

**MASTER
ALLOY**
SM1 750‰

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

GENERAL INFORMATION
General information

Color	Yellow
Color shade	Pink yellow
Production process	Mechanical working
Typology	Master alloy for gold

Melting temperatures

Liquidus [°C]	900.0
Solidus [°C]	880.0
Melting range [°C]	20.0

Commercial composition

Silver (%)	40,00
Copper (%)	57,00
Zinc (%)	3,00



GOLD line

FULL CHARACTERIZATION DATA
Color coordinates

L*	82.9
a*	5.5
b*	19.7
c*	20.5

Physical characteristics

Density [g/cm ³]	15.1
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General characteristics

As cast grain size [μm]	300.0
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Product applications

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

Mechanical characteristics

As cast hardness [HV 0.2]	160.0
Hardness after annealing [HV 0.2]	160.0
Hardness after 70% area red. [HV 0.2]	260.0
Single step age-hardening hardness [HV 0.2]	285.0
Tensile strength (Rm) [Mpa]	476.0
Yield strength (Rp0.2) [MPa]	322.0
Elongation at rupture (A) [%]	28.0

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
LSG406B	Master alloy for soldering of 750‰ (18 Kt) yellow gold
LSG409V	Master alloy for soldering of 750‰ (18 Kt) yellow gold
TOMBACP	Tombac plate, 10.0 mm thickness, 100.0 mm width

Alternative Products

Y142W	Master alloy for mechanical working of 750‰ (18 Kt) yellow gold
SCA4	Master alloy for casting of 750-917‰ (18-22 Kt) yellow gold

MECHANICAL WORKING PARAMETERS
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	1000.0	1080.0	980.0	1020.0

MECHANICAL WORKING ANNEALING	Temp. from [°C]	Temp. to [°C]	Time [min]
<1 mm	620.0	660.0	25.0
1 - 5 mm	620.0	660.0	30.0
>5 mm	620.0	660.0	35.0

Mechanical working quenching

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

AGE HARDENING PROCESSING PARAMETERS

SINGLE STEP AGE-HARDENING TREATMENT	Temperature [°C]	Time [min]	Quenching
Age-hardening	275.0	90.0	Air or in furnace