

QUICK TECHNIQUE

Injection Molding With a Single-Shade Flowable Composite



Figure 1. Preoperative view of the Tooth No. 10 peg lateral.



Figure 2. VPS matrix of the diagnostic wax-up.



Figure 3. OMNICHROMA Flow (Tokuyama Dental America) injected into the VPS matrix.



Figure 4. Excess composite from the access chimney.



Figure 5. Simple cleanup of excess composite.



Figure 6. Immediate postoperative view of the injection molding restoration.



Kevin Brown, DDS

Peg lateral incisors are a common issue that many orthodontists and restorative dentists must collaborate on for ideal results. Although there are a variety

of treatment methods that must be considered, this article will focus only on the injection mold technique.

In this case, the orthodontist referred this young patient to have a single peg lateral built up to ideal size and shape with composite prior to beginning orthodontic treatment (Figure 1). Doing so would allow the orthodontist to visualize where to position the teeth rather than leaving space at the end of orthodontic treatment for restoration. The latter method is usually preferred, but, in this case, we restored beforehand. Knowing that the patient would want to whiten his or her teeth and then restore the peg lateral with a layered restoration for ultimate aesthetics, we decided to simplify and just use a flowable composite for now with plans to redo it in the

end with a layered technique.

Impressions were taken, and a diagnostic wax-up was made. The tooth was shaped into the anatomically correct position and angle, which means it was slightly rotated. The rotation and root angulation would be corrected with braces. A translucent VPS material (Capture [Glidewell]) was used to make an impression of the wax-up by injecting the VPS over the model and then using a piece of plastic from a resealable bag to lay over the top of the VPS and gently press to ensure complete adaptation around the wax-up (Figure 2).

A coarse grit diamond bur was used to create an access point for the flowable composite tip at the mid-incisal area. Because this tooth was very skinny, the composite would end up covering the entire tooth facially and lingually. The tooth was prepared using pumice, air particle abrasion (MicroEtcher II [Zest Dental Solutions]), phosphoric acid etch (Total Etch [Ivoclar Vivadent]), and a universal bonding agent (Universal Bond [Tokuyama Dental America]), and the adjacent teeth were covered with PTFE tape.

The clear VPS matrix was then correctly positioned in the mouth, and the single-shade flow-

able composite (OMNICHROMA Flow [Tokuyama Dental America]) was slowly injected into the matrix until excess extruded out through the access chimney (Figure 3). The composite was then light cured for 10 seconds on the facial and 10 seconds on the lingual before removing the matrix and checking for any voids or air bubbles. If any voids are noticed, you can simply add more flowable to repair before doing the final light cure with glycerin gel to ensure complete cure of the oxygen inhibition layer. The only polishing needed is to remove the excess composite left from the access chimney and any flash around the gingival margin (Figures 4 and 5). All other shapes, anatomies, and textures were captured and replicated from the wax-up in the VPS matrix, which is one of the advantages of this technique (Figure 6).

In conclusion, the utilization of flowable composites, such as OMNICHROMA Flow in this injection molding case, demonstrates the importance of staying at the forefront of advancements in materials and techniques.

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