

### 1. Composition

Au + Pt group-metals	80.50%
Au	73.10%
Ag	16.00%
Pd	5.80%
Zn	2.80%
Pt	1.50%
Sn	0.50%
In	0.20%
Ir	0.10%

### 2. Physical Properties

Melting range	960-1065°C
Density	15.8 g/cm <sup>3</sup>
Young's Modulus	105 GPa
Linear Coeff. of thermal expansion (25-500°C)	16.0 x 10 <sup>-6</sup> K <sup>-1</sup>
Linear Coeff. of thermal expansion (25-600°C)	16.4 x 10 <sup>-6</sup> K <sup>-1</sup>
Colour	yellow

### 3. Mechanical Properties

	as cast	after firing ISO 800°C/15'/air	soft 800°C/15'/H <sub>2</sub> O	hardened 800°C/15'/H <sub>2</sub> O & 400°C/15'/air
Condition				
Hardness HV5	230	240	180	265
Tensile strength (R <sub>m</sub> )	695 MPa	745 MPa	475 MPa	795 MPa
0.2% Proof stress (R <sub>p</sub> 0.2%)	620 MPa	675 MPa	335 MPa	720 MPa
Elongation	4 %.	5 %.	21 %.	5 %.
Schwickerath crack initiation test		33 MPa		

### 4. Biological tests

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

The cytotoxic effect of the alloy was tested with the extract test.  
(Project, 981313A, 09.12.1998, 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 981312A, 28.12.1998, 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 universal alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693.

Corrosion testing according to standard ISO 1562 showed that a total of  $8.4\mu\text{g}/\text{cm}^2 \times 7\text{d}$  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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