

1. Composition

| | |
|----------------------|--------|
| Au + Pt group-metals | 81.00% |
| Pd | 78.50% |
| Cu | 6.90% |
| Ga | 5.50% |
| In | 4.50% |
| Sn | 2.00% |
| Au | 2.00% |
| Ru | 0.50% |
| Zn | 0.10% |

2. Physical Properties

| | |
|---|---|
| Melting range | 1165-1285°C |
| Density | 11.4 g/cm ³ |
| Young's Modulus | 130 GPa |
| Linear Coeff. of thermal expansion (25-500°C) | 13.5 x 10 ⁻⁶ K ⁻¹ |
| Linear Coeff. of thermal expansion (25-600°C) | 13.9 x 10 ⁻⁶ K ⁻¹ |
| Colour | white |

3. Mechanical Properties

| | as cast | after firing ISO 22674: 950°C/10'air & Geller Creation CC |
|------------------------------------|---------|---|
| Condition | | |
| Hardness HV5 | 305 | 280 |
| Tensile strength (Rm) | | 860 MPa |
| 0.2% Proof stress (Rp 0.2%) | | 590 MPa |
| Elongation | | 34 % |
| Schwickerath crack initiation test | | 37 MPa |

4. Biological tests

Cytotoxicity test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the extract test.
(Project, 100559F, 24.02.2010, BSL Bioservice, DE-82152 Planegg, FRG)

Sensitization test according to ISO 10993-10:

The allergic sensitization of the alloy was tested with the maximization test.
(Project 81E401A, 28.02.1995, BIOMATECH, Rue Pasteur, 38670 CHASSE SUR RHONE, France)

Mutagenicity test (AMES) according to ISO 10993-3:

The mutagenicity was tested with the «Reverse Mutation Assay» using bacteria Salmonella typhimurium.
(Project 101030, 07.04.2010, BSL Bioservice, DE-82152 Planegg, FRG)

Results:

The alloy showed neither a cytotoxic nor a mutagenic 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 ISO 10271 showed that a total of $10.37\mu\text{g}/\text{cm}^2 \times 7\text{d}$ was released (limit: $200\mu\text{g}/\text{cm}^2 \times 7\text{d}$):

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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