

**GENERAL INFORMATION**
**General information**

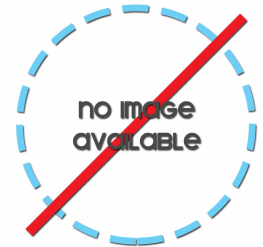
Color	White nickel-free
Production process	Universal
Color shade	Premium white
Typology	Master alloy for gold

**Melting temperatures**

Melting range [°C]	60.0
Liquidus [°C]	1080.0
Solidus [°C]	1020.0

**Commercial composition**

Palladium (%)	53,00
Zinc (%)	2,00
Copper (%)	45,00



Proderma

**FULL CHARACTERIZATION DATA**
**Color coordinates**

L*	79.6
a*	2.4
b*	7.0
c*	7.3
Yellow index	17.1

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	15.7
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**General characteristics**

As cast grain size [μm]	0.0
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**Product applications**

Sheet production
Casting in closed systems
Age-hardening
Stamping production
Casting without stones
Ingot casting
Continuous casting
CNC and lathe production

**Mechanical characteristics**

As cast hardness [HV 0.2]	160.0
Hardness after annealing [HV 0.2]	180.0
Hardness after 70% area red. [HV 0.2]	285.0
Single step age-hardening hardness [HV 0.2]	210.0
Tensile strength (Rm) [Mpa]	520.0
Yield strength (Rp0.2) [MPa]	332.0
Elongation at rupture (A) [%]	28.0

**RELATED PRODUCTS LIST**
**Related Products**

LSG406B	Master alloy for soldering of 750‰ (18 Kt) yellow gold
LSG409V	Master alloy for soldering of 750‰ (18 Kt) yellow gold

**Alternative Products**

NF512	Nickel-free all-purpose master alloy for 750‰ (18 Kt) white gold
OB316A	Nickel-free all-purpose master alloy for 750‰ (18 Kt) white gold

**CASTING PROCESSING PARAMETERS**

Pre-mixing temperature [°C] 1220.0

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	700.0	730.0	1190.0	1220.0
0.5 - 1.2 mm	660.0	700.0	1170.0	1190.0
> 1.2 mm	600.0	660.0	1150.0	1170.0

**Trees without stones**

Let the flask cool down for 10-15 minutes, then quench in water.

**Stone-in-place casting trees**

Let the flask cool down for 30-45 minutes, then quench in water.

**Pickling**

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

**MECHANICAL WORKING PARAMETERS**

Pre-mixing temperature [°C] 1220.0

**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	1180.0	1260.0	1160.0	1200.0

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
<1 mm	730.0	770.0	30.0
1 - 5 mm	730.0	770.0	35.0
>5 mm	730.0	770.0	40.0

**Mechanical working quenching**

Quench directly in water

**AGE HARDENING PROCESSING PARAMETERS**

SINGLE STEP AGE-HARDENING TREATMENT	Temperature [°C]	Time [min]	Quenching
Age-hardening	450.0	90.0	Air or in furnace