

**MASTER  
ALLOY**
**OB304R 375‰**

ALL-PURPOSE MASTER ALLOY FOR 375-585-750‰ (9-14-18 KT) WHITE GOLD

**GENERAL INFORMATION**
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Typology	Master alloy for gold
Color	White
Color shade	Premium white
Production process	All-purpose
Grain refinement level	Low
Deoxidation level	Minimum

**Commercial composition (%)**

CU	67.0
NI	21.0
ZN	12.0

**Melting Temperatures**

Solidus [°C]	995.0
Liquidus [°C]	1055.0
Melting range [°C]	60.0

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

L *	a*	b*	c*	Yellow Index
83.0	0.9	7.7	7.8	17.2

**Mechanical characteristics**

As cast hardness [HV 0.2]	150.0
Hardness after 70% area red. [HV 0.2]	290.0
Hardness after annealing [HV 0.2]	165.0
Tensile strength (Rm) [Mpa]	558.0
Yield strength (Rp0.2) [MPa]	321.0
Elongation at rupture (A) [%]	29.0

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	11.0
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**Product applications**

Continuous casting  
 Ingot casting  
 Massive chain production  
 Hollow chain production  
 Sheet production  
 Cladding production  
 Stamping production  
 TIG tube production

**CASTING PROCESSING PARAMETERS**
**Pre-melting temperature**

Temperature [°C] 1175

POURING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660	720	1145	1175
0.5 - 1.2 mm	580	650	1125	1145
> 1.2 mm	460	600	1105	1125

**Trees without stones**

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

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**MECHANICAL WORKING PARAMETERS**
**Pre-melting temperature**

Temperature [°C] 1175

**Reductions**

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

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot to [°C]	Ingot from [°C]
Temperatures	1155	1235	1135	1175

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
< 1 mm	660	700	30
1 - 5 mm	660	700	35
> 5 mm	660	700	40

**Mechanical working quenching**

Air cool down to 550°C, then quench in 50%/50% water/alcohol solution or in water.

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**AGE HARDENING PROCESSING PARAMETERS****SINGLE STEP****Temperature [°C]****Time [min]****Quenching****AGE HARDENING**