

**MASTER  
ALLOY**
**WB143C 375‰**

MASTER ALLOY FOR CASTING OF 375-585‰ (9-14 KT) WHITE GOLD

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

Typology	Master alloy for gold
Color	White
Color shade	Standard white
Production process	Casting
Grain refinement level	Minimum
Deoxidation level	Low

**Commercial composition (%)**

CU	42.0
AG	28.0
ZN	16.0
NI	14.0

**Melting Temperatures**

Solidus [°C]	740.0
Liquidus [°C]	770.0
Melting range [°C]	30.0

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

L *	a*	b*	c*	Yellow Index
83.3	-0.3	10.2	10.2	20.6

**Mechanical characteristics**

As cast hardness [HV 0.2]	180.0
Hardness after 70% area red. [HV 0.2]	300.0
Hardness after annealing [HV 0.2]	190.0
Single step age-hardening hardness [HV 0.2]	235.0
Tensile strength (Rm) [Mpa]	594.0
Yield strength (Rp0.2) [MPa]	422.0
Elongation at rupture (A) [%]	24.0

**Physical characteristics**

Density [g/cm <sup>3</sup> ]	11.3
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**Product applications**

Stone-in-place casting  
 Casting in closed systems  
 Age hardening

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

Temperature [°C] 890

**POURING TEMPERATURES**

	Flask from [°C]	Flask to [°C]	Metal from [°C]	Metal to [°C]
< 0.5 mm	660	720	870	900
0.5 - 1.2 mm	580	650	850	870
> 1.2 mm	460	600	830	850

**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 45-60 minutes, then quench it in water.

**Pickling**

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

**AGE HARDENING PROCESSING PARAMETERS**

SINGLE STEP	Temperature [°C]	Time [min]	Quenching
AGE HARDENING	350.0	90.0	In air or in furnace