

BioUniversal[®] PKF



High-gold universal alloy

for use with special ceramic and composite materials.

| | | | | | | | | |
|-------------------|------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Au 75.0 | Pt 8.6 | Ag 11.9 | Zn 2.0 | In <1.0 | Ir <1.0 | Fe <1.0 | Ta <1.0 | Rh <1.0 |
|-------------------|------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

Advantages

- Palladium and copperfree
- Yellow color
- Compatible with special ceramic and composite materials
- Wide range of indication
- Certified biocompatibility

Indication

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

Technical data

| | |
|---------------------------------|------------------|
| Color | yellow |
| Type | 4 |
| Density (g/cm ³) | 16.8 |
| Melting range (°C) | 945 – 1035 |
| Casting temperature (°C) | 1090 – 1150 |
| CTE 25 – 500 °C | 15.9 |
| Elongation (%) | 8.0 |
| Modulus of elasticity (MPa) | 89.000 |
| Oxide firing °C / min. / vacuum | 800 / 3 / vacuum |
| Vickers hardness | 165 |
| 0.2 % Proof stress (MPa) | 365 |



Clinical case by Dentallabor K. Czirjak GmbH, Germany

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, May 2010



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