

# REALITY NOW

RATINGS & REVIEWS | practical • unbiased • trusted  
36<sup>TH</sup> anniversary | number 353

The Ratings | Cements — Definitive — Resin — Light-Cured Only

## PANAVIA Veneer LC

### Manufacturer

Kuraray Noritake

<https://panaviacements.com/panavia-veneer-lc/>

### Prices

#### Kit

\$149.99/0.9g (\$166.66/g)

#### Refills

Cement

\$79.99/2.6g (\$30.77/g)

Try-In

\$43.47/2.4g (\$18.11/g)

### Shelf life

3 years



### Raves & Rants

- ✓ Great handling
- ✓ Easy clean-up
- ✗ Confusion as to which bonding agent to use
- ✗ Poor fluorescence

2022

REALITY  
RATINGS & REVIEWS

Five Star Award



★★★★★ 4.6

# Introduction/ Manufacturer's Claims

The PANAVIA line-up of cements has been one of the most revered and has stood the test of time. However, one glaring absence has been a purely light-cured-only version, mainly for veneers. That huge gap has finally been filled with the introduction of PANAVIA Veneer LC. It is a little late to the party, but any cement with the PANAVIA moniker has to be taken seriously.

So what are the selling points? It is stated to have excellent color stability, high wear resistance, ample working time, fast and easy clean up, and quick polishing. Due to its nanocluster technology, it is supposed to be non-sticky and when the veneers are placed, they presumably won't drift off the preps.

Does a veneer cement need to have high wear resistance and quick polishing? Well, obviously, both of these properties depend on how well your veneers fit. If your marginal gaps are  $<20\mu$ , then wear resistance and polish are probably not overly important, albeit nice to have. But if the marginal integrity of your veneers leaves something to be desired, then these properties can be essential for success.

Wear resistance is a difficult property to test in vitro. Despite tests such as toothbrush abrasion, we believe the only true method to assess wear resistance is through a long-term clinical study, which is beyond the scope of this review.

On the other hand, polishability is easy to check. Our tests have found both PoGo and Sof-Lex Diamond Polishing System were able to create an enamel-like gloss on this cement. Slightly more than half (57%) of the evaluators reported that they did not have any appreciable cement line and didn't need to polish, while the other 43% did, indeed, polish the margins and found it polished quickly and to a high gloss. Two comments:

- I did polish margins and it polished to high gloss with minimal effort.
- Once you get the tacking timing down, the polishing was a breeze. This is what sets this material apart. It polishes so well. I was impressed.

Note: Even though its name indicates it is a veneer cement, it is also being recommended for non-zirconia/non-metallic inlays and onlays  $<2\text{mm}$  thick and translucent zirconia such as KATANA  $<1.2\text{mm}$  thick. Two evaluators used it on onlays without any apparent issues, but one evaluator noted two curing lights were used simultaneously (one on the buccal and one on the lingual).

## Type

Hybrid. The average filler particle size range is  $0.05\mu\text{-}8\mu$ .

## Filler Content

Weight	66%
Volume	47%

## Consistency and Handling

Very nice handling properties — facilitates loading a veneer and cleaning the excess with minimal to no stickiness. It also allows easy seating of veneers with virtually no rebound. Most (79%) evaluators found veneers stayed in place and did not drift off preps after seating, while the other 21% had to keep pressure on them before light curing. Some comments:

- They may have moved a small amount, but it could have been from pressure from adjacent veneers being placed.
- I always hold them out of habit.
- Everything was stable.
- The viscosity is ideal.
- I thought the viscosity was a non-issue.
- Stayed on most. Depends on prep design.

Most (57%) evaluators found its handling to be really nice and not too sticky, while the other 43% thought it was about the same as other veneer cements. Some comments:

- Not sticky.
- Compared to Nexus, it is better. Compared to RelyX veneer - about the same.
- Better than most, just a little sticky.
- Very easy handling, and very easy to clean up.



Cleaning the excess cement after seating by tack curing and removing the excess in the gel state was considered easy by most (72%) evaluators, 21% found it easy to remove regardless of whether it was tack cured or not, and 7% thought it was difficult to remove. Some comments:

- Was a bit messy, but not bad.
- I cure to completion. It was easy to remove.
- No complaints.
- Now this is the tricky part. Tacking. I felt once you figured out the timing it was a breeze. If I tacked the cement for 3 seconds, with my light, the material was too runny to take off. If I tacked it for 4 seconds, the cement was a perfectly cured and came off super easy.
- Cleans up nicely.
- I cleaned most off before tacking.

## Film Thickness (Microns)

~ 8 $\mu$ , which is very minimal for a veneer cement.

## Flow

**5.0** (not runny), but at the same time, it is not overly thick that you risk fracturing an ultrathin veneer. All evaluators found it to be acceptable and similar to other veneer cements. Some comments:

- Was easy to use once you adapted to viscosity.
- Very nice handling, easy cleanup. If it were a hair thicker, it would be nice but this totally acceptable.
- At first I thought it was going to be too runny, but it was actually pretty good.
- Similar product to Nexus 3.
- I thought it was very good.
- Very workable.
- Viscosity seemed great.
- I liked the viscosity. I used it for veneers and for e.max HT thin crowns.
- I thought it was more than acceptable....I thought it was really good.
- A bit runny for me.

Those evaluators who seated ultrathin (<0.5mm thick) veneers reported no fractures. One evaluator noted "it's a great viscosity, not too thick."

No evaluators had any issues seating veneers. Some comments:

- Easy to seat and it's thinner than my usual veneer cement.
- Doesn't seem like one of the more viscous cements (i.e. Nexus).
- All were good.
- Very easy handling.
- They seated perfectly.

## Working Time

Ample working time is very important, especially when you are seating multiple veneers. According to the manufacturer, this time is 160 seconds or 2 minutes and 40 seconds. To test this claim, a small volume (full Accudose Low Viscosity tip) of the Clear shade was placed on a glass slide and second glass slide was then placed over the cement followed by a calibrated 230g weight. After one minute, the weight was removed, the cement disc was light-cured for 20 seconds, and the thickness of the disc of cement was measured. This is the control.

The test was repeated, but before the second slide was placed, the cement was exposed for 160 seconds to ambient room light measured to be 200 lux. The second slide and 230g weight were then placed for one minute, followed by removing the weight, light curing, and measuring the disc.

The results had the thickness of the control disc at 0.4mm, while the test disc was exactly the same 0.4mm. Note that this test assumes you are using the orange blue light blocking filter on your headlight and/or the same type of filter on your treatment unit light. Therefore, since it is not always possible to block out ambient room lighting, this test confirms the manufacturer's claim of 2 minutes and 40 seconds of working time.

No evaluator had a problem with working time. Most (72%) evaluators had plenty of time to seat multiple veneers simultaneously, but still engaged the filter of their dental unit light, 21% had plenty of time to seat multiple veneers simultaneously even without a filter on the dental

unit light, and 7% had plenty of time but only seated one veneer at a time. Some comments:

- I actually turn off the dental unit light when seating.
- I seat two veneers at a time.
- Just to be safe, I always filter the light.
- I always turn off the unit light and the operatory light and seat them with a little light coming through window blinds.
- I actually seat 2 veneers at a time and time was ok.

## Shades

4 (Clear, Universal/A2, Brown/A4, and White).

Shade	Description
Clear	Colorless
Universal/A2	Slight yellowish hue
Brown/A4	Slight brownish hue
White	White

Note that while Universal and Brown have more chroma when syringed on a mixing pad, these colors are very muted at typical cement thicknesses.

Most (79%) evaluators found the shade selection to be adequate, while the other 21% wanted more shades.

Some comments:

- I use clear 99% of the time.
- I think the “clear” shade is my new favorite. It seems to have a brightness to it compared to other clear or translucent cements.
- I used only clear and universal.
- Mostly clear.
- I like to have a “bleach” shade similar to B0.5 that 3M has.
- I use clear all the time. The veneer itself provides the desired shade.
- I like the provided ones, but would like an even lighter one.
- I used the clear 95% of the time. I darkened them up a couple of times and it was adequate.

Excellent color stability is certainly a laudatory goal, but again if your margins are tight and the film thickness is minimal, then most light-cured-only cements should be reasonably color stable.

When it comes to immediate shade shift after curing, no evaluator noticed any shade shift after curing.

## Translucency/Opacity (T/O)

Shade	Translucency/Opacity
Clear	25.4
Universal/A2	25.3
Brown/A4	32.3
White	78.3

These values mean that unless your veneers are ultrathin and very translucent, it is unlikely that any of the shades except White will have any effect on the final shade of the veneers, mainly due to their very similar translucency. White is the outlier due to being very opaque. So if any patient wants toilet bowl white veneers, then White is your best bet!

## Try-in Pastes

Glycerin-based, but since they are borrowed from its PANAVIA V5 sibling, they still have that nomenclature. While we understand that the try-in pastes were probably not rebadged for economic reasons and expediency, the lack of name consistency could result in confusion for the users. Their consistency is similar to the cement — not at all runny — but at the same time, they rinse out of veneers easily.

The try-in pastes for the translucent shades matched the cement shades fairly closely, but the White try-in paste is more muted in both chroma and opacity compared to the White cement. This means you need to be careful using it as a guide since the cement will likely make the veneers look much brighter and whiter compared to the try-in paste.

Slightly more than half (55.5%) of the evaluators found the try-in pastes did not match the cement shades perfectly, but they were close, while the other 44.5% thought they matched perfectly. Some comments:

- Minor differences.
- Close enough for e.max.
- I just used clear.
- I used it only in one case for a thin veneer and worked well.
- I am not a big try-in paste user. I used it a couple of times for the evaluation. I felt it was good but it didn't change me to a try-in user.

All evaluators considered the viscosity to be acceptable, while the handling was applauded by all evaluators except one, who thought they were too sticky. Some comments:

- They are messy though.
- A little too sticky for me.
- Just like other brands, and I always use clear.
- I did like the handling — not too thick, not too runny.

Rinsing the try-in pastes was rated as easy by all evaluators except one, who thought it was difficult to rinse them out completely.

## Fluorescence

While there are no claims that the cement has fluorescence mimicking that of natural teeth, our tests showed they do not have natural tooth fluorescence, especially the White cement. Depending on the thickness of your veneers and the fluorescence of the veneer material itself, the cement's lack of fluorescence may or may not influence this property once the veneers are seated.

## Primer/Adhesive

Clearfil Universal Bond Quick or PANAVIA V5 Tooth Primer. Most (72%) evaluators used Clearfil Universal Bond Quick, 21% used their own preferred adhesive, and 7% used Tooth Primer. Some comments:

- I used either All-Bond Universal or OptiBond Solo Plus.
- Clearfil Universal Bond Quick came with the kit, so I used that, and it was fine.
- Tooth Primer is easy to use and works very well.

Regardless of which adhesive (Clearfil Universal Bond Quick or PANAVIA V5 Tooth Primer) was used, no debonds were reported.

## Packaging

The kit comes in a cardboard box shrink-wrapped for security. Product identification is on top, front, one side, and back. Expiration date and shade are on a sticker on one side. The contents are secured in a cardboard insert inside the box. The syringe of cement is typical single barrel with a moisture-resistant label containing the expiration date and the shade in a color-coded ring near the tip for easy identification.

Note: The syringe of cement in the kit only contains 0.9g compared to the 2.6g in the refills. The syringe in the kit is meant to be a trial syringe, which is noted on its label. As acknowledged by Kuraray, this means the cement in the kit will only be sufficient to seat about 6-8 veneers. We believe that if you purchase the kit, you should receive a full 2.6g cement syringe.

Included in the kit are bottles of Clearfil Universal Bond Quick and Clearfil Ceramic Primer Plus. These bottles are the new style with flip-open caps that are attached via a rear hinge and can be opened/closed with just one hand.

The cement refills and the try-pastes come in sealed plastic bags with product identification, shade, and the expiration date on the front. The try-in paste comes in a clear, push-type syringe with a thin, angled tip.

All evaluators found the packaging to be acceptable. One evaluator noted it was appreciated that Clearfil Ceramic Primer Plus, which is designed to be applied to the intaglio surface of all restorations, was included in the kit.

## Directions

There are two formats for the directions. The main one, as usual, is multi-lingual on plain paper in annoying foldout design. It is very detailed, but confusing when it comes to the bonding agent. As noted previously, Clearfil Universal Bond Quick is included in the kit, but the directions also include a section on using PANAVIA V5 Tooth Primer. However, there is no explanation why you would choose to use Tooth Primer instead of Clearfil Universal Bond Quick.

There is also a glossy paper version that is easier to follow compared to the plain paper version, with color illustrations and good hints, but the conundrum on which adhesive to use also contaminates this version.

Most (92%) evaluators thought the directions were adequate, while the other 8% considered them to be exemplary. Two evaluators especially liked the glossy paper version.



## Strengths



- Easy to use.
- Provides options for those who prefer a more viscous cement.
- Great handling.
- Very strong veneer cement.
- I did like the handling and viscosity. Also the clear shade is very nice (not grayish).
- Very good handling, not sticky, easy cement removal.
- Good handling.
- Easy cleanup. Good viscosity.
- I liked its viscosity and polishability.
- The right consistency to me. The veneers did not drift after seating — no push back as with some heavier cements.
- Delivery, viscosity, cleansability.
- Easy clean up, easy to seat veneers.

## Weaknesses



- Slightly messy clean up.
- I do not really need all of the colors — typically just use translucent.
- Try-in gels are a little sticky.
- I find it confusing to recommend two bonding agents, just decide one or the other.
- Poor fluorescence.
- Slight runny — I prefer a slightly stiffer cement.

## BOTTOM LINE

- Nice product.
- Seems great. Give me a year or two to see if any come off.
- Very easy to use.
- I liked the kit. Their clear is now replacing my previous brand of clear resin cement.
- This is a nice light cured veneer cement and should be one to consider as part of your practice.
- It is a very good veneer cement comparable to the best on the market.
- It worked fine, but I would not change from my current cement.
- Good dependable option in a competitive market.
- I would use it!
- I liked it.
- I could use this cement as my go to cement for veneers and thin crowns.
- Loved it. I am going to use it on my next veneer case.
- The Kuraray name at my office is like a Rock. When it comes to adhesion, this is a company I trust. The product is excellent in all aspects in my opinion.
- Very nice product.



**Michael B. Miller, D.D.S. – President/Editor-in-Chief**

**Ingrid R. Castellanos, C.D. – Vice President/Publisher**

*Editorial Team:* M. Bilge Akbulut, D.D.S., Ph.D., Konya, Turkey; Leslie C. H. Ang, B.D.S., M.Sc.; Sema Belli, D.D.S., Ph.D., Konya, Turkey; Nathan S. Birnbaum, D.D.S., Wellesley, MA; Alan A. Boghosian, D.D.S., Chicago, IL; Sonia Regina Bordin-Aykroyd, D.D.S., M.Sc., Sao Paulo, Brazil; Matthew Brock, D.D.S., C.A.G.S., M.S.D., Chattanooga, TN; Richard L. Brown, D.D.S., Tulsa, OK; Mitch A. Conditt, D.D.S., Fort Worth, TX; Simona Cuevas, D.D.S., San Antonio, TX; Marvin A. Fier, D.D.S., Pomona, NY; George A. Freedman, D.D.S., Toronto, Ont., Canada; John Gammichia, D.M.D., Orlando, FL; Fay Goldstep, D.D.S.; Toronto, Ont., Canada; Gary Henkel, D.D.S., Horsham, PA; David S. Hornbrook, D.D.S., San Diego, CA; Timothy F. Kosinski, M.S., D.D.S., Bingham Farms, MI; Hannu O. Laamanen, D.D.S., M.S., Turku, Finland; Carole Landman, D.D.S., Chicago, IL; Clarence C. Lindquist, D.D.S., Washington, D.C.; Edward Lynch, M.A., B.D.Sc., Ph.D., London, UK; Hans Malmstrom, D.D.S., Rochester, NY; Robert C. Margeas, D.D.S., Des Moines, IA; Sandesh Mayekar, M.D.S., Mumbai, India; Steven McGowan, C.D.T., Seattle, WA; Michael K. McGuire, D.D.S., Houston, TX; Elaine Mo, B.D.S., London, UK; Aikaterini Papathanasiou, D.D.S., Boston, MA; Christopher Pescatore, D.M.D., Danville, CA; Stephen D. Poss, D.D.S., Brentwood, TN; Robert G. Ritter, D.M.D., Juniper, FL; Joseph Sabbagh, D.D.S., M.Sc., Ph.D, Beirut, Lebanon; Andrew T. Shannon, D.D.S., Vancouver, BC, Canada; Todd Snyder, D.D.S., Laguna Nigel, CA; Liviu Steier, D.M.D., Ph.D., Needham, MA; Franklin Tay, B.D.Sc.(Hons), Ph.D., Augusta, GA; Stephanie Tilley, D.M.D., Pensacola, FL; Brian Toogood, D.D.S., Abilene, TX; Marcos A. Vargas, D.D.S., M.S., Iowa City, IA; Nicholas Vece, D.M.D., Mt. Kisco, NY; Charles Wakefield, D.D.S., Lewisville, TX; Thomas G. Wilson, Jr., D.D.S., Dallas, TX; David Winkler, D.D.S., Odense, Denmark; Tyler Wynne, D.D.S., Clemmons, NC.

**To become a member of REALITY RATINGS & REVIEWS, please visit our Web site at [www.realityratings.com](http://www.realityratings.com).**

**NO COMMERCIALIZATION POLICY**

We accept no advertising and are not beholden to any commercial interest. Product evaluations and ratings are intended only to guide our readers to make wise and informed purchases. The unauthorized use of product evaluations and ratings in advertising or for any other commercial purpose is strictly forbidden.

**REALITY RATINGS & REVIEWS** (ISSN#1041-8253) is an online information service from Revera, Inc., 1322 Eagle Point Dr., Georgetown, TX 78628, U.S.A., 512-688-3423, Fax 512-489-9225. A one-year membership includes access to the online database plus periodic PDF issues of **REALITY NOW**. Call for membership and publication rates or access our Website for enrollment information. Payments by check must be in U.S. funds drawn on a U.S. bank, or by Visa, MasterCard, or American Express. All rights reserved. No part of **REALITY RATINGS & REVIEWS** or **REALITY NOW** may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system without the written permission of the Publisher, except where permitted by law. Copyright ©2022 by Revera, Inc. GST #898-896-659. POSTMASTER: Send address changes to Revera, Inc., 1322 Eagle Point Dr., Georgetown, TX 78628.



“PANAVIA™ Veneer LC” is a light-cure, resin cement with excellent color stability, high wear resistance, provides ample working time, and offers fast and easy clean up.

Indicated for permanent cementation of

- Veneers
- Inlays and onlays with less than 2mm in thickness.\*



\*in case of using “KATANA™ Zirconia” less than 1.2mm, please refer to the Instructions for Use.

## CHALLENGING TASK, GREAT SOLUTION

It is possible to reduce the time and effort involved in veneer placement with a cement that supports homogeneous cement application, smooth veneer positioning, easy excess removal, and quick polishing. “PANAVIA™ Veneer LC” offers all of these features, while giving the clinician all the control thanks to the nano cluster technology.

## NANOCLUSTER TECHNOLOGY

Non-sticky – the resin cement offers an excellent and ideal consistency for easy and secure application across the intaglio surface, as it does not stick to the application tip due to nanocluster filler technology.

Newly developed spherical silica fillers in the cement provide stability and allows for flow when the veneer is seated on the tooth – for easy placement, without drifting or sagging (Figure 1). Cement paste offers a long working time of 160 seconds (200 seconds with “PANAVIA™ V5” Tooth Primer) that facilitates simultaneous placement of multiple veneers.

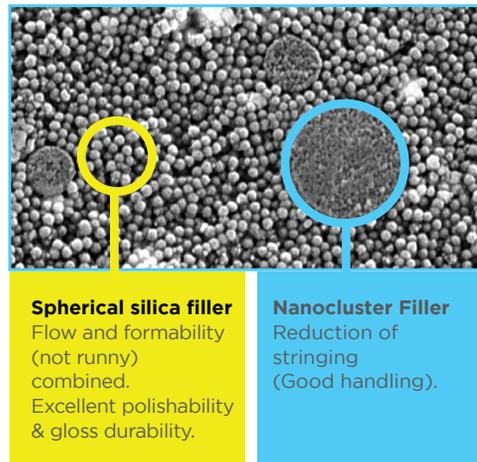
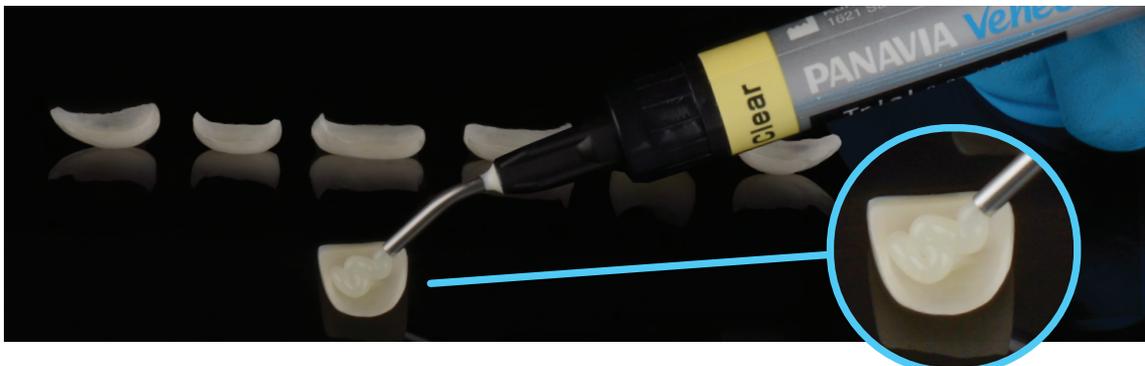


Figure 1: Excellent paste handling – Easy to use  
Source: Kuraray Noritake Dental Inc.



## HIGHLY ESTHETIC WITH GLOSS RETAINING CEMENT MARGINS

Great polishability and gloss retention – a great polishability and an excellent gloss retention support esthetic margins over time (Figure 2).

Four highly esthetic shades - each shade entails individual characteristics that provide, predictable, lifelike results easily. The “PANAVIA™ Veneer LC” matching try-in pastes are from the “PANAVIA™ V5” system. These pastes will provide an accurate simulation of the final appearance of your restorations.

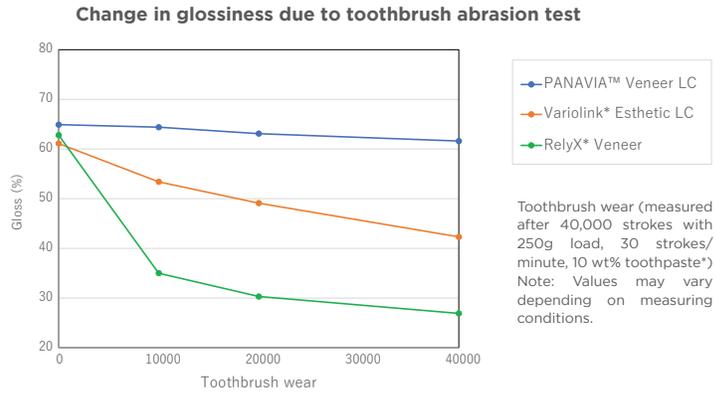


Figure 2 | Source: Kuraray Noritake Dental Inc. | \* Not a trademark of KURARAY CO., LTD

“PANAVIA™ Veneer LC” Paste



Clear



Universal



White



Brown

Thickness: 1mm



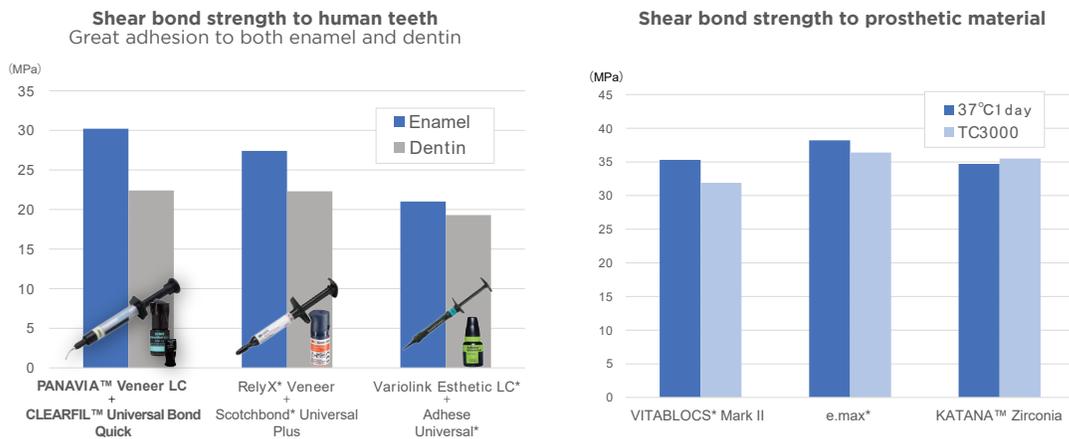




“PANAVIA™ V5” Try-in Paste

Photos courtesy of Dr. Sergio Arias

## HIGH BOND STRENGTH WITH ORIGINAL MDP MONOMER



Source: Kuraray Noritake Dental Inc. \* Not a trademark of KURARAY CO., LTD