

## NEW CER PLUS

### Dental alloy for metal ceramic - type 4

**Chemical composition:**

Au	Pd	Ag	In	Ga	Ru	Au&PGM
6.0%	74.7%	8.5%	3.5%	7.0%	x	81.0%

X = <1.0%

**Technical data:**

<b>Density g/cm<sup>3</sup></b>	10.9	<b>Yield strength MPa</b>	600 - 620
<b>Melting range °C</b>	1130 - 1240	<b>Elongation %</b>	30 - 15
<b>Casting temperature °C</b>	1390	<b>Tensile strength MPa</b>	700 - 800
<b>TEC 25-500°C 25-600°C 10<sup>-6</sup>K<sup>-1</sup></b>	13.7 - 14.0	<b>Vickers hardness HV5/30</b>	290 - 300 - 340
<b>Modulus of elasticity GPa</b>	116	<b>Crucible</b>	Ceramic

**Solders:**

**Pre-solder:** SOLDER 1120 (1145°C)  
**Post-solders:** SOLDER K10/5 (750°C) Z - SOLDER LFC (650°C)

**Corrosion resistance**

The electrochemical properties of this alloy were evaluated in an electrochemical cell built according to standards defined in ISO 10271. The following results were obtained:

$$E_{ocp} = 121 \text{ mV} \quad E_p = 950 \text{ mV} \quad I_{300} = 0.07 \mu\text{A}\cdot\text{cm}^{-2} \quad I_p = 6.05 \mu\text{A}\cdot\text{cm}^{-2}$$

The high value of the breakdown potential (Ep 950 mV) with the low current density at 300 mV (I300 0.07 μA·cm<sup>-2</sup>) indicate the excellent corrosion resistance of this alloy.

**Cytotoxicity testing**

Cytotoxicity of NEW CER PLUS alloy has been evaluated according to ISO 10993-5 standard, using the L-929 (mouse fibroblasts) cell line.

Results have confirmed the perfect cytocompatibility of this alloy. Cells behaviour and function were definitely similar to those measured in tests involving pure gold, that is the paradigmatic non-toxic material.

**International standards:** ISO 9693-1:2012; ISO 22674:2006

### Specific Properties

- ✧ **PFM alloy, extra hard, white colour**
- ✧ **Copper free**
- ✧ **Low density**
- ✧ **Micro Grain structure: high casting precision**
- ✧ **Ideal for ¾ crowns, onlays, short and long bridges, milling**
- ✧ **Easy to polish**