



Inside Dental Technology
May 2011, Volume 2, Issue 5
Published by AEGIS Communications

Long-Span Implant Precision Using Primotec's primopattern to create a perfectly fitted 10-unit bridge in a short amount of time with no re- makes.

By Luke Khang, CDT

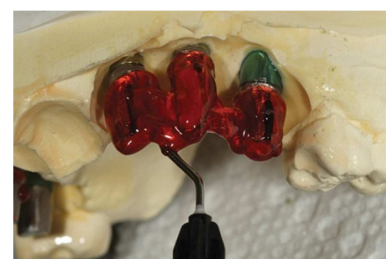
As a laboratory technician, the author is constantly thinking about precision; especially when it comes to long-span implant cases. Because he wanted a passive fit, no rocking, and easy play, he chose Primotec's primopattern, a light-cured resin that comes in two forms—paste and gel. After the material has been light-cured, it turns into a hard acrylic and can be easily removed. It offers the laboratory technician many benefits, including no expansion, ease of use, a predictable frame design, and considerable time savings.

A Precise Process

In the case of a 10-unit bridge created with six Straumann UCLA milled implant abutments, the author faced two issues. First, he needed a perfect fit. Second, unit No. 5 and unit No. 13 showed green and yellow markings right near the tissue (Figure 1) because the margin design was supragingival, which would expose the titanium abutment when the patient smiled. So the author would have to extend them later on with pink porcelain, but he needed a frame design that extended farther. He had three options at this point—he could extend it in porcelain, but that would be brittle and easily cracked; he could extend normal wax over them, but that would tear or warp; or he could use primopattern, which would not warp or tear.

After the author milled the abutments, he needed to clean them off and make sure there were no particles remaining so he could then apply separator. Typically, he uses the IM 300 Metaseal model and die separator from Primotec. He blocked out the holes of the implants with lab putty (Figure 2), then took the primopattern LC gel and built up each coping. The gel flows easily and does not run on vertical surfaces before light-curing. After building up all of the copings, he light-cured them. Next, he connected them interproximally using the gel (Figure 3). The primopattern paste is used for building up larger areas, such as pontics and bars. The author easily formed the paste by hand to create the pontics (Figure 4). After they were formed, he extended the primopattern gel into the interproximal area again (Figure 5) and light-cured it. Then, he built the gel up to the cusps and marginal ridge to make the joints stronger and to create the proper metal design (Figure 6). After that, the author put the case into primotec's Metalight Trend UVA curing light unit and did the final cure for 10 minutes (Figure 7).

After light-curing, he removed the bridge from the model, with no warping. Then, he placed the bridge back on the model to ensure that the fit was correct—which it was, so his first goal of perfect fit was achieved. Then, he ground back the excess material with a carbide bur (Figure 8). There was still a green mark on unit No. 13, but that was because the gingival material had been removed. The author covered part of the marking with primopattern; it did not crack or warp, which is precisely why the author chose this material. Thus far, he had accomplished both of his goals.



Final Touches

Proper spruing, investing, and casting were parts of the final step to success. This step is key with all resins or acrylics. It is best to sprue, connecting every pontic, and to use a V- or curve-shaped sprue (Figure 9). Both the ring-less and ring technique can be used, but the author prefers using the ring technique. He used GC Fujivest[®] Premium investment because after mixing, it has a consistent thickness, is very easy to pour, and has low expansion (Figure 10). Because primopattern is a resin, it takes longer to burn out than normal wax. For this reason, the technician must either do a slow burnout or a two-stage burnout. The author put the ring into a cold oven and ran it up to 430°C / 800°F, held it for 1 hour, then ran it up to the final temperature of 840°C / 1550°F, and held it for 30 minutes.

After casting, the author again checked the fit of the bridge in metal form (Figure 11 and Figure 12). It fit perfectly, with no need for welding or casting in multiple sections. Using primopattern to achieve precise and accurate results, the author created a perfectly fitted 10-unit bridge in a short amount of time with no re-makes.

Luke Khang, CDT, is the owner and founder of LSK121 Oral Prosthetics in Naperville, Illinois.

Disclaimer

The manufacturer provided the preceding material. The statements and opinions contained therein are solely those of the manufacturer and not of the editors, publisher, or the Editorial Board of Inside Dental Technology.

