

TECHNICAL DATASHEET AND GUIDELINE

SCA5
Title 14 Kt

Master alloy for casting of 375-585‰ (9-14 Kt) yellow gold

GENERAL INFORMATION

Typology	Master alloy for gold
Production process	Casting
Color	Yellow
Color shade	Light yellow
Density [g/cm ³]	12.8
Melting temperatures	
Solidus [°C]	800
Liquidus [°C]	855

Commercial composition	
Ag (%)	18
Cu (%)	64
Zn (%)	18



FULL CHARACTERIZATION DATA

General characteristics	
As cast grain size [µm]	720
Fluidity (grid filling test) [%]	91
Color coordinates	
L*	87.1
a*	1.9
b*	18.2
c*	8.3

Mechanical characteristics	
Tensile strength (Rm) [MPa]	467
Yield strength (Rp0.2) [MPa]	268
Elongation at rupture (A) [%]	38
As cast hardness [HV 0.2]	125
Hardness after 70% area red. [HV 0.2]	275
Hardness after annealing [HV 0.2]	135
Single step age-hardening hardness [HV 0.2]	170

PRODUCT APPLICATIONS

Casting in open systems
Casting in closed systems
Casting without stones
Stone-in-place casting
Age-hardening

RELATED PRODUCTS

C141US	Lower silver content, casting in closed systems
C14GR	Higher level of grain refiners
LSG409	Medium/soft solder for 585‰ yellow gold
LSG409D	Medium solder for 585‰ yellow gold
LSG417F	Medium solder for 375‰ yellow gold
LSG419	Extra soft solder for 375‰ yellow gold

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CASTING PROCESSING PARAMETERS

Casting temperatures	Metal - from [°C]	Metal - to [°C]	Flask - from [°C]	Flask - to [°C]
Thin (below 0.5 mm)	955	985	660	720
Medium (from 0.5 to 1.2 mm)	935	955	580	650
Thick (above 1.2 mm)	915	935	460	600

Stone-in-place casting trees

Remove the flask from the chamber immediately (< 1 min) after pouring. Let it cool for 25 minutes in air, then quench in water.

Trees without stones

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

Pickling

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

AGE HARDENING PROCESSING PARAMETERS

Single step age-hardening treatment	Temperature [°C]	Time [min]	Quenching
Age-hardening	250	90	Air or in furnace