

Improved Workflow Using Ceramir® CAD/CAM BLOCKS (Directa Dental)

Introduction

Faster workflows, stronger materials, and natural esthetics are all features we, as dental clinicians, request every day from our restorative products. CAD/CAM has made incredible advances over the past few years, and thankfully, the materials we use with these technologies are improving dramatically as well.

Minimal thickness requirements, non-abrasive surfaces, and a flexural strength that can be trusted allow dentists to recreate anatomically correct restorations that blend into their environment. This allows us to be more efficient and precise while truly being able to use the term “restore” when treating a tooth that has become problematic.

While always looking to improve day-to-day procedures, one of the most recent and impressive materials we have become familiar with is **Ceramir® CAD/CAM BLOCKS** (Directa Dental).

With a patented laser sintering technology, these amazing blocks polish to a beautiful glossy appearance and have a translucency factor that helps create a chameleon-like blend into the surrounding tooth structure. It may even be difficult to differentiate a **Ceramir CAD/CAM BLOCK** restoration from some lithium disilicate or zirconia restorations. If that isn't good enough, these blocks are documented as being free of Bisphenol A and contain both zinc oxide and fluoride in the material to assist in preventing biofilm and bacterial growth. In other words, we are able to restore the tooth much closer to natural characteristics than we ever have before.



Comparison of CAD/CAM Blocks After Milling & Polishing



Ceramir CAD/CAM BLOCKS
(Directa Dental)

GC Initial® LiSi Blocks
(GC America)

KATANA™ Zirconia ONE
(Kuraray Noritake)



Fig. 1



Fig. 2

Case Presentations

Case #1

An 18-year-old male was involved in an accident involving an air-soft gun, proving you apparently can “shoot your ‘tooth’ out.” (Fig. 1) Due to the age of the patient and the desire to mimic the wear, appearance, and flexibility of the adjacent natural teeth, the **Ceramir CAD/CAM BLOCK** with a shade of A2 was selected. After minimal preparation of the axial walls of the tooth (.3-.5 mm) a scan was taken with the **CEREC Primescan** and a 6 minute and 30 second mill time was completed. The restoration was simply polished and prepared for resin bonding, and the patient was promptly dismissed. (Fig. 1) No sensitivity, minimal adjustments, and the patient was extremely satisfied with the esthetics of his restored smile.



Case #2

In a case involving recurrent decay on tooth #3 for a 43-year-old female, the initial approach was to be as conservative as possible. (Fig. 3) After the initial preparation down to sclerotic dentin (confirmed by caries indicator) and a restorative liner was placed (Fig. 4), it was deemed appropriate to extend through the distal interproximal surface due to the thin nature of the remaining enamel and present fracture. (Fig. 5). The dentin was then sealed and a scan was taken with the *CEREC Primescan*. (Fig. 6) After a very short milling time of only 6 minutes and not needing to have fire the material, the restorative onlay was polished and prepared for cementation. (Fig. 7 & 8). The translucency of the material, in this case the Enamel Shade Block was used, provided a beautiful restoration that returned the patient back to a natural state that will wear at the same rate as natural teeth. (Fig. 9). To make dentists feel even better, if there was to be an incident or accident and a piece of the restoration were to chip, the composition of the material allows for an easy composite repair intraorally.

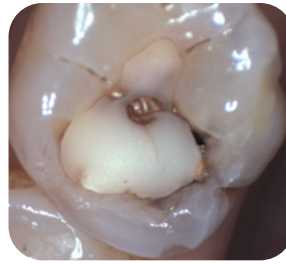


Fig. 3

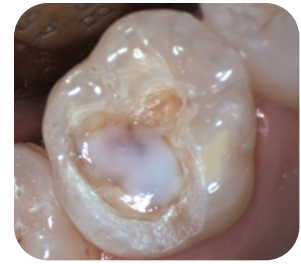


Fig. 4

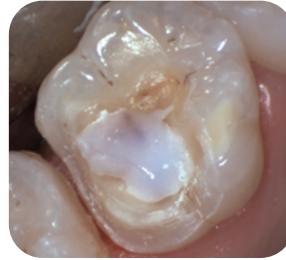


Fig. 5

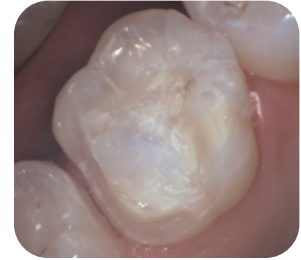


Fig. 6

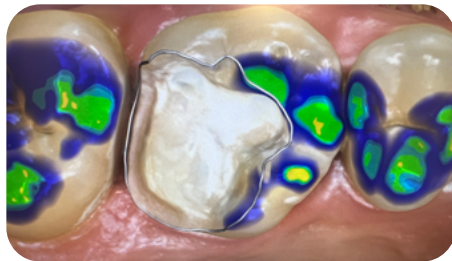


Fig. 7

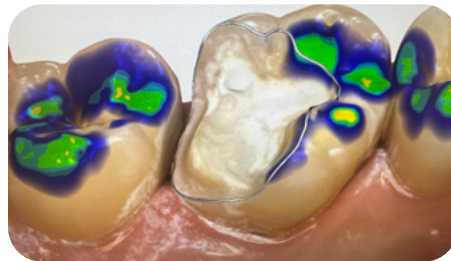


Fig. 8

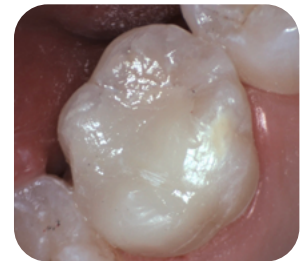


Fig. 9

Conclusion

Improved materials, faster workflows, natural characteristics, and the ability to be renewed with excitement about dental restorations make advancements like these invaluable to the dental profession. A true restoration back to original form and function is becoming a reality, and *Ceramir CAD/CAM BLOCKS* are an impressive step in the direction of making our patients whole once again.