



Zirconia  
Multi-Layered  
Dental Disc

CAROZiIR® zirconia multilayer dental discs/blanks for making anterior. Not just preshaded, it shows natural shade transition of 6 layers in one disc/blank from incisal to cervical after sintering. We describe our procedure for the balanced formulation and homogeneous distribution of the chromophoric ions in the structure. Naturally blending to real teeth. CAROZiIR® multilayers natural gradient of color, transparency and strength in a real sense.



## Transparency gradient

From 51% transparency in incisal to 43% in cervical, it shows gradient decrease,

Achieving transparency of naturally blending tooth to real tooth enamel while in the mean time low transparency in cervical have effective opaque. The color and translucency effect is created through the interaction of light with the zirconium oxide structure modified by the color additives.

The manufacture of aesthetic monoliths has never been this efficient before. The lively chroma and an increase of translucency in the incisal third meet the highest demands of modern CAD materials.

- individual color gradients – which would otherwise only be possible with the extensive color-brush technique
- High color reliability
- Resistant to warping during sintering – due to individual isostatic re-densification of each blank.

## Strength

Strength shows gradient from 600 MPa to 1200 MPa, achieving low strength in occlusion and causing no harm to opposing dentin.



## Physical Specifications

Characteristics	Unit	Value
Density (after sintering)	[g/cm <sup>3</sup> ]	> 6,0
CTE (25 – 500°C)	[10 <sup>-6</sup> K <sup>-1</sup> ]	10
Fracture toughness (SEVNB)	[Mpa√m]	> 4,7
Fracture toughness (SEPB)	[Mpa√m]	2,4
Flexural strength	[Mpa]	≥ 1200
E-Modulus	[Gpa]	> 210

## Colour and Size

Colour	A1, A2, A3
Size	98 x 12 (14, 16, 18.....)

## Indications:





## Your benefits

- **Highly aesthetic:** Harmoniously adjusted color gradients that meet the highest aesthetic requirements. This means that fully anatomical restorations can be produced without ceramic veneering.
- **Attractive:** Higher translucency than zirconium dioxide materials treated with coloring liquids.
- **Quick:** Without the otherwise standard and time consuming work steps such as immersion, painting and drying, the sintering process can begin immediately after milling.
- **Easy:** Impressive, highly aesthetic and brilliant results - simply by glazing and polishing.
- **Accurate:** Reliably homogeneous shading throughout; no bright spots during the post-processing.
- **Effective:** Save precious time and materials by skipping the coloring and drying procedures.
- **Reliable:** High process reliability due to consistent coloring.
- **Flexible:** Can be used with all veneering ceramics which are recommended for ZrO<sub>2</sub> ceramic materials.
- **Clean:** No contamination of sintering furnace/beads, etc.



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