



*Angular Momentum
of Switzerland*

Shibuichi

The alloy of the Japanese Artisans

Shibuichi

is an alloy which can be patinated into a range of subtle muted shades of blue or green. Its name means „one-fourth“ in Japanese (shi = 4, bu = part, ichi = 1) and indicates the standard formulation of one part silver to three parts copper, though this may be varied according to the desired effect. A 5% silver / 95% copper alloy is also marketed as „shibuichi“.

A wide range of colours can be achieved using the whole range of alloy compositions, even above 50% silver. It is a common misconception that both copper and silver oxides form but in fact a detailed study has shown that only copper oxides are formed on the copper rich regions of the materials microstructure while the silver rich regions are left largely untouched.

For most of its history, shibuichi was mostly used to ornament various fittings for swords but has also been used on Inro, Netsuke, Sagemono and other Art objects. Similar alloys have been used elsewhere but the use of shibuichi to achieve different colored patinas has remained nearly unknown outside Japan, despite recent interest from artisans in the West.

HISTORY

The first known use of these alloys was in cast sculptures during the Han Dynasty in China. A similar alloy was used by pre-Columbian metalsmiths. The pre-Columbians depletion plated the alloy to form a silver rich surface that polished to look like silver. The alloy was adopted in Japan for use in sword furniture.

PATINATION

Shibuichi can be patinated to a wide range of grays, olive greens and even sky blue. Pale greens can be produced by alternately swabbing with clear ammonia and rinsing in warm water. A similar green can be produced on the fine silver surface left from reticulation by swabbing with a 50/50 mixture of ammonia and vinegar. The work is then suspended in a closed warm container with a pad soaked in ammonia. Heavy textured greens can be produced by adding salt to the ammonia/vinegar solution. Baldwin's Patina will produce grays and pale olive greens. These colors will also appear after extensive handling.

Patinas may be waxed or sealed to help prolong their life. They will inevitably change with time and usage. The chemical balance of the wearer may also affect the color.

Angular Momentum has introduced this special alloy to the horology and manufactured a collection of Artisan timepieces with watch cases and fittings in classic Shibuichi alloy. The watch cases of this collection are not patinated at all and appear in their beautiful original orange color.

All working steps are entirely made in the Angular Momentum ateliers

Melting of Copper in the furnace in the Angular Momentum Atelier



Adding fine silver to the molten Copper



Alloy is poured in salty water to produce grains for casting



Shibuichi grain for casting process of te blanks



Shibuichi blank and the semi-finished case





SHIBUICHI - VERRE ÈGLOMISÉ - TIGER

One-body shibuichi watch case with polished bezel and satinated fluted sides, Shibuichi fittings, crown with cabochon ruby, Mechanical self-winding movement. Verre Èglomisé miniature of a resting tiger on the reverse of the sapphire crystal. Oval aperture at 6 o'clock for digital time display by Disque d'Heure à Souscription, alligator strap with Shibuichi buckle, case caliber 42.00 mm.



SHIBUICHI - VERRE ÈGLOMISÉ - PHOENIX

One-body shibuichi watch case with polished bezel and satinated sides, Shibuchi fittings, crown with cabochon ruby, Mechanical self-winding movement. Verre Èglomisé miniature of a Phoenix rising from fire on the reverse of the sapphire crystal. Oval aperture at 6 o'clock for digital time display by Disque d'Heure à Souscription, alligator strap with Shibuchi buckle, case caliber 42.00 mm.