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Lithium Silicate-Based Press on Metal

# Amber<sup>®</sup> LiSi-POM

User's Manual



[www.hassbio.com](http://www.hassbio.com)

CE2195

 **HASS** | Human-Aid  
System Supplier

# Amber<sup>®</sup> LiSi-POM

User's Manual

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## 1. Introduction



Lithium Silicate-Based Press on Metal

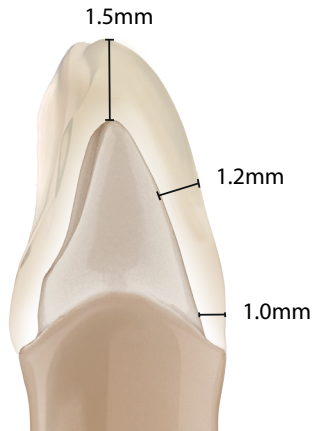
# Amber<sup>®</sup> LiSi-POM

Amber Lisi-POM (LPM), Lithium-Silicate based glass ceramic ingot, is designed to be heat-pressed on metal frameworks.

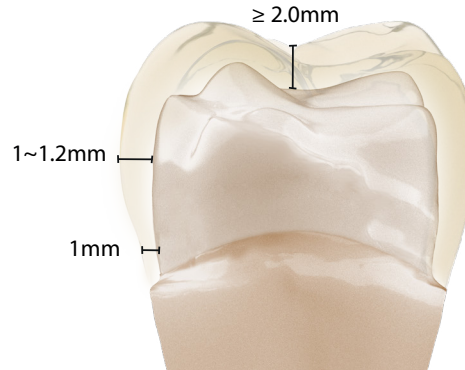
With press-over technique on metal for dentistry, the stability and esthetics can be fulfilled. You are welcomed to a new world of esthetic prosthesis .



## 2. Preparation Guide



Anterior crowns



Posterior crowns

... The required minimum thickness 0.3mm on metal frame and 0.5mm on LPM should be strictly observed.

### TIP!

- ! Make the prep tooth surface in the most rounded shape possible (Deep chamfer margin, rounded shoulder margin)
- ! Maintain a clean and the most even margin thickness possible.

### 3. Metal Framework



... After a full wax-up, make a metal frame with cut-back technique.  
Or after completing an outline shape with CAD program and making cut-back design, fabricate a pattern with 3D printer.

**TIP!**



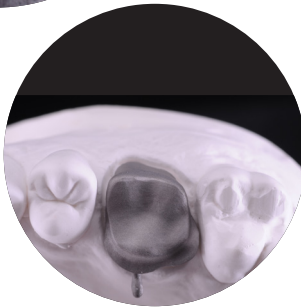
when doing cut-back, make sure of an even thickness on LPM.  
(Cut back thickness: minimum 0.5mm)

## 4. Casting



### TIP!

! Make sure to use metal alloys of which CTE is lower than  $13.6 \times 10^{-6} \text{K}^{-1}$   
CTE :  $13.6 \times 10^{-6} \text{K}^{-1}$



... After casting, make framework surface in the most rounded shape and minimum edge possible.

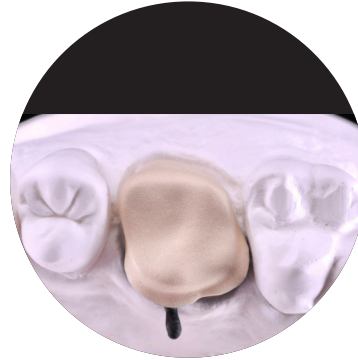


... Clean up margin area of cut-back part for an ideal thickness of LiSi-POM.

### TIP!

! Process wash opaque in accordance with manufacturer's instruction or sinter alloy bond for low fusing in accordance with manufacturer's instruction.

## 5. Opaque



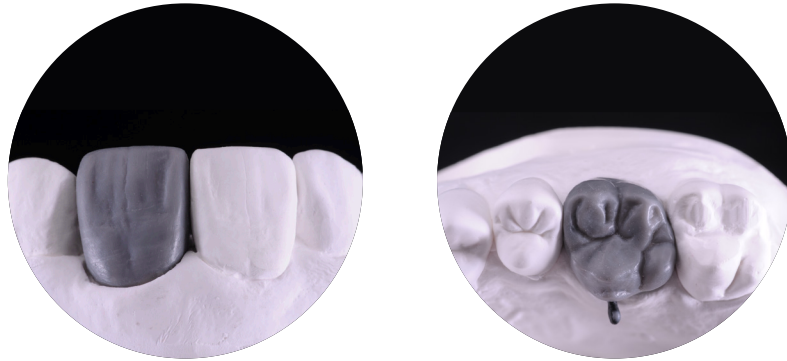
... When processing opaque, spray evenly to cover metal (minimum opaque thickness: 0.2~0.3mm) and sinter to get eggshell-like surface.



... After opaque process, measure the weight of metal frame (for determining a right size of ingot).

## 6. Wax-up

... In burn-out, use combustible wax and complete the shape of final restorations.



### TIP!

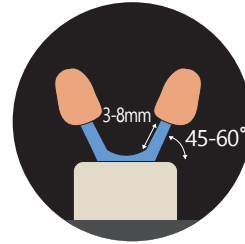


Make contour with the attention to ensure the minimum wax thickness over 0.5mm.

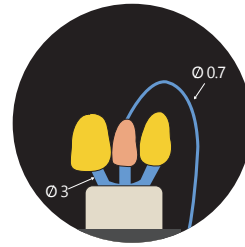


## 7. Sprueing

... Attach a sprue in the direction of flow for ceramic so that ingot can flow smoother during pressing.



... Connect the object and investment ring base in an 45~60 angle, at a length of 3~8mm, using 3~3.5mm of spruing wax.



... Keep a distance of at least 5mm between the wax-up objects and ring.



Wax Weight	Invest. Ring
~ 0.7 g	100 g

... When finishing sprueing work, measure the total weight and subtract the weight of metal framework to determine a right ingot size.

... It is recommended to attach sprueing wax to each crown and it aids gas ventilation if air vent is attached in the thickest part.

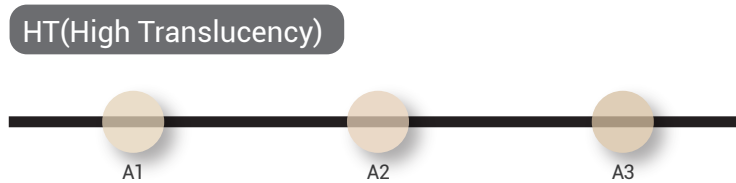
**TIP!**



Failure in pressing can be prevented by increasing the thickness of wax in the border part to metal framework.

## 8. Select the ingots

... Available shades



**TIP!**

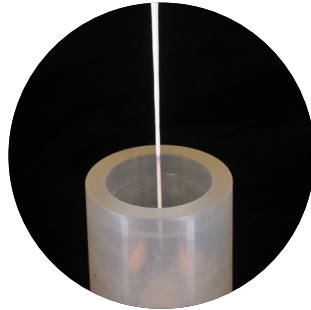


It is highly recommended to choose one step brighter shade than the one you actually plan for the final restoration (This prevents restoration from decreasing in brightness during staining).

For translucency, it is good to choose ingots having a good harmony with proximal teeth.

## 9. Investing

- After hand-mixing for 20 seconds, mix it more with vacuum mixer. If it is hardened in a pressurizer after investing, strength of investment and polish of ceramic surface is enhanced when pressing.



**TIP!**



For details, please refer to instruction of investment manufacturer.

Phosphate-based investment material for ceramic press

# Amber<sup>®</sup> Vest

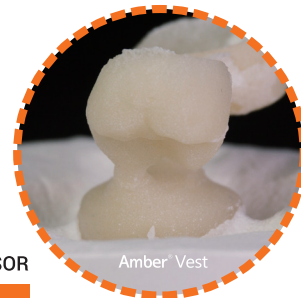


Packaging: KIT POWDER + EXPANSOR

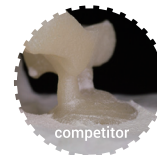
Amber<sup>®</sup> Vest POWDER  
5kg (50X100g)

+

Amber<sup>®</sup> Vest EXPANSOR-B  
LIQUID (1,000ml)



Amber Vest



competitor

Comparison of Reaction Layer Generation on Surface

## 10. Preheating(Burn-Out)



- ... Remove a silicone ring only after investment is completely set.
- ... Trim the upper side flat and place the investment ring in the preheating furnace.
- ... The lower side of investment ring should face down. Pay attention to ensure good drainage of waxgas.

Setting time	<b>min. 30 min, max. 45 min.</b>
Preheating furnace temperature	<b>850°C(1562°F) ; Switch on the preheating furnace in time</b>
Position of the investment ring in the preheating furnace	<b>Towards the rear wall, tipped with the opening facing down</b>
Final temperature upon preheating the investment ring	<b>850°C / 1562°F</b>
Holding time of investment ring at the temperature	<b>100g investment ring - min. 45 min.</b>
Ingot & plunger	<b>no preheating</b>
Plunger (option)	<b>no preheating</b>

**TIP!**

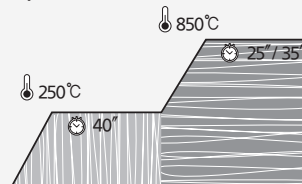


Follow burn-out temperature and time in compliance with the instruction of investment manufacturer.

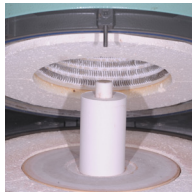
ex) Phosphate-based investment material for ceramic press

**Amber® Vest**

The highest temperature : 850°C



## 11. Pressing



... Make sure to put a ingot and plunger into a ring only at room temperature. At that time, printed side of ingot should face up. Check whether the ring bottom is placed flat.

... Proceed with pressing ingot at the appropriate temperature.

... Pressing schedule

**TIP!**



There may be a difference between the temperature indicated on the furnace and the actual one. If problems occur after pressing, find out the optimal pressing temperature with the following process.

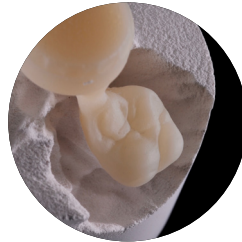
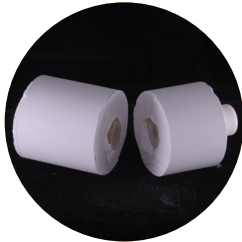
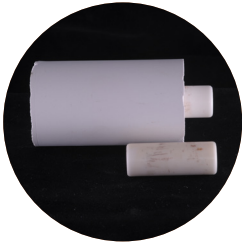
- Bubbles or discoloration on restoration surface: Decrease the max. temperature by 5~10 and try again.
- If pressing is not completed: Increase the max. temperature by 5~10 and try again. Or put additional 5 minutes holding time and try.

### Austromat Press-i-dent (Dekema)\*

\*Austromat Press-i-dent is a registered trademark of DEKEMA.

Translucency	Size	Shade	Investment Ring	Start Temperature	Heating Rate	Max Temperature	Holding Time	Vacuum On	Vacuum Off
HT	R10	A1, A2, A3	Small (100g)	700°C	60°C/min	820°C	15 Min	700°C	820°C

## 12. Divesting



... Check the length of plunger first and cut the investment with a disk.

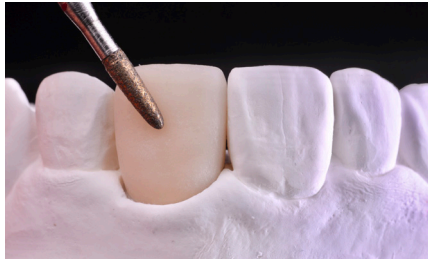
... Use Alumina ( $\text{Al}_2\text{O}_3$ ) bead for sandblasting. 4 bar pressure for overall part and 2 bar for precise part is recommended. This work should be done only after the ring fully cool down.

### TIP!

! When cutting sprues, by wetting with water, a special attention should be paid for preventing micro-fracture. It is recommended to use investment suggested by manufacturer.

Press at a recommended temperature to have a reaction-layer-free restoration.

## 13. Characterizing



Trim sprue stump and thickness-added part and remove residual bubble to have clean surface. Wetting with water is necessary when doing this work.

## 14. Stain & Glaze



- After work done, for cleansing surface of restoration, treat part to be stained with sandblaster and steam cleaner at the pressure lower than 1 bar with alumina ( $Al_2O_3$ ) bead. Apply staining material matched to a targeted shade. Stain & Glaze baked under 800 degree can be used.



## 12. Completion



Courtesy of CDT. Won Pil Jang and Dr. Hee Kyong Lee, Seoul, Korea

## 13. Indications / Contra-Indications

### Indications



Anterior single crown




Posterior single crown

### Contra-Indications

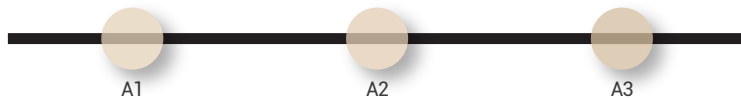
- Restoration seated deeply in subgingival
- Maryland bridges
- Residual teeth / teeth with little-remained structure
- Bruxism
- Cantilever bridges

Product line-up

Amber <sup>®</sup> LiSi-POM	R10	Dimensions (mm)	pcs / Pack
	R10	Ø12.7 x T 10	5 ingots

Available shades

HT(High Translucency)





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