

PRODUCT CODE	SW 053 R
FINENESS	750 (18K)
COLOR	WHITE



Brief description

Master alloy for white gold 18K. The formulation of SW 053 R is suitable for universal applications. SW 053 R is recommended especially for CNC work and casting applications. The colour obtained with this alloy is standard white (rhodium plating suggested). Warning: this alloy contains nickel.

Suitable applications

Plates&Sheets	Solid Chains	Hollow Chains	Soldered Tubes	CNC Works	Open Casting	Closed Casting	Wax Setting
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Properties

Commercial composition	Ni30 Zn14 Ag0	Alloy's main elements (%)
Density	14.7	(g/cm ³)
Melting Range	910-940	Solidus - Liquidus (°C)
Hardness	210-/	Annealed - Hardened (HV)

Mould casting

Put first the alloy in the crucible and cover it with pure gold. Heat the metal 50-100°C more than Liquidus temperature, while protecting the melting with a reducing flame or keeping it in protective atmosphere. Heat the mould at 150 - 200°C and, when the melting temperature is reached, stir the metal and pour it in the mould; after casting, open the mould, wait until the metal reaches ≈500°C, then cool it in water.

Continuous casting

When using a continuous casting machine, it is preferable to pre-melt gold and alloy. Alloyed gold can then be poured in a mould or in water and re-melted in the continuous casting machine, or poured directly in the machine's crucible, heating it until it reaches alloy's liquidus temperature. Always protect the melting using a reducing flame over the molten metal. Machine's speed should be the highest possible.

Mechanical work

For the best mechanical results, reduce the section of the wire or plate at least of 50-60% before proceeding with the annealing process. The first reduction steps should be strong enough to ensure the metal inner part compacting.

Annealing

Heat the metal in protective atmosphere at 680°C for 15-30min (depending on the quantity), then wait until the metal reaches 500°C and finally cool it in a solution of 90% water and 10% alcohol or in warm water (≈40°C).

Hardening

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Casting

Flasks' temperature should be between 500-700°C, based on casted items' size and models' intricacy. It is preferable to pre-melt the alloy with gold before casting. Casting temperature is 50-100°C higher than the liquidus temperature. After casting wait 5-20 min before cooling the metal in warm water (≈40°C). In case of casting with stones, wait 30-45 min.

Pickling

Sulfuric acid (H₂SO₄) at 10% concentration and 50-60°C can be used to remove surface oxide. Rinse with attention the metal after pickling.

Scraps reuse

Up to 50% scraps can be added to the melting, removal of sprue button is suggested. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.