

TECHNICAL DATA SHEET

STAR220 - 585 ‰

Universal master alloy for the production of white 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 | 142 | HV |
| Hardness hardened | n.d. | |
| Tensile strength | 559 | MPa |
| Yield strength | 302 | MPa |
| Elongation | 42 | % |

TAB.2 - Physical data

| Color | Standard white | | |
|--------------------|----------------|-------------------|----|
| Colour Coordinates | L*: | 87.12 | |
| | a*: | 1.46 | |
| | b*: | 10.57 | |
| Density | 12.73 | g/cm ³ | |
| Melting Range | Solidus: | 912 | °C |
| | Liquidus: | 929 | °C |

TAB.3 - Heat treatments

| | | |
|-----------------------------|-----------|-----------|
| Solution annealing | 675 20 | °C min |
| Recrystallization Annealing | 675 20 | °C min |
| Hardening | n.d. | |

TAB.4 - Investment casting parameters

| | | | |
|--|--------|-------|-------------------------|
| Premelting temperature | | 1029 | °C |
| Casting Temperature | Min: | 979 | °C |
| | Max: | 1079 | °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 | | 1029 | °C |
| Casting Temperature | Min: | 979 | °C |
| | Max: | 1079 | °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 |