MASTER ALLOY

TECHNICAL SHEET

WB140W 375‰

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

GENERAL INFORMATION

General information	
Color	White
Color shade	Standard white
Production process	Mechanical working
Typology	Master alloy for gold
Melting temperatures	
Solidus [°C]	970.0
Melting range [°C]	40.0
Liquidus [°C]	1010.0

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

GOLD line

FULL CHARACTERIZATION DATA

Color coordinates	
L*	83.6
a*	1.2
b*	9.7
c*	9.8
Yellow index	21.0
Physical characteristics	
Density [g/cm³]	10.9
General characteristics	
As cast grain size [µm]	220.0

Mechanical characteristics	
As cast hardness [HV 0.2]	130.0
Hardness after annealing [HV 0.2]	140.0
Hardness after 70% area red. [HV 0.2]	280.0
Tensile strength (Rm) [Mpa]	485.0
Yield strength (Rp0.2) [MPa]	239.0
Elongation at rupture (A) [%]	32.0

Product applications
Wire production
Production of tube from continuous casting
Sheet production
Continuous casting
Cladding production
CNC and lathe production
TIG tube production
Ingot casting

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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MECHANICAL WORKING PARAMETERS

Pre-mixing temperature [°C]	1130.0

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	1110.0	1190.0	1090.0	1130.0

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

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