

**GENERAL INFORMATION**
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Color	White nickel-free
Production process	Universal
Color shade	Off-white
Typology	Master alloy for gold

**Melting temperatures**

Liquidus [°C]	960.0
Solidus [°C]	905.0
Melting range [°C]	55.0

**Commercial composition**

Silver (%)	42,00
Copper (%)	22,50
Palladium (%)	25,50
Zinc (%)	10,00



Proderma

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

L*	85.9
a*	3.0
b*	12.6
Yellow index	27.0

**General characteristics**

As cast grain size [µm]	30.0
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**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]	250.0
Single step age-hardening hardness [HV 0.2]	190.0
Tensile strength (Rm) [Mpa]	540.0
Yield strength (Rp0.2) [MPa]	330.0
Elongation at rupture (A) [%]	28.0

**Product applications**

Casting in closed systems
Casting in open systems
Sheet production
Sheet production
Continuous casting
Ingot casting
Casting without stones

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

LSG406B	Master alloy for soldering of 750‰ (18 Kt) yellow gold
LSG409D	Master alloy for soldering of 585‰ (14 Kt) yellow gold
LSG409V	Master alloy for soldering of 750‰ (18 Kt) yellow gold

**Alternative Products**

NF508	Nickel-free all-purpose master alloy for 585-750‰ (14-18 Kt) white gold
WH85B	Nickel-free master alloy for casting of 750‰ (18 Kt) white gold

**CASTING PROCESSING PARAMETERS**

Pre-mixing temperature [°C] 1080.0

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	700.0	730.0	1060.0	1090.0
0.5 - 1.2 mm	660.0	700.0	1040.0	1060.0
> 1.2 mm	600.0	660.0	1020.0	1040.0

**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 45-60 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] 1080.0

**Reductions**

Sheet - area or thickness (%)	60.0
Wire - diameter (%)	40.0

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot from [°C]	Ingot to [°C]
Temperatures	1060.0	1140.0	1040.0	1080.0

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
<1 mm	700.0	740.0	30.0
1 - 5 mm	700.0	740.0	35.0
>5 mm	700.0	740.0	40.0

**Mechanical working quenching**

Let cool in air down to 550°C, then quench in a 50% water/50% alcohol solution or in water

**AGE HARDENING PROCESSING PARAMETERS**

SINGLE STEP AGE-HARDENING TREATMENT	Temperature [°C]	Time [min]	Quenching
Age-hardening	350.0	90.0	Air or in furnace

**PRODUCT TECHNICAL GUIDELINES****Notes on alloy title**

In title 585‰ the alloy has high hardness and brittleness. We recommend the usage only in title 750‰.