

## SINTERING ARGENZ

Material Type	Segment 1		Segment 2		Segment 3	
	Start Temp.	Ramp Time	Soak Temp.	Soak Time	Cool Temp.	Cool Time
ArgenZ Esthetic	Ambient	4°C to 10°C per min.	1525°C	2 hours	1000°C	7°C per min.*
ArgenZ Esthetic Shaded	Ambient	4°C to 10°C per min.	1570°C	2.5 hours	1000°C	7°C per min.*
ArgenZ Ultra	Ambient	7°C per min.	1525°C	2 hours	1000°C	7°C per min.*

\*After this controlled cooling segment, the framework can cool naturally

## ADJUSTING ARGENZ

- Sandblast the interior and exterior of the restoration with aluminum oxide (50 micron grit size) at 40psi.
- Only use burs specifically designed for adjusting Zirconia. Always ensure that Zirconia is wet during the grinding process. A high-speed wet hand piece, at low speed, is recommended during the adjusting process in order to keep heat to a minimum.
- Avoid grinding the basal grooves and tooth connections.
- If possible, smooth rough or sharp edges.

## ARGENZ MATERIAL PROPERTIES

### STRENGTH

Flexural Bending Strength – ArgenZ Esthetic  
>1100 MPa mean value

Flexural Bending Strength – ArgenZ Ultra  
>1400 MPa mean value

Density  
≥ 6.00 g/cm<sup>3</sup>

### COMPOSITION

ZrO <sub>2</sub>	90.95%
Y <sub>2</sub> O <sub>3</sub>	4.5 - 6.0%
HfO <sub>2</sub>	≤ 5%
Al <sub>2</sub> O <sub>3</sub>	≤ 0.5%

Type/class                      Type II/Class 5  
BS EN ISO 6872:2015

**THERMAL EXPANSION COEFFICIENT**  
25-500°C = 10µm/m-°C

## HAZARDS IDENTIFICATION - EMERGENCY OVERVIEW

Specific Physical Form:  
Solid Block or Slab

Odor, Color, Grade:  
White odorless block

General Physical Form:  
Solid

Immediate health, physical, and environmental hazards:  
No immediate health, physical, or environmental hazards are anticipated.

Eye Contact:  
Mechanical eye irritation:  
Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Skin Contact:  
Mechanical Skin irritation:  
Signs/symptoms may include abrasion, redness, pain, and itching.

Inhalation:  
During grinding, scraping or sanding, inhalation of particles may occur, resulting in upper respiratory tract irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:  
No health effects are expected.

Please refer to the complete SDS sheet.

### ArgenZ Technical Support

For further questions or technical support, please contact Argen's Technical Support staff at **(800) 255-5095**

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MADE IN THE USA

CE 0086



**ARGEN Z**™ DISC

ULTRA  
High Strength Zirconia

ESTHETIC  
High Translucency Zirconia

The Argen Corporation

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**ARGEN**®

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## INSTRUCTIONS FOR USE

ArgenZ Ultra (high strength) and ArgenZ Esthetic (high translucent) dental zirconia can be used for the production of full-contour and substructure restorations. The following instructions provide general guidelines for handling, designing, milling, sintering and adjusting of ArgenZ material and should be followed very carefully to avoid any loss of aesthetics, fit, durability or overall quality.

## INDICATIONS FOR USE

ArgenZ Ultra (high strength) and ArgenZ Esthetic (high translucent) zirconia can be used for the production of full-contour and substructure restorations.

## HANDLING ARGENZ

Inspect each shipment for damage and do not use damaged discs for the production of dental restorations. Store ArgenZ in a cool, dry, temperature-stable environment (between 5°C and 50°C) in the original packaging.

## DESIGNING ARGENZ

Noncompliance with these guidelines could result in an unfit or failed restoration.

### Design Option

Design Guidance

### Drill Compensation

Drill compensation must be activated for all substructures milled from a solid structure.

### Cement Gap

The distance where the coping intersects the die at the margin area. Use this setting to control margin fit.

### Extra cement Gap

The distance between the coping walls and the die. Use this setting to control internal fit.

### Distance to Margin Line

The distance from the margin outer line to the start of the interior wall of the coping.

### Smooth Distance

The distance from the margin line to the margin engagement point. should be set at 0.20mm.

### Drill Radius

The drill radius is the size of the smallest end mill used to mill the pattern.

### Drill Compensation Offset

The distance from the margin line to the area affected by drill compensation. should be a minimum of 0.5mm.

### Margin Line Offset

The effective thickness of the margin line and should not be less than 0.16mm. Thinner margin lines will result in a higher failure rate.

### Offset Angle #1

The offset angle should not be less than 65°.

### Extension Offset

The extension offset should not be less than 0.01mm.

### Wall Thickness

A nominal wall thickness of 0.5mm will ensure a consistently quality product. Reducing this value could result in fractures or holes in the framework.

### Bridge Connectors

Recommended Anterior restorations: 6mm<sup>2</sup> minimum.  
Recommended Posterior restorations: 9mm<sup>2</sup> minimum.

## MILLING ARGENZ

Pre-sintered (or “green”) zirconia material has an inherent shrinkage rate associated with each production lot. This shrink rate, usually formatted as 1.XXXX, can be found on the side of the actual disc. This number MUST be input into the milling preparation software to ensure the accuracy of the eventual restoration.

### When milling ArgenZ, always follow these general guidelines:

- Only use sharp end mills with carbide or diamond coating.
- Do not use any restoration that has chips and/or cracks  
Remove the units from the disc using a handpiece with a diamond-coated burr.
- Smooth the support areas with a medium-grit rubber polishing wheel.
- Remove any residual zirconia dust with an art brush.
- If a wet mill is used make sure all the zirconia is completely dry before sintering. Air dry for at least 15 minutes prior to sintering. Damp zirconia will crack if placed in the sintering oven.