

**MASTER  
ALLOY**
**OR129W 375‰**

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

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

Typology	Master alloy for gold
Color	Red
Color shade	Pink
Production process	All-purpose
Grain refinement level	High
Deoxidation level	Minimum

**Commercial composition (%)**

CU	82.0
AG	16.0
ZN	2.0

**Melting Temperatures**

Solidus [°C]	845.0
Liquidus [°C]	940.0
Melting range [°C]	95.0

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

L *	a*	b*	c*	Yellow Index
85.6	7.4	15.3	17.0	

**Mechanical characteristics**

As cast hardness [HV 0.2]	150.0
Hardness after 70% area red. [HV 0.2]	260.0
Hardness after annealing [HV 0.2]	170.0
Tensile strength (Rm) [Mpa]	478.0
Yield strength (Rp0.2) [MPa]	288.0
Elongation at rupture (A) [%]	29.0

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	11.2
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**General characteristics**

As cast grain size [μm]	200.0
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**Product applications**

Continuous casting  
 Ingot casting  
 CNC and lathe production  
 Massive chain production  
 Hollow chain production  
 Wire production  
 Sheet production  
 Cladding production  
 Stamping production  
 Blanking production  
 Production of tube from continuous casting  
 TIG tube production

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

Temperature [°C] 1060

POURING TEMPERATURES	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660	720	1030	1060
0.5 - 1.2 mm	580	650	1010	1030
> 1.2 mm	460	600	990	1010

**Trees without stones**

Take out the flask within 1 minute from pouring, and quench it directly in water.

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

Temperature [°C] 1060

**Reductions**

Wire - diameter (%)	45.0
Sheet - area or thickness (%)	70.0

POURING TEMPERATURES	Countinous from [°C]	Countinous to [°C]	Ingot to [°C]	Ingot from [°C]
Temperatures	1040	1120	1020	1060

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
< 1 mm	620	660	25
1 - 5 mm	620	660	30
> 5 mm	620	660	35

**Mechanical working quenching**

Quench directly 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	250.0	90.0	In air or in furnace