

# Material Data Sheet

## for: Esteticor® Blancor

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

### 1. Composition

Au + Pt group-metals	58.49%
Pd	57.29%
Ag	29.00%
In	11.00%
Sn	1.00%
Au	1.00%
Ga	0.50%
Ru	0.20%
B	0.01%

### 2. Physical Properties

Melting range	1205-1310°C
Density	11.3 g/cm <sup>3</sup>
Young's Modulus	135 GPa
Linear Coeff. of thermal expansion (25-500°C)	14.3 x 10 <sup>-6</sup> K <sup>-1</sup>
Linear Coeff. of thermal expansion (25-600°C)	14.6 x 10 <sup>-6</sup> K <sup>-1</sup>
Colour	white

### 3. Mechanical Properties

	as cast	after firing ISO 22674 960°C/15'/air & IPS d'Sign
Condition		
Hardness HV5	300	260
Tensile strength (Rm)	955 MPa	845 MPa
0.2% Proof stress (Rp 0.2%)	720 MPa	605 MPa
Elongation	6 %.	13 %.
Schwickerath crack initiation test		39 MPa

### 4. Biological tests

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

The cytotoxic effect of the alloy was tested with the extract test.  
(Project, 091501, 29.04.2009, 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 091600, 30.06.2009, 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 091502, 29.05.2009, 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  $0.7\mu\text{g}/\text{cm}^2 \times 7\text{d}$  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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