Creating Beautiful Results with Platinum Foil
Restoring two lateral teeth with veneers using the platinum-foil technique.
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In the author’s opinion, custom shade matching the lateral teeth is easier than matching the shade of the two centrals. Yet, properly shade-matching laterals so that they blend with the color of adjacent teeth is critical to the natural appearance of the smile. This case study will follow the appropriate steps for custom shade matching and the use of the platinum-foil technique to create two veneers. Final touch-up to the color with staining is also demonstrated.

The patient was a 40-year-old woman who needed her two laterals replaced. To match her color, the author used custom-made porcelain shade tabs with built-in opacity, the correct amount of transparency, and shade modifications focusing on subtle white calcifications, as well as moderate translucency.

CASE REPORT
At the custom shade-matching appointment at the laboratory, the patient’s color was noted to be warm, with an orange-brown tone overlaid with clear, whitish enamel (Figure 1). There was moderate translucency but it was still checked and noted to be of the same color tone (Figure 2). Using a different set of shade tabs, the author checked the amount of translucency and white calcification, as well as surface texture (Figure 3 and Figure 4). Next, the author checked for stump color using custom-made after-preparation shade tabs (Figure 5) to create a custom color using the foil technique.

The foil comes in a special bag, wrapped in paper, which should be opened carefully (Figure 6). The special paper around the foil serves as a guideline when the technician prepares to cut the foil for fabrication of the restoration (Figure 7).

Using the die, he measured and cut the foil to the right size to avoid waste (Figure 8), then double-checked the size (Figure 9). The author once again checked the size of the foil visually to avoid waste and expense (Figure 10). The paper then had to be carefully pulled away from the foil to make sure it did not tear (Figure 11). The author used a thin stick to push the foil down onto the die and smooth the edges into place (Figure 12). He followed the preparatory design and inside shape to achieve the correct effect for the restorations (Figure 13).

The porcelain build-up consisted of dentin overlay with a B-2 base (Figure 14). Enamel opal followed (Figure 15), and a subtle mamelon application was next (Figure 16). An application of translucency neutral was layered over the other porcelain applications (Figure 17), and a slight amount of enamel was then applied (Figure 18). Clear fluorescence was layered over the top of the enamel (Figure 19) and GC Initial E59 Low Fusing porcelain (GC America, www.gcamerica.com) was then applied (Figure 20 and Figure 21). After firing at 780°C, the restoration was removed from the oven and checked for appearance and fit (Figure 22). With pencil markers, the author drew texture lines on the surface of the restoration and painted the model with a Pico-Fit gold die spacer (Renfert, www.renfert.com) (Figure 23). After the surface texture was checked on the model (Figure 24), the author applied a subtle white stain using a thin brush (Figure 25). Next he layered a beige stain to the mid-section of the restoration (Figure 26). An image of the various staining colors gives the reader an idea of what the author was using to recreate the patient’s natural tooth color (Figure 27). To create a horizontal line, he used the bluish color (Figure 28). The restoration was finally glazed and placed in the porcelain oven (Ibex, www.ibexdental.com) for the final bake.

Once fired, the foil was carefully removed with tweezers (Figure 29). In this mirrored image, the author checked for the orange mamelon and calcification coloring. The gingival area had a slightly darker orange hue (Figure 30). Still, upon trying the restoration in the mouth, the author determined that the veneer needed color adjustment for a more lifelike appearance (Figure 31).

More stain was applied to the middle and incisal areas to create a better color.
match (Figure 32) and was tried again in the mouth. The second try-in revealed (Figure 33) that a touch of white stain would be needed to match the incisal decalcification (Figure 34). At the final try-in appointment, the author compared the veneer to the central and the canine to determine if the veneer blended naturally with the harmony, tone, opacity, and translucency of the surrounding dentition (Figure 35). The author took a photograph from above the patient’s head and to the side to view the color transition from a different angle (Figure 36) and was able to check the tone, texture, and angulation harmony (Figure 37 and Figure 38). All characteristics such as translucency, texture, and enamel combination were checked, as well as the size and angulation of the teeth (Figure 39 through Figure 44). Figure 45 and Figure 46 show the final smile views—both up close and slightly farther away.

As mentioned earlier in this article, enamel and translucency, along with texture, is hard to mimic in natural teeth. Using the right tools and mindset, the goals for the case can be reached.

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**Fig 14.** The dentin was applied in a B-2 base.

**Fig 15.** The enamel opal was then applied.

**Fig 16.** The mamelon application followed.

**Fig 17.** Translucency neutral application was layered over the porcelain.

**Fig 18.** A slight amount of enamel was applied.

**Fig 19.** Clear florescence was layered over the top of the enamel.

**Fig 20.** GC Initial E59 Low Fusing porcelain was applied.

**Fig 21.** The appearance before baking.

**Fig 22.** The appearance after baking.

**Fig 23.** Texture lines were drawn on the surface of the restoration.

**Fig 24.** After baking, the texture was noticeable.
Fig 25. Using a very thin brush, the author applied a subtle white stain.

Fig 26. A beige stain application was applied to the mid-section of the restoration.

Fig 27. Various stain colors are available to recreate the natural color of the tooth.

Fig 28. A bluish horizontal line was created.

Fig 29. Tweezers were used to carefully remove the foil.
**Fig 30.** The gingival area was given an orange hue.

**Fig 31.** Upon trying in the mouth, the restoration was still not complete.

**Fig 32.** More stain was applied to create a better color match.

**Fig 33.** The restoration was tried in for a second time.

**Fig 34.** It was decided that white stain was needed to match the decalcification.

**Fig 35.** At the final appointment, the author checked to see if the veneer compared to the adjacent teeth.

**Fig 36.** Angled photography was used to view the color transition.

**Fig 37.** and **Fig 38.** The author checked the tone and texture.

**Fig 39.** through **Fig 44.** All characteristics were checked in the mouth.

**Fig 45.** and **Fig 46.** The patient’s final smile views.