Coloring ArgenZ

For best results, use recommended ArgenZ Shading Liquids. ArgenZ Anterior is compatible with all major dental zirconia coloring systems.

Sintering ArgenZ

Standard Cycle

Stage	Program	Rate/Minute	Temperature	Time
1	Heating Ramp	10°C	900°C	
2	Heating Ramp	7°C	1510°C	
3	Hold Time/Heat Soak		1510°C	120 min.
4	Cooling Ramp	7°C	1000°C	
5	Cooling Ramp	10°C	200°C	

Large Bridge Cycle*

Stage	Program	Rate/Minute	Temperature
1	Heating Ramp	4°C/Minute	1510°C
2	Heat Soak	150 Minutes	1510°C
3	Cooling Ramp	4°C/Minute	200°C

NOTE: Sintering temperatures are recommendations. If necessary, carry out a trial sintering cycle and adapt the sintering times and/or temperatures as needed.

After controlled cooling segment, the framework can cool naturally.

*Large bridges/frameworks should be fired on large bridge cycles at 4 degrees/minute.

ArgenZ Anterior

Material Properties

Strength

Flexural Bending Strength - ArgenZ Anterior
>765 MPa mean value

Density

≥6.00g/cm^3

Composition

ZrO_2+HfO_2+Y_2O_3	>99 wt%
Y_2O_3	8.5 - 10 wt%
HfO_2	<5 wt%
Al_2O_3	<0.1 wt%
Fe_2O_3	<0.1 wt%

Type/Class Type II/Class 4
ISO 6872:2015

Thermal Expansion Coefficient

25-500°C = 10.0µm/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 MSDS sheet provided with your order.

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 2797

ARGEN Z™ ANTERIOR DISC

Super Translucent Zirconia

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San Diego, CA 92121-4718 USA

EC REP MDSS, Schiffgraben 41
D-30174 Hannover, Germany

(800) 255-5524

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Instructions For Use

ArgenZ Anterior (super translucent) dental zirconia is indicated for the production of full contour restorations.

The following instructions provide general guidelines for handling, designing, milling, coloring, 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 Anterior blanks are intended to be used in the fabrication of inlays, crowns, copings, and fixed bridges (up to 3 units) using various CAD/CAM systems.

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.

Adjusting ArgenZ

- Only use burrs specically 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.
- Do not sandblast.

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 0.2mm.
Drill Radius	The drill radius should be 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 0.6mm.
Margin Line Offset	The effective thickness of the margin line and should not be less than 0.2mm. 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: 9mm² minimum. Recommended Posterior restorations: 9mm² minimum.

Milling ArgenZ

Pre-sintered (or “green”) zirconia material has an inherent shrinkage rate associated with each production lot. This shrinkage 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:

- Reference the mill’s user manual to prevent overtightening of discs in fixture.
- Only use sharp end mills with 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 shading/sintering. Air dry for at least 30 minutes prior to sintering. Damp zirconia will crack if placed in the sintering oven.

Coloring ArgenZ

ArgenZ Anterior is compatible with all major dental zirconia coloring systems.