

TECHNICAL DATA SHEET

PRIMA693R + Ag11% - 417 ‰

Master alloy for the production of red 375 - 417 - 585 - 750 ‰ gold jewellery obtained by investment casting. This product, thanks to its complex composition made of numerous different special elements, ensures an extreme level of deoxidation, an extreme surface quality, an enhanced fluidity and a long lasting of this features also after many reuses of casting scraps, making it the most advanced solution for castings with and without stones in place. The use is suggested with the addition of 10 - 20 % of pure silver to the master alloy.

TAB.1 - Mechanical data

| | | |
|-------------------|------|-----|
| Hardness as cast | 120 | HV |
| Hardness hardened | n.d. | |
| Tensile strength | 471 | MPa |
| Yield strength | 220 | MPa |
| Elongation | 38 | % |

TAB.2 - Physical data

| | | | |
|--------------------|-----------|-------------------|----|
| Color | Deep red | | |
| Colour Coordinates | L*: | 87.74 | |
| | a*: | 7.61 | |
| | b*: | 17.3 | |
| Density | 10.95 | g/cm ³ | |
| Melting Range | Solidus: | 880 | °C |
| | Liquidus: | 940 | °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 | | 1040 | °C |
| Casting Temperature | Min: | 990 | °C |
| | Max: | 1090 | °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 |