How to successfully match a single central

How to handle challenging shade matching cases involving teeth that are transparent in nature.

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Our patient, a woman in her mid-30s, was unhappy with an old restoration her dentist had placed on her No. 9 central many years ago. She was interested in a more aesthetic appearance and a color match with her adjacent teeth.

The patient came into the laboratory for a custom shading appointment, and was matched with ceramic shade tabs, taking into consideration her incisal and body color. It was not an easy color to match. The technician discovered the gingival to the mid-line was A1, with an overlay of light enamel. In addition, 10% of her body and incisal 1/3 were transparent, with a grey line in between her teeth. Her teeth also had noticeable mamelon and an orange line throughout, but were translucent in nature. There were obviously many characteristics to consider with her teeth coloration.

A zirconia coping in A1 shading was a good beginning, using the in-house Amann Girrbach Milling Machine to produce the coping. After that was accomplished, further steps were taken to complete the restoration using a behind-the-scenes porcelain formula I created for her case.

Case Study

01 Fig. 1 illustrates use of porcelain shade tabs, already fabricated using 1/3 incisal mamelon for comparison. The colors involved are from GC: IN 44 (light brown or sand) and for the incisal 1/3 I used an orange translucency color. Upon checking, I noted I needed to add CT 25 to match with her complicated coloration.

02 Next, I used TM05, grey in color, with CF on the incisal tip but TM01, blue, for the incisal edge. I arrived at this particular com-
Before the mamelon application, green, orange and pink colors were layered in between the teeth. The CT25 color was used for the mamelon, with TM05 orange color as well. Silver paint TM01, a bluish color, was next applied. For the body area, I placed a horizontal line. A black line added a dimension for the EOP4 application. E04 was applied to the incisal area.

After grinding, I applied glaze. Note the internal color in the image shown here. After glazing, I placed the restoration in the porcelain oven to bake. This view is directly after insertion in the mouth. Two more immediate shots of her smile follow and a close-up view of the No. 8 and 9 centrals to check the color match.

CONCLUSION
As technicians, we have to be honest with ourselves about a patient who presents for a shade match but has a color that is transparent in nature. It must be carefully written down, and we must also note what tools we will use, what kind of colors we will mix, and how. If we cannot write down what we expect to do with the person’s restoration when we begin working on it, we won’t be able to match it when we head to the laboratory to create it. We have to figure out the adjacent tooth color and the incisal, body, gingival and depth of layering between the teeth. If we can narrow down all of these components during our custom shade appointment, we will have a very happy patient when she receives her final restoration.