

1. Composition

Au + Pt group-metals	85.28%
Au	54.20%
Pd	31.04%
In	8.99%
Ag	4.83%
Ga	0.90%
Ru	0.03%
Ir	0.01%

2. Physical Properties

Melting range	1115-1295°C
Density	14.7 g/cm ³
Young's Modulus	125 GPa
Linear Coeff. of thermal expansion (25-500°C)	14.1 x 10 ⁻⁶ K ⁻¹
Linear Coeff. of thermal expansion (25-600°C)	14.3 x 10 ⁻⁶ K ⁻¹
Colour	white

3. Mechanical Properties

	as cast	hardened	after firing
Condition		600°C/15'air	ISO 22674: 950°C/10'+Geller Creation CC
Hardness HV5	250	280	255
Tensile strength (Rm)		900 MPa	865 MPa
0.2% Proof stress (Rp 0.2%)		720 MPa	635 MPa
Elongation		5 %.	9 %.
Schwickerath crack initiation test			36.5 MPa

4. Biological Testing

Cytotoxicity Test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the Extraction Test.
(Project, 100559P, 04.03.2010, BSL Bioservice, DE-82152 Planegg, FRG)

Sensitization Test according to ISO 10993-10:

The allergic sensitization of the alloy was tested with the Maximation Test.
(Project 24368, 04.08.2004, 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 101040, 06.04.2010, 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 22674 showed, that a total of $0.77\mu\text{g}/\text{cm}^2 \times 7\text{d}$ was set free (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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