

# TECHNIQUE CLINIC

## Flowable Composites for Bonding Lingual Retainers

**B**onded lingual retainers are commonly made from multi-stranded wires. To obtain the best handling characteristics, many practitioners thin their composite mixtures,<sup>1</sup> but still have some difficulty applying the adhesive. Time-consuming trimming and finishing are often necessary to obtain optimal results.

Flowable composites were originally created for restorative dentistry by increasing the resin content (thinning) of traditional small-particle hybrid composites.<sup>2</sup> They also have many advantages when used for bonding orthodontic retainers:

- No mixing is required.
- Needle tips on the application syringes allow direct and precise composite placement.
- The composite is not sticky and has excellent flow characteristics, flowing toward the bulk of the material rather than away from it.
- No trimming and polishing are required.
- Chairtime is reduced.

### Procedure

1. Pour an accurate impression in stone.
2. Bend an .0215" six-stranded coaxial wire to fit the lingual contours of the teeth to be retained.

3. Attach a placement index to the wire. We recommend a unilateral posterior acrylic extension that covers the occlusal surfaces (A).

4. Pumice the lingual surfaces of the teeth to be retained, rinse with water, and dry with compressed air.

5. Acid-etch the tooth surfaces with 37% phosphoric acid for 30-60 seconds, rinse, and air-dry thoroughly.

6. Apply Excite\* light-cured bonding agent to the tooth surfaces, air-dry, and activate it with a light source.

7. Position the retainer in the mouth using the acrylic index.

8. Apply Tetric Flow\* com-

posite to the first tooth, keeping the needle tip in close contact with the surface (B). A thickness of 1mm over the wire is recommended.<sup>3</sup>

9. Remove the syringe in a lingual direction, creating a small peak in the composite (C). Light-cure the composite immediately, so that the peak has only a fraction of a second to flow into a smooth contour (D).

10. Repeat the procedure on the

\*Ivoclar Vivadent, Inc., 175 Pineview Drive, Amherst, NY 14228.



other teeth to be bonded.

11. Cut the wire and remove the index before bonding the last tooth (E).

12. Remove excess adhesive from the gingival margin where necessary.

## Conclusion

This technique is quick and easy and produces excellent results. After bonding lingual retainers this way for more than a year, we have seen few failures.

## REFERENCES

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3. Bearn, D.R.; McCabe, J.F.; Gordon, P.H.; and Aird, J.C.: Bonded orthodontic retainers: The wire-composite interface, *Am. J. Orthod.* 111:67-74, 1997.



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