

# Did you get your letter from Sirona?



In February 2015, Sirona Dental Systems Inc. issued a statement expressing concern over certain materials from Glidewell Laboratories and the possible harm caused to CEREC® milling machines or the possibility of excessive bur wear. The materials named included Obsidian® lithium silicate ceramic. Accordingly, Glidewell Laboratories commissioned a study. The purpose of this study was to evaluate the performance impact on the CEREC inLab MC XL milling platform while milling Obsidian lithium silicate ceramic milling blocks. The study was performed by the Research and Development and Engineering Services departments at PrismaDent Dentalcraft, Inc., a wholly owned subsidiary of Glidewell Laboratories.

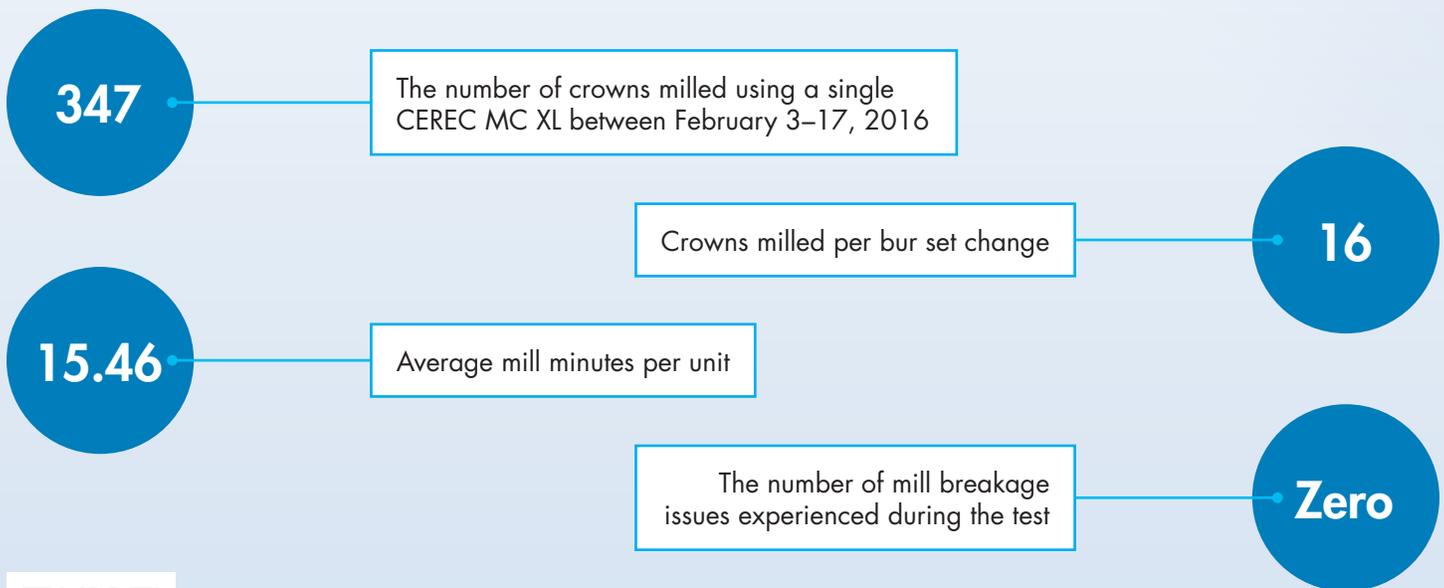
## Study Design

The study was a controlled, randomized evaluation of the CEREC MC XL milling system's ability to mill Obsidian lithium silicate crowns. A randomly selected maxillary crown design was milled 347 times over a period of two weeks (February 3-17, 2016). A tooth was prepared for the study and a vinyl polysiloxane impression taken. The stone model from that impression was scanned using the CEREC inEos Blue scanner (Model No. D3446, Serial No. 44427, Part No. 6284264, Manufactured in 2010), a crown was then designed with CEREC software (4.2.0), and milling facilitated by the CEREC MC XL milling machine (Model No. D3439, Serial No. 10664, Manufactured in 2008). The designed file was milled 347 times to simulate 26 months of average use by a dentist's office and to evaluate the performance impact on the mill, while also evaluating the fit and overall anatomy of milled Obsidian restorations.

## Summary

Obsidian milling blocks, when milled in the CEREC MC XL mill, resulted in clinically acceptable crowns that exhibited good marginal integrity. Milling times were as expected and acceptable when compared to milling times of similar materials in the MC XL. Bur performance mirrored similar results to comparable glass ceramics in wear and efficacy. Block performance matched similar milled glass ceramic blocks in the same mill. The CEREC MC XL as a milling platform performed well during the experiment. No mechanical or software issues were reported. At the time of publication, Glidewell Laboratories has manufactured 31,302 Obsidian crowns that have been delivered to clinicians across the United States. Learn more about Obsidian lithium silicate by visiting [www.obsidiantceramic.com](http://www.obsidiantceramic.com).

## CEREC MC XL Performance Study with Obsidian Lithium Silicate Ceramic



Scan to view the Dental Advisor's 30-month in vivo study of Obsidian



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