

GENERAL INFORMATION
General information

Production process	Universal
Color	Silver
Typology	Master alloy for silver

Melting temperatures

Liquidus [°C]	895.0
Solidus [°C]	775.0
Melting range [°C]	120.0

Commercial composition

Copper (%)	93,00
Zinc (%)	7,00



SILVER line

FULL CHARACTERIZATION DATA
Color coordinates

L*	97.6
a*	-0.5
b*	4.3
c*	4.3
Yellow index	7.5

Physical characteristics

Density [g/cm ³]	10.3
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General characteristics

As cast grain size [μm]	330.0
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Mechanical characteristics

As cast hardness [HV 0.2]	65.0
Hardness after annealing [HV 0.2]	90.0
Hardness after 70% area red. [HV 0.2]	155.0
Single step age-hardening hardness [HV 0.2]	95.0
Double step age-hardening hardness [HV 0.2]	150.0
Tensile strength (Rm) [Mpa]	475.0
Yield strength (Rp0.2) [MPa]	267.0
Elongation at rupture (A) [%]	25.0

Product applications

Massive chain production
Wire production
Sheet production
Casting in closed systems
Hollow chain production
Casting without stones
Continuous casting
Stamping production
Ingot casting
TIG tube production

CASTING PROCESSING PARAMETERS

Pre-mixing temperature [°C] 1015.0

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	640.0	680.0	995.0	1025.0
0.5 - 1.2 mm	560.0	640.0	975.0	995.0
> 1.2 mm	500.0	540.0	955.0	975.0

Trees without stones

Let the flask cool down for 5 minutes, then quench in water.

Pickling

Dip in RADIAL solution (50 g/l conc. at 60°C for 2 min.), or in sulphuric acid (10% conc. at 50°C for 5 min.)

MECHANICAL WORKING PARAMETERS

Pre-mixing temperature [°C] 1015.0

Reductions

Sheet - area or thickness (%) 70.0

Wire - diameter (%) 45.0

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot from [°C]	Ingot to [°C]
Temperatures	995.0	1075.0	975.0	1015.0

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
<1 mm	560.0	620.0	20.0
1 - 5 mm	560.0	620.0	25.0
>5 mm	560.0	620.0	30.0

Mechanical working quenching

Quench directly in water

AGE HARDENING PROCESSING PARAMETERS

SINGLE STEP AGE-HARDENING TREATMENT	Temperature [°C]	Time [min]	Quenching
Age-hardening	300.0	90.0	Air or in furnace

DOUBLE STEP AGE-HARDENING TREATMENT	Temperature [°C]	Time [min]	Quenching
Solubilization	730.0	40.0	Water, immediate
Age-hardening	300.0	60.0	Air or in furnace