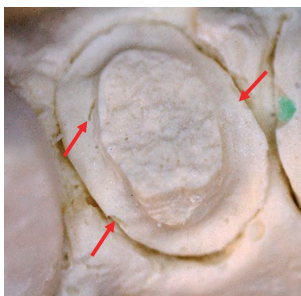


Lab Technology Today

How to Optimize Models and Dies for Accuracy, Detail and Consistency

By Jim Emmons, CDT, FNBC

PRECISE MODELS AND DIES are the foundation for success of any C&B restoration. Small bubbles (shown below) can necessitate repours; a single repour doubles your labor cost for model/cast preparation. Now with the accuracy of digital model scanning, the need for bubble-free, smooth models is even more critical.



To get the best possible surface reproduction, I use Wonderadmix Bubble Buster, a concentrated debubbler and hardener from Dental Creations, Ltd. Compared to water, Wonderadmix improves model strength, smoothness and surface detail. It offers a low wetting angle that prevents micro bubbles in sharp corners and accurately reproduces shoulder/chamfer impressions. It's easy to pour, resists chipping and fractures, controls shrinkage and expansion, eliminates the need for surfactants and can be used with any brand of stone.

For more information on Wonderadmix, call Dental Creations at 254-772-4661 or visit www.wonderfill.com.

How to Use Wonderadmix:

1. Prior to pouring the model, disinfect and clean the impression. Even if the case packaging says the impression is disinfected, you still need to clean it to ensure all the disinfectant and residue are removed. Otherwise, the surface of the model can be soft and inaccurate.



2. Empty one of the Wonderadmix 20-ml syringes into the 32-oz bottle in the kit and fill the bottle with regular tap water. In warmer weather, use 41°F/3°C water to provide better working time during the pour; in the winter, you can accelerate the set time by using warm water, approximately 100°F/37°C. Keep the container closed between uses and shake well before each use.

3. Replace the stone manufacturer's recommended amount of water with the Wonderadmix mixture, pouring it into a large mixing bowl. (Just like if you use too much water, too much Wonderadmix can compromise the surface integrity.)

4. Sift the stone into the bowl and let it collapse into the Wonderadmix.

5. Vacuum mixing is the best way to ensure the density of the model; mix at 120rpm, always in one direction, until you have a creamy mixture. Heat acts as a catalyst to accelerate the initial set of the stone, so the longer you mix, the more heat you generate and the faster the stone reaches its initial set.

6. Use a small, blunt instrument to place the stone into anterior preparations and any sharp corners that could trap a bubble; pour or layer on the remaining stone into the impression. Wonderadmix's thixotropic effect lets you layer wet stone on your impression without having it run off.



Final result: Below, you can see the fine details of the die stone in the sharp corners as well as great surface reproduction.



Jim Emmons, CDT, FNBC, is the developer of products such as the Spectrafire Air Brush System, Wet Palette Humidors, ceramic and porcelain ovens, Life Essence Porcelain System, Biolume' 24k Gold Bonder, Spectrafire Hydro-Vac Plus and Spectrafire Golden Proportion System. A published author, he has a training studio in Waco, TX, where he oversees the Spectrafire product line development and distribution. He also presents NBC-approved courses on cosmetic and digital ceramics worldwide.