

AUROCAST 3

Noble dental casting alloy - type 3

Chemical composition:

Au	Pd	Ag	Cu	Zn	Ir	Au&PGM
72.5%	2.4%	14.6%	8.4%	2.0%	x	75.0%

X = < 1.0%

Technical data:

Density g/cm ³	15.5	Yield strength MPa	270 - 380
Melting range °C	880 - 935	Elongation %	26 - 2
Casting temperature °C	1040	Tensile strength MPa	350 - 550
TEC 25-500°C 25-600°C 10 ⁻⁶ K ⁻¹	-	Vickers hardness HV5/30	120 - 135 - 140
Modulus of elasticity GPa	80	Crucible	Graphite

Solders:

Pre-solder: AURIDIUM SOLDER (840°C)
Post-solders: SOLDER 750 (755°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:

$E_{ocp} = 180 \text{ mV}$ $E_p = 860 \text{ mV}$ $I_{300} = 1.67 \text{ } \mu\text{A}\cdot\text{cm}^{-2}$ $I_p = 9 \text{ } \mu\text{A}\cdot\text{cm}^{-2}$

The high value of the breakdown potential (E_p 860 mV) with the low current density at 300 mV (I_{300} 1.67 $\mu\text{A}\cdot\text{cm}^{-2}$) indicate the excellent corrosion resistance of this alloy.

Cytotoxicity testing

Cytotoxicity of AUROCAST 3 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 22674:2006

Specific Properties

- ✧ Casting alloy, yellow colour
- ✧ Micro Grain structure: high casting precision
- ✧ High corrosion resistance
- ✧ Ideal for one and two surface inlays, onlays, short and long bridges, ¾ crowns, partial dentures, bars and telescopic crowns, millings