

**The Japanese “Mokume Gane”
technique for users**

Since the onset of this year, Schichtwerk has added manufacturing high-quality and durability galvanized layered material to its portfolio. “Mokume Gane” is produced by welding thin sheets of a variety of nonferrous heavy and precious metals and their alloys with contrasting colors. Welding is done without flowing agents or solder so that this process requires metals with metallurgic and processing qualities. The blocks of layered metal forged in this fashion are treated with hallmarking, milling, engraving or etching techniques, although torsioning, forging and rolling techniques also leave an imprint on metal layers. Etching and oxidation put the finishing touches on this process.

The visual impression left on the surface structure is similar to that of a fine wood graining. That's why the name of the process is translated from the Japanese “Mokume”, which means wood graining while gane equals metal. Gold- and silver-smiths who already have experience with galvanizing precious metals are aware of how difficult it is to prepare layered material. Unwanted melting processes or metal blocks that are difficult to machine, separate and delaminate completely after first contact with the goldsmith's roller are well-known problems. The Americans Hiroko Sato and Gene Pijanowski familiarized themselves with classical “Mokume Gane” in Japan in the 70's,

brought this technique to the United States and were the first to use them in jewelry. The Japanese sword smith Denbei Shoami (1651-1728) went down in history as the first to discover “Mokume Gane” of non-ferrous metals originally conceived for decorating precious Samurai swords. Its major uses were with hand guards, known as the tsuba, that increasingly emerged as a work of art and status symbol.

The layered work encompasses a wide range of materials such as

- copper / silver
- palladium / silver
- yellow gold / silver
- all the way to ternary alloys made of palladium, yellow gold and silver. >>>



Schichtwerk: Rings with the classical graining of the “Mokume Gane” material in silver and palladium



Schichtwerk: Various processing techniques have an effect on the surface structure