

# The AP Prettiau Bridge

By Jörg Müller, MDT

**Developing a plan, turning it into a protocol and then following every step precisely, will ensure a predictable and successful restoration.**

Over the years, I have seen many restorations being modified and compromised due to poor planning from the start. For aesthetic anterior restorations it is most important to start with a diagnostic wax up. This is a solid foundation for any case. All the critical points such as: length, proportions and anatomical details will be determined. No technician wants to make changes, like, adding to the incisal edge, when it's time to deliver a case. We feel great pleasure, when the case just drops in and we meet the patients expectations. In order to make this a standard rather than playing a lottery game, we need to follow a step by step approach.

## First Step – the Wax Up:

Find the right functional elements, the right size, proportions, and horizontal and vertical dimensions, which are parameters that can be determined in the wax up. For edentulous patients it has been common practice to set up denture teeth, because they are easy to place and quickly lead to a result. However, because those denture teeth are more generic rather than customized, it may lead to limits if the form or function needs to be modified. A more suitable solution, and equally as timely and efficient, are the OccluMaster wax patterns by Aesthetic-Press. Because of their flexibility, these fully contoured posterior crowns help find the right occlusal dimensions in a very short time, while adjustments or functional elements can be easily done.



by Aesthetic-Press

## Stop by our table!

LAB DAY Chicago 2012

February 24–25, 2012

Sheraton Chicago Hotel & Towers



Exhibit Table Number  
**1405**

## Dental Lab Tech-KNOWLEDGE

### The AP Wax Blank

**NEW!!**

Order during the LMT trade show and get 20% off!

- No resin components
- Easy to cast and press
- Easy to carve and modify
- Workflow stays in the same property and color
- Available in a variety of forms and sizes

~~\$39~~ **\$32**



## Occlusal Concepts

With the OccluMaster, a variety of occlusal concepts can be utilized and easily modified.

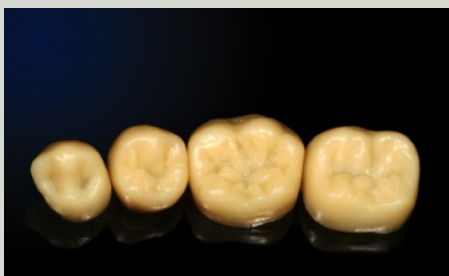
The conventional P.K. Thomas anatomy can be found in our classic design, and the more advanced theories, like the Biomechanics taught by the renowned Michael Polz from Germany, can be found in the Premium morphology.



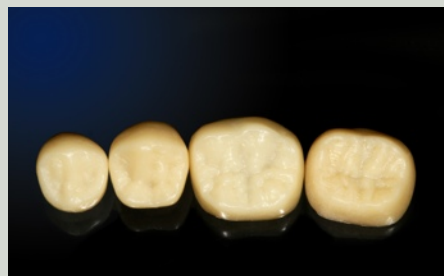
Classic



Classic Plus

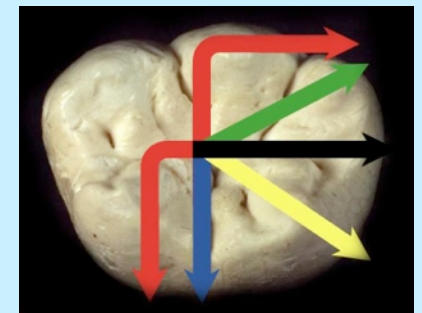
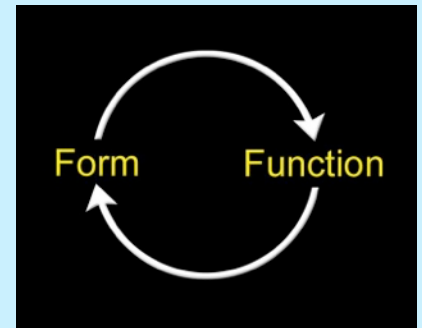


Natural



Premium

## Form & Function: The Occlumaster

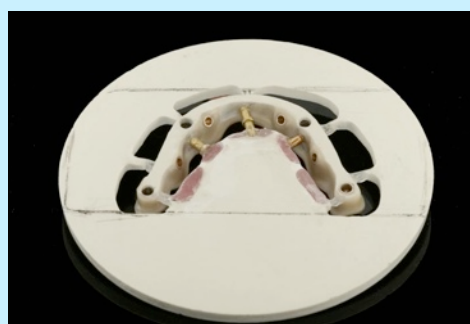


## The Milling of the Bar

Milling a bar in zirconia offers a variety of advantages compared to its counterpart, metal. The very minimal porosity level of zirconia is far more bio-compatible than any metal construction, not to mention the implications of soldering connections. A passive fit of the bar is essential, which will be verified through a try in, in its frame stage. Any adjustments can be done chair-side with light cure materials. With a thorough milling procedure and controlled sintering process, the bar fits nicely to the implant. Once the bar is almost finished, the housing for the screws is drilled into the zirconia before sintering. The Zir Konzahn Eco milling machine provides the ability to mill the housing for the lateral screws, especially for constructions like this complex restoration. In addition, the bar can be milled either parallel or at a 2 degree angle. This will ensure that the over structure will fit nicely and the friction will keep both parts together. The set screws will lock the construction in its final position. A 16 mm block is sufficient to mill this bar. The 4 lateral screws carry the metal housing, which will be inserted once sintering is completed. The bar is milled with four different burs. The abutment areas need to be milled very carefully. After milling the bar, the color liquids are added.



The milled bar with the lateral screws

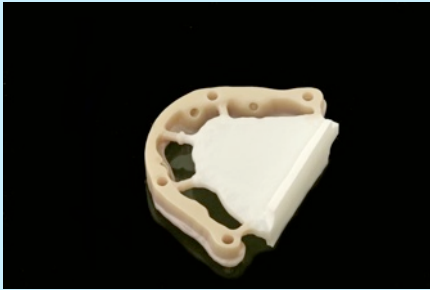


The careful transfer into the milling machine



The Zir Konzahn Eco milling machine has unlimited milling design opportunities.

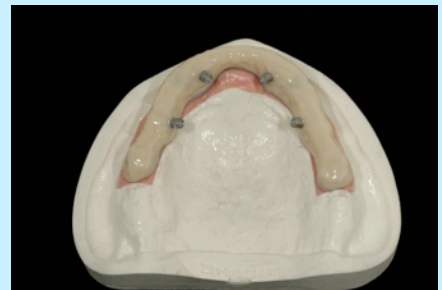
## The Overstructure



The milled bar after the sintering process



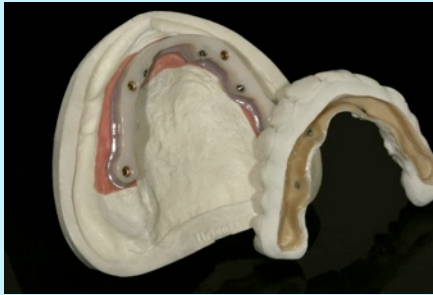
The bar handpolished with the Oscar Diamond Paste.



The bar covered with light cure composite



Completing the form with frame composite, ready for the try in



Separating the overstructure ready to mill



Precise milling and creating the right amount of space for the porcelain.

## “Drop the Pin” Technique

Cutting the connectors had to be done very carefully with water-cooling to avoid a fracturing of the bar.

After fitting the bar, the zirconia was polished with the AP Diamond Polishing Paste, which has a high diamond content and gives the bar a perfect surface shine.

To cover the bar for the overstructure, the Rigid light cure material was applied before the Frame was put into the silicon matrix which was done from the original wax up. Maintaining the occlusion is a very critical point when duplicating a precise wax up. A special mold maker from Anax Dent is ideal for transferring the wax up into resin. This mold maker can also be used for a wax injector to re-inject the previous wax up.

After milling the overstructure, the final details were milled after utilizing the “drop the pin” technique. The milling bur is dropped about 0.75 mm, whereas the tester will stay in its original position. This technique will ensure the pressed porcelain has enough room for maximum stability and perfect light reflection. Using the translucent Aesthetic-Press Zircon

ingot will give you the optimum porcelain support. As the following picture illustrates, the Zircozahn Eco milling machine can be set to different angles in order to mill every corner of the restoration. After opening the set screws of the hinge, the milling plate can be adjusted as needed. The rotation of the 5 axes allows the placement of the lateral screws.



## Press Pink first!



## Re-Inject...

The Gingiva, as well as the tooth colors, are applied carefully with a brush before the sintering process. The color liquids are needed to support the final color with the right chroma from within. For the experts, slight color nuances can be applied with a micro brush. A variation from violet, grey as well as a mild orange can be applied to bring some life into the zirconia structure.

The original wax up is then re-injected onto the framework. The AP injection wax, with its specific properties, allows the occlusion and crown parts to be removed. With a simple cut of a scalpel, at the red/white junction, the wax can be peeled off. The length of the sprues were significantly longer than allowed in any textbook. In order for a successful press result, the restoration was supported by 4 sprues on the inside and 5 on the outside of this full arch zirconia framework.

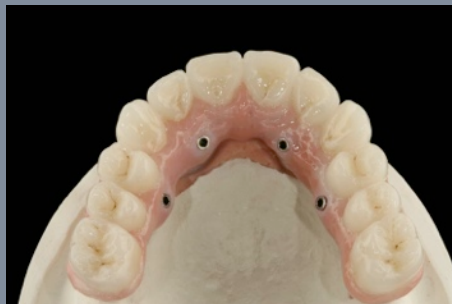
After investing the bridge 15 min., bench set time was used before placing the ring into a cold burnout furnace. The program was set with a rising temperature of 17 degrees Celsius per minute.

After reaching the final temperature of 850 degrees Celsius, a holding time of 60 min needs to be completed before placing the ring into the press furnace. *The AP Feldspar ingots should not be preheated.* Using 6 x 2.5g ingots, the length of the plunger had to be shortened by 50% in

order for the oven to close. The gingiva part was pressed with the Aesthetic-Press gingiva ingots. For this successful press cycle, 6 of the 2.5g ingots were used. The press time was 20 min and the distance travelled was 21 mm. The press time describes the time used for the plunger to move the porcelain into the form. Working with such a large amount of zirconia requires a lot of attention to a very slow rising temperature and cooling time. An extended cooling time was needed before carefully de-vesting this massive zirconia overstructure. After checking the fit of the upper construction with the model, the wax injection completed the missing layer of the clinical crown. Little adjustments were needed before the construction is ready to be re-invested for the second press cycle. Each tooth was connected with one sprue of gage 8. The reconstruction should be centered as much as possible to keep a balance of the porcelain during the cooling phase. With a precise wax up, only very minimal corrections are needed to complete and glaze the construction. The ability to finalize the occlusion in wax makes such a large and complex case much easier to plan and manufacture. All the functional elements can be designed at the right place, much easier and more precisely than with a conventional build up technique in porcelain.

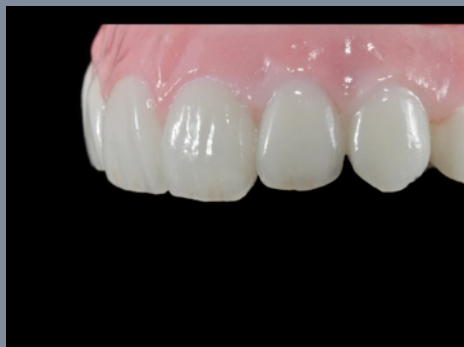


## ... and Press White



This proves the point, that with the AP ingots, structures of any kind and size can be successfully pressed. The press temperature and thickness are the keys to success.

## The Finish!





**AESTHETIC-PRESS**

EFFICIENCY THROUGH SIMPLICITY



Jörg Müller, CEO

Dear Colleagues,

At the time when I developed the Aesthetic-Press System, I was looking for a system, which would help every technician simplify their work and make it more predictable at the same time. Working in my laboratory with my clients and technicians, enabled me to develop this proven system and make it a success on a daily basis. This system is a great opportunity for every technician to bring high-end quality at an affordable price to their laboratory and even more importantly to make your work consistent for you and your technicians case by case.

This newsletter is a communication platform from technician to technician. I would like to give technicians the opportunity to voice their opinions and present their cases in each of these publications.

Contact [Jorg@apdental.net](mailto:Jorg@apdental.net) for a chance to present one of your cases in one of our upcoming publications!

### Coming next...

---

Four Quadrants made precisely & consistently!

**Aesthetic-Press, LLC**  
450 Sutter Street, Suite 1616  
San Francisco, CA 94108  
Tel: +1 (415) 692-5372  
Fax: +1 (415) 723-7075  
[info@apdental.net](mailto:info@apdental.net)  
[www.apdental.net](http://www.apdental.net)

*by Aesthetic-Press*

## Dental Lab Tech-KNOWLEDGE

### **Stop by our table!**

LAB DAY Chicago 2012

February 24–25, 2012

Sheraton Chicago Hotel & Towers



### **The AP Wax Blank**

**Exhibit Table Number  
1405**

**Order at the LMT trade  
show and get 20% off!**

