

Vsmile HappyZir

ST Zirconia Blank

Good choice for personalized restoration

Always a reliable quality foundation for monolithic crowns and bridges, as well as abutment and screw retained restorations.

Production Description:

Vsmile ST zirconia disc is made of high translucent zirconium oxide(41% light transmittance), that guarantees natural tooth looking. With extreme flexural strength(1200Mpa).

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

98mm 95mm 71mm designed for all the common milling machine



Recommend Indications:

Monolithic applications

Full Contour/full crown/dental crown material

Full bridge material



Chemical Compositions

Components	ST(Super Translucency)
$ZrO_2 + HfO_2 + Y_2O_3$	$\geq 99\%$
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	1200Mpa
Translucency	41%;
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.

ST-Pre-Shaded-Multilayer			
Temperature (°C)	Temperature rising	Time span (hour)	Total time (hour)
20	0	0	0
900	10	1.5	1.5
900	0	2	2
1530	3.45	4.8	4.8
1530	0	6.8	6.8
900	4.83	8.8	8.6

- Sintering temperature of ST is from 1480 °C to 1530 °C. you should make sure peak temperature at this range.
- Sintering temperature of Pre-shaded ST and Multilayer ST is from 1500 °C to 1530 °C. you should make sure peak temperature at this range.