

## 1. Overview

# Aesthetic-Press™ APVolution S

Press Ingots

&

Layering Powder

for  
single crowns and smaller three unit bridges



# APVolution S

# AP Manual-Workbook

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## 2. Material indication and contra indication

The Aesthetic Press pressable ingots are based on a high strength glass ceramic. The colors are designed to match the VITA Classic Shade guide.

APVolution S is intended for dental applications and for use by trained professionals.

Mechanical strength and optical properties qualify APVolution S to press all ceramic single unit restorations (anterior and molar crowns, veneers, inlays, partial crowns/onlays) and three unit anterior bridges, three unit praemolar bridges including second praemolar as terminal post. Respect carefully all minimum wall thicknesses and connector cross sections mentioned.

Pressed objects may be completed in layering or staining technique with the Aesthetic Press APVolution layering porcelain and AP stains or AP Chroma shades and AP glaze.

### Contraindications:

- Combination with materials beside the mentioned Aesthetic-Press products and/or materials from foreign manufacturers.
- Manufacturing of non-mentioned restorations.
- Manufacturing of restorations with smaller wall thicknesses and connectors cross sections than mentioned.
- Dental ceramic and complete ceramic restorations made of glass ceramics are not recommended for patients with bruxism or parafunction or patients with substantially reduced residual dentition.

### Overview APVolution S pressable ingots

- APVolution S pressable ingots for different finishing techniques are offered in three ranges of translucency:

**Transpa ingots** for staining technique for inlay and onlays,  
**Intermediate ingots** for staining or layering technique and  
**Dentin ingots** for layering technique.

- The Dentin Ingots are available in 9 different dentin colors matching the VITA Shade guide to produce restorations in layering technique.
- The intermediate ingots are available in 2 Shades Light and Dark to match the VITA Shade range from A1-D4 with a staining or layering technique.
- The Transpa ingots are available in three shades, Light, Dark & Dark +, to match the VITA shade range from A1 to D4 with a staining technique.
- Bleach ingot colors are available in two shades Bleach 1 and Bleach 3. These bleach ingots are for the layering technique.
- Most transparent T-ingots are intended to manufacture Inlays, Onlays and Veneers, finished in staining technique.

Any allowed indication could be manufactured from any ingot. For esthetic reasons the following combinations for different finishing technique and indications are recommended.

Translucency		Technique		Indication				
		staining	cut back & layering	veneer	inlay	partial crown	anterior crown	bridge
high	Transpa	X		X	X			
medium	Inter mediate	X	X	X	X	X	X	X
low	Dentin		X	X		X	X	X

### Preparation guideline and minimum restoration thickness

The preparation of the tooth hard tissue follows the common rules for all ceramic restorations:

- Preparation of a deep chamfer or shoulder with rounded inner edge
- Rounded edges and angles
- Preparation of retentive surfaces and sufficient preparation height for conventional cementation

Minimum wall thickness for the indicated restorations and finishing techniques and connector cross sections are given in the following table:

**Reference:** “*Methodical Tooth Preparation for Predictable Esthetic Excellence*”, by Robert Ritter DMD, Published Inside Dentistry , March 2011

<http://www.google.de/imgres?imgurl=https%3A%2F%2Fwww.dentalaegis.com%2Fmedia%2F7458%2F&imgrefurl=https%3A%2F%2Fwww.dentalaegis.com%2Fid%2F2011%2F03%2Fmethodical-tooth-preparation-for-predictable-esthetic-excellence&h=432&w=650&tbnid=zCmMY3Xqq4-fLM%3A&zoom=1&docid=rKJaAZiPGQrWJM&ei=XEiaVd28AYHMsgHBoLfABg&tbn=isch&iact=rc&uact=3&dur=526&page=1&start=0&ndsp=20&ved=0CD8QrQMwCg>



		Veneer	Inlay	Onlay	crown		three unit bridge	
					anterior	posterior	anterior	praemolar
Staining	circular	0.3-0.6	1,0	1,5	1,2	1,5	1,2	1,5
cut back	incisal/occlusal	0.4-0.7	1,0	1,5	1,5	1,5	1,5	1,5
layering	circular	0,6			1,2	1,5	1,2	1,5
	labial/occlusal	0,4			0,4	0,8	0,8	0,8
	incisal/occlusal				0,6	0,8	0,8	0,8
	in general				anatomically reduced tooth shape			
	connector cross section						16	16
	max pontic width						11	9

Caution: 50% of the total restoration dimension must be made in high strength pressable ceramic! In case of excess space always compensate the dimensions in high strength pressable ceramic APVolution S and not in layering porcelain.

## Model preparation

Prepare a segmented plaster working model as usual.

According to the preparation spacer is applied in one or two layers:

- For partial crowns, crowns and veneers apply two layers up to 1 mm apical of the preparation margin.
- For Inlays and Onlays apply two layers to the walls and three layers to the bottom up to 1mm distance to the preparation margin.

### 3. Ingot Selection

There are three main different ingot opacity categories:

- Intermediate Ingots for the Press and Staining / or Press and Layering technique for single crowns (depending on situation and color effects)
- Transpa Ingots for the Press and Staining technique for inlays and onlays
- Dentin Ingots for the Press and Layering technique

#### Press & Staining Technique Aesthetic-Press™ Value Based System

VITA Shades	Aesthetic Press Shade System crown /bridges	Aesthetic Press Shade System for inlays and onlays
A1, A2, B1, B2 , C1, C2, D1, D2	i Light	t Light
A3, A3.5, B3, C3, C3, D3	i Dark	t Dark
A4, B4, C4, D4		t Dark +

All ingots are available in 2g and 3.0 g

## Intermediate & Transpa ingots



**i Dark**

**i Light**

**t Dark+**

**t Dark**

**t Light**

The photo above illustrates the variety in opacities ranging from the Transpa Light to the Intermediate Dark. The intermediate or “*i*” ingots are more dense than the translucent “*t*” ingots. The technician can now decide for which case to choose the right opacity level. See otherwise our recommendations on the previous page.

## 4. Press & Layering Technique

VITA Shades	APVolution S Dentin	APVolution S Intermediate Ingots
A1, A2, B1, B2 , C1, C2, D1, D2	A1, B1, C1, D2,	i Light
A3, A3,5, B3, C3, C3, D3	A3, A3,5, B3, C3, C3, D3	i Dark
A4, B4, C4, D4	A4	i Dark
Bleach Shades	Bleach 1 , Bleach 3	

The master kit consists of the following Dentin shades : A1, A3, A4, B1, B3 C1, C3, D2 D4

This “every second dentin” system enables on an economic way to achieve all 16 shades. For the press and layering technique the High Chroma Bleach ingot covers bright shades. All ingots are available in 2g and 3.0 g

### Specifics about the APVolution S Intermediate Ingots:

The APVolution S Intermediate ingots are for both techniques applicable, since the opacity level is right between the Dentin Ingots and the Transpa Ingots.

The Press & Stain Technique as well as for the Press & Layer Technique.

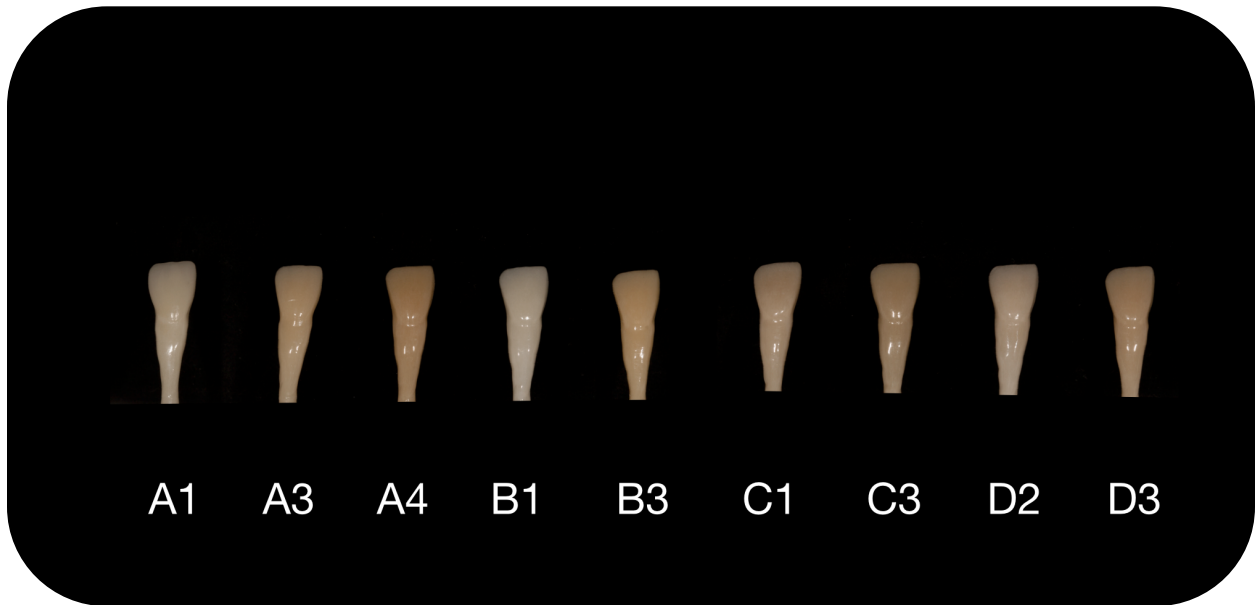
The reduction using the Press & Layer Technique should be less than the reduction for the dentin ingots, due to the reduced opacity.

Press Program						
Idle	Rising Temp	End Temp	Hold Time	Vac on	Vac off	Ring size
700	65	915	18	700	915	200g
700	65	925	20	700	925	300g
700	65	955	40	700	950	400g

Build Up-Powder							
	Idle Temp	Rising °C/ min	Final Temp	Pre Heat	Hold Time	Vac on	Vac off

Build Up-Powder							
Build Up Powder	400	55	780	6	1	450	780
Glaze Bake	400	55	775	6	1	-	-

## Dentin ingots



“The Every second dentin system”- the economic way to match every shade!

## 5. Spruing Rules

Problem: In many different spruing instructions for use available, state that there are rules "must comply" regarding spruing techniques.

SOLUTION: According to my experience some of the compiled rules regarding spruing objects are good, but not absolutely necessary.

### Introduction

The results, of working with the press ceramic by Aesthetic Press), put clear that some rules when spruing objects are not absolutely necessary.

When spruing objects, there are basically the following parameters, which should be considered and discussed.

- Length
- Diameter
- Angel
- Shape

After years of experience, the author uses 0.3cm - 3 cm sprue length to obtain these possibilities.

### **The diameter of the sprues should be 3 mm or gauge 8**

One can say that there is no compulsory fixed angle rule. In general, one can maintain the length of the sprues as short as possible for minimal material usage.

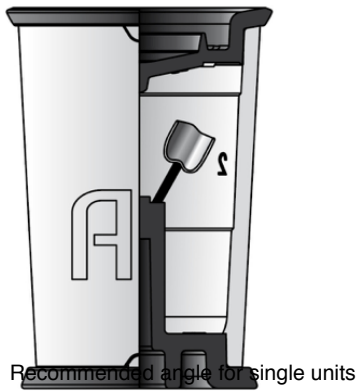
Since there is no minimal sprue length required, it is safer when cutting the sprues to have at least a 2 mm distance to the crown. This will avoid excessive heat in cuspal regions, which can cause cracks.

The most important fundamental rule is to keep the sprues clean and smooth. Poorly unfinished waxed up areas increase the risk of investment embedding into the ceramic. Spruing angles can easily from 30- 90 degrees

### **Angulation of Sprues: 45 degrees are ideal but not mandatory!**

The sprues should be placed at the edge of the main plunger channel stand. This enables the object to be in the warmer region of the muffle. Sprued objects in the middle of the plunger stand are more prone to a faulty pressing, since the temperature in this area is cooler.

The distance of the crown to the mold bottom or the walls should be at least 0.75 cm (fig. 3).



## A posterior bridge with molars



Clean spruing allows for a good pressing result

## Tips how to press implant crowns

To successfully press implant crowns, it is necessary to use the metal pins of the honey-comb firing tray. They will stabilize the die in the investment, since the diameter of the implant crown is often times quite thin, which may lead to fractures if unsupported!



### Conclusion

Correct spruing justifies good homogeneous results in the press technology. Many believed rules as previously mentioned i.e. sprue angles, are not a compulsory necessity. Common sense and the need for simplicity often offer the right answer to frequently asked questions.



## 6. AP Investment - Easy Vest Speed



### Speed Investment for all pressable ceramics.

The AP Phosphate Bonded Investment material was developed for the crown and bridge techniques. AP offers this high tech type of investment material for Hi-Noble and long-span superstructures to non-precious and pressable investments. The Easy-Vest is an extremely high-quality product, which has been specifically designed to produce consistently accurate castings and due to the fine material, the castings/press units show a smooth surface which is important for the fit of metal frames and pressed porcelains.

Mixing ratio: 25 ml Liquid to 100 Gramm Powder

#### **General Rules:**

The higher the liquid concentration, the more expansion will be achieved.

**Keep mixing bowl clean and slightly moist before use- Do not wipe with towel!**

#### **Mixing Ratio for APVolution S and Easy Vest Speed Investment:**

AP Volution S/ Silicate reinforced	100 g 22.5 ml Liquid - 2.5 ml Water	200g 45 ml Liquid - 5 ml Water	300g 67.5 ml Liquid - 7.5 ml Water
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#### **Investing procedure for pressable ceramics:**

It is suggested to mix the investment 15 seconds by hand first before mixing under vacuum for 60 seconds.

Bench Set Time:

After investing it is required to wait 15 min before placing the ring in the preheated furnace. (850° C)

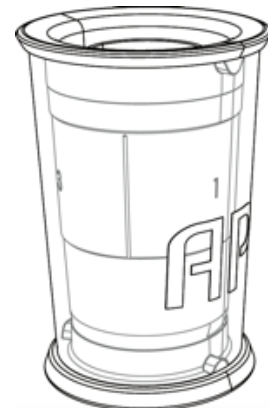
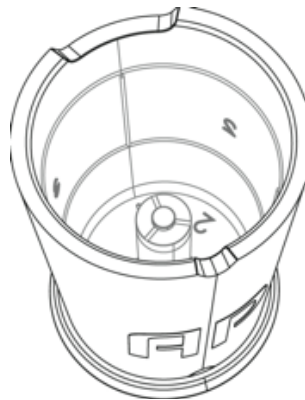
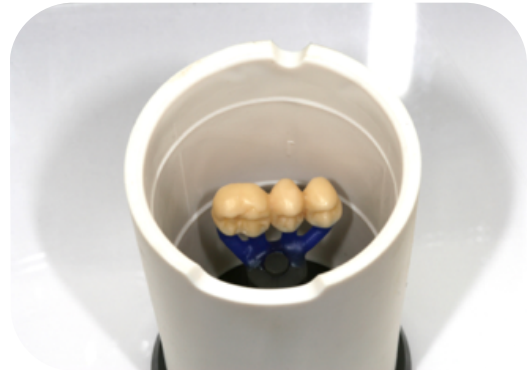
Holding times:

200 g ring 45min

300 g ring 60min

**Important Note:**

1. Investment contains silica – avoid inhaling dust.
2. Do not open furnace during burn out phase – wax steams might catch fire in the air.



Simple spruing angulation for single units. place sprue straight onto the incisal edge.

Choose this angulation for posterior bridges to avoid bubbles on the occlusion.

The AP investment rings show their numbered section on the bottom part, on the inside of the ring and on the top part. Aligning units always starts from sector one. This will help to shorten the devest cycle. It is important to know where the invested units are, so one can trim the pressed ring in various directions.

After mixing the investment for 60 seconds under vacuum, the Easy Vest shows a nice flow characteristic. Filling up the ring can be done rapidly without fearing of bubbles. The key to a nice and clean result lies in the angulation of the to be pressed units.



Keep the angulation open to avoid bubbles



Pour the investment between the upper line and the upper edge of the ring



The lid of the investment ring closes in only one position. Place the lid firm onto the rubber ring and let the excess material flow through the excess holes. Remove lid and ring after 15 min bench set time. Due to the tapered geometry, the set investment will be released effortlessly. Clean the rubber immediately, since due the warmth of the investment material, the rubber is soft and easy to clean!



The 200 g ring with the bottom and top part.



The plunger maker can be filled with the investment material used to invest the regular units. Make sure not to use high expansion ratios. A 50% expansion ratio for the press over porcelain and respectively the plungers are recommended.

## The AP 400g ring

This ring is designed to be able to press full arch cases, such as large implant cases. Alternatively, the AP 400g ring is ideal for large operations to reduce the invest- burn out- press & deinvest up to procedures. The time savings are up to 50%, which saves time and money. With the ability to press up to 20 units and up to 30 g of porcelain, this ring is unique and can be used for any furnace in the market.



make sure to sprue all posteriors from buccal and lingual



anteriors are pressed in dentin ingot for layering, posteriors in classic light ingot for staining



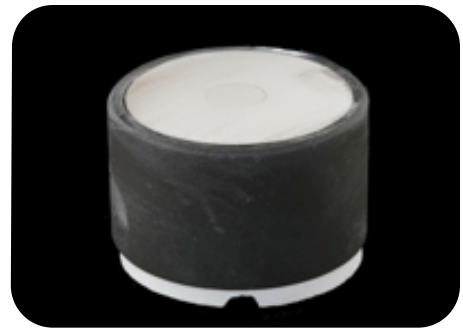
## 7. Devesting procedure

### AP investment rings made to devest efficient

Align units always starting from sector one (see page 18). This will help to shorten the devest cycle. It is important to know where the invested units are, so one can trim the pressed ring in various directions.



After the press cycle, remove the ring quickly out of the furnace. Place the hot ring at a safe location away from the press furnace to cool. The metal ring will oxidize outside the furnace, which might cause some metal particles to show.



The quickest way to devest is to trim the ring up to the edge of the safety belt. A model trimmer, weather wet or dry can be used for this procedure.



The ring shows the reduction, which is right at the midline of the AP 200 ring in this case. The reduction for the AP 300g and the AP 400g ring follows the same procedure.



Since the invested units are in sector one, the ring will be trimmed from the back on the opposite side. It is apparent how quickly the units will be released from the investment material. With just a short amount of sandblasting, the invested crowns will be clean and ready to process.



It is recommended to use 50 microns of glass beads and about 2- 3 bar of air pressure.



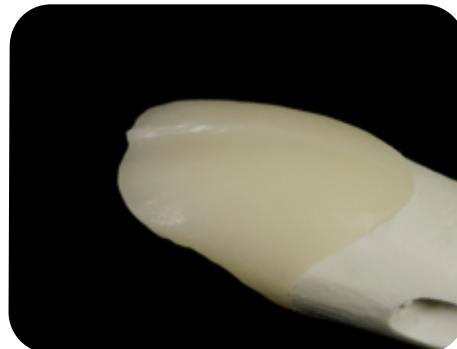
With just a short amount of sandblasting, the invested crowns will be clean and ready to process.



## 8. Internal Staining Technique



The anterior restoration has been fit on the model after the diagnostic wax up has been pressed with the Dentin A1 ingots.



A precise reduction for the enamel and transpa layers is cut from the incisal edge all the way to the margin. The goal is that all the stains are on the inside and not too much on the surface. This way a better surface texture can be achieved as well.



At the mesial corner, a touch of blue stain is added to create translucency.



In order to create some contrast within the color scheme and to highlight the mesial ridge, white stain is placed to increase the value

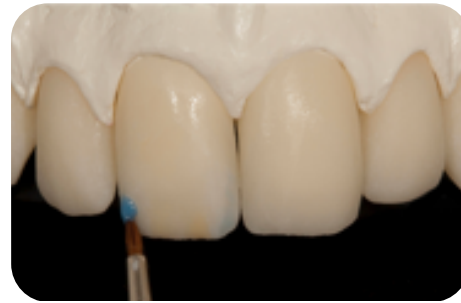
The stain kit from Aesthetic-Press offers a fluorescent paste, which has a wide temperature range for Low Fusing porcelains and up to High Fusing temperatures. The range can be from 750 C to 930 C

Even for full zirconia crowns the paste offers a wide range of options to achieve lifelike and matching colors.





Mamelon stains are used to match the incisal characteristics. The intense orange can be placed on the right place with the desired intensity. This technique is by far more controlled and predictable. This will lead the technician to a successful result, with no shrinkage or color surprises



Much like on the mesial the distal line angle will be highlighted with the white stain. Distally, a soft tone of translucent blue is added. Often these characteristic should reflect the ones shown by the lower incisors.



The margin stain is added to the cervical area to avoid too translucent porcelain areas. In case of discolorations, the margin stain can cover these areas.



Just with one staining cycle, a most lifelike result is achieved with the fluorescent Effect Stains and the Mamelon Stains.

Firing chart for internal staining						
Idle	Dry time	Rising temp	End Temp	Holding time	Vac on	Vac off
450	6	55	770	1	-	-

## 9. Layering Technique

The Aesthetic-Press Dentin Powders are available for:

Aesthetic Press AP Volution S ingots	APVolution Powders are compatible for these pressable ingots.
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### The following Dentin Shade System is available

At Aesthetic-Press we believe in lean manufacturing and in economic sized systems. Therefore, we reduced the Dentin Shade assortment to nine shades to match the Vita Shade spectrum.

The Aesthetic-Press Dentin Shades for powder porcelains and for pressable ingots are:

Vita*	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
AP	A1		A3		A4	B1		B3		C1		C3		D2		D4

### Dentin-Bake

Mix ceramic powder (Dentin and/or Incisal) with Modelling Liquid to a creamy consistency. Apply Dentin or Incisal ceramic in small portions to the cervical and interdental area and compact by light vibration. Then more Dentin or Incisal is applied according to the tooth layering.

### 1st Bake

After the Dentin application the crown is placed on a firing tray at a starting temperature of 400°C. Subsequently the furnace is closed with a 6 minute closing time and then heated at 55 C/min with vacuum (vacuum starting at 450°C) to 780°C (bake temperature). Hold time: 1 minute without vacuum. After the first dentin/incisal firing is complete, a second layer of dentin and incisal powders is required to complete the anatomy due to the shrinkage of the porcelain.

## 2nd Bake

Same procedure as at the first Dentin firing. Any further Dentin firings should be carried out at 780°C



Each powder bottle comes with the “scoop” to measure a precise amount for layering porcelain.

A power master kit is available a la carte. All the nine Dentin Shades, three value based shades and a gingiva shade is available next to fourteen enamel transpa and opalescent powders

## Glaze finish/Glaze Bake

After completely finishing the surface with a diamond instrument, thoroughly clean the crown or bridge. The Aesthetic-Press Glaze paste can be applied in thin layers. For the color characterization, all conventional Aesthetic Press stains and glaze can be applied and fired.

**WARNING: Be careful not to apply the glaze paste too thick. This can lead to whitish spots!**

Build Up-Powder							
	Idle Temp	Rising °C/min	Final Temp	Pre Heat	Hold Time	Vac on	Vac off
Build Up Powder	400	55	780	6	1	450	780
Glaze Bake	400	55	775	6	1	-	-

Porcelain Powders

Aesthetic Press APVolution

CTE : DIN EN ISO 6972 2 bakes:  $9.4 \times 10^{-6} \times K^{-1}$   
 4 bakes:  $9.4 \times 10^{-6} \times K^{-1}$

Transformation temperature DIN EN ISO 6972 635° C

The Aesthetic-Press APVolution Enamel, Transpa & Opalescent Powders are available:

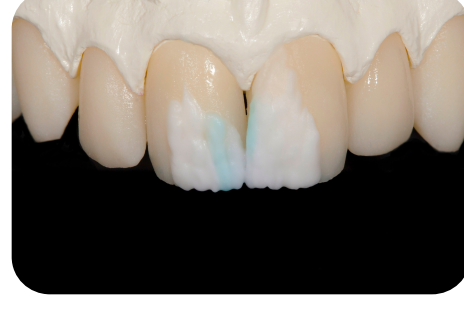
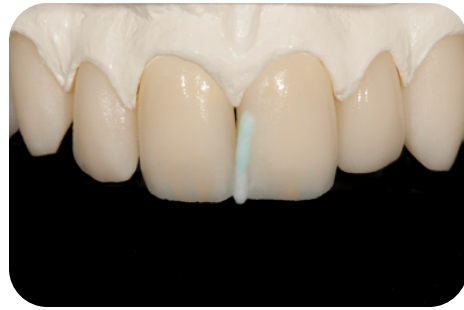
Aesthetic Press APVolution						
T Opal 1	T Opal 2	Opal Enamel 1	Opal Enamel 2	Opal Enamel 3	Enamel1	Enamel 2
T-Clear	T-White	T-Yellow	T-Blue	T-Orange	T-Amber	T-Pink



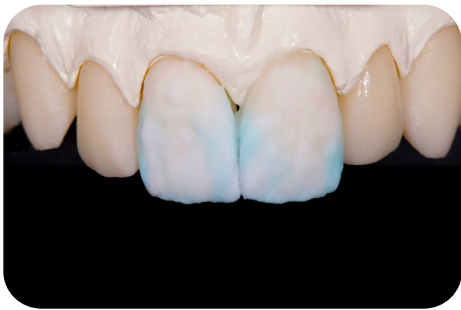
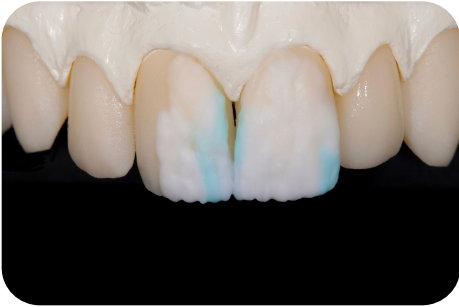
The indicators show the color and the variety of appearance because different thickness. These indicators are all handmade and individually finished. It is our recommendation to every technician to fabricate such indicators to truly understand the porcelain used. This will also allow to really compare the individual brands on the market.

## Layering Technique in Detail:

Once the first bake has been established or alternatively the Dentin core has been pressed with the Aesthetic Press APVolution S ingot, the technician can layer with a selection of enamel and transpa or opalescent materials. Once the dentin core has been established and the internal characteristic are defined with the internal staining technique, the powders can now complete the tooth the the desired anatomical form.







# 10. Overview Of Colors & Firing Charts

## Dentin Shades

The Aesthetic-Press APVolution Dentin Shades for powder porcelains and for pressable ingots are

Vita*	A1	A2	A3	A3.5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
AP	A1		A3		A4	B1		B3		C1		C3		D2		D4

Firing chart for internal staining						
Idle	Dry time	Rising temp	End Temp	Holding time	Vac on	Vac off
450	6	55	770	1	-	-

Build Up-Powder							
	Idle Temp	Rising °C/min	Final Temp	Pre Heat	Hold Time	Vac on	Vac off
Build Up Powder	400	55	780	6	1	450	780
Glaze Bake	400	55	775	6	1	-	-

The Aesthetic-Press APVolution Enamel, Transpa & Opalescent Powders are available

Aesthetic Press APVolution Powders						
T Opal 1	T Opal 2	Opal Enamel 1	Opal Enamel 2	Opal Enamel 3	Enamel1	Enamel 2
T-Clear	T-White	T-Yellow	T-Blue	T-Orange	T-Amber	T-Pink

### Press Programs for APVolution S ingots

Press Program						
Idle	Rising Temp	End Temp	Hold Time	Vac on	Vac off	Ring size
700	65	915*	18	700	915	200g
700	65	925*	20	700	925	300g
700	65	955*	40	700	955	400g

\*please note that the press temp for bleach ingots needs to be increased by an additional 20°C

### Press & Layering Shade Overview

VITA Shades	APVolution S Dentin ingots	APVolution S Intermediate ingots
A1, A2, B1, B2 , C1, C2, D1, D2	A1, B1, C1, D2,	i Light
A3, A3,5, B3, C3, C3, D3	A3, A3,5, B3, C3, C3, D3	i Dark
A4, B4, C4, D4	A4	
Bleach Shades	Bleach 1, Bleach 3	

### Specifics about the APVolution S Intermediate Ingots:

The APVolution S Intermediate ingots are for both techniques applicable, since the opacity level is right between the Dentin ingots and the Transpa Ingots.

The Press & Stain Technique as well as for the Press & Layer Technique.

The reduction using the Press & Layer Technique should be less than the reduction for the dentin ingots, due to the reduced opacity.

### Press & Stain Technique Shade Overview For Crown & Bridges

VITA Shades	APVolution S Shade System
A1, A2, B1, B2 , C1, C2, D1, D2	i Light
A3, A3,5, B3, C3, C3, D3	i Dark
A4, B4, C4, D4	

### Press & Stain Shade Overview For Inlays Onlays

VITA Shades	APVolution S Shade System
A1, A2, B1, B2 , C1, C2, D1, D2	t Light
A3, A3,5, B3, C3, C3, D3	t Dark
A4, B4, C4, D4	t Dark+

# 11. Technical data

## Aesthetic-Press APVolution Powder Porcelain

Material information:

Material: silicate glass ceramic

**Chemical composition:** mayor components bonded to the glass ceramic structure:

SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Li<sub>2</sub>O, P<sub>2</sub>O, P<sub>2</sub>O<sub>5</sub>, Na<sub>2</sub>O, CaO, B<sub>2</sub>O<sub>3</sub>

**Classification acc. DIN EN ISO 6872:2008**

**APVolution S**

**Typ 2**

**Class 4**

### Aesthetic-Press APVolution S ingots

Coefficient of thermal expansion	DIN EN ISO 6872	pressed $10 \times 10^{-6} \times K^{-1}$ 25-500°C
Transformation Temperature	DIN EN ISO 6872	520°C

Technical Data:

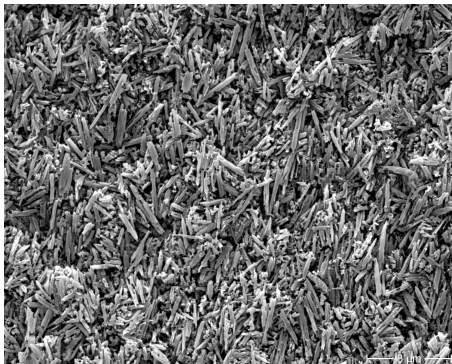
Product Description				
Product Name:	APVolution S ingots			
Product reference	various			
Shade:	Special shades	Shade guide	Internal standard	
	A1-A4	Shade guide	V-Shades	
Physical State	paste <input type="checkbox"/>	paste <input type="checkbox"/>	ingot <input checked="" type="checkbox"/>	blank <input type="checkbox"/>

Indication	
Intended use	Pressable porcelain for single unit restorations and anterior three-unit bridges including second praemolar as terminal post
compatible layering porcelain	APVolution Powder without liner/margin

Material details	
Group of material:	silicate glass ceramic
Chemical composition:	Major components bonded to the glass ceramic structure: SiO <sub>2</sub> , Li <sub>2</sub> O, K <sub>2</sub> O, Al <sub>2</sub> O <sub>3</sub> , ZnO, ZrO <sub>2</sub> , P <sub>2</sub> O <sub>5</sub>

Classification acc. ISO EN DIN 6872:2008				
Type:	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>	class:	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/>	a <input type="checkbox"/> b <input checked="" type="checkbox"/> c <input type="checkbox"/>

Physical -chemical properties			
Property	Standard / method		Internal specification
<b>coefficient thermal expansion</b>	no specifications	ISO EN DIN 6872	$10 \times 10^{-6} \cdot K^{-1} (\pm 0.5)$
<b>transformation temperature</b>	no specifications	ISO EN DIN 6872	520 °C (± 20)
<b>bending strength</b>	> 300MPa	ISO EN DIN 6872 ch.7.3.2, three/point beding,	> 350 MPa
<b>Weibull strength/ modulus</b>	no specifications	ISO EN DIN 6872 ch.7.3.2, three/point beding,	n.a.
<b>fracture toughness</b>	No specification	ISO EN DIN 6872, SEVNB	> 2 MPa√m
<b>chemical solubility</b>	< 100 µg · cm <sup>-2</sup>	ISO EN DIN 6872	< 60 µg · cm <sup>-2</sup>
<b>cytotoxicity</b>	no cytotoxicity	ISO 10993-5	n.a.
<b>radioactivity</b>	<1Bq·g <sup>-1</sup> U <sup>238</sup>	ISO EN DIN 6872	n.a.



**Silicate reinforcement increases MPa strength**

## Warnings

Only to be used by trained personnel

When working on ceramic restorations safety glasses should be used. Remove dust and fragments by suction.

Be careful of high firing and pressing temperatures. Danger of getting burnt! Use oven pincers and gloves!

Due to the different ceramic ovens available on the market, the firing conditions may differ. This must be taken into account and is under the responsibility of the client!!!  
The indicated firing temperatures are only APPROXIMATE VALUES!!!

Warning for Investment Material:

The investment material contains quartz powder. AVOID inhaling dust, wear a protective mask and safety glasses. Read the warning on the investment packaging.



Recommended storage temperature: 12-38° C and normal air humidity 40-60%.

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