

# Dynamic Abutment Solutions Ti-Base from Preat Corporation

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Ever get that dreaded phone call from the doctor saying a Ti-Base that you cemented debonded from your restoration? Many of us have. Ti-Base debonding seems to be a frequent topic of discussion in the industry. With so many materials and techniques out there, it is hard to know good from bad and which work and which don't.



At one point, I had no idea and used cements that I thought were good. Sadly, I found out they were not. I asked my colleagues for their recommendations, finding out that most were using different materials than I was. Their choices in cements were more expensive, but what is worth more, saving a few dollars on cheaper cement that didn't meet the needs of the task or losing client accounts? The right choice was clear, get the better cement and use consistent technique! Some may argue this, but for me the peace of mind in knowing my material and having refined my techniques puts my mind at ease. In this article, I will share my process for cementing Ti-Bases to zirconia crowns. This will be done using Ivoclar's Multilink Implant HO 0 zirconia, Panavia's SA Cement Universal handmix white, and Dynamic Abutment Solutions (DAS) Ti-Bases from Preat Corporation.



The first step as with all restorations is proper planning and quality evaluation. Even with the right cement the cause of most failures is a loose-fitting relationship between the crown and Ti-Base. Make sure that the Ti-Base and the crown seat fully, the space between them should be minimal. This will require proper management in digital and if your software allows the adjustment of fit for this area. After the crown is properly fitted, proceed to clean up and polish/glaze with no overglaze in and around the seating area of the Ti base. (Fig.A)

Now we are ready to prep for cementation. Sand blast the inside of the zirconia crown. (Fig.B) If you like, sand blast the mating surface of Ti-base as well. Since the Dynamic Abutment Ti-Bases have

horizontal grooves to provide a retentive surface, I leave them untouched. If choosing to sand blast the Ti-Base for an added retentive surface, I like to apply White Effect 2 from Origin to the milled zirconia while still in the green state. This applies a white opaque layer on the inside of the zirconia crown masking out the greyness of the abutment, keeping the value of the crown the same. Next, steam both surfaces and dry with an air hose. If you like to anodize your Ti-Bases, feel free to do so at this time. One of the things I like about the Preat Ti-Bases, besides the screw access channel correction, is that they are already anodized and this saves me valuable time.

So, you are not in a panic trying to find things in the middle of cementing, lay out all of the





needed items at your workstation. You will of course need the crown, Ti-Base, lab screw and driver, the model, your primer and cement, an application brush available from most dental supply companies, a mixing slab you love and/or a mixing pad, a knife or tissues, tweezers or crown holder, and a mixing instrument. (Fig.C)

With the parts prepped and cleaned you are now ready. Prime the restoration surface so that the cement will adhere as intended. **NOTE: Not priming the surface will lead to a debond.** Using the application brush, apply the primer to the inside of the zirconia crown and the chamfer area. (Fig.D)

For the Ti-Base, use small tweezers to hold it while applying the primer. (Fig.E) Let the primer set for 60 seconds then blow with air. Note, if you are cementing PMMA crowns, this cement will work fine, but you must use an acrylic primer like SR Connect from Ivoclar. Otherwise cement will not adhere to the crown.

With both surfaces “primed” you are ready to apply cement. The cement may or may not come with mixing tips. I personally don’t use them, as in my experiences they waste cement. The amount lost in one tip is the equivalent amount to cement 8 crowns if not more. Because of this I dispense equal amounts and hand mix thoroughly. (Fig.F)

With the cement properly mixed use an instrument and apply cement to the Ti-Base. (Fig.G.) Applying the cement to the inside of the crown results in a messier



application and a greater chance of cement going into the screw channel. Another advantage with it applied to the Ti-Base is it will push the cement down and out, leaving cement in the needed areas and an easier clean up.

Once cement is applied to the Ti-Base, insert it into the crown, looking for the cement to push down and out. (Fig.H) For now, you can leave the excess cement and simply scrape it off with a knife once it starts to cure. However, this is where I like to take a tissue or an application brush and quickly wipe the excess cement off. Check to make sure no cement made it into the screw channel from the top of the crown. Application brushes work well for cleaning excess cement out of the screw channel. Place the cemented crown with Ti-Base on the model to assure that it is properly aligned and tighten it down with the lab screw and driver. (Fig.H) Applying an oxygen air barrier gel at the margin before curing will aid in a better seal at the Ti-Base junction. After the crown is seated you can cure it with a light cure gun or light box, or let it sit and self-cure if dual curing cement. Finally clean up and polish the restoration as desired. By knowing your materials and refining your techniques, you have achieved the best bond with a repeatable process. Now you can send your screw retained crowns and bridges out with confidence and build a trusting relationship with your doctors. ■



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