

# Material Data Sheet

## for: Esteticor® N2

This metal-ceramic alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693.

### 1. Composition

Au + Pt group-metals	67.60%
Pd	52.00%
Ag	20.00%
Au	15.20%
In	6.00%
Sn	5.40%
Ga	1.00%
Ru	0.20%
Pt	0.20%

### 2. Physical Properties

Melting range	1150-1265°C
Density	12.0 g/cm <sup>3</sup>
Young's Modulus	120 GPa
Linear Coeff. of thermal expansion (25-500°C)	14.1 x10 <sup>-6</sup> K <sup>-1</sup>
Linear Coeff. of thermal expansion (25-600°C)	14.4 x10 <sup>-6</sup> K <sup>-1</sup>
Colour	white

### 3. Mechanical Properties

	as cast	after firing ISO 22674 980°C/5'/vac & VMK 95
Condition		
Hardness HV5	295	260
Tensile strength (Rm)	895 MPa	855 MPa
0.2% Proof stress (Rp 0.2%)	645 MPa	565 MPa
Elongation	6 %	13 %
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, 073757, 05.12.2007, 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 073758, 14.01.2008, BSL Bioservice, DE-82152 Planegg, FRG)

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

The mutagenicity was tested with the «Reverse Mutation Assay» using bacteria Salmonella typhimurium.  
(Project 080146, 10.03.2008, 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  $0.5\mu\text{g}/\text{cm}^2\text{7d}$  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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