

Stress Free Cementation of Multiple Units in Smile Design Dentistry

Rahul Doshi and Ashish Parmar highlight their technique of making a predictable, stress free cementation for multiple veneers, when creating “The Perfect Smile” for their patients.



Changing someone’s life by changing their smile is a challenge. A smile is the most prominent human expression and can be recognized from as far as 200 meters away. Naturally, as dentists, we are much more concerned about the smile from a closer distance. This is where the real challenge sets in. Very often we rely on veneers as a minimally invasive yet functional and highly aesthetic solution. Part of the job in these critical anterior restorations is to have an excellent ceramist that can create beautiful and natural looking restorations. Fortunately we have the services of Rob Storrar (Amdecc Dental laboratory, UK), who continues to surprise us and our patients with extraordinary works of art. However, another important aspect is to have cement that you can rely on, that lets you work without the usual time pressure, and that is nice to handle. Fortunately again, we have found a premium product that meets our demands for a high quality product.

The Material



The name of the cement that we now use most often is Vitique, from DMG (stands for Dental Material Gesellschaft). It was introduced at the IDS (International Dental Show) at Cologne in 2005. The clever cementation system can be used for almost every indirect restoration but is especially well suited for ceramics. It is based on Bis-GMA composite chemistry and consists of a base paste that is light cured. A special flat veneer tip that can be put on to the syringe to allow precise application of the cement in a nice flat ribbon. This is ideal for veneers but works fine for crowns as well. Corresponding to the 8 shades are glycerol-free try-in pastes that really exactly match the cement shades. Shades include A1, A2.5, A4, B1, Bleach Light, Transparent, White, and Pink. Most of the time Transparent is a good choice for veneers, but Pink or White can come in handy when you need a more opaque cement to cover some underlying discolouration up. Pink additionally gives the more opaque ceramic that you will probably have chosen for this reason a bit of warmth back.

The light cure cement can be turned into an automix dual cure cement by simply clipping a special catalyst onto the syringe. The system is DMG proprietary and ensures the correct 1:3 mixing ratio, no matter how much of either paste has been used. The 1:3 mixing ratio has been chosen to keep shade changes due to the catalyst paste (comes only in 1 shade) to a minimum. But even though these changes are very small, there is even a catalyst try-in paste to let you simulate that as well.

When it comes to handling, we find the flowability just right and that it does not stick to the instruments. It has a nice thixotropic effect that prevents it from being runny. The longer working time takes the pressure out of the potentially demanding procedure of placing veneers. When it comes to removing excess Vitique shines through again: It goes through what the manufacturer describes as a “marzipan” phase. Since not everyone is familiar with that special sweet, I would describe it as a gummed up, non sticky phase where removal is extremely easy and does not tear the material from the margins. If you choose, you can also remove excess while the material has been tack cured, but is still flowable. In this case a tissue or brush is very useful. For the final cure the margins are covered with the try-in gel that doubles as an oxygen barrier. After this only very little polishing is necessary.

Step By Step Cementation Process

Below is the step by step process that we currently teach at The Perfect Smile Academy:

1. Assess the restorations on the model carefully.
2. Give the patient adequate anaesthesia if required.
3. Remove the transitional restorations.
4. Inspect labial surfaces for any residual temporary cement.
5. Floss all contacts till clean.
6. Clean the prepared tooth surfaces with pumice and water, followed by Hibisrub.
7. Try in of the restorations (after dipping them in water to increase the surface energy of the fitting surface for the tooth).
8. Use the try in paste to select the correct shade for the patient (if required).

9. Remove the restorations and align them in the correct sequence on the nurses worktop (verify this sequence with Care Nurse and confirm the sequence of cementation).
10. Treat the restorations:
 - Hydrofluoric acid (Optident): etch for 1 minute -Wash & dry really well.
 - Silane coupling agent (DMG) – Mix one drop each from 2 separate bottles, i.e. fresh silane coupling agent made each time; apply a thin layer, wait 1-2 minutes, gently blow dry).
 - Place a thin layer of bonding resin (e.g. Excite), blow dry gently and cover up.
11. Isolate teeth:
 - Rubber dam, or
 - “See More” retractor (Discus Dental).
12. Ensure no bleeding (use 6% hydrogen peroxide if necessary; wash really well if used).
13. Etch teeth for 15-20 seconds maximum.
14. Wash and gently dry.
15. Apply a thin layer of Gluma (desensitizing agent), gently blow dry.
16. Apply thin layer of bonding resin on teeth (e.g. Excite); leave for up to ½ minute, then gently blow dry.
17. Load and seat the restorations with Vitique.
18. Use Benda Brushes and cotton rolls to remove excess Vitique.
19. Tack for 5 seconds with a 4mm Turbo light cure tip at the mid cervical margin.
Ensure 100% seating via incisal pressure with finger and labially across with periodontal probe.
20. Place a Brasseler saw interproximally and tack incisally two teeth for 10 seconds each.
21. Use a fine sickle scalar/sharp probe/fine rubber tipped oral hygiene aid to remove cement at margins (labially and palatally).
22. Verify contact areas are flossable and clean.
23. By now ensure 95% of excess cement clean up is complete.
24. Light cure 40 seconds on the labial, incisal and palatal surfaces with a “wand technique” of light curing.
25. Finishing:
 - Margins with size 12 scalpel blade or very fine diamond burs.
 - Interproximally with yellow polishing strip (Brasseler).
26. Check occlusion very carefully.
27. Polish the restorations with Shofu polishing kit & Luminescence.



Veneers dipped in water before try-in



Pumice paste with water



Tray for organisation



Tacking at gingival aspects



Interproximal saw and incisal tacking



Before treatment



After treatment

Conclusion

Giving a person a new smile can be extremely rewarding dentistry. To achieve aesthetic, healthy and durable restorations requires excellent clinical skills, outstanding ceramic artistry, and the use of world class materials. Vitique has taken a lot of stress out of our cementation procedure.

Rahul Doshi and Ashish Parmar are Partners at The Perfect Smile Academy. The dates for their Perfect Smile Hands On Courses in 2007 are 10th, 11th and 31st May, 1st June, and November 8th, 9th and 22nd, 23rd November. For further information please visit their website (www.theperfectsmile.co.uk) or contact Laura at The Perfect Smile Academy on 01992 585735 or via email at laura@theperfectsmile.co.uk

Vitique[®] and all the other DMG products are distributed in the UK by Minerva Dental. For further information contact your local Minerva Representative, telephone 029 20442800 or visit www.minervadental.co.uk