

## TECHNICAL DATA SHEET

### PRIMA210\_GD - 417 ‰

Master alloy for the production of white 375 - 417 - 585 ‰ 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.

TAB.1 - Mechanical data

|                   |      |     |
|-------------------|------|-----|
| Hardness as cast  | 110  | HV  |
| Hardness hardened | n.d. |     |
| Tensile strength  | 323  | MPa |
| Yield strength    | 130  | MPa |
| Elongation        | 43   | %   |

TAB.2 - Physical data

|                    |           |                   |    |
|--------------------|-----------|-------------------|----|
| Color              | Off-white |                   |    |
| Colour Coordinates | L*:       | 86.90             |    |
|                    | a*:       | 1.81              |    |
|                    | b*:       | 12.72             |    |
| Density            | 10.91     | g/cm <sup>3</sup> |    |
| Melting Range      | Solidus:  | 970               | °C |
|                    | Liquidus: | 1000              | °C |

TAB.3 - Heat treatments

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

TAB.4 - Investment casting parameters

|                                        |        |       |                         |
|----------------------------------------|--------|-------|-------------------------|
| Premelting temperature                 |        | 1100  | °C                      |
| Casting Temperature                    | Min:   | 1050  | °C                      |
|                                        | Max:   | 1150  | °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<br>in boiling water |
| Pickling                               | H2SO4: | 20    | %                       |
|                                        | Temp:  | 50    | °C                      |
|                                        | Time:  | 50    | min                     |