

TECHNICAL DATA SHEET

SPARK604HP + Pd35% - 750 ‰

Master alloy for the production of white palladium based 750 ‰ gold jewellery obtained by investment casting. The elements contained in this product ensure a high deoxidation in casting and a high surface quality, making it suitable for castings with and without stones in place. The use is suggested with the addition of 30 - 52 % of pure palladium to the master alloy.

TAB.1 - Mechanical data

Hardness as cast	n.d.	
Hardness hardened	n.d.	
Tensile strength	370	MPa
Yield strength	186	MPa
Elongation	14	%

TAB.2 - Physical data

Color	Standard white		
Colour Coordinates	L*:	86.87	
	a*:	0.97	
	b*:	14.23	
Density	15.72	g/cm ³	
Melting Range	Solidus:	983	°C
	Liquidus:	1062	°C

TAB.3 - Heat treatments

Solution annealing	675	°C
	20	min
Recrystallization Annealing	675	°C
	20	min
Hardening	275	°C
	180	min

TAB.4 - Investment casting parameters

Premelting temperature		1162	°C
Casting Temperature	Min:	1112	°C
	Max:	1212	°C
Water investment powder ratio		36-38	%
Flask temperature	Min:	450	°C
	Max:	700	°C
Quenching time without stones in place	Min:	5	min
	Max:	20	min
Quenching time with stones in place		15	min in boiling water
Pickling	H2SO4:	20	%
	Temp:	50	°C
	Time:	50	min

TECHNICAL DATA SHEET

SPARK604HP + Pd50% - 750 ‰

Master alloy for the production of white palladium based 750 ‰ gold jewellery obtained by investment casting. The elements contained in this product ensure a high deoxidation in casting and a high surface quality, making it suitable for castings with and without stones in place. The use is suggested with the addition of 30 - 52 % of pure palladium to the master alloy.

TAB.1 - Mechanical data

Hardness as cast	160	HV
Hardness hardened	n.d.	
Tensile strength	387	MPa
Yield strength	204	MPa
Elongation	10	%

TAB.2 - Physical data

Color	white palladium		
Colour Coordinates	L*:	80.86	
	a*:	2.33	
	b*:	9.16	
Density	16.06	g/cm ³	
Melting Range	Solidus:	925	°C
	Liquidus:	1112	°C

TAB.3 - Heat treatments

Solution annealing	675 20	°C min
Recrystallization Annealing	675 20	°C min
Hardening	275	°C
	180	min

TAB.4 - Investment casting parameters

Premelting temperature		1212	°C
Casting Temperature	Min: Max:	1162 1262	°C °C
Water investment powder ratio		36-38	%
Flask temperature	Min: Max:	450 700	°C °C
Quenching time without stones in place	Min: Max:	5 20	min min
Quenching time with stones in place		15	min in boiling water
Pickling	H2SO4: Temp: Time:	20 50 50	% °C min