



Z-CAD[®] smile

The newest member of the Z-CAD[®] range is a ultra-high translucent zirconia blank, called Z-CAD[®] smile. Its translucency is equal to the translucency of glass ceramics. Nevertheless Z-CAD[®] smile offers the advantage of high strength of zirconia ceramics.

The high translucency is a combination of high purity and minimized structural defects as well as optimized grain size and improved crystallographic phase.

With its improved aesthetics Z-CAD[®] smile is the ideal material for anterior dental restorations.

For more individualized work dyeing liquids for paint brush applications are available for white Z-CAD[®] smile blanks.

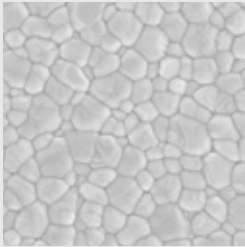
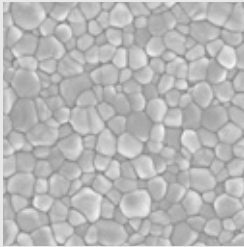
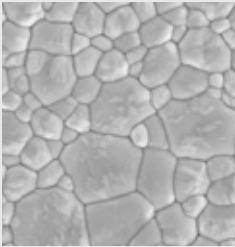
Z-CAD smile

Art. No.	Product	Geometry
408655	Z-CAD HD99-10 C10 smile	Ø 98.5±0.5 x 10mm
408656	Z-CAD HD99-12 C10 smile	Ø 98.5±0.5 x 12mm
408628	Z-CAD HD99-14 C10 smile	Ø 98.5±0.5 x 14mm
408657	Z-CAD HD99-16 C10 smile	Ø 98.5±0.5 x 16mm
408658	Z-CAD HD99-18 C10 smile	Ø 98.5±0.5 x 18mm
408772	Z-CAD HD99-20 C10 smile	Ø 98.5±0.5 x 20mm
408773	Z-CAD HD99-25 C10 smile	Ø 98.5±0.5 x 25mm



Z-CAD[®] Materials

All information and data correspond to the present state of our knowledge concerning properties and applications. They do not guarantee certain properties for products designed for specific applications utilizing material(s) described.

Implant Materials				
	Units	Z-CAD [®] HD	Z-CAD [®] HTL	Z-CAD [®] smile
Chemical Composition				
ZrO ₂ + HfO ₂ + Y ₂ O ₃	wt%	> 99.5	> 99.5	> 99.5
Y ₂ O ₃	wt%	5.2	5.2	9.3
Al ₂ O ₃	wt%	0.25	0.05	0.05
SiO ₂	wt%	≤ 0.02	≤ 0.02	≤ 0.02
Properties				
Density	g/cm ³	6.08	6.08	6.04
Bending strength (biaxial)	MPa	> 1100	> 1100	> 610
Grain size (mli)	μm	< 0.4	< 0.4	< 0.6
Fracture Toughness K _{Ic}	MPa√m	5	5	2.5
Hardness HV10	-	1250	1250	1250
Translucency (1mm, D65)	%	35	41	49
Coefficient of thermal expansion (CTE)	10 ⁻⁶ /K	10	10	10
Thermal conductivity	W/mK	2.5	2.5	2.5
Solubility (acetic acid)	μg/cm ²	≤ 50	≤ 50	≤ 50
Radioactivity	Bq/kg	≤ 50	≤ 50	≤ 50
Suggested applications		Dental restorations according to ISO 6872:2009 class 6	Dental restorations according to ISO 6872:2009 class 6	Dental restorations according to ISO 6872:2009 class 5