

1. Composition

Au + Pt group-metals	80.00%
Pd	77.60%
Sn	6.40%
Ag	5.00%
Zn	4.60%
Ga	4.00%
Au	2.00%
Ru	0.40%

2. Physical Properties

Melting range	1155-1315°C
Density	11.4 g/cm ³
Young's Modulus	120 GPa
Linear Coeff. of thermal expansion (25-500°C)	13.8 x 10 ⁻⁶ K ⁻¹
Linear Coeff. of thermal expansion (25-600°C)	14.2 x 10 ⁻⁶ K ⁻¹
Colour	white

3. Mechanical Properties

	as cast	after firing ISO 980°C
Condition		
Hardness HV5	245	235
Tensile strength (Rm)	885 MPa	830 MPa
0.2% Proof stress (Rp 0.2%)	535 MPa	515 MPa
Elongation	35 %.	43 %.
Schwickerath crack initiation test		41 MPa

4. Biological tests

Cytotoxicity test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the extract test.
(Project, 031411, 01.09.2003, 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 031412, 01.09.2003, BSL Bioservice, DE-82152 Planegg, FRG)

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 ISO 10271 showed that a total of $0.5\mu\text{g}/\text{cm}^2 \times 7\text{d}$ 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.

Cendres + Métaux SA



Dr. Carmen Krüger

Head of Materials Development



Dr. Flavio Campana

Head of Material Testing