

PROJECT I FABRICATING AN AMELOGEN[®] PLUS INCISOR

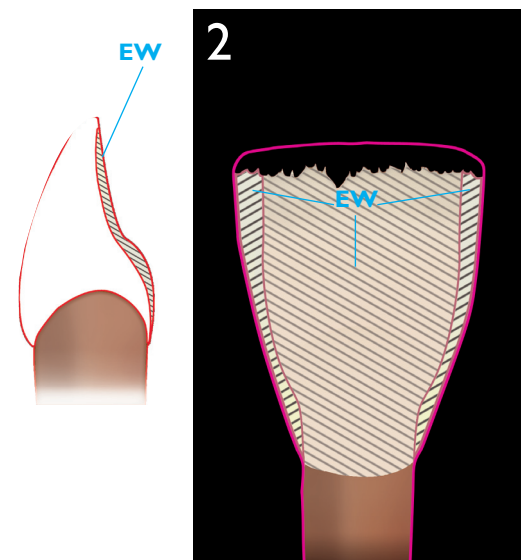
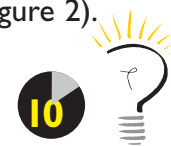
Note: Any number of combinations of different dentin and enamel shades can be used to achieve the desired results; one should practice with varying combinations to develop the skills to copy “mother nature”. For this exercise, we will be building a lighter, younger and/or bleached tooth which might appear similar to an “A1 tooth”. That being said, there is no such thing as an “A1” tooth as this nomenclature is better for dentin “colors” than enamel “colors”.

STEP 1 Important Tip: The 45% filled Composite Wetting Resin can be applied in a thin layer to underlying cured composite as a resin wetting agent to maximize adaptation and minimize air entrapment or used to simply soften the composite if desired. For this exercise, use it to “wet” the silicone mold surface for good composite adaptation to the form. Where silicone is difficult to “wet”, rub the resin firmly against the surface until a somewhat even coating is achieved

STEP 2 Place Enamel White™ (EW) on the lingual and interproximal walls of the mold

Place EW against the lingual of the tooth mold (about 0.5mm thick) and spread laterally into the proximal areas about 1mm thick. Taper and create irregularities or scallops at the incisal aspect approximately 1.0 to 1.5mm short of the incisal edge, depending on the dimension of the translucent edge desired (figure 2).

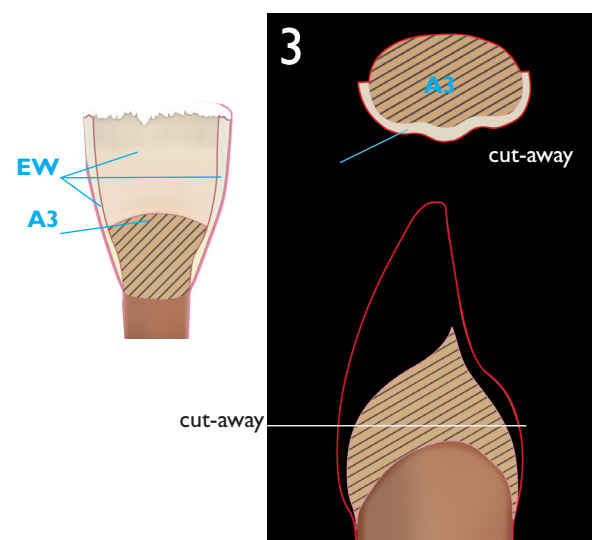
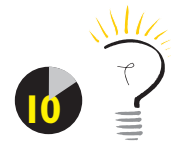
Cure for 10 seconds.



STEP 3 Place A3 at cervical 1/3

Place A3 at cervical third in an elliptical shape. This layer will be thicker than the silicon mold in a facial direction. Allow approximately 1mm of space from the dentin layer to the proximal edges of the tooth for placement of proximal enamel in an upcoming step. You will also need to leave approximately 1mm of space from the ultimate expected labial contour to allow for the facial enamel layer which will be added in an upcoming step as well (figure 3).

Cure for 10 seconds.

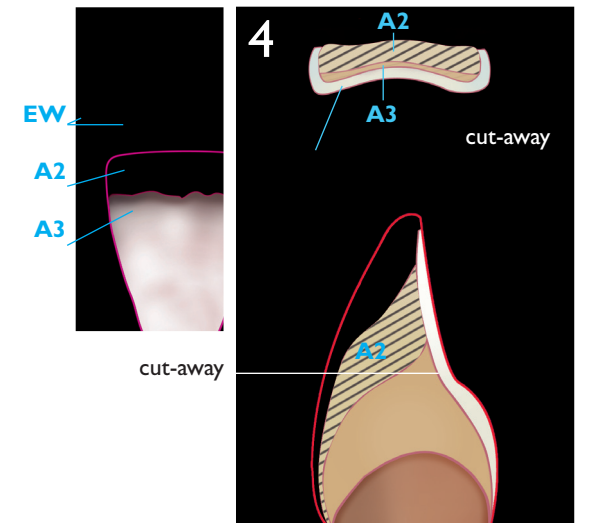
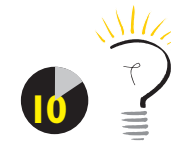


Important Tip: As a rule, for the cervical 1/3 use a dentin shade two shades darker than the overall hue of the tooth to facilitate a polychromatic effect. (A more simplistic route is to use one dentin shade only for steps 2-4. note back page.) Remember, a milky white translucent enamel shade such as Enamel White™ (EW) will lighten the underlying dentin shades. It is the layering of enamel shades over dentin shades that allow you to mimic real teeth.

STEP 4 Apply A2 at middle 1/3

Place A2 at the middle third of the crown. Allow approximately 1mm of space from this dentin layer to the proximal edges of the tooth for placement of proximal enamel in an upcoming step. You will also need to leave approximately 1mm of space from the ultimate expected labial contour to allow for the facial enamel layer which will be added in an upcoming step as well (figure 4).

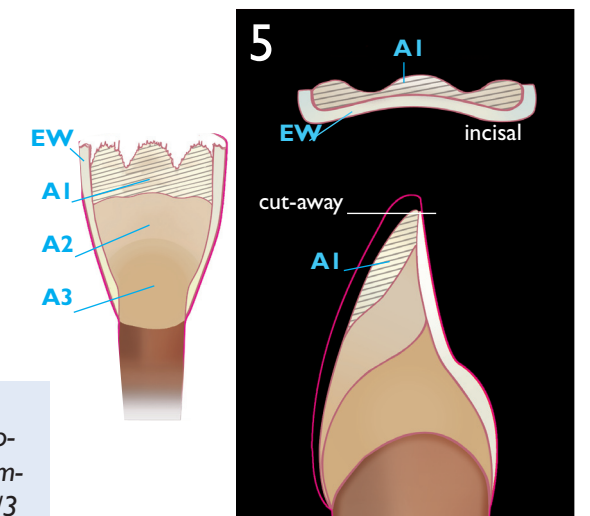
Cure for 10 seconds.



STEP 5 Apply A1 on incisal 1/3

Place A1 at the incisal third of the crown and feather into the incisal edge that was created with EW™ in step 1. Again keep in mind that proximal enamel will be added in an upcoming step. Prior to curing, use your IPC or favorite instrument to form developmental lobes (figure 5).

Cure for 10 seconds.



Note: If using the simplified technique with only one dentin shade, steps 3 and 4 do not apply. Simply use the one dentin shade for all internal dentin development. You can still achieve a beautiful polychromatic effect with this method simply by layering a thin facial enamel layer over the dentin layer at the cervical 1/3 and using thicker facial enamel as you approach the incisal 1/3 (see back page).

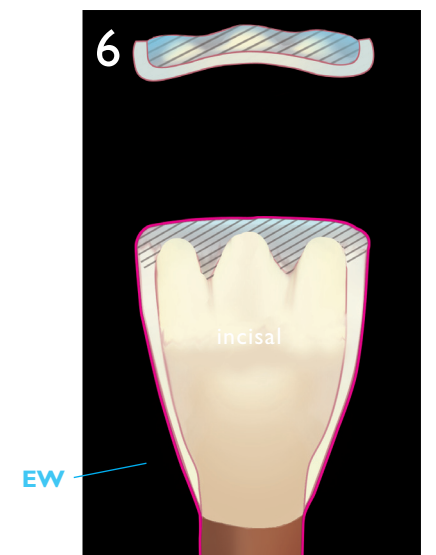
STEP 6 Apply Trans White™ (TW) in the incisal area where there is currently a void of material

Blend the TW with the EW and the A1 that were placed in steps 1 and 4 (figure 6).

Important Tip: You can increase the blending of the TW by brushing a thin layer of Composite Wetting Resin over the underlying Enamel White and adjacent A1.

STEP 7 Remove the tooth from the matrix

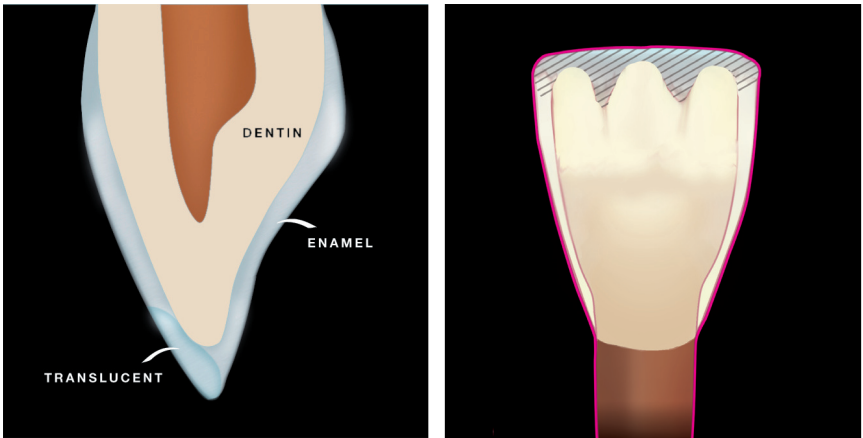
Remove the tooth from the matrix and cure the lingual surface for 20 seconds. View the tooth interproximally and with light from behind the tooth to observe the internal shade developments.



AMELOGEN® Plus HANDS-ON LECTURE

Note:

Alternative Monocramtic dentin Shade
If using the simplified technique with only one dentin shade, steps 3 and 4 do not apply. Simply use the one dentin shade for all internal dentin development. Please see figure.



Note: Use PQI™ or PermaSeal® as a composite-to-composite bonding agent.

Important Tip: Remember that if you are polishing and discover that you have to add material in a clinical situation, you should etch for 5 seconds, wash, dry (to clean), and place PermaSeal® composite sealer or PQI™ Universal Bonding Agent, and proceed to add additional composite.

STEP 8 Shape and polish the tooth:

- 1. Develop the overall shape using the pointed taper/cylinder finishing bur. Refine and enhance the developmental lobes as needed. (see figure above).
- 2. Use the Green (with minimal pressure) or Yellow Jiffy® Polishing Point to further enhance the developmental depressions of the facial and the lingual concavities.
- 3. Use the Green Jiffy® cup to begin smoothing the tooth surface. If you've developed significant micro-anatomy, don't over-use. Option: Place micro-anatomy after green and/or yellow Jiffy finishing. Use thin diamond or carbide burs to incorporate subtle horizontal striation where needed (most often in gingival half).
- 4. Use the yellow, then white Jiffy® Polishing Cups to further smooth/polish the surface as needed.
- 5. Use the Jiffy® Polishing Brush with moderate pressure and high RPM to "whip" a luster to the surface.

Note: The blue Jiffy® is recommended when needing to polish near or under the gingival as it can be run judiciously without lacerating the tissues.

Although clinically you may never restore a complete tooth with composite, this exercise will help you develop an understanding of how Amelogen® Plus is used and therefore, further facilitate your abilities when using it intraorally. Amelogen® Plus, because of its firm consistency, optimal handling properties, and its high strength, is unsurpassed for posterior restorations. At the same time, its simplistic chameleon-like dentin and enamel shades and exquisite polishability make it ideal for anterior esthetics as well.

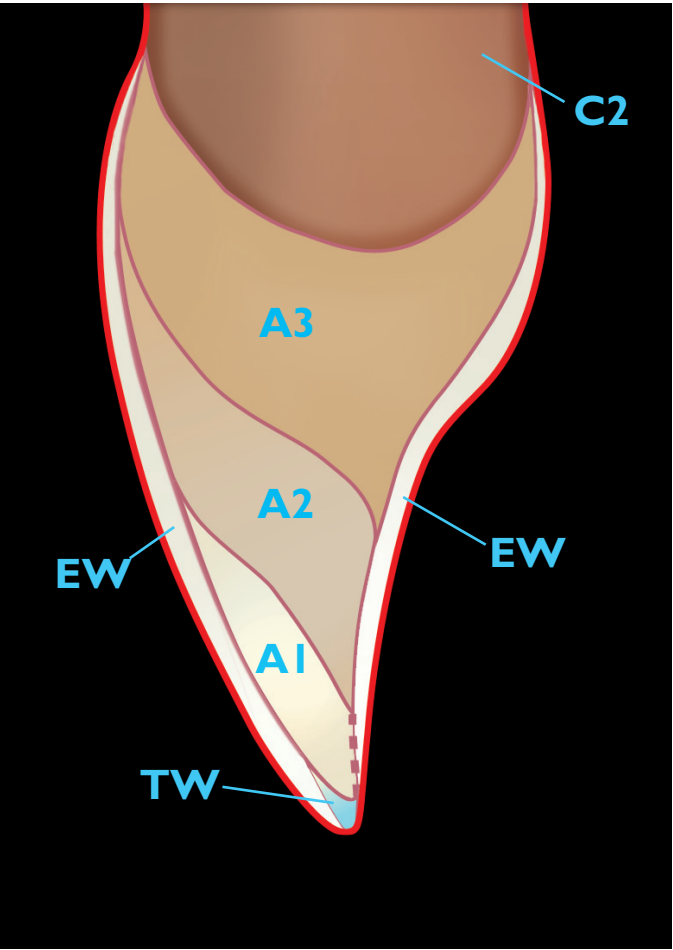
Because of the unique optical properties of this system, you will use a layering technique similar to what your lab technician uses when fabricating ceramic restorations. This will allow you to create polychromatic restorations with depth and true translucency just like a natural tooth. The natural and fluorescent dentin shades in this system makes it possible to easily duplicate even the most difficult hues and chromas. A minimal number of enamel shades is all that is needed 99% of the time to duplicate and replicate natural enamel.

Opaque White™ (OW) is the least translucent enamel shade in this system and may be used for blocking intraoral show-through (darkness from the oral cavity showing through the restoration). OW may also be used to replicate hypocalcification characterizations.

Enamel White™ (EW) is used as a general body enamel shade for young people and those patients who have bleached their teeth. A minute roll of EW™ placed on the incisal edge will provide an incisal halo which gives an even more life-like appearance to the restoration. You will find EW™ to be a frequently used shade.

Enamel Neutral™ is the enamel shade most often used for middle aged non bleached teeth.

Enamel Gray™ is designed for older non bleached teeth.



Dentin Shades Enamel Shades

A1	B1	Enamel White™
A2	C2	Enamel Neutral™
A3		Enamel Gray™
A3-5		Trans White™
A4		Trans Gray™
A5		Trans Orange™
		Opaque White™

(The dentin shades are easily identified by their opaque tan colored plungers.)

(The enamel syringes are easily identified by their semi-translucent plungers.)

