Material Data Sheet
for: Esteticor® Cosmor H

This metal-ceramic alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693.

1. Composition
   Au + Pt group-metals  96.50%
   Au                  78.50%
   Pt                  10.00%
   Pd                 7.80%
   In                  3.50%
   Ir                  0.20%

2. Physical Properties
   Melting range                  1120-1280°C
   Density                       17.9 g/cm³
   Young's Modulus               100 GPa
   Linear Coeff. of thermal expansion (25-500°C) 13.8x10⁻⁶ K⁻¹
   Linear Coeff. of thermal expansion (25-600°C) 14.0x10⁻⁶ K⁻¹
   Colour                        pale yellow

3. Mechanical Properties
   Condition     as cast  after firing  soft  hardened
   Hardness HV5  195      215       115   240
   Tensile strength (Rm)  660 MPa  705 MPa  405 MPa  750 MPa
   0.2% Proof stress (Rp 0.2%)  475 MPa  565 MPa  200 MPa  610 MPa
   Elongation    10 %.    13 %.    28 %.   5 %.
   Schwickerath crack initiation test  59 MPa

4. Biological tests
   Cytotoxicity test according to ISO 10993-5:
   The cytotoxic effect of the alloy was tested with the extract test.
   (Project, 221602, 01.05.2007, RCC, Ittingen/Basel, Switzerland)

   Sensitization test according to ISO 10993-10:
   The allergic sensitization of the alloy was tested with the maximization test.
   (Project 291723, 01.05.2007, RCC, Ittingen/Basel, Switzerland)

   Mutagenicity test (AMES) according to ISO 10993-3:
   The AMES test has not been realised.

Results:
The alloy showed no cytotoxic potential nor did it cause any allergic sensitization.

5. Certification
   This metal-ceramic alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693.
   Corrosion testing according to standard DIN 13927 showed that a total of 0.2μg/cm²×7d was released (limit: 200μg/cm²×7d).
   Manufacture, packing and delivery are constantly monitored according to the quality management system standards according to ISO 9001 and ISO 13485.

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