Dentists with in-office CAD/CAM systems understand the importance of maximizing productivity with their machines to gain an optimum return on their investment. To do this, dentists must pay close attention not only to the CAD/CAM system itself, but also to the materials used with the system. CAD/CAM blocks that are difficult to work with or are time-consuming can eat into productivity.

3M ESPE has recently introduced a highly aesthetic, extremely strong CAD/CAM block that can help dentists fully maximize their time. 3M® ESPE® Lava® Ultimate CAD/CAM Restorative is made from a unique new material that blends approximately 80 percent nanoceramic particles with a highly cured resin matrix. This material enables a simple, efficient, no-firing process for making CAD/CAM restorations. It can also be polished to an enamel-like luster in just a few minutes.

Unlike traditional glass ceramics, the material is not brittle, giving it high fracture resistance and long-term durability. Finally, it allows users to easily make adjustments, build up or reseal restorations. This material offers a two-fold advantage for saving time with faster milling and no need for a firing step. The elimination of the firing step alone can save approximately half an hour from the typical in-office CAD/CAM procedure.

Experience with this material has proven the advantage of its less brittle quality resulting in precise milling. The restorations mill out predictably and smoothly, providing an outstanding marginal fit. A scanning electron microscope analysis of Lava Ultimate Restorative versus glass ceramics demonstrates that it exhibits less chipping at the margins.1

Furthermore, it offers similar or higher compressive strength and higher flexural strength2 than leading chairside materials.3 Another important property of Lava Ultimate Restorative is the low wear of opposing enamel. Wear experiments at the University of Minnesota have shown that this material is significantly less wearing on opposing enamel compared with glass ceramic materials.4

This nanoceramic material alone is an excellent step toward increasing productivity, but 3M ESPE has also recently introduced two additional components that make the process even simpler: 3M...
ESPE Scotchbond™ Universal Adhesive and 3M ESPE RelyX™ Ultimate Adhesive Resin Cement. Since its introduction last year, users of Scotchbond Universal Adhesive have discovered the convenience of having a single-bottle adhesive that can be used on all surfaces in total-etch, self-etch or selective-etch mode.

This gives dentists a flexible tool that lets them stock just one adhesive, no matter what their preferred technique. The results show consistent high bond strengths, as well as almost no postoperative sensitivity.

In addition, the adhesive functions as a metal primer as well as a silane agent for glass ceramics, meaning that the dentist needs no additional products for these purposes. The adhesive’s primary use is with light-cured materials, but it can also be used with dual-cured cements, as long as the activator is mixed with the adhesive. Once again, the dentist saves time and energy using this simplified adhesive system.

When Scotchbond Universal adhesive is used with RelyX Ultimate Adhesive Resin Cement, dual-cured bonding becomes even easier. This is because 3M ESPE placed a unique dual-cure activator within the resin cement itself, allowing the dentist to perform indirect restorations with a one-bottle adhesive system. The combination of Scotchbond Universal with RelyXUltimate makes for a simple and effective CAD/CAM bonding procedure.

This trio of products is designed to help maximize productivity in the dental office, while also providing excellent esthetics, durable restorations and predictable results with low postoperative sensitivity.

With a CAD/CAM material that mills quickly and needs no firing, a versatile adhesive that can be used for nearly any application, and a cement designed specifically to complement the adhesive, dentists have a very useful set of tools for working efficiently.

Scotchbond Universal Adhesive is compatible with various preferred bonding techniques. The RelyX Ultimate Cement, with its dual-cure activator, is designed to work specifically with the Scotchbond adhesive. Together, these products produce a simple, highly effective bonding procedure.

Finally, the properties of Lava Ultimate restorative make it an appealing option not only for productivity, but also for performance and esthetics. In a posterior case such as the one shown here (Figs. 1–4), where strength is very important, the material’s demonstrated durability should give dentists added confidence. The fact that it is gentle on opposing dentition also makes it a good choice for long-term success. These properties alone would make Lava Ultimate Restorative appealing, but when its timesaving benefits are considered as well, the material becomes an even more attractive option.

References
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