

# INSTRUCTION FOR USE

HT ST SHT TT TT-ML SHT-ML

Aconia® zirconia blanks are the milling blanks intended for making single or multi-unit restorations by dental CAD/CAM technology.

## Physical and chemical properties

Series/ Parameters	HT	ST (White & Preshade)	SHT (White & Preshade)	TT	TT-ML	SHT-ML
Density/(g/cm <sup>3</sup> )	>3	>3	>3	>3	>3	>3
Sintered Density/(g/cm <sup>3</sup> )	>6.02	>6.02	>6.02	>6.02	>6.02	>6.02
Flexural strength/Mpa	1350±100	1250±100	1100±100	800±100	600-900	900-1100
Chemical solubility/(μg/cm <sup>2</sup> )	<50	<50	<50	<50	<50	<50
Radioactivity/Bq·g <sup>-1</sup>	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Translucency	40%	43%	46%	49%	43%-49%	43%-46%
Vickers-hardness HV10	1300±5%	1300±5%	1300±5%	1300±5%	1300±5%	1300±5%
Fracture toughness/(Mpa.m <sup>1/2</sup> )	>12	>11	>9	>7	>7	>9
CTE	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>	(10.5±0.5)*10 <sup>-6</sup> K <sup>-1</sup>

## Specifications

Series/ Parameters	HT	ST (White & Preshade)	SHT (White & Preshade)	TT	TT-ML	SHT-ML
System	Open System Zirkonzahn M5 Dentmill Amman Girrbach	Open System Zirkonzahn M5 Dentmill Amman Girrbach	Open System Zirkonzahn M5 Dentmill Amman Girrbach	Open System Zirkonzahn M5 Dentmill Amman Girrbach	Open System Zirkonzahn M5 Dentmill Amman Girrbach	Open System, Zirkonzahn M5 Dentmill Amman Girrbach
Thickness/mm	10mm - 25mm	10mm - 25mm	10mm - 25mm	10mm - 25mm	12mm- 25mm	12mm- 25mm

## Indications

Aconia® zirconia blanks are dental CAD/CAM material, intended for making crowns, bridges, inlays, onlays.

Please select the material by the professional guidance.

## Designing

To avoid Stress concentration, pay attention to **Path of insertion**, **undercut**, clearly visible gingival **margin**.

Lingual wall thickness ≥0.8 mm; labial wall thickness ≥1.0 mm; Length of continuous pontics ≤30mm; Length of continuous cantilevers ≤15mm.

Anterior connector cross section area ≥ 9mm<sup>2</sup>; Posterior connector cross section area ≥ 12mm<sup>2</sup>

## Milling

Indicating arrow marked on the bank of 'TT-ML', 'SHT-ML', which indicates to incisal/occlusal direction of the tooth.

After milling, please make sure the restorations with: No bright area on the surface, No cracks or chippings, etc.

## Coloring

Aconia® zirconia restorations reach the best result applied with Aconia® Standard & Master & Artist.

Before the final sintering, the restorations which have been treated with liquids must always be dried under red light or in the furnace.

## Sintering

Aconia® zirconia restorations reach the best result applied by Aconia® Standard & Aesthetic & Fast sintering program as follows:

### Aconia® Standard sintering program

Aconia® HT ST(w&p) SHT(w&p) TT-ML SHT-ML sintering parameters				
Applied to single unit and bridges under 7 units (1-7units)				
Step	Initial temperature(°C)	Final temperature(°C)	Time(min)	Heating rate(°C/min)
1	50	300	90	2.8
2	300	1520	240	5
3	1520	1520	90	Holding
4	1520	800	160	-4.5
5	800	Natural cooling		

<b>Aconia® HT ST(w&amp;p) sintering parameters</b>				
Applied to bridges above 7 units (>7units)				
Step	Initial temperature(°C)	Final temperature(°C)	Time(min)	Heating rate(°C/min)
1	50	300	90	2.8
2	300	1520	280	4.4
3	1520	1520	90	Holding
4	1520	800	240	-3
5	800	Natural cooling		

#### Aconia® Aesthetic sintering program

<b>Aconia® TT sintering parameters</b>				
Applied to single unit and bridges under 3 units (1-3units)				
Step	Initial temperature(°C)	Final temperature(°C)	Time(min)	Heating rate(°C/min)
1	50	300	83	3
2	300	1480	236	5
3	1480	1480	90	Holding
4	1480	800	151	-4.5
5	800	Natural cooling		

#### Aconia® Fast sintering program

Please DO NOT apply the fast sintering program to the restorations with more than 3 units.

<b>Aconia® HT ST(w&amp;p) SHT(w&amp;p) TT-ML SHT-ML fast sintering parameters</b>				
Step	Initial temperature(°C)	Final temperature(°C)	Time(min)	Heating rate(°C/min)
1	50	300	40	6
2	300	1520	120	10
3	1520	1520	60	Holding
4	1520	800	40	-18
5	800	Natural cooling		

#### Remark:

It has been proved that the above programs lead to the best outcome of Aconia®. Sintering programs can be adjusted according to the specific situation and different various furnaces.







NOTE: Sintering the abandoned zirconia materials is a cleaning solution, which could absorb pollutant when do it solely or simultaneously with sintering.

#### Finishing

Cooling is essential when polishing the hard sintered zirconia restorations.

For veneering the restoration, staining and glazing, as well as cut-back and layering techniques, or a combination of both, are all suitable for Aconia®.

#### Symbol:

	Date of Production		Expiry date	<b>LOT</b>	Batch number
	Caution		Consult instruction for use		Fragile
	Keep dry				

**Registrant, Production Enterprise Name:** Chengdu Besmile Biotechnology Co., Ltd.

**After Sales Service By:** Chengdu Besmile Biotechnology Co., Ltd.

**Accommodation Address:** No.1666, Chenglong Road Section Two, Economic-technical Development Zone, Chengdu, Sichuan 610100, China.

**Manufacturing Address:** No.1666, Chenglong Road Section Two, Economic-technical Development Zone, Chengdu, Sichuan 610100, China.

Tel: +86-28-88415850 Fax: +86-28-85217510 Email: info@cdbesmile.com

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