

<b>PRODUCT CODE</b>	<b>SW18 H</b>
<b>FINENESS</b>	<b>585 (14K)</b>
<b>COLOR</b>	<b>WHITE</b>



#### Brief description

Master alloy for white gold 14 and 18K. The formulation of SW18H is suitable for mechanical works. SW18H is recommended in any application where high resistance is needed. The colour obtained with this alloy is standard white in 14K (rhodium plating suggested), and off white in 18K (rhodium plating is necessary). 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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#### Proprieties

Commercial composition	Ni20 Zn13 Ag0	Alloy's main elements (%)
Density	12.7	(g/cm <sup>3</sup> )
Melting Range	950-975	Solidus - Liquidus (°C)
Hardness	145-/	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 700°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

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#### Pickling

Sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) 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. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.

<b>PRODUCT CODE</b>	<b>SW18 H</b>
<b>FINENESS</b>	<b>750 (18K)</b>
<b>COLOR</b>	<b>WHITE</b>



#### Brief description

Master alloy for white gold 14 and 18K. The formulation of SW18H is suitable for mechanical works. SW18H is recommended in any application where high resistance is needed. The colour obtained with this alloy is standard white in 14K (rhodium plating suggested), and off white in 18K (rhodium plating is necessary). Warning: This alloy contains Nickel.

#### Suitable applications

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

#### Properties

Commercial composition	Ni20 Zn13 Ag0	Alloy's main elements (%)
Density	14.7	(g/cm <sup>3</sup> )
Melting Range	905-930	Solidus - Liquidus (°C)
Hardness	180-220	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 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

Heat the metal in protective atmosphere at 300°C from 1 up to 3 hours, then let it cool slowly in protective atmosphere until room temperature is reached.

#### Casting

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#### Pickling

Sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) 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. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.