BIO Dynamic® Zr 800 Mpa

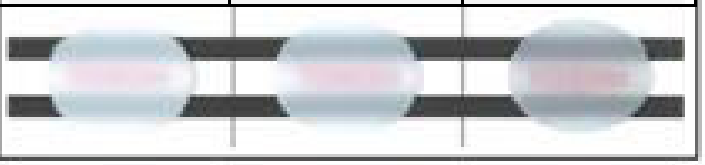
1. Powder Characteristics

Y_2O_3	wt%	5.2
Al_2O_3	wt%	0.05
SiO_2	wt%	≤0.02
Fe_2O_3	wt%	≤0.01
Ig-loss	wt%	3.85

2. Mechanical Characteristics

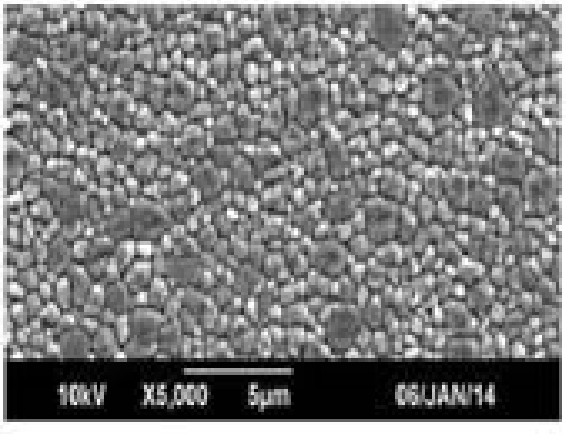
Green Body Density (Uniaxial Press 200kgf/cm2 → CIP 2000kgf/cm2)	g/cm^3	3.26
Sinterde Body Density (600C/Hr 1450C 2Hr Keep)	g/cm^3	6.046
3-Point Bending Strength	Mpa	Ave. 609
Grain Size	μm	0.80
Fracture Toughness	$MPam^{0.5}$	2.4
Hardness	(Hv10)	1250

3. Translucency

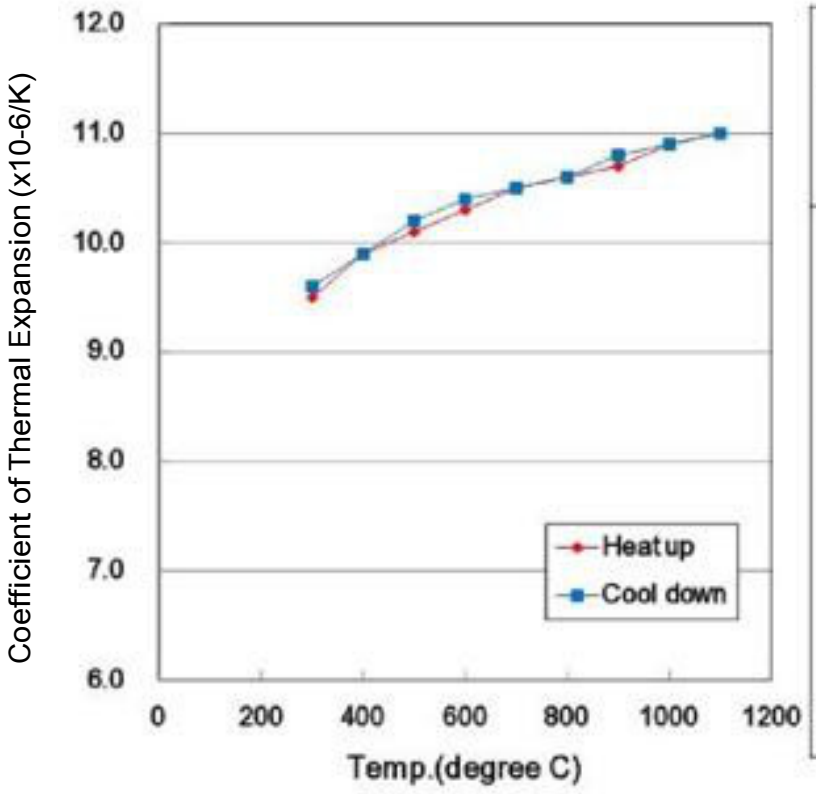
Grade	TZ-3YSB-E	ST	600 Mpa
Sintering Temperature	1500	1450	1450
Transmittance (%)	35	41	49
1mm Thickness			

BIO Dynamic® Zr

4. Microstructure



5. Coefficient of Thermal Expansion



Temp. °C	Coefficient of Thermal Expansion x10⁻⁶/K
300	9.5
400	9.9
600	10.3
800	10.6
1000	10.9
1100	11.0
1000	10.9
800	10.6
600	10.4
400	9.9
300	9.6

Sintering Temperature	1450 degree ℃
Sintered Density	6.04 g / cm^3
Measurement Condition	
Method	JIS R 1618
Equipment	Rigaku TMA8310
Heating Rate	5 ℃ / min
Cooling Rate	5 ℃ / min

6. Flexural Strength (Mpa)

over800MPA

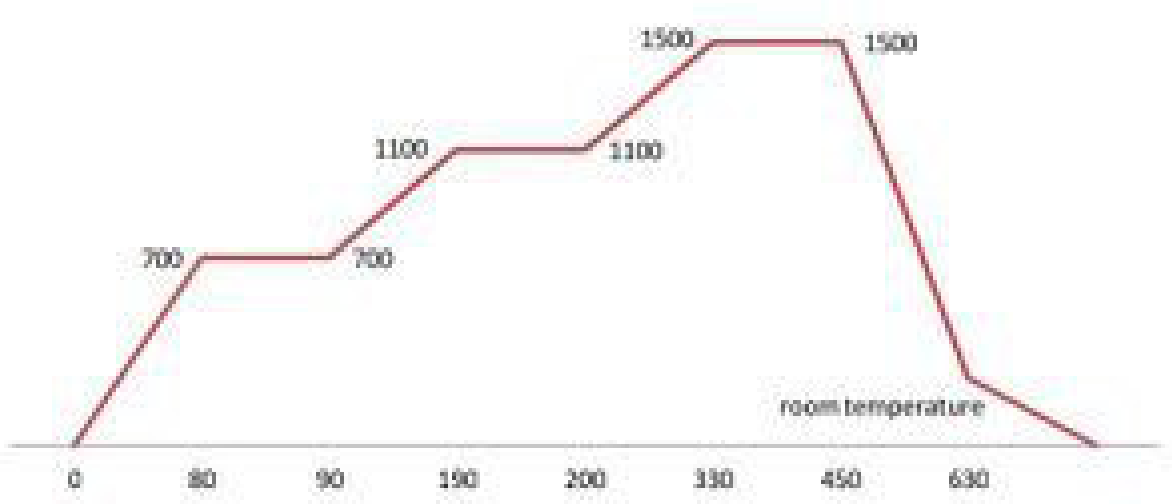
BIO Dynamic® Zr

BIO Dynamic® Zr

Step	Time(min)	Temperature (℃)
1st	80	700
2st	90	700
3st	190	1100
4st	200	1100
5st	330	1500
6st	450	1500
7st	630	250
8st		0

BIO Dynamic® Zr **800 Mpa**

Rampa di Sinterizzazione
Sinterig Schedule



BIO Dynamic® Zr

BIO Dynamic® Zr

800 Mpa milling

The material is isostatically pressed, to allow milling performance equal to 1200 Mpa. Despite this, as a precaution, since it is the softer material, it is advisable to tighten the ring nut of the wafer, with particular attention not to squeeze it too much, in order to avoid chipping of the containment step. As for the milling strategies, use the ones in use for the 1200 Mpa. The material, and to be considered similar to a lithium silicate, therefore the same rules apply regarding the design of the artifacts. It is suitable for single crowns, and bridges with a maximum of 3 elements with an intermediate in the frontal area. Use particular care by increasing the connections between the joined elements as much as possible. For the finishing of the edges, do not go below 0.2mm

800 Mpa color:

Given the particular TRANSLUCENT structure of the material, we recommend the use of specific water-based colors, provided by the manufacturer, specifically HdueO colors universal. The brush and not immersion technique is recommended to avoid too intense colors. After coloring, the material must be dried under an infrared lamp or oven, at a maximum temperature of 120 ° for 30/180 minutes depending on the volume of the piece to be dried

800 Mpa finish:

Dopo la sinterizzazione, lavorare i manufatti con frese diamantate e pietre specifiche, raccomandando di non
After sintering, work the items with diamond cutters and specific stones, recommending not to overheat the piece, milling it under a jet of water. Sandblasting at 50 micron 2/4 bar with aluminum oxide is recommended before glazing

Glaze 800 Mpa:

SWe recommend a glaze in atmosphere at 890 ° / 930 ° depending on the oven used, with a rising temperature not exceeding 25 ° / 30 ° with slow cooling up to 600 °. If the volume of the product exceeds 2.5 grams, cooling to 300 ° is recommended

800 Mpa cementation:

EDEFINITIVE cementation is mandatory, with glass ionomer or resin cement. The material is non-staining therefore for greater adhesion, sandblasting inside the crown with 50 micron ¾bar aluminum oxide is recommended