PRODUCT CODE	**SW 9T**
FINENESS	**375 (9K)**
COLOR	**WHITE**

Brief description

Master alloy for white gold 9 and 10K. The formulation of SW 9T is suitable for universal applications. This alloy is recommended especially for tubes production in low carats. The colour obtained with SW 9T is standard white (rhodium plating is suggested). The hardness of gold produced with SW 9T can be increased with heat treatment. Warning: This alloy contains Nickel.

Suitable applications

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

Proprieties

Commercial composition	Ni10 Zn12 Ag16	Alloy's main elements (%)
Density	10.9	(g/cm³)
Melting Range	960-1005	Solidus - Liquidus (°C)
Hardness	110-220	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 it 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 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 690°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

Heat the metal in protective atmosphere at 275°C from 1 up to 3 hours, then let it cool slowly in protective atmosphere until room temperature is reached.

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 (H_2SO_4) 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.

PRODUCT CODE	**SW 9T**
FINENESS	**417 (10K)**
COLOR	**WHITE**

Brief description

Master alloy for white gold 9 and 10K. The formulation of SW 9T is suitable for universal applications. This alloy is recommended especially for tubes production in low carats. The colour obtained with SW 9T is standard white (rhodium plating is suggested). The hardness of gold produced with SW 9T can't be increased with heat treatment. Warning: This alloy contains Nickel.

Suitable applications

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

Proprieties

Commercial composition	Ni10 Zn12 Ag16	Alloy's main elements (%)
Density	11.3	(g/cm³)
Melting Range	785-935	Solidus - Liquidus (°C)
Hardness	150 - 230	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 it 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 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 630°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

Heat the metal in protective atmosphere at 275°C from 1 up to 3 hours, then let it cool slowly in protective atmosphere until room temperature is reached.

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 (H_2SO_4) 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.