NOBIL-METAL® S.p.A.
DENTAL ALLOYS & SOLDERS

ALLOY DATA

NOBIL CAST

Dental casting alloy - type 3

Chemical composition:

Au	Pd	Ag	Cu	Zn	Ru	Au&PGM
10.0%	20.9%	58.0%	9.5%	1.5%	x	31.0%

X=<1.0%

Technical data:

Density g/cm³	11.2	**Yield strength MPa**	260 - 390
Melting range °C	970 - 1020	**Elongation %**	25 - 5
Casting temperature °C	1120	**Tensile strength MPa**	650 - 840
TEC 25-500°C 25-600°C $10^{-6}K^{-1}$	-	**Vickers hardness HV5/30**	160 - 195 - 200
Modulus of elasticity GPa	101	**Crucible**	Graphite

Solders:

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

Corrosion resistance

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

E_{ocp} = 96 mV **E_p = 510** mV **I_{300} = 0.51** µA·cm^{-2} **I_p = 24** µA·cm^{-2}

The high value of the breakdown potential (Ep 510 mV) with the low current density at 300 mV (I300 0.51 µA·cm-²) indicate the excellent corrosion resistance of this alloy.

Cytotoxicity testing

Cytotoxicity of NOBIL CAST 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, white colour**
- ✧ **Micro Grain structure: high casting precision**
- ✧ **Ideal for onlays, ¾ crowns, short bridges and millings**

CE0546
NOBIL-METAL SPA Strada San Rocco, 28 - 14018 Villafranca d'Asti - AT - Tel 0141.933.811 - Fax 0141.943840