CENDRES + MÉTAUX

Material Data Sheet
for: LW N° 1

This alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693-1. It can be applied as a dental Laser wire corresponding to the standard ISO 28319.

1. Composition

Au + Pt group-metals	98.00%
Au	84.50%
Pt	13.30%
Zn	1.90%
Rh	0.10%
Ir	0.10%
Fe	0.10%

2. Physical Properties

Melting range	1045-1205°C
Density	18.9 g/cm³
Young's Modulus	90 GPa
Linear Coeff. of thermal expansion (25-500°C)	$14.2 \times 10^{-6}\,K^{-1}$
Linear Coeff. of thermal expansion (25-600°C)	$14.6 \times 10^{-6}\,K^{-1}$
Colour	pale yellow

3. Mechanical Properties

	as cast	after firing
Condition		ISO 950°C/15' air
Hardness HV5	205	230
Tensile strength (Rm)	575 MPa	715 MPa
0.2% Proof stress (Rp 0.2%)	465 MPa	640 MPa
Elongation	6 %.	5 %.
Schwickerath crack initiation test		60 MPa

4. Biological tests

Cytotoxicity test according to ISO 10993-5:

The cytotoxic effect of the alloy was tested with the extract test.
(Project, 040654, 13.04.2004, 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 040655, 06.05.2004, BSL Bioservice, DE-82152 Planegg, FRG)

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

The AMES test has not been realised.

Results:

The alloy showed no cytotoxic potential nor did it cause any allergic sensitization.

5. Certification

This alloy corresponds to the standards ISO 22674/Type 4 and ISO 9693-1. It can be applied as a dental Laser wire corresponding to the standard ISO 28319.

Corrosion testing according to standard ISO 10271 showed that a total of $0.1\mu g/cm^2x7d$ was released (limit: $200\mu g/cm^2x7d$).

Manufacture, packing and delivery are constantly monitored according to the quality management system standards according to ISO 9001 and ISO 13485.

Cendres + Métaux SA

Dr. Carmen Krüger
Head of Materials Development

Dr. Flavio Campana
Head of Material Testing