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Shade matching a single anterior tooth

Getting esthetics in the hardest possible case.

Our case study will involve a patient in her mid-30's and will demonstrate a layering technique for matching a single anterior tooth. The patient is a teacher who had concerns about public speaking because she was self-conscious about her smile. Knowing this, the dentist gave the case to the author in order to provide the patient with the best possible restoration where her color and fit was concerned.

Matching a single anterior tooth is the hardest job a technician can be given, as we all know,

and this case was no exception. An important question the author had for the patient was which tooth did she want him to match? She asked that he match the color on central #9 as closely as possible and indicated that numbers 7 and 10 were going to be restored in the future.

In the author's opinion, the prep was perfect, with gorgeous tissue design. In comparison to the adjacent teeth, the stump color was dark after preparation, so the author chose zirconia as his material in order to mask that internal

color. He also noted that central number 9 had a high value which he would try to re-create in number 8 as well.

01 In his conversation with the patient, during the custom shading appointment, the author asked her about the color she wished him to mimic (Fig. 1) after the provisional was removed. As we established above, she chose the central. In his next step, the author matched the stump color (Fig. 2) with his own

GREAT SHADE ESTHETICS IN AN ANTERIOR CASE



Fig. 1 Custom shade appointment



Fig. 2 Stump color check

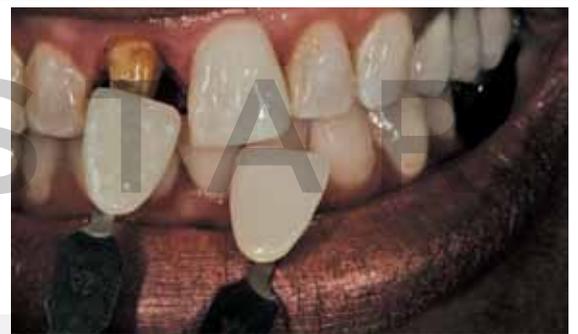


Fig. 3 Characteristics check



Fig. 4 Occlusion view



Fig. 5 Amann Girrbach MAP 400 scanner



Fig. 6 12 mm zirconia block



Fig. 7 After sintering several lab cases



Fig. 8 Multi-layering color



Fig. 9 B1 dentin color build-up



Fig. 10 Translucency Modifier TMO5



Fig. 11 Enamel Opal 1



Fig. 12 Mesial corner— Enamel Opal 4



Fig. 13 Translucency Neutral distal corner



Fig. 14 Translucency 02 White Fluorescence



Fig. 15 TMO1 distal corner



Fig. 16 Cervical Translucency— create optical illusion



Fig. 17-18 Enamel 59



Fig. 19 E03 Body area—sparkle effect



Fig. 20 Enamel 58 application to distal corner



Fig. 21 EI 11 application to distal corner



Fig. 22 EI 14 mamelon area incisal 1/3



Fig. 23 Mirrored image final color detail



Fig. 24 Try in the mouth



Fig. 25 Immediate insertion



Fig. 26 Smile view

porcelain fabricated custom shade tab. The color was dark ochre brown, which would be difficult to mask internally without a zirconia coping.

02 The author next checked the overall color (Fig. 3) with his same custom made shade tabs, which are low in value but high in characterization. He noted white calcification throughout with subtle, dense areas and grey translucency. He next checked the facial thickness in this occlusion view photo (Fig. 4) which helped him with the proper material selection.

03 The Amann Girrbach MAP400 scanner was used to design the restoration for tooth number 8 (Fig. 5), using a 12mm zirconia block (Fig. 6). Several lab cases were sintered along with our case study

(Fig. 7), as shown. The author then utilized multi-layering color, specifically Enamel 59 and Translucency Modifier B1 dentin color as his build-up (Fig. 9). After the build-up was applied he next layered translucency modifier TMO5 (Fig. 10) to the incisal area. He then applied Enamel Opal - EOP1 (Fig. 11) to the incisal and EOP4 to the mesial corner (Fig. 12). After which, he applied Translucency Neutral to the distal corner (Fig. 13).

04 Translucency 02 white fluorescent color (Fig. 14) was layered on after the dentin application. He then applied Translucency Modifier 01- TMO1- to the distal corner (Fig. 15). Cervical Translucency 22 (CT22) created an optical illusion (Fig. 16). Enamel color 59 went on next (Figs 17, 18) and E03 applied to the body area for a little sparkle effect throughout (Fig. 19). Enamel 58 was next applied to the distal corner (Fig. 20), then EI 11 over that to the same corner (Fig. 21) and EI 14 to the mamelon area of the incisal 1/3 (Fig. 22).

05 In Figure 23, the final details of the color are shown in the gingival, surface texture,

translucency and the transparency of the shading. During a try-in the mouth, white calcification was added to the gingival area with subtle stain (Fig. 24). Upon insertion, the patient had this appearance (Fig. 25) and her smile tells it all (Fig. 26).

06 As mentioned, it is important to diagnose each case thoroughly in order to create the best possible restoration. Tissue design, adjacent teeth color, prep design and the value of the teeth are all considerations to be made, as well, and will lead to proper material selection. The layering of the tooth analysis helps with the sophisticated porcelain build-up and any irregularities it may reveal.

As for the final external stain, if we have to add that after the final try-in, we can. It's not a burden or something to be dreaded—we can do it. Through a sense of curiosity about the outcome and the growing technique we are learning, we as technicians can create beautiful restorations and become educated at the same time. [lab](#)