

TECHNICAL DATA SHEET

WHITECH20M - 585 ‰

Master alloy for the production of white nickel and palladium free 585 ‰ gold jewellery obtained by mechanical working. This product, thanks to its complex composition made of numerous different special elements, ensures an extreme quality, an enhanced fluidity and a long lasting of this features also after many reuses of scraps, making it the most advanced nickel free master alloy for white gold.

TAB.1 - Mechanical data

Hardness as cast	171	HV
Hardness hardened	210	HV
Tensile strength	n.d.	
Yield strength	n.d.	
Elongation	n.d.	

TAB.2 - Physical data

Color	Standard white		
Colour Coordinates	L*:	84.24	
	a*:	1.54	
	b*:	10.06	
Density	14.77	g/cm ³	
Melting Range	Solidus:	840	°C
	Liquidus:	880	°C

TAB.3 - Heat treatments

Solution annealing	650 20	°C min
Recrystallization Annealing	650 20	°C min
Hardening	300 180	°C min

TAB.4 - Mechanical working parameters

Premelting temperature	see paragraph below		
Casting Temperature	Min:	930	°C
	Max:	970	°C
First thickness reduction	Lamination:	50	%
	Drawing:	25	%
Following thickness reductions	Lamination:	70	%
	Drawing:	50	%
Pickling after annealing	see paragraph below		

PREMELTING (MANDATORY)

A premelting of the master alloy and fine gold must be done to homogenize the alloy in the best way. For a proper premelting, first put the fine gold in the crucible and then switch on the power until 1100°C (make sure that the metal becomes liquid). After this, put the master alloy inside the liquid gold and, with a stirrer, push down the master alloy inside the gold, then decrease the temperature to 950-1000°C and pour into an ingot or do a granulation.

PICKLING

For a proper pickling, use a concentrated solution of sulfuric acid at 60 - 65°C for 20 mins or a 50 % solution of hydrochloric acid at 60 - 65° C for 10 min.