! The intense stresses created in the billet during these processes test the quality of the fusion between layers, and it is not unusual to have a billet split between layers requiring repair before the creative process can be continued.

The patterns in a mokume gane ring are more than skin-deep. They are the surface manifestation of hidden patterns deep within the metal. They can not be worn away or polished off, although the actual pattern may change as metal is removed, just like the grain pattern found in a piece of wood! We have a limited supply of mokume gane on hand and are always willing to make something special for you!

Diamond ring with mokume gane shank



Veberod Gem Gallery
13023 Ridgedale Drive
Minnetonka, MN
952-595-8338
www.vgems.net