

BioUniversal® E

Silver-Palladium universal alloy

for use with special ceramic and composite materials

Ag 52.2	Pd 40.0	Sn 5.5	In 1.4	Re <1.0	Ru <1.0	Zn <1.0
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Advantages

- Economical, low density
- Easy processing and polishing
- Excellent melting and flow properties
- Compatible with special ceramic* and composite materials
- Certified biocompatibility

Indication

Inlays, onlays, $\frac{3}{4}$ crowns, PFM Crowns, crowns, telescope and conus crowns, posts, short- and long-span bridges

Technical data

Color	white
Type	4
Density (g/cm ³)	10.7
Melting range (°C)	1100 – 1150
Casting temperature (°C)	1200 – 1260
CTE 25 – 500 °C	16.1
CTE 20 – 600 °C	16.4
Elongation (%)	10.0
Modulus of elasticity (MPa)	127.000
Oxide firing °C / min. / vacuum	800 / 5 / no vacuum
Vickers hardness	220
0.2 % Proof stress (MPa)	355



Clinical case by H. P. Oss, Austria

Certificate

Test material: BioUniversal Alloys

Composition in % weight	Au	Pt	Pd	Ag	Cu	In	Ir	Zn	Other
BioUniversal® PKF	75.0	8.6	–	11.9	–	<1.0	<1.0	2.0	Fe <1.0, Ta <1.0, Rh <1.0
BioUniversal® PdF	71.1	9.2	–	11.7	4.5	1.3	<1.0	1.5	Fe <1.0, Ta <1.0
BioUniversal®	59.4	2.0	9.5	25.5	–	–	–	2.0	Fe <1.0, Re <1.0, Ru <1.0, Sn <1.0
BioUniversal® E	–	–	40.0	52.2	–	1.4	–	<1.0	Sn 5.5, Re <1.0, Ru <1.0

Manufacturer

Ivoclar Vivadent Inc., 175 Pineview Drive, Amherst, NY 14228, USA

Corrosion resistance

The test was conducted according to the international regulations of ISO 1562 and ISO 6871–1: static immersion test through analytical determination of the metal ion release after a 7-day immersion.

Test results: The metal ion release after 7 days of immersion was not significant.

Testing facility: Louisiana State University, Dr. Sakar

Cytotoxicity

The Agar Diffusion test determines the biological reactivity of cell culture on test material.

Test results: The test material is considered non-cytotoxic and meets the requirements of the Agar Diffusion test according to ISO 10993–5.

Mutagenicity

An Ames assay was conducted to determine any possible cancer potential.

Test results: No mutagenicity potential was found to exist in these BioUniversal alloys.

Kligman Maximization

This test evaluated the allergenic potential and/or sensitizing capacity of these BioUniversal alloys.

Test results: Based on the standards set by the study protocol, these alloys exhibited no reaction to the challenge (0 % sensitization).

Sensitivity of oral mucosa

Test to determine the contact sensitivity of these BioUniversal alloys at the buccal oral mucosa.

Test results: No reactions were noted in conjunction with these BioUniversal alloys.

Testing facility: Toxikon Corporation, 15 Wiggins Avenue, Bedford, Massachusetts

Amherst, Mai 2010



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