

## TECHNICAL DATA SHEET

### STAR193R - 417 ‰

Universal master alloy for the production of red 375 - 417 - 585 - 750 ‰ 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.

TAB.1 - Mechanical data

Hardness as cast	152	HV
Hardness hardened	n.d.	
Tensile strength	564	MPa
Yield strength	385	MPa
Elongation	19	%

TAB.2 - Physical data

Color	Deep red		
Colour Coordinates	L*:	87.34	
	a*:	9.43	
	b*:	14.71	
Density	11.48	g/cm <sup>3</sup>	
Melting Range	Solidus:	941	°C
	Liquidus:	975	°C

TAB.3 - Heat treatments

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

TAB.4 - Investment casting parameters

Premelting temperature		1075	°C
Casting Temperature	Min:	1025	°C
	Max:	1125	°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		1075	°C
Casting Temperature	Min:	1025	°C
	Max:	1125	°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