

<b>PRODUCT CODE</b>	<b>SY 041 P</b>
<b>FINENESS</b>	<b>375 (9K)</b>
<b>COLOR</b>	<b>YELLOW</b>



#### Brief description

Master alloy for 9, 10 and 14 carats yellow gold, casting applications. Gold produced with SY 041 P has a light-yellow shade, known as "Hamilton". Gold produced with this alloy is suitable for hardening with heat treatment.

#### Suitable applications

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

<b>Silver Quantity</b>	20%	Amount of silver contained in the alloy (%)
<b>Density</b>	11.1	(g/cm <sup>3</sup> )
<b>Melting Range</b>	775-870	Solidus - Liquidus (°C)
<b>Hardness</b>	120-250	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 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 and cool the metal immediately.

#### Continuous casting

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#### Mechanical work

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#### Annealing

Heat the metal in protective atmosphere at 580°C for 10-30min (depending on the quantity), then quickly 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 for 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 15-20 min before cooling the metal in warm water (≈40°C). In case of casting with stones, wait 30-45 min.

#### Pickling

Sulfuric acid (H<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>SY 041 P</b>
<b>FINENESS</b>	<b>417 (10K)</b>
<b>COLOR</b>	<b>YELLOW</b>



#### Brief description

Master alloy for 9, 10 and 14 carats yellow gold, casting applications. Gold produced with SY 041 P has a light-yellow shade, known as "Hamilton". Gold produced with this alloy is suitable for hardening with heat treatment.

#### Suitable applications

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

<b>Silver Quantity</b>	20%	Amount of silver contained in the alloy (%)
<b>Density</b>	11.4	(g/cm <sup>3</sup> )
<b>Melting Range</b>	780-865	Solidus - Liquidus (°C)
<b>Hardness</b>	120-220	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 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 and cool the metal immediately.

#### Continuous casting

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#### Mechanical work

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#### Annealing

Heat the metal in protective atmosphere at 660°C for 10-30min (depending on the quantity), then quickly 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 for 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 15-20 min before cooling the metal in warm water (≈40°C). In case of casting with stones, wait 30-45 min.

#### Pickling

Sulfuric acid (H<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>SY 041 P</b>
<b>FINENESS</b>	<b>585 (14K)</b>
<b>COLOR</b>	<b>YELLOW</b>



**Brief description**

Master alloy for 9, 10 and 14 carats yellow gold, casting applications. Gold produced with SY 041 P has a light-yellow shade, known as "Hamilton". Gold produced with this alloy is suitable for hardening with heat treatment.

**Suitable applications**

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

<b>Silver Quantity</b>	20%	Amount of silver contained in the alloy (%)
<b>Density</b>	12.9	(g/cm <sup>3</sup> )
<b>Melting Range</b>	795-850	Solidus - Liquidus (°C)
<b>Hardness</b>	135-200	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 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 and cool the metal immediately.

**Continuous casting**

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**Mechanical work**

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**Annealing**

Heat the metal in protective atmosphere at 630°C for 10-30min (depending on the quantity), then quickly 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 for 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 15-20 min before cooling the metal in warm water (≈40°C). In case of casting with stones, wait 30-45 min.

**Pickling**

Sulfuric acid (H<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.