



# Technique Protocol

## NX3 for Porcelain Cementation

### Introduction

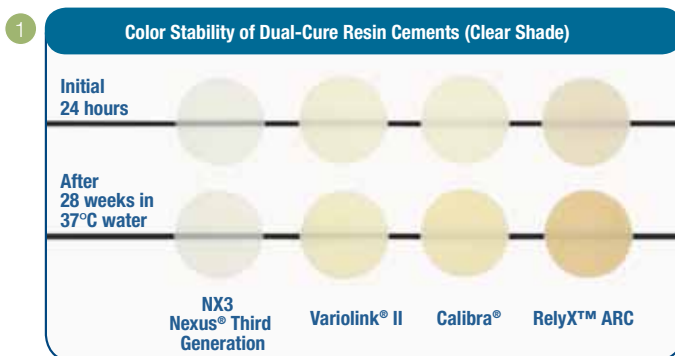
When choosing a cementation protocol for porcelain restorations, dentists want to be confident they maximize adhesion while avoiding post-cementation sensitivity and microleakage. I have used the Kerr™ OptiBond™ adhesives and Nexus® family of cementation products for over 15 years, during which time I have observed consistent, durable results that improve patient comfort.

With a proprietary chemistry in its dual-cure application, Nexus® Third Generation NX3 offers unique benefits. Manufacturer testing indicates that unlike other dual-cure cements containing amines, NX3 dual-cure cement does not darken or shift in color (Figure 1). The color stability of NX3 ensures that even thinner porcelain restorations will retain the color matching achieved at cementation.

In addition, **NX3 dual-cure cement can be used with any bonding resin without the need for additional chemical initiators** – even when a continued cure is desired and light curing access is limited.



*Dr. Bruce J. LeBlanc graduated from LSU School of Dentistry and is a practicing clinician offering his patients minimally invasive adhesive/cosmetic dental solutions. He publishes and lectures internationally and is a consultant to dental manufacturers for the development of adhesive/cosmetic products. His seminars for dentists at LSU School of Dentistry focus on minimally invasive adhesive/cosmetic solutions.*



Internal data. Available upon request.



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## The Patient

The following is a case in which I used NX3 for cementation, utilizing a protocol I have observed to be predictable and durable.

The patient is a 57-year-old medical specialist who wanted to replace older discolored crowns and composite resin restorations while making his teeth straighter and whiter. The patient's pretreatment shade is in the A3/A3.5 range (Figure 2).

## Preparation of New Restorations

We began by removing the existing restorations and prepared the upper and lower anterior teeth for porcelain veneer restorations (Figure 3).

My preferred impression material is Kerr Take 1® Advanced, due to its ease of handling and the accurate detail captured by its body/wash combination. For tissue management, I used Kerr Expasyl™ gingival retraction paste to effectively control bleeding without causing residual staining of restorations.

Digital photos of the prepared teeth with shade tabs, impressions, a facebow transfer, and bite registrations were sent to my technician, Michael Bellerino, at the Trindent Dental Laboratory. Model work was completed and properly articulated on a Panadent™ articulator (Figure 4). The restorations were fabricated with e.max® porcelain for proper occlusion, then finalized in the lab and readied for cementation.

The completed restorations were returned to our office for preview before delivery. NX3 try-in gels allowed for the restorations to be seated temporarily for review of their final appearance. Once the patient approved, the final cementation protocol is followed with the chosen shade of NX3 cement.

## Final Cementation

NX3 is compatible with all generations of total-etch and self-etch resin bonding agents. A recommended bonding agent for use with NX3 is Kerr's **OptiBond™ Solo Plus**, which in my experience achieves durable and comfortable adhesion. As with all bonding systems, the proper application of the bonding agent to wet the dentin and enamel—and the subsequent drying to ensure evaporation of the solvent—is essential for producing comfortable, predictable, and long-term results.

When using these products together, I follow the recommended manufacturer protocol:

1. Properly cleaned and etched porcelain restorations are silanated with Kerr Silane, followed by air thinning and drying for 5-10 seconds.
2. Tissue is checked to ensure there is no bleeding that could contaminate bonding (Figure 5). If bleeding occurs, it can be stopped with Expasyl.



3. Tooth preparations are etched with Kerr Phosphoric Acid for 15 seconds. The etch is rinsed away with water and the teeth are dried but not desiccated (Figure 6).
4. Once the teeth are properly etched, cleaned, and dried, OptiBond Solo Plus is applied with a microbrush. To ensure evaporation of solvents and prevent pooling, use with a scrubbing motion for 15 seconds, followed by air thinning for 5 seconds.
5. Once properly applied and air thinned to ensure no pooling of the bonding agent, a Demi™ LED Curing Light is used to cure for 5-10 seconds.
6. The shade of dual- or light-cure NX3 cement selected during try-in is applied to the etched/silanated porcelain restorations, and properly seated with cleanup of the excess cement. (I recommend using NX3 light-cure cement for veneers if more time for seating and cleanup of multiple units is preferred.)
7. A final cure with the Demi LED curing light is performed, followed by final cleanup and polishing of the restorations.



## Conclusion

With the completed restorations, the patient has teeth that appear straighter and brighter (Figure 7). Use of the NX3 bonding system enables me to produce predictable, comfortable, and long-term results.

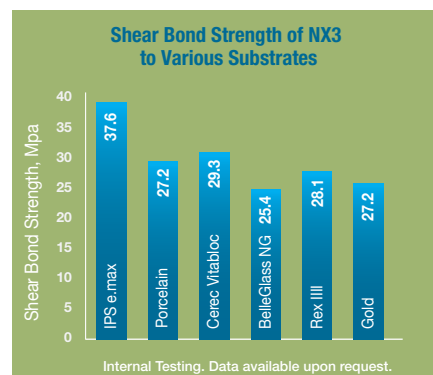
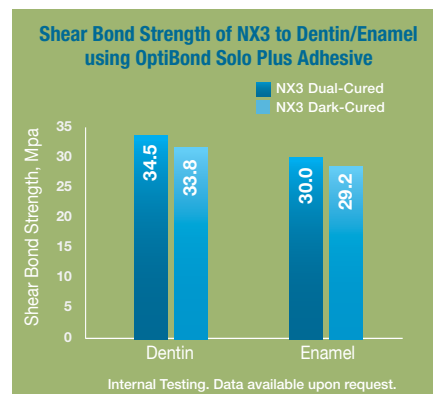
Based on my experience with a variety of products, NX3 is my cementation resin of choice for several reasons:

**Versatility:** With dual-cure and light-cure capabilities compatible with all bonding agents, I believe NX3 is the most universal resin cement on the market. This allows clinicians to utilize their preferred bonding agent.

**Color stability:** While other dual-cure cements containing amines often shift in color once cemented, NX3 dual-cure cement has a proprietary chemistry that eliminates concerns about color changes, which can cause restorations to darken over time.

**Ease of use:** The NX3 dual-cure cement has an ideal gel state, making it easy to clean up.

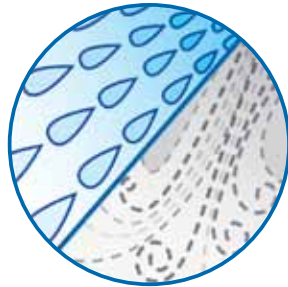
**Bonds to all substrates:** NX3 is ideal for all metal, resin, and porcelain restorations, making it perfect for lab-fabricated and CAD/CAM restorations.



## NX3 for Veneer Cementation



1. Apply try-in gel to veneer and seat. Check color and fit. Remove veneer.



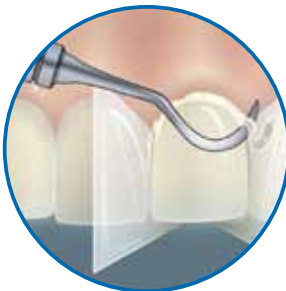
2. Thoroughly wash out try-in gel. Air dry. Apply silane primer and shield from ambient light.



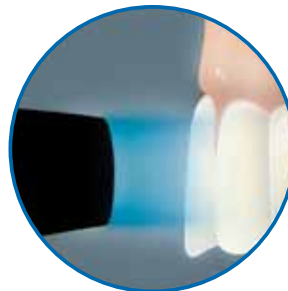
3. Select bonding system and apply to prep.



4. Dispense NX3 cement (light-cure or dual-cure) directly into veneer.



5. Seat veneer. Spot cure for several seconds. Remove mylar strip. Clean excess cement from margins.



6. Light cure all surfaces for 20 seconds each.\*



7. Finish and polish.