



BiOcclus® 

The power of gold

The high-gold Pd-Cu-free alloy that follows the conventional Kiss concept

**DeguDent**  
A Dentsply International Company

# The power of gold



BiOclus Kiss is a unique high-gold alloy that is a part of the Kiss concept. It represents an exciting innovation in alloy technology and is far ahead of the competition thanks to its advanced composition. DeguDent has managed to provide an alloy for the conventional Kiss concept that meets the requirements of dental technicians, dentists and patients alike. The conventional Kiss concept offers safety in ceramics and alloys thanks to exactly matched components. BiOclus Kiss lets you create highly aesthetic and safe dental restorations even in challenging clinical baseline situations.



## Yellow – Pd-Cu-free – extremely stable under heat

### The alloy

The novel fine-grain BiOclus alloy consists of only six different chemical elements for top-level biocompatibility. The slightly higher platinum ratio is responsible for the alloy's remarkable stability under heat, while preserving its attractive warm yellow hue. Another advantage of this particular alloy composition is the warm color of the fired oxide, a prerequisite for beauty and aesthetics in red and white at the interface of the tooth's hard tissues and the gingiva's soft tissues. BiOclus Kiss can be cast multiple times without any problems and without losing its yellow color. Its stability under heat is quite remarkable among copper- and palladium-free alloys and therefore deserves special mention. There are no obstacles to using this alloy for any type of crowns, implant superstructures and bridges.

### Processing

BiOclus Kiss can be processed in any commercial casting units. When melted, this alloy produces no slag. Another highlight is its excellent polishing and milling behaviour. You will notice no difference from any palladium-based alloy. Suitable solders and a specific laser welding wire are available for mastering connection tasks.

### Economical considerations

Its CTE of  $14.2 \mu\text{m}/\text{m}\cdot\text{K}$  (25–500 °C) and  $14.4 \mu\text{m}/\text{m}\cdot\text{K}$  (25–600 °C) is perfectly adapted to Duceram® Kiss and requires no long-term cooling and no tempering phase. Its low oxide temperature of 900 °C (5 minutes at atmospheric pressure) means substantial time saving.

### Veneering

Veneering with Duceram Kiss gives BiOclus Kiss restorations natural aesthetics. The alloy's warm yellow hue is an ideal starting point for creating natural-looking dental restorations.

With only 73 different materials, Duceram Kiss is the most efficient ceramic system on the dental market. You have a choice between a standard three-layer technique and a highly individualized layering technique. The result is certain to please you. In addition, the reduction in the number of different materials makes for the superior economy of this ceramic system while not requiring a single compromise.

Another highlight is the newly developed opal incisal, which remains stable under firing. It combines a natural blue/yellow effect with extreme transparency. Duceram Kiss is a ceramic system that is a perfect match for BiOclus.



# All advantages at a glance

## Material properties

- Pd-Cu-free
- Only six elements
- Biocompatible
- High corrosion resistance
- High heat resistance
- Excellent bonding between metal and ceramics
- Warm-colored oxide

## Processing

- No long-term cooling or tempering phases
- Excellent polishing and milling behaviour
- Oxide temperature 900 °C (5 minutes at atmospheric pressure)
- Ceramic bonding with Duceram Kiss

## Indications

- Inlays, onlays, single crowns
- Crowns and bridges of any physiologically appropriate span
- Millable
- Large connectors
- Superstructures
- Primary and secondary crowns
- Attachments and bar-supported restorations

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## Technical specifications

Type:	Extra hard pursuant to ISO 1562	
Color:	Light yellow	
Composition in:	Mass %	Atom %
	Au and Pt group metals	94.3
	Au	78.6
	Pt	15.6
	Zn	4.1
	In	0.8
	Nb	0.8
	Ir	0.1
Melting range (°C)	1050 – 1160	
Mean linear CTE* (µm/m·K)	14.2 (25 – 500 °C) 14.4 (25 – 600 °C)	
Vickers hardness (HV5)	b 220 a 220	
0.2 % yield strength** (N/mm <sup>2</sup> )	b 530 a 530	
Tensile strength** (N/mm <sup>2</sup> )	b 630 a 640	
Elongation at fracture** (%)	b 9 a 8	
Density (g/cm <sup>3</sup> )	19	
Solders	before firing: Degudent® solder G1 after firing: DG 750	

\* Coefficient of thermal expansion

\*\* Measurements performed on samples pursuant to EN ISO 9693

a = hardened 15 min/950 °C + 15 min/500 °C

b = achievable hardness after ceramic veneering

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