All Ceramic Materials for All-Ceramic Restorations

EN

Nano-Lithium Disilicate
NLD
Nano-Lithium Disilicate

New Frontier of Lithium Disilicate-Based CAD/CAM Blocks & Disks

Amber® Mill

www.hassbio.com

CE 2195 FDA RX Only

HASS | Human-Aid System Supplier

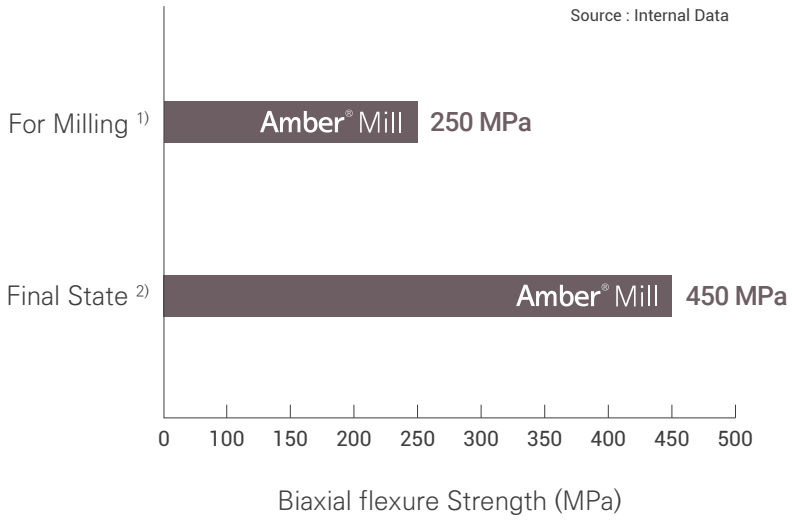
Innovation Redefined

Machinable lithium disilicate block for CAD/CAM system

Amber® Mill is the machinable dental glass-ceramic block made of lithium disilicate.
Its reinforced mechanical properties and aesthetic values with qualified machinability are greatly advantageous for patients and clinics.

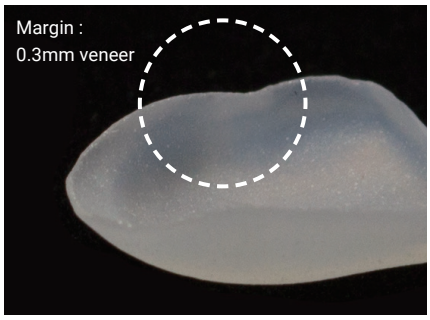
Empowering Aesthetic Longevity

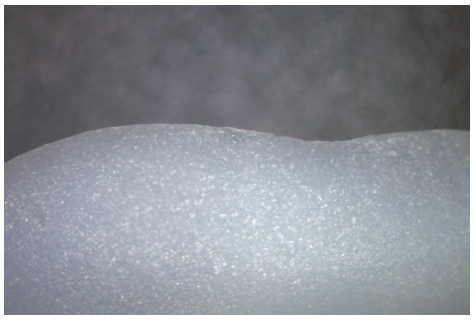
Denser and more crosslinked crystal structure of Amber® Mill results in superior physical properties. Biaxial flexure strength of Amber® Mill is 450MPa after it is fully crystallized.



Enhanced Edge Integrity

Outstanding machinability of Amber® Mill is evidently affirmative when checking the edges of the milled restorations. Highly stable edges with less chipping occurrence prove that Amber® Mill is optimized machinable lithium disilicate block for CAD/CAM system.

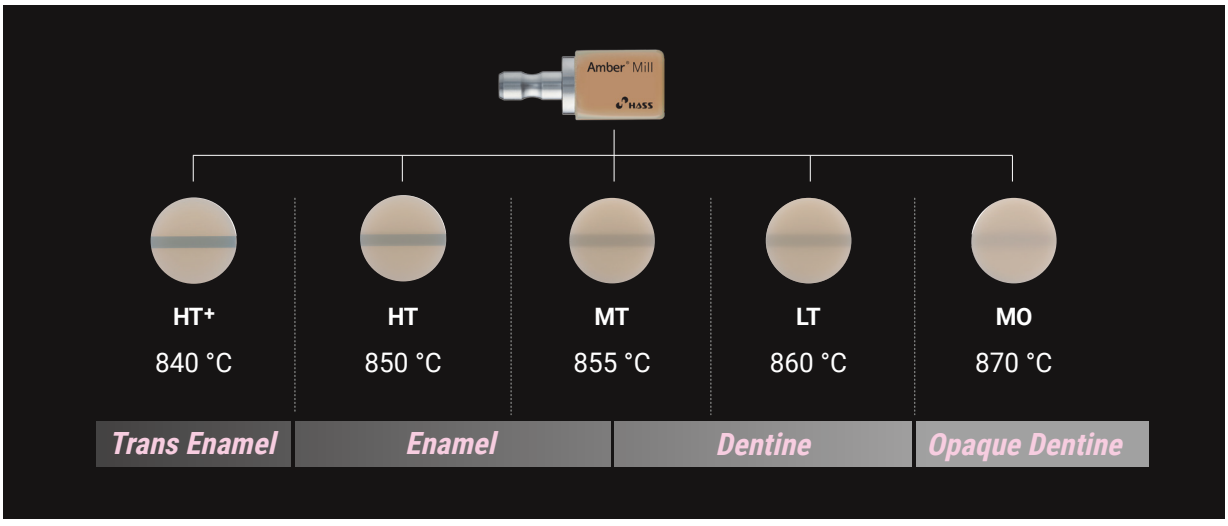




Amber® Mill

Experience Lifelike Color Continuum

With a single Amber® Mill block, you can create restorations with a wide range of translucency levels.
Simply choose the desired shade and apply the translucency heat treatment at the appropriate temperature. This flexibility significantly enhances workflow efficiency and simplifies inventory management of CAD/CAM milling blocks.

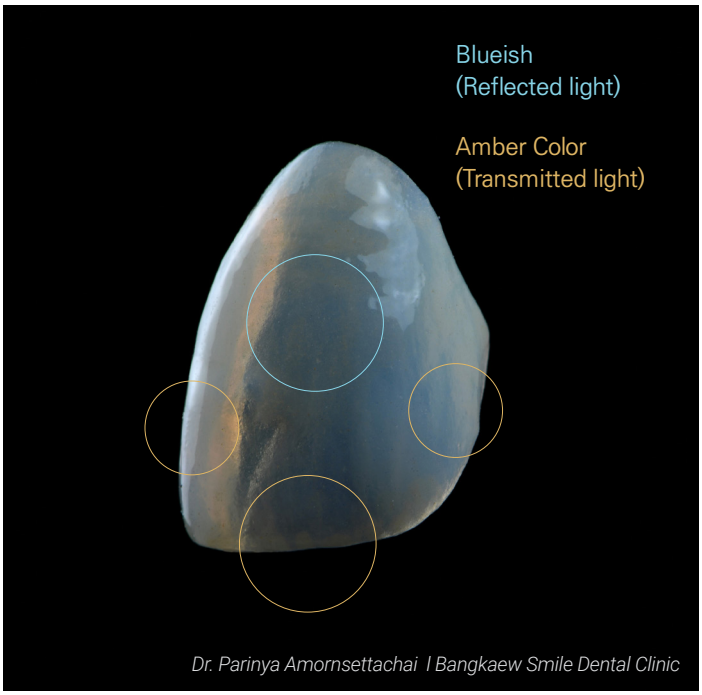


Unleashing the Power of Nature's Beauty

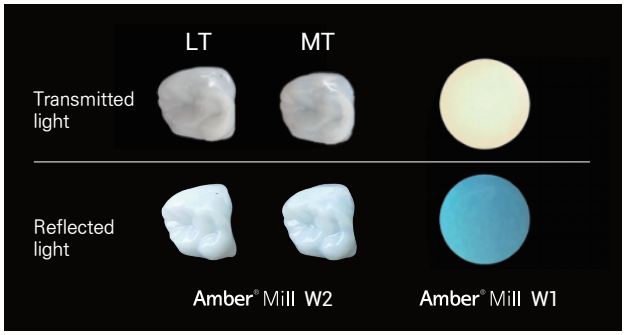
Captivating Beauty: Natural Opalescence & Fluorescence Revealed

Amber® Mill delivers exceptional translucency and fluorescence, allowing restorations to achieve a natural shade gradient—from the cervical area to the incisal or occlusal surface—with glazing alone, eliminating the need for additional staining. This provides a significant esthetic advantage.

- Natural teeth covered by enamel exhibit characteristic translucency: they appear bluish under reflected light and amber under transmitted light.
- Amber® Mill is engineered to closely replicate the natural translucency of enamel.
- It also faithfully mimics the natural fluorescence of teeth, enhancing lifelike esthetics under various lighting conditions.



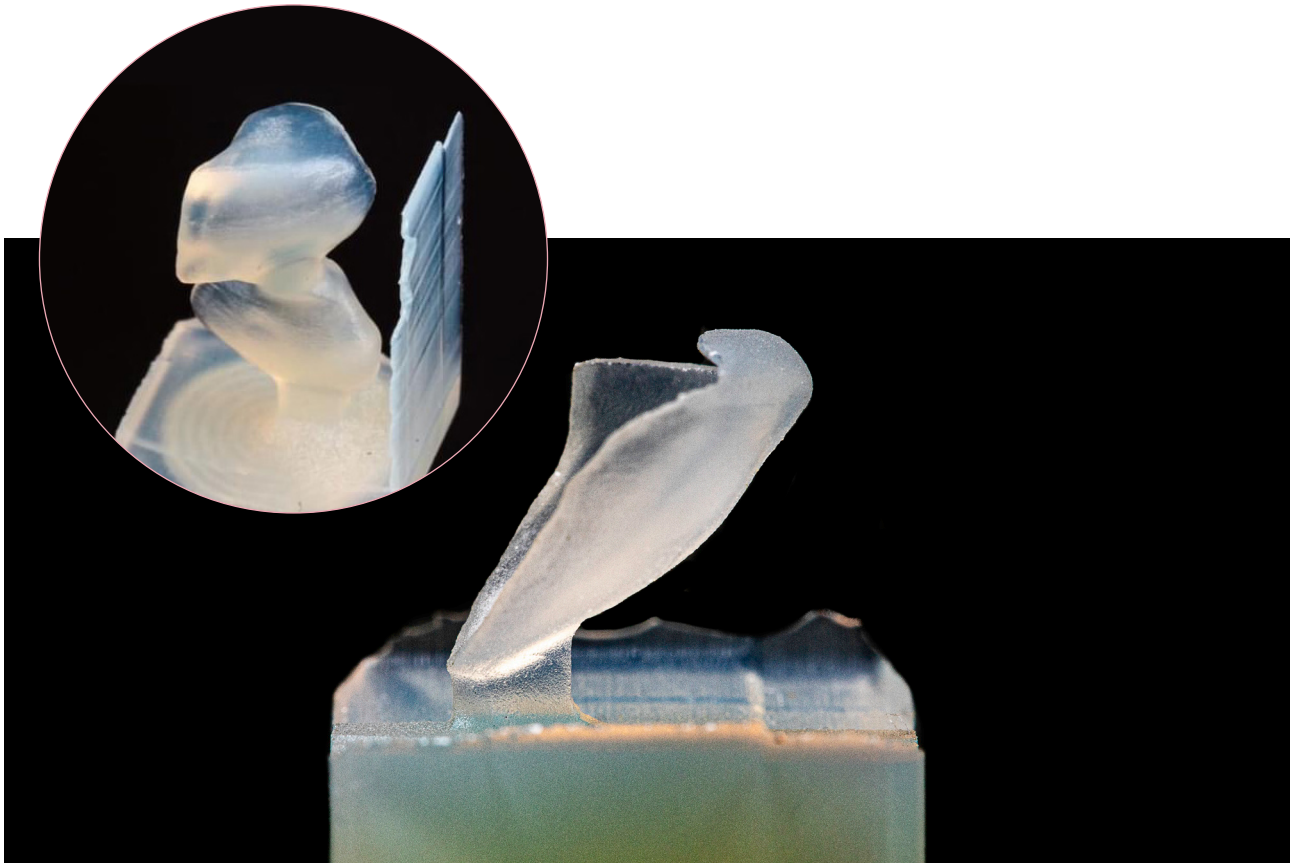
Comparison of Opalescence



Excellent Fluorescence

Clinical Case Demonstrates Amber® Mill's Aesthetic Impact

Prostheses fabricated with Amber® Mill clearly stand out in quality.
Amber® Mill combines physical strength and esthetic excellence in perfect balance, resulting in final restorations that exhibit both high stability and natural appearance when placed in the mouth.



Dr. Lentes Cerámicos I Vitrio Lab

Freedom of Translucency

Achieve Desired Translucency Levels with Amber Mill's Recommended Heat-treatment

DEKEMA Austromat 654 / 624i[1)]

	HT+			HT			MT			LT			MO		
Dry			--:--			--:--			--:--			--:--			--:--
Close			06:00			06:00			06:00			06:00			06:00
Preheat °C	430		00:00	430		00:00	430		00:00	430		00:00	430		00:00
Tem. 1/°C	840	60/min	15:00	850	60/min	15:00	855	60/min	15:00	860	60/min	15:00	870	60/min	15:00
Tem. 2/°C	690	60/min	--:--	690	60/min	--:--	690	60/min	--:--	690	60/min	--:--	690	60/min	--:--
Tem. 3/°C	___	___ /min	--:--	___	___ /min	--:--	___	___ /min	--:--	___	___ /min	--:--	___	___ /min	--:--
VAC (off/level/hold)	840	100%	15:00	850	100%	15:00	855	100%	15:00	860	100%	15:00	870	100%	15:00

* The firing chamber must not be opened during long term cooling.

1) Austromat 654 / 624i is a registered trademark of DEKEMA.

IVOCLAR VIVADENT PROGRAMAT CS [2)]

B ℃	S min.	t↗ ℃/ min.	T ℃		H min.	VAC. 1/ VAC. 2 ℃		L ℃	tL*
430	6:00	60	HT+	840	15:00	HT+	550/840	690	0
			HT	850		HT	550/850		
			MT	855		MT	550/855		
			LT	860		LT	550/860		
			MO	870		MO	550/870		

* The firing chamber must not be opened during long term cooling.

2) PROGRAMAT CS is a registered trademark of IVOCLAR VIVADENT.

VITA VACUMAT [3)]

Predry ℃	→ min.	↗ min.		↗ ℃ / min.	T ℃		→ min.	VAC min.		↘ ℃ *
430	6:00	HT+	6:50	60	HT+	840	15:00	HT+	21:50	690
		HT	7:00		HT	850		HT	22:00	
		MT	7:05		MT	855		MT	22:05	
		LT	7:10		LT	860		LT	22:10	
		MO	7:30		MO	870		MO	22:30	

* The firing chamber must not be opened during long term cooling.

3) VACUMAT is a registered trademark of VITA.

Precautions before use

When re-firing

- Do not exceed a maximum temperature of 885°C during any heat treatment process (including re-firing).
- If you want to change the light intensity, use the schedule for the desired light intensity. However, it is possible to lower the light intensity, but not to raise it.
  Ex: HT (850°C) → MO (870°C) is possible / MO (870°C) → HT (850°C) is not possible
- Use Amber Mill VCK* to measure the actual furnace temperature during the crystallization process. Based on the measurement results, adjust the maximum temperature of the crystallization schedule accordingly.* VCK (Visual Calibration Kit)

During build-up

- Amber Mill has high compatibility with veneering powders and can be used with LS_2 veneering powders with a CTE of 10×10^{-6} /°C or less. Additionally, it is compatible with some zirconia veneering powders when the sintering temperature does not exceed 850°C.

*CTE thermal expansion coefficient

Refer to Amber Mill's translucency, which is similar to natural teeth.

HT+: Transparent Enamel translucency	LT: Dentin translucency
HT: Enamel translucency	MO: Opaque Dentin translucency
MT: Medium translucency (between HT and LT)	

Crystallization firing must be performed under vacuum.

Product Q&A

Q What is translucency heat treatment?

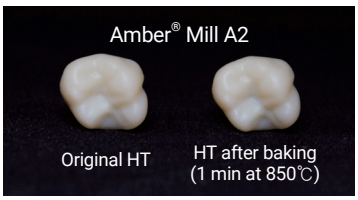
A Amber® Mill blocks consist of fine crystals embedded in a glass matrix when milled. Through translucency heat treatment, the crystal size and density increase, enhancing both toughness and mechanical strength. Additionally, this process allows for the adjustment of translucency levels.

Factors for the translucency heat-treatment

Q Does translucency change during multiple bakings of veneering powder?

A The translucency of Amber® Mill is influenced by both the heat treatment temperature and the holding time. Even if the temperature during veneering exceeds that of the translucency heat treatment, the short holding time—typically around 1 minute—means that it has little to no effect on translucency.

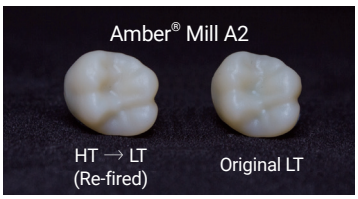
Stable translucency after baking of veneering



Q Can translucency be further adjusted through re-heat treatment?

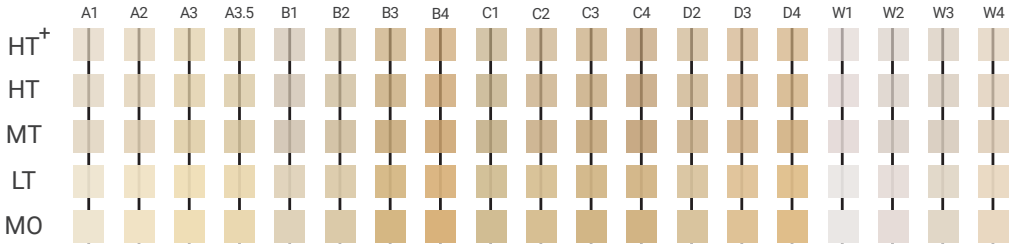
A Yes. If a completed restoration has higher translucency than desired, it can be reduced through an additional heat treatment. For instance, to lower the translucency of an HT crown to that of an LT crown, apply the LT translucency heat treatment conditions—including a 15-minute holding time—resulting in a translucency level equivalent to LT.

Re-firing of Amber® Mill blocks (HT → LT)



Amber® Mill

Available Shades Reproduce 5 different opacities with 1 block



The light transmission rates shown above are examples based on Amber Mill Blocks with* **a thickness of 0.9 mm to 1.5 mm.

Indications

- Inlays
- Onlays
- Veneers
- Anterior Single Crowns
- Posterior Single Crowns
- 3-Unit Bridge
  *up to the second Premolar

Contraindications

- Very deep subgingival preparations
- Maryland bridges
- Patients with severely reduced residual dentition
- Bruxism
- Cantilever bridges

Product Line-up

Amber® Mill		Dimensions (mm)	pcs / Pack
	C12	10 x 12 x 15	5 blocks
	C14	12 x 14 x 18	
	C32	14 x 14 x 32	3 blocks
	C40	15 x 15 x 38	
	H9808	Ø98 x 8T	1 disk
	H9810	Ø98 x 10T	
	H9812	Ø98 x 12T	
	H9814	Ø98 x 14T	

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