

### 1. Composition

Au + Pt group-metals	94.06%
Au	75.00%
Pd	19.00%
Sn	2.00%
In	2.00%
Ag	1.00%
Zn	0.50%
Cu	0.44%
Ru	0.05%
Ir	0.01%

### 2. Physical Properties

Melting range	1135-1270°C
Density	16.4 g/cm <sup>3</sup>
Young's Modulus	105 GPa
Linear Coeff. of thermal expansion (25-500°C)	14.0 x 10 <sup>-6</sup> K <sup>-1</sup>
Linear Coeff. of thermal expansion (25-600°C)	14.3 x 10 <sup>-6</sup> K <sup>-1</sup>
Colour	pale yellow

### 3. Mechanical Properties

	as cast	hardened 550°C/15/air	after firing ISO 22674: 950°C/10' & Geller Creation CC
Condition			
Hardness HV5	220	250	250
Tensile strength (Rm)		765 MPa	735 MPa
0.2% Proof stress (Rp 0.2%)		560 MPa	565 MPa
Elongation		15 %.	15 %.
Schwickerath crack initiation test			47 MPa

### 4. Biological tests

#### Cytotoxicity test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the extract test.  
(Project, 100559M, 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 maximization test.  
(Project 81E505, 30.08.1995, 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 101037, 13.04.2010, 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  $0.42\mu\text{g}/\text{cm}^2 \times 7\text{d}$  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



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