

# A183N 750‰

ALL-PURPOSE MASTER ALLOY FOR 750‰ (18 KT) YELLOW GOLD

## GENERAL INFORMATION

### General information

Typology	Master alloy for gold
Color	Yellow
Color shade	Rich yellow
Production process	All-purpose
Grain refinement level	High
Deoxidation level	Minimum

### Commercial composition (%)

CU	51.0
AG	49.0

### Melting Temperatures

Solidus [°C]	875.0
Liquidus [°C]	900.0
Melting range [°C]	25.0

## FULL CHARACTERIZATION DATA

### Color coordinates

L *	a*	b*	c*	Yellow Index
86.0	5.3	23.8	24.4	

### Mechanical characteristics

As cast hardness [HV 0.2]	140.0
Hardness after 70% area red. [HV 0.2]	250.0
Hardness after annealing [HV 0.2]	155.0
Single step age-hardening hardness [HV 0.2]	245.0
Tensile strength (Rm) [Mpa]	427.0
Yield strength (Rp0.2) [MPa]	298.0
Elongation at rupture (A) [%]	42.0

### Physical characteristics

Density [g/cm³]	15.2
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### General characteristics

As cast grain size [µm]	150.0
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### Product applications

Continuous casting  
 Ingot casting  
 Casting in closed systems  
 Casting without stones  
 Handmade production  
 Massive chain production  
 Wire production  
 Sheet production  
 Stamping production  
 Age hardening

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## CASTING PROCESSING PARAMETERS

### Pre-melting temperature

Temperature [°C] 1020

#### POURING TEMPERATURES

	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660	720	1000	1030
0.5 - 1.2 mm	580	650	980	1000
> 1.2 mm	460	600	960	980

### Trees without stones

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

### Stone-in-place casting trees

Let the flask cool down for 30-45 minutes, then quench it in water.

### Pickling

Dip in RADIAL solution (50 g/l conc. at 60°C) for 2 minutes, or in sulphuric acid (10% concentration at 50°C) for 5 minutes.

## MECHANICAL WORKING PARAMETERS

### Pre-melting temperature

Temperature [°C] 1020

### 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	1000	1080	980	1020

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 water.

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**AGE HARDENING PROCESSING PARAMETERS**

SINGLE STEP	Temperature [°C]	Time [min]	Quenching
AGE HARDENING	275.0	90.0	In air or in furnace