

**MASTER  
ALLOY**
**WA12B5 375‰**

NI-PD FREE MASTER ALLOY FOR CASTING OF 375‰ (9 KT) WHITE GOLD

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

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

**Melting temperatures**

Liquidus [°C]	810.0
Solidus [°C]	785.0
Melting range [°C]	25.0

**Commercial composition**

Silver (%)	75,00
Copper (%)	17,00
Zinc (%)	8,00



Proderma

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

L*	93.7
a*	-1.1
b*	10.5
c*	10.6
Yellow index	18.7

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	12.0
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**General characteristics**

As cast grain size [μm]	600.0
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**Product applications**

Casting in open systems
Stone-in-place casting
Casting without stones
Casting in closed systems

**Mechanical characteristics**

As cast hardness [HV 0.2]	150.0
Hardness after 70% area red. [HV 0.2]	225.0
Hardness after annealing [HV 0.2]	140.0
Single step age-hardening hardness [HV 0.2]	200.0
Tensile strength (Rm) [Mpa]	418.0
Yield strength (Rp0.2) [MPa]	292.0
Elongation at rupture (A) [%]	26.0

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

LSB442	Nickel-free master alloy for soldering of 375‰ (9 Kt) white gold
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**Alternative Products**

NPF301	Ni-Pd free all-purpose master alloy for 375-585‰ (9-14 Kt) white gold
WA12B1	Ni-Pd free all-purpose master alloy for 375‰ (9 Kt) white gold

**CASTING PROCESSING PARAMETERS**

**Pre-mixing temperature [°C]** 1010.0

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	680.0	720.0	990.0	1010.0
0.5 - 1.2 mm	660.0	680.0	970.0	990.0
> 1.2 mm	640.0	600.0	950.0	970.0

**Trees without stones**

Let the flask cool down for 25 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 2 min.), or in sulphuric acid (10% conc. at 50°C for 5 min.)

**AGE HARDENING PROCESSING PARAMETERS**

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