Material Data Sheet
(213) - PtIr10%

1. Composition
   Pt  90.00%
   Ir  10.00%

2. Physical Properties
   Melting range: 1770-1800°C
   Density: 21.6 g/cm³
   Colour: silverwhite
   Young's Modulus: 160 GPa

3. Mechanical Properties
   Condition       Parameters       Parameters
                  cold worked      soft            hardened
   Tensile strength (Rm)  >450 MPa      335 MPa        330 MPa
   0.2% Proof stress (Rp 0.2%) >330 MPa      210 MPa        200 MPa
   Elongation       >9 %            30 %

4. Handling
   Brazing: -
   Pickling: -
   Remarks: Application/indications:
   PtIr10% is a highly corrosion resistant, biocompatible alloy with relatively high mechanical strength. Therefore it is particularly suitable for use in the medical field.
   Processing:
   Very well suited for all cold work processes (rolling, drawing, stamping, punching, bending, chasing).
   Machining such as turning, milling, drilling etc. is preferably done on cold worked or hardened material.
   Thermal treatments:
   PtIr phase diagram actually shows a miscibility gap between Pt and Ir at temperatures below 970°C. At 90% Pt a single-phase structure should be expected above 720°C. In fact, the diffusion in this alloy must be very small, because even with temperatures well above 720 °C, single-phase structures are hard to generate.
   Hardening could not be detected even with long annealing times between 600 and 700°C.
5. Certification

Manufacture and delivery are constantly monitored according to the quality management system standard according to ISO 9001.

6. Graphs

Cold work curve

Annealing curve

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