

**MASTER  
ALLOY**
**WB140W 750‰**

 MASTER ALLOY FOR MECHANICAL WORKING OF 375-585-750‰ (9-14-18 KT)  
WHITE GOLD

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

Color	White
Color shade	Off-white
Production process	Mechanical working
Typology	Master alloy for gold

**Melting temperatures**

Liquidus [°C]	915.0
Solidus [°C]	890.0
Melting range [°C]	25.0

**Commercial composition**

Copper (%)	71,00
Nickel (%)	14,00
Zinc (%)	15,00



GOLD line

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

L*	84.5
a*	3.0
b*	14.9
c*	15.2
Yellow index	31.3

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	14.9
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**General characteristics**

As cast grain size [μm]	50.0
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**Product applications**

Ingot casting
Production of tube from continuous casting
Wire production
CNC and lathe production
Sheet production
Continuous casting
Age-hardening

**Mechanical characteristics**

As cast hardness [HV 0.2]	190.0
Hardness after annealing [HV 0.2]	190.0
Hardness after 70% area red. [HV 0.2]	295.0
Single step age-hardening hardness [HV 0.2]	280.0
Tensile strength (Rm) [Mpa]	533.0
Yield strength (Rp0.2) [MPa]	326.0
Elongation at rupture (A) [%]	35.0

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

CUT10X2	Copper tube, 10.0 mm diameter, 2.0 mm wall thickness, 2500 mm length, cold worked
L1A	Powder for soldering of gold and silver chains
LSB442	Nickel-free master alloy for soldering of 375‰ (9 Kt) white gold
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**

NI1811-04	Low nickel release master alloy for mechanical working of 750‰ (18 Kt) white gold
NI1811-05	Low nickel release master alloy for mechanical working of 585‰ (14 Kt) white gold

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**CASTING PROCESSING PARAMETERS**

Pre-mixing temperature [°C] 1035.0

CASTING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660.0	720.0	1025.0	1055.0
0.5 - 1.2 mm	580.0	650.0	1005.0	1025.0
> 1.2 mm	460.0	600.0	985.0	1005.0

**MECHANICAL WORKING PARAMETERS**

Pre-mixing temperature [°C] 1035.0

**Reductions**

Sheet - area or thickness (%)	80.0
Wire - diameter (%)	50.0

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot from [°C]	Ingot to [°C]
Temperatures	1015.0	1095.0	995.0	1035.0

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
<1 mm	660.0	700.0	30.0
1 - 5 mm	660.0	700.0	35.0
>5 mm	660.0	700.0	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	275.0	90.0	Air or in furnace