

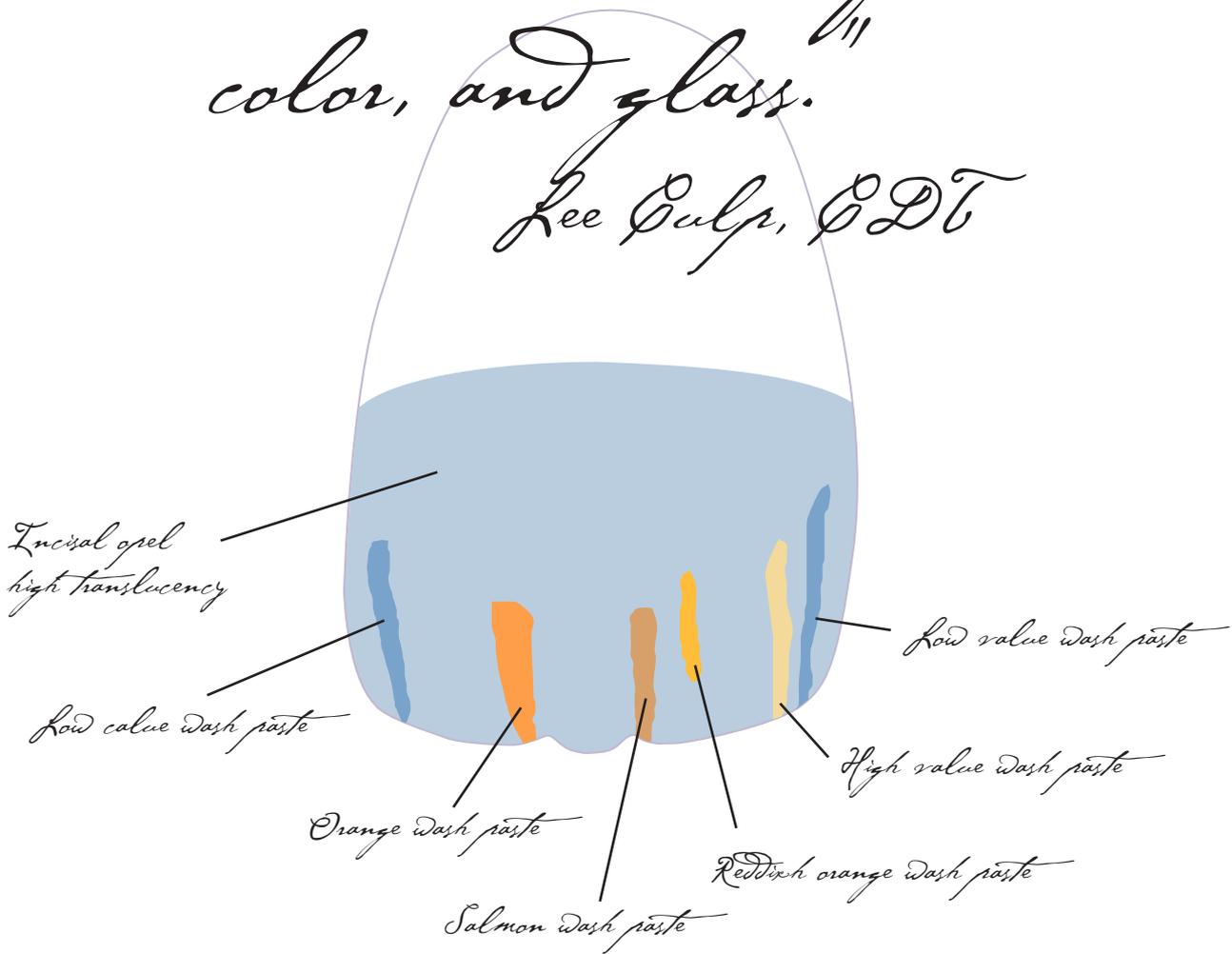
IPS **Empress® Esthetic**
Special Edition

Lee Gulpr, D.D.T.



"We create the magic of
the smile through the
artistic mediums of wax,
color, and glass."

Lee Pulp, CDT



IPS Empress® Esthetic

Special Edition



For more than 15 years, the IPS Empress® pressable ceramic material has been the standard for achieving life-like esthetics in indirect restorations. As more artistically-driven fabrication techniques developed, it was found these esthetic restorations could be further enhanced by taking the neutral translucent IPS Empress® ingots and layering porcelain on top of them. The results are true-to-life 3-dimensional effects.



Lee Culp, CDT



TODAY, WITH THE INTRODUCTION of IPS Empress® Esthetic, the trusted and proven material has been optimized for the creation of the ultimate in esthetic, smile-enhancing veneers, full-coverage crowns and inlays/onlays. Here are three simple and systematic techniques. They're neither complicated nor time consuming. Further, because they're based on an all-ceramic material, the 3-D Wash, 3-D Layer and 3-D Complex Techniques address different ways of replacing enamel, so you can realize outstanding results very simply.

- The 3-D Wash Technique is ideal when you're looking for a more intense look along the incisal edge. Bolder colors are used, so the characteristics of the restoration will stand out while demonstrating a higher level of opacity.
- The 3-D Layer Technique provides you with a means to create more subtle effects along the incisal edge of restorations. With 3-D layering, the effects demonstrate a natural-looking translucency.
- The 3-D Complex Technique is ideal for matching restorations to surrounding natural dentition and is particularly well-suited for mimicking older teeth. This technique enables you to duplicate internal characterizations, contours, crack lines, and other naturally-occurring effects to create a life-like restoration.





Fabrication Essentials

Essential to all three IPS Empress® Esthetic techniques—3-D Wash, 3-D Layer and 3-D Complex—is the basic fabrication protocol associated with pressed ceramics.

- 1.** Design the wax-up to optimal function and esthetics. Sprue the wax-ups, invest them and burn them out in the burn-out oven. Then, press the IPS Empress® Esthetic ingot into the mold. After divesting, you will have an exact duplicate in ceramic of the form you had in wax.
- 2.** Fit the ceramic to the dies, which should require minimal effort. Adjust the contacts between all the restorations. Remove the sprues and verify occlusion. At this point, all of the function has been completed within the restoration, all contacts have been verified, and—theoretically—the restoration could go into the mouth right now, but it would be just one color.
- 3.** Examine the restorations from esthetic, color and creative perspectives, and select the IPS Empress Esthetic technique most appropriate for the restoration(s) you are creating. This will determine the cut-back method to be used, as well as which Wash Pastes and Veneer Materials to use.



1

Wax-Up

DESIGN THE WAX-UP TO OPTIMAL FUNCTION AND ESTHETICS.



2

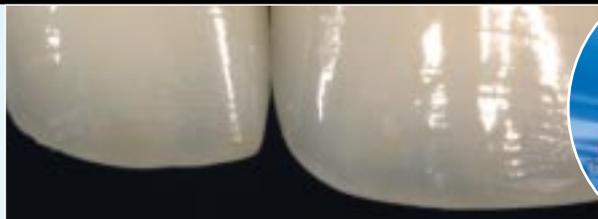
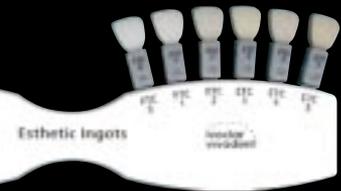
Fit

FIT THE CERAMIC TO THE DIES, WHICH SHOULD REQUIRE MINIMAL EFFORT.

3

Color

EXAMINE THE RESTORATIONS FROM ESTHETIC, COLOR AND CREATIVE PERSPECTIVES





3D Wash Technique

Reduce the ingot only on the facial incisal third. The incisal edge will be reduced from 0.5 to 1.0 mm depending on the amount of translucency you want to achieve in the restoration. Then accentuate the internal anatomic form of the incisal edge by imparting subtle grooves in indentations.



1. Ingot pressed to full contour.



2. Cut back the incisal third creating internal anatomy.



3. Add surface colorant and sealing porcelain, as well as build up internal effects. Note that the Wash Pastes demonstrate an ideal consistency that lends them to actual porcelain build-ups. In fact, they resemble liquid porcelains, so you can actually create 3-dimensional shapes and contours using them, rather than just paint on stain.



4. Restoration is shaped to full anatomic contour using low, medium or high translucency opal enamel veneer materials.



5. Recontour the incisal half of the restoration to match the gingival half. Verify occlusion, apply surface characterizations around the gingival margins, if necessary, and then glaze the restoration.



3D Layer Technique

Reduce the ingot only on the facial incisal third. The incisal edge will be reduced from 0.5 to 1.0 mm depending of the amount of translucency you want to achieve in the restoration.



1. Ingot pressed to full contour.



2. Cut back the incisal third creating subtle internal anatomy.



3. Apply the Neutral Wash Paste to the ingot and fire the restoration.



4. Apply the Shaded Enamel Veneer Material (i.e., different blues or oranges; different values of high and low) in layers along the incisal edge to build up the anatomical form. Note that colors found in nature are basically very similar from tooth to tooth, so IPS Empress® Esthetic includes colors that work together with the 3-D Wash and 3-D Layer techniques; only the intensity is different.



5. Fire the restoration following the application of the Shaded Enamel Veneer Material. This allows visual inspection of the colors and small shape corrections can be made at this time. Fire the restoration.



6. Apply different values and translucencies of Clear and Opal Enamel Veneer Materials to create subtle effects at the incisal edge. Once all of the porcelain is layered, fire the restoration.



7. Recontour the incisal half of the restoration to match the gingival half. Verify occlusion, apply surface characterizations around the gingival margins, if necessary, and then glaze the restoration.



3D Complex Technique

For this technique, the cut-back requirements are less involved. Simply put, the incisal edge is reduced facially about .75 mm, without any grooves or indentations, and approximately 1.0 mm incisally, mesially and distally.



1. The incisal edge is reduced facially about .75 mm, without any grooves or indentations, and approximately 1.0 mm incisally, mesially and distally.



2. Apply the Neutral Wash Paste and fire.



3. Next, replace the entire incisal edge cut-back using Incisal Opal Low Translucency Veneer Material so that, anatomically, the form of the tooth is rebuilt back to its original size and length. Fire this when complete.



4. You'll notice upon removal from the furnace that the ingot demonstrates full anatomical form, but there's a border around it of the low translucency Incisal Opal Veneer Material on the mesial, across the incisal and down the distal aspects. The difference between the ingot and these areas will be quite distinct. The ingot is more opaque, with a bit more coloration. The incisal border also has a distinct look with its low translucency. At this time, it will be necessary to observe the teeth to which this restoration is to be matched. Then, extrapolate the colors that you see within the incisal edges of those teeth and determine what colors you're going to use for characterization based on what the other teeth look like.



5. Then, apply the appropriate Universal Staining Pastes to the low translucency border. Oranges, whites, blues, yellows, tans, etc. are available, and basically anything in the Universal Stain Kit can be used for creating what you observe along the incisal edge of the surrounding natural teeth. Paint these on. Then, fire the restoration to set the stains to it.



6. Now, add White Enamel Incisal Veneer Material to the facial aspect. In the case shown here, White Enamel Incisal Powder, which is a semi-translucent material, is applied to soften the otherwise distinct transition between the opacity of the ingot and the translucency of the incisal edge. Do not fire the restoration at this time.



7. Now, place a Medium Translucency Incisal Opal Veneer Material in vertical streaks across the facial aspect of the crown. Again, do not fire the restoration at this time.



8. Apply the Clear Incisal Veneer Material to finalize the full anatomical form. At this time the restoration is fired.



9. Note that after firing, the incisal edge of the restoration exhibits little rips or tears. These work to your advantage. Fill them in with the Incisal Edge Veneer Material which demonstrates a medium opacity with a slight bit of color. A subtle application of this veneer material is all that is needed to create slight incisal nuances. Fire the restoration.



10. Final restoration



3D Complex Technique



Final Restoration

Conclusion

In the past ceramists were forced to use overly complicated techniques to achieve the esthetic results required. Today, however, many of those desired effects can be achieved simply and easily as the result of the ceramic materials themselves. Based on these ceramic materials that are now optically closer to nature than ever before we can take very complicated techniques of the past and replace them with simpler techniques. With IPS Empress Esthetic, the inherent crystalline structure and optimized ceramics enables technicians to recreate the same optical properties that natural teeth exhibit. Essentially, we can now achieve world class esthetic results with elegant simplicity.

*Experience
the Magic of
ZPS Empress Esthetic*



Wax

Glass

Color





*The expert magician
seeks to deceive the mind,
rather than the eye.*







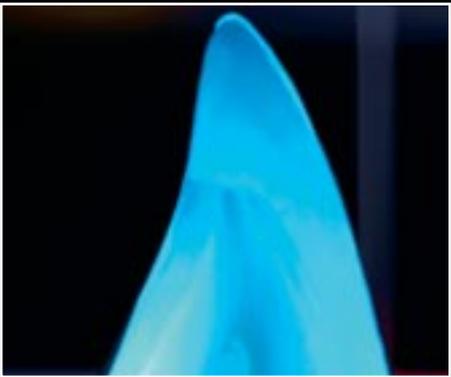
*Elegant
Simplicity*





Creative Freedom

Press for Fit...
Layer for Beauty!



WE'VE PUT THE TOOLS OF THE MASTERS IN YOUR HANDS



Lee Culp, CDT

IPS Empress Esthetic was developed by Lee Culp, CDT, with an international team of leading ceramists including Matt Roberts and Jürgen Seger, CDT.

It offers improved esthetics and physical properties, while giving dental technicians the added flexibility of a cutback technique.

"IPS Empress Esthetic materials provide a systematic way to achieve phenomenal esthetics in an extremely simple technique. It's not complicated, and it's not time consuming.

It's elegant simplicity."

Lee Culp, CDT

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