

YUCERA 3D Nature User Manual

I.Mechanical Properties

Sintered Density	6.07±0.03g/cm ³
Fracture Toughness	≥3.5MPa•m ^{1/2}
Vickers Hardness	≥1200HV1

Number of Layers	Layer percentage (%)	Transparency (%)	Flexural Strength (MPa)
First Layer(cut end)	20	57	≥700
Second Layer	15	55	≥780
Third Layer	15	52	≥860
Fourth Layer	15	49	≥940
Fifth Layer	15	46	≥1020
Sixth Layer (neck margin)	20	43	≥1100

II.Indications

Crown,Inlay,Onlay,Implant,Anterior.

III.Color Types

YUCERA 3D Natura is a pre-colored zirconia block for all-ceramic dental restorations. It requires no internal staining and achieves a triple-gradient aesthetic effect—seamless transitions in color, translucency, and strength—after direct, fully sintered processing . Available shades include Vita(16 shades), Vita Bleached (0M1, 0M2, 0M3), and Ivoclar Bleached (BL1, BL2, BL3, BL4).

IV.The Usage Process of 3D Nature

1、Design thickness requirements

Type	Anterior		Posterior Teeth	
	Thickness	Connection rod cross-sectional area	Thickness	Connection rod cross-sectional area
Implant	Incisal edge, labial, and palatal thickness >0.8mm; occlusal surface thickness 1.0mm	≥9mm ²	≥1.0mm	≥12mm ²
3 unit bridges				
Full contour bridge				

2、Process

Process	Operation Points	Precautions
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Typesetting	Zirconium information confirmation and fixture selection	1. Confirm the product information of the porcelain block before layout, including the model, specification, placement rate and arrow direction of the cut end. 2. The thickness of the selected porcelain block should match the height of the tooth, not too large or too small. 3. Select the appropriate fixture.
	Teeth brushing method	1. The machining area of the teeth to be discharged cannot exceed the boundary of the selected material. 2. When arranging the teeth, a certain space should be reserved between the teeth to facilitate the addition of connecting rods. 3. The teeth are vertically placed in the porcelain block, and a gap of 1mm is reserved between the cutting end and the cutting end face of the porcelain block.
	Connection rod placement	1. Apply the connecting rod to the protruding area of the tooth, not to the proximal or distal midline. 2. The height of the connecting rod should be kept consistent as far as possible, the angle should be parallel to the round surface of the porcelain block, and enough distance should be kept from the neck edge line.
Milling	Milling method	1. Before processing, check whether the engraving and milling equipment is running normally, whether the turning needle is sharp enough, and whether the porcelain block is firmly installed to ensure the stable milling process. 2. During the processing, liquid cooling of zirconia billet is not allowed. 3. After processing, check whether the repaired body with completed milling has cracks, pollution or damage. If any of the above conditions appear, the cause must be investigated and the milling must be re-milling. 4. Clean the milling equipment regularly to prevent excessive zirconia debris from affecting the normal operation of the equipment.
Disassemble and Clean	Dismantling method of connecting rod	1. Use a technician's dedicated phone and grinding head for disassembly and repair. 2. Do not completely split a connecting rod at one time. Split it into several steps. First, grind off half of the connecting rod, and then grind off the other half. 3. When there are more connecting rods, it is best to mill symmetrically to ensure that the repair body is subjected to uniform force.
	Repairment and cleaning of the restoration	1. Before repair, pay attention to the cleanliness of grinding tools to avoid contamination of zirconia repair body by foreign bodies on the grinding head. 2. During disassembly and repair, you can place soft material pads such as towels and foam on the table to prevent the repair body from falling to the table and causing cracks or fractures. 3. During operation, select appropriate rotation speed of the mobile phone, and both hands should have support points. In addition, it is not recommended to modify the morphology of the restoration too much in this process to prevent hidden cracks or edge collapse. 4. Thoroughly clean the restored body after disassembly and polishing. Use soft-bristled brushes of different sizes to remove residual powder on the surface and inside the crown.
	Sintering curve and placement method	1. The sintering curve is shown in the following table. 2. The teeth and jaw are placed in the crucible with the face down, and do not overlap.

Sintering	Instructions for using zirconium beads	1. New zirconia beads should be fired in air for 1-2 rounds with the ceramic block scraps before being used for the sintering of the restoration. 2. Check the condition of zirconia beads before sintering. If serious discoloration or damage is found, replace the milled ones immediately. If adhesion occurs between beads, disperse them. 3. The number of zirconia beads should be sufficient to completely cover the entire crucible base (1-2 layers).
	Cleaning of sintering furnace	1. Cleaning method: scrape out the impurities in the furnace, and put the waste porcelain scraps in the furnace for empty firing. After sintering, check whether there are pollution marks on the porcelain scraps. If so, continue to put new scraps for empty firing until the furnace is completely cleaned. 2. Regular maintenance of sintering furnace to ensure that the room where the sintering furnace is placed is dry and free from dust pollution.
Polish	Selection of grinding head	1. The grinding process consists of three stages: coarse grinding, fine grinding, and coarse polishing. 2. The use of diamond grinding head containing rubber binder can effectively avoid the edge collapse.

3、Sintering Curve

Sintering curves for 3D Nature (within 3 units)

Sintering Step	Temperature range (°C)	Time (min)	Rate (°C/min)
The first paragraph	20-1000	109	9
The second paragraph	1000-1200	40	5
The third paragraph	1200-1200	30	0
The fourth paragraph	1200-1530	110	3
The fifth paragraph	1530-1530	120	0
The sixth paragraph	1530-800	104	7
The seventh paragraph	800-room temperature	Natural cooling	/

Sintering curves for 3D Nature (4-6 units)

Sintering Step	Temperature range (°C)	Time (min)	Rate (°C/min)
The first paragraph	20-1200	295	4
The second paragraph	1200-1200	60	0
The third paragraph	1200-1530	110	3
The fourth paragraph	1530-1530	120	0
The fifth paragraph	1530-800	146	5
The sixth paragraph	800-room temperature	Natural cooling	/

Sintering curves for 3D Nature (more than 7 units)

Sintering Step	Temperature range（℃）	Time（min）	Rate（℃/min）
The first paragraph	20-1200	393	3
The second paragraph	1200-1200	60	0
The third paragraph	1200-1530	165	2
The fourth paragraph	1530-1530	120	0
The fifth paragraph	1530-800	209	3.5
The sixth paragraph	800-room temperature	Natural cooling	/