

## TECHNICAL DATA SHEET

### SPARK696LIR + Ag12% - 375 ‰

Master alloy for the production of red 375 - 417 - 585 ‰ gold jewellery obtained by investment casting. The elements contained in this product ensure a high deoxidation in casting and a high surface quality, making it suitable 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  | 99   | HV |
| Hardness hardened | n.d. |    |
| Tensile strength  | n.d. |    |
| Yield strength    | n.d. |    |
| Elongation        | n.d. |    |

TAB.2 - Physical data

|                    |           |                   |    |
|--------------------|-----------|-------------------|----|
| Color              | Deep red  |                   |    |
| Colour Coordinates | L*:       | 87.37             |    |
|                    | a*:       | 7.07              |    |
|                    | b*:       | 18.23             |    |
| Density            | 11.09     | g/cm <sup>3</sup> |    |
| Melting Range      | Solidus:  | 867               | °C |
|                    | Liquidus: | 937               | °C |

TAB.3 - Heat treatments

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

TAB.4 - Investment casting parameters

|                                        |        |       |                         |
|----------------------------------------|--------|-------|-------------------------|
| Premelting temperature                 |        | 1037  | °C                      |
| Casting Temperature                    | Min:   | 987   | °C                      |
|                                        | Max:   | 1087  | °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                     |