

TECHNICAL DATA SHEET

STAR693HPLUS - 917 ‰

Universal master alloy for the production of yellow 875 - 917 ‰ gold jewellery obtained by investment casting and mechanical working. The elements contained in this product ensure a high surface quality in investment casting, while in mechanical working a high deformation capability thanks the small grain structure, making it suitable for the production of hand and machine made hollow and solid chains, deep drawn items and tube. The use is suggested with the addition of 0 - 40 % of pure silver to the master alloy.

TAB.1 - Mechanical data

Hardness as cast	103	HV
Hardness hardened	n.d.	
Tensile strength	320	MPa
Yield strength	116	MPa
Elongation	42	%

TAB.2 - Physical data

Color	Deep yellow		
Colour Coordinates	L*:	83.37	
	a*:	10.16	
	b*:	22.46	
Density	18.45	g/cm ³	
Melting Range	Solidus:	925	°C
	Liquidus:	943	°C

TAB.3 - Heat treatments

Solution annealing	675 20	°C min
Recrystallization Annealing	650 30	°C min
Hardening	n.d.	

TAB.4 - Investment casting parameters

Premelting temperature		1043	°C
Casting Temperature	Min:	993	°C
	Max:	1093	°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

TAB.5 - Mechanical working parameters

Premelting temperature		1043	°C
Casting Temperature	Min:	993	°C
	Max:	1093	°C
First thickness reduction	Lamination:	50	%
	Drawing:	25	%
Following thickness reductions	Lamination:	75	%
	Drawing:	50	%
Pickling after annealing	H2SO4:	20	%
	Temp:	50	°C
	Time:	5	min