

Vsmile HappyZir

HT Zirconia Blank

Offers the technicians a pre-sintered Blank Canvas to create a life-like dental restoration

Meet your basic restoration requirement

Production Description:

Vsmile HT zirconia disc is made of high translucent zirconium oxide(37% light transmittance), that guarantees natural tooth looking. With extreme flexural strength(1350Mpa).

Available Size: 12 14 16 18 20 22 25 30mm

98mm 95mm 71mm designed

for all the common milling machine



Recommend Indications:

Long bridges

Dental coping material

Implant substructure

Hybrid bridges

Difficult designs which required additional strength is needed



Chemical Compositions

Components	HT(High Strength)
$ZrO_2 + HfO_2 + Y_2O_3$	$\geq 99\%$
Y_2O_3	4.8-6.0%
Al_2O_3	$< 0.25\%$
Other oxide	$< 0.15\%$

Technical parameters

Density before Sintering	$> 3.15 \pm 0.05 \text{ g/cm}^3$
Density after Sintering	$> 6.0 \text{ g/cm}^3$
Linear expansion coefficient	$(10.3 \pm 0.5) \times 10^{-6} \text{ K}^{-1}$
Three point bending strength	1350Mpa
Translucency	37%;
Chemical solubility after sintering	$< 100 \mu\text{g/cm}^3$
Cytotoxicity test	Cytotoxicity 0 level
Radioactivity after sintering	$< 0.1 \text{ Bq/g}$
Sintering temperature	1500-1550 °C is recommend

Sintering is a critical step to achieving best esthetics and physical properties of the zirconia. Follow the steps below to ensure HT Zirconia restorations are processed correctly and that you are providing the patient with the best possible restoration

It is essential to follow these steps and the instructions for the specific sintering furnace you are using:

- Dry the crown completely before sintering.
- Position the restoration on the sintering crucible leaving space between each unit.
- Program your furnace according to its instructions for use according to the specific sinter program.
- Run the sintering cycle.
- Wait until cool-down is completed before removing the sintered restoration.
- Inspect the restoration for flaws such as chips, seating, occlusion, interproximal contacts, and marginal integrity. If necessary, make small adjustments with a water-cooled diamond milling bur using a high-speed handpiece polishing tool for Zirconia, pay attention while polishing to avoid subfissure and edge break.
- Once all grinding is complete, rinse the restoration with water and dry it completely. Framework is now ready for veneering.
- Full contour crown is ready for glazing. Follow the instructions for use of the stain and glaze system of choice for application and firing parameters.

HT-Plus Sintering Curve				
Temperature (°C)	Temperature rising	Time (Hour)		
		Single Crown (hrs)	3-4 Bridges (hrs)	>4 bridges (hrs)
20	0	0	0	0
900	10	1.5	3	5.5
900	0	2	3.5	6
1530	3.75	4.8	7.2	11.5
1530	0	6.8	9.2	13.5
900	5.25	8.8	11.2	
600	0			18

Sintering temperature of HT-plus is from 1500°C to 1550°C, you should make sure peaktemperature at this range.