AP 400 Investment Ring

Press up to 20 units in EVERY PRESS OVEN!

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AP 400 Ring

Features

- Press large restorations-full arch and more
- Press multiple colors
- Press in every oven!
- Increases productivity by 50%

Overview:

As a technician I have been faced with the challenge of successfully pressing large cases containing more than 10 units in one ring. Fig. A

Today with the growing amount of large implant restorations, the benefit of a press over coping or pressing of full contour technique is all too evident. A successful restoration starts with good planning, whether done by CAD/CAM design or by traditional hand waxing. The longevity of implant restoration depends on its anatomy and function.
Unfortunately, the functional elements are not always respected in applying the CAD/CAM software and utilizing the library as it is with traditional hand waxing. There is quite a difference between working with an articulator in your own hands and designing on a two dimensional screen.
Functional elements and methods, which were taught in the past seem to play a secondary role in today's restorations. Fig. B

''It is not all about Mega pascal or flexural strength!"

About the AP 400 Ring:

To improve the quality of pressed restorations, it is helpful to keep the pressing time as short as possible. This can be achieved if the length of the individual sprue is relatively short (3mm). Fig. C

To cover both the anterior and posterior regions on both sides, the AP 400 ring shows three pistons that are separated from each other with the ability to hold ingots that are 16mm in diameter. The Aesthetic-Press 2.5g ingots give technicians an advantage of controlling the amount of porcelain individually fed in the chambers/pistons. Depending on the amount of wDepending on the amount of wax used for a large case, it might be necessary to use three or even four ingots per chamber. This means that either 22g of porcelain or even up to 30g of porcelain can now be pressed in any oven. The secret to this is the specially designed press-plunger. As the photo shows, the three pistons are connected to a ceiling/top part, which is pushed down by the press drive of the oven. The Dekema press-i-dent is our recommended press and firing furnace and can be purchased through Aesthetic-Press. Fig. H

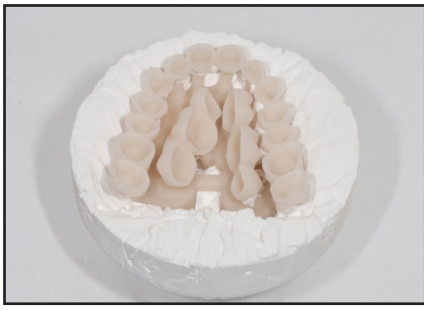

Fig. A Record 20 units pressed with 30g of porcelain

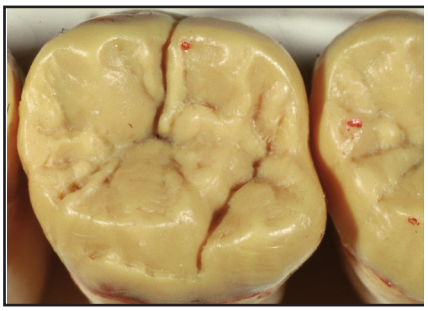

Fig. B Esthetics and function in harmony

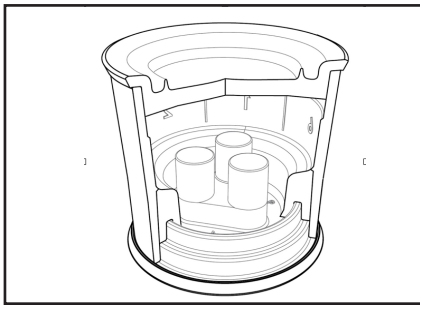

Fig. C Inside view of AP 400 Ring

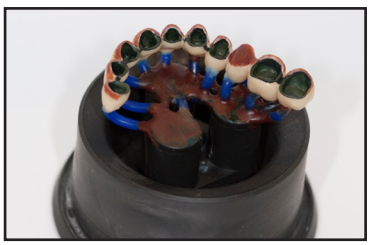

Fig. D Spruing technique from bird eye view- pistons need to

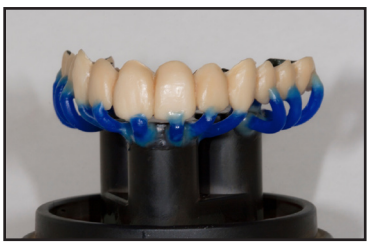

Fig. E Sprues connecting anteriors and posteriors

Fig. F Note the two sprues on each posterior

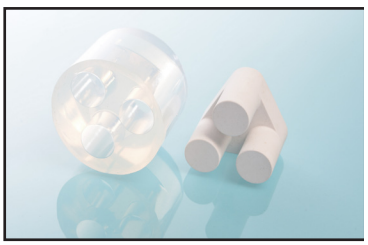

Fig. G Plunger maker mold and disposable plunger

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How to use it / spruing technique:

After placing the small rubber ring over the bottom part, one can start with connecting the 3 chambers with either one or two sprues of gage 8 (3mm). This will make sure, that there is an overflow pathway between the chambers, just in case one side has completed pressing and the other pistons still have to continue pushing material into the other castings.It is important for the technician to find the right positioning for all of the restoration in the ring. All anteriors should be sprued straight onto their incisal edge and not from the lingual side. Always make sure that the slow flowing material has the easiest path to flow into the crown. All the posteriors from bicuspids to second molars have to be connected to the piston with two sprues. One sprue has to be attached to the lingual and one to the buccal side of the restoration. The best way to wax these connections is, if they are placed above the incisal edge and more towards the middle third of the tooth. This shall reduce the risk of a short press.

Summary

1. Connect the individual pistons
2. Sprue anteriors straight onto the incisal edge with one sprue
3. Use two sprues per posterior- one on the buccal and one on the lingual

Setting the right parameters:

With the right parameters for each press oven, large cases can be pressed flawlessly. Even with the amount of porcelain margins in this case, the advantages of the press over technique vs. hand stacking is all too obvious.
The parameters need to be adThe parameters need to be adjusted to the following using the AP400g ring: The burn out time needs to be 1.5 hours at 850° C,

The press temp needs to be 40°C above the regular press temp. Lastly, the hold time in the press oven needs to be set to 40 min.

With these parameters a successful press over metal / zirconia and even full contour silicate/lithium disilicate can be accomplished.

Press multiple colors in one ring

With the 400 g ring, multiple colors can be pressed, even onto the same framework. In the case shown in this article, we used Dentin ingots for the six anterior units (Press & Layering technique). The more translucent, Classic Light ingot was used for the posteriors (Press & Stain technique).

Function & Aesthetics

One important reason to press rather than hand stack, is the ability to plan the occlusion with the right functional concept and to translate this into porcelain. As a technician myself, I have learned from many hand layered cases, this is simply too difficult to achieve. The proper planning is significantly easier and more realistic to do in wax first. The pictures below indicate a carefully planned occlusion, both in wax and in porcelain. Then right to the stain and glazed finished product. If a technician can reproduce such quality of function and esthetics, a higher price for a restoration is now more justified- *differentiate yourself!*

Tip: Use a scalpel or carver to make a cut right to the frame between the canine and the first bicuspid. This will create a small separation between the two colors. Since the anteriors from 6 to 11 will be cut back and layered, any small corrections can be done at the same time!

Fig. H AP Press Oven by Dekema

Fig. I Nine porcelain margins pressed show the advantages towards hand layering

Fig. J Two colors pressed onto the same frame

Fig. K Contact points made with articulating paper in a stable occlu-

Fig. L Transferred 1:1 into porcelain

Fig. M Perfectly pre conditioned surface, rubber wheeled and pol-

Fig. N With a few stains and little touch ups with “Oscar Paste” to