

GENERAL INFORMATION
General information

Production process	Universal
Color	Silver
Typology	Ready-to-use silver

Melting temperatures

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

Commercial composition

Zinc (%)	0,50
Copper (%)	5,50
Silver (%)	94,00


SILVER line
FULL CHARACTERIZATION DATA
Color coordinates

L*	97.0
a*	-0.1
b*	3.7
c*	3.7
Yellow index	6.7

General characteristics

As cast grain size [μm]	100.0
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Mechanical characteristics

As cast hardness [HV 0.2]	60.0
Hardness after annealing [HV 0.2]	74.0
Hardness after 70% area red. [HV 0.2]	160.0
Single step age-hardening hardness [HV 0.2]	90.0
Double step age-hardening hardness [HV 0.2]	144.0
Tensile strength (Rm) [Mpa]	253.0
Yield strength (Rp0.2) [MPa]	134.0
Elongation at rupture (A) [%]	27.0

Product applications

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

CASTING PROCESSING PARAMETERS

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	560.0	600.0	995.0	1025.0
0.5 - 1.2 mm	520.0	560.0	975.0	995.0
> 1.2 mm	480.0	520.0	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
Reductions

Wire - diameter (%)	45.0
Sheet - area or thickness (%)	70.0

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