

**MASTER  
ALLOY**
**SM1 917‰**

MASTER ALLOY FOR MECHANICAL WORKING OF 750-917‰ (18-22 KT) YELLOW GOLD

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

Typology	Master alloy for gold
Color	Yellow
Color shade	Rich yellow
Production process	Mechanical working
Grain refinement level	High
Deoxidation level	Minimum

**Commercial composition (%)**

CU	58.0
AG	39.0
ZN	3.0

**Melting Temperatures**

Solidus [°C]	955.0
Liquidus [°C]	980.0
Melting range [°C]	25.0

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

L *	a*	b*	c*	Yellow Index
87.2	7.9	27.1	28.2	

**Mechanical characteristics**

As cast hardness [HV 0.2]	70.0
Single step age-hardening hardness [HV 0.2]	70.0

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	17.3
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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] 1090

**POURING TEMPERATURES**

Flask from [°C]

Flask to [°C]

Metal from [°C]

Metal to [°C]

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

Temperature [°C] 1090

**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

1070

1150

1050

1090

**MECHANICAL WORKING ANNEALING**

Temp. from [°C]

Temp. to [°C]

Time [min]

&lt; 1 mm

650

680

25

1 - 5 mm

650

680

30

&gt; 5 mm

650

680

35

**Mechanical working quenching**

Quench directly in 50%/50% water/alcohol solution or in water.

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ALLOY****SM1 917‰**MASTER ALLOY FOR MECHANICAL WORKING OF 750-917‰ (18-22 KT) YELLOW  
GOLD**AGE HARDENING PROCESSING PARAMETERS****SINGLE STEP****Temperature [°C]****Time [min]****Quenching****AGE HARDENING**