PRODUCT CODE	**SSAG MS**
FINENESS	**550**
COLOR	**silver**

Brief description

Master alloy for silver. The formulation of SSAG MS is suitable for production of soldering wires and sheets. Depending on the chosen fineness, the resulting silver alloy can be a soft solder in 550‰, a medium-soft solder in 600‰ and a medium solder in 700‰.

Suitable applications

Soldering sheets	Soldering wires
■■■□□	■■□□□

Proprieties

Commercial composition	Zn15 In15	Alloy's main elements (%)
Density	9.7	(g/cm³)
Melting Range	660-705	Solidus - Liquidus (°C)
Type of solder	SOFT	Soft solders have lower melting point and higher wettability, while hard solders have high melting point and low wettability.

Mould casting

Put first the alloy in the crucible and cover it with pure silver. 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 and cool the metal immediately.

Continuous casting

When using a continuous casting machine, it is preferable to pre-melt silver and alloy. Alloyed silver 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 of 20% before the first annealing process and 40 - 50% before further annealing. Lower reduction could lead to grain growth of the metal structure, higher reductions could lead to brittleness.

Annealing

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

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. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.

PRODUCT CODE	**SSAG MS**
FINENESS	**600**
COLOR	**silver**

Brief description

Master alloy for silver. The formulation of SSAG MS is suitable for production of soldering wires and sheets. Depending on the chosen fineness, the resulting silver alloy can be a medium solder in 550‰, a medium-soft solder in 600‰ and a soft solder in 700‰.

Suitable applications

Soldering sheets	Soldering wires
■■■■□	■■■□□

Proprieties

Commercial composition	Zn15 In15	Alloy's main elements (%)
Density	9.8	(g/cm³)
Melting Range	675-720	Solidus - Liquidus (°C)
Type of solder	MEDIUM-SOFT	Soft solders have lower melting point and higher wettability, while hard solders have high melting point and low wettability.

Mould casting

Put first the alloy in the crucible and cover it with pure silver. 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 and cool the metal immediately.

Continuous casting

When using a continuous casting machine, it is preferable to pre-melt silver and alloy. Alloyed silver 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 of 20% before the first annealing process and 40 - 50% before further annealing. Lower reduction could lead to grain growth of the metal structure, higher reductions could lead to brittleness.

Annealing

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

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. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.

PRODUCT CODE	**SSAG MS**
FINENESS	**700**
COLOR	**silver**

Brief description

Master alloy for silver. The formulation of SSAG MS is suitable for production of soldering wires and sheets. Depending on the chosen fineness, the resulting silver alloy can be a medium solder in 550‰, a medium-soft solder in 600‰ and a soft solder in 700‰.

Suitable applications

Soldering sheets	Soldering wires
■■■■□	■■■□□

Proprieties

Commercial composition	Zn15 In15	Alloy's main elements (%)
Density	9.9	(g/cm³)
Melting Range	705-730	Solidus - Liquidus (°C)
Type of solder	MEDIUM	Soft solders have lower melting point and higher wettability, while hard solders have high melting point and low wettability.

Mould casting

Put first the alloy in the crucible and cover it with pure silver. 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 and cool the metal immediately.

Continuous casting

When using a continuous casting machine, it is preferable to pre-melt silver and alloy. Alloyed silver 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 of 20% before the first annealing process and 40 - 50% before further annealing. Lower reduction could lead to grain growth of the metal structure, higher reductions could lead to brittleness.

Annealing

Heat the metal in protective atmosphere at 530°C for 15-30min (depending on the quantity), then cool it in a solution of 90% water and 10% alcohol or in warm water (~40°C).

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. Always pay attention to the cleanliness of the scraps, de-greasing and pickling before adding them to new metal is suggested.