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**kuraray**

*Noritake*

**SIMPLY CEMENT YOUR  
WORK WITH PEACE OF MIND**

**PANAVIA™ V5**

ONE CEMENT. ALL CEMENT INDICATIONS.  
ONE PRIME PROCEDURE.

5

## SIMPLY CEMENT YOUR WORK WITH PEACE OF MIND

One cement. All cement indications. One prime procedure.

Just imagine cementing all of your prosthetics with one predictable procedure. Without stress when you need to cement precious veneers. And without studying complicated cementation guides. With our revolutionary PANAVIA™ V5 that is now possible. So from now on you enjoy all your cementation appointments.

Prime and roughen the prosthetic (1). Prime the tooth (2). Apply your cement (3). That's it. There is no better way to durably cement your crown, single-wing cantilever bridge, core build-up and veneer. And if you work in a lab? Then you can be sure it's the most reliable way to cement your implant abutments too.

All cement indications. One prime procedure. Are we serious? Yes! PANAVIA™ V5 is our strongest cement ever developed. And with five shades, our most esthetic one too. This makes a totally new kind of dentistry possible, where you can be confident during cementation. And your patients? They will surely be impressed by beautiful result of your prosthetic treatment.





## 34 YEARS OF EXPERIENCE WITH THE ORIGINAL MDP

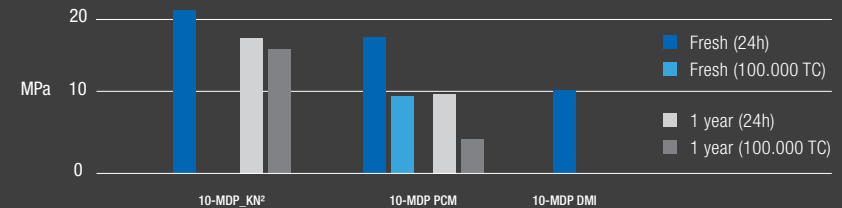
Patented since 1981.

Kuraray Noritake Dental invented the original MDP monomer in 1981 to improve the bond strength to hydroxyapatite (HAp). The world's first composite cement PANAVIA™ EX including the original MDP was launched two years later. That is when the legendary story of the PANAVIA™ brand began. And since then PANAVIA™ has become a synonym for reliable adhesion.

Besides bonding to hydroxyapatite, the original MDP strongly bonds to metals and zirconia, too. Some manufacturers have recently also started working with MDP in a number of adhesive products. But it is one of the most difficult ingredients to produce. Especially when it comes to creating an MDP mixture with an outstanding quality level (see graph below). This requires decades of know-how, which is why not all "MDP" mixtures result in long lasting restorations.

Our original MDP still proves to be the most durable HAp connector<sup>1</sup>. And that is one of the secrets of PANAVIA™ V5's primer performance.

### Micro-tensile bond strength to dentin.<sup>1</sup>



<sup>1</sup>The "experimental self-etch primers" were prepared consisting of 15% wt 10-MDP functional monomer. Provided by three different sources: KN (Kuraray Noritake Dental), PCM or DMI. The monomers were freshly received ("Fresh") or after they were frozen (-18°C) for 1 year ("1 year"). Source: K. Yoshihara et al., B. Van Meerbeek, J Dent Res 93 (Spec Iss C): 29, 2014. <sup>2</sup>10-MDP\_KN is Kuraray Noritake Dental's Original MDP.

## GREAT HANDLING. PREDICTABLE PROCEDURE.

Easy application. Easy seating. Easy clean-up.

Great handling is key to make your cement procedure predictable. Applying, seating and cleaning up the excess cement are just a few examples of where PANA VIA™ V5 makes your work easier.

Roughen and prime the prosthetic (1). Prime the tooth (2). Simply apply the pre-mixed PANA VIA™ V5 paste to your prosthetic (3). That's it. Thanks to the automix syringe your procedure will be fast, simple and precise. With the optimized cement consistency you can position your prosthetic exactly where you want. The excess cement is cleaned-up within seconds. As a final step you directly light-cure the PANA VIA™ V5 paste to create a durable seal.

There is more to say about PANA VIA™ V5's predictable procedure and great handling. The best way to find out? Try it out yourself.



1 apply to prosthetics & dry



2 apply 20 sec. to teeth & dry



## THE SECRET BEHIND PANAVIA™ V5'S PERFORMANCE

Original MDP. Curing technologies. Amine-free<sup>1</sup>.

PANAVIA™ V5 is our first composite cement with only one tooth primer. With this exclusive combination you achieve bond strength results similar to gold standard adhesive CLEARFIL™ SE BOND (graph 2, page 9). At the same time it also proves to be a beautiful cement (graph 1, page 8). Let's look at the secrets behind PANAVIA™ V5's durability and beauty.

The moment our cement touches the PANAVIA™ V5 Tooth Primer the curing process is accelerated. We call it touch-cure. This invention leads to an extremely high polymerization degree. The original MDP in the PANAVIA™ V5 Tooth Primer and CLEARFIL™ CERAMIC PRIMER PLUS assures a durable bond. On the tooth and your prosthetic. Building stronger tooth-prosthetic integration you can imagine. Or implant-prosthetic integration if you like.

But cement durability is only half the story. For esthetic cementations the shade needs to remain stable. Unfortunately, conventional composite cements show discoloration over time. In order to keep the PANAVIA™ V5 cement shade stable we don't use amine in the self-cure mode anymore. Thanks to the amine-free paste your most natural restorations stay beautiful.

<sup>1</sup>Amine related to the self-curing process



## THE BEST CEMENTING STRATEGIES

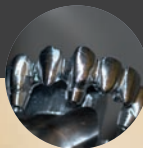
The best pretreatments for virtually all cement indications.

Are you tired of looking into annoying instructions for use? Or do you spend too much time to find the right flow chart before cementing zirconia? To follow the best cementing strategies you need the best knowledge available. To keep it simple for you we summarized all you need in one infographic<sup>1</sup> (see on the right side).

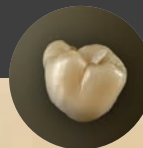
Prime the tooth. Roughen and prime the prosthetic. Apply your cement. That's it. Roughen the prosthetic? Yes. To get the most durable prosthetic cementation you definitely need to roughen the surface first. So in case of zirconia you sandblast it with 30/50 micrometer aluminiumoxide particles with a low pressure. And just before final seating you prime and dry it with CLEARFIL™ CERAMIC PRIMER PLUS.

What about the tooth tissue pretreatment? Priming with the PANA VIA™ V5 Tooth Primer is the best thing you can do. And what about the pretreatment of all other indications? Just use the infographic to easily select the best pretreatment for all your indications. So you can focus directly on what you love to do. Cementing your prosthetics with peace of mind.

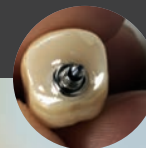
Metals (posts)







Zirconia



Implant abutments



### 1. BEST PRETREATMENT<sup>1</sup>

-  Sandblast, rinse & dry
-  Apply hydrofluoric acid & dry
-  Apply K-ETCHANT Syringe, rinse & dry
-  Sandblast, apply K-ETCHANT Syringe, rinse & dry

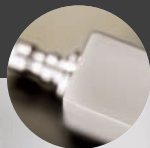
Glass ceramics



Glass fiber posts



Composites



Tooth tissue  
Intra-oral composites  
& metals



Uncut enamel  
adhesion bridges  
& veneers



## 2. ONE PRIME PROCEDURE<sup>1</sup>

● Apply & dry CLEARFIL™ CERAMIC PRIMER PLUS

● 20 sec. apply & dry PANAVIA™ V5 Tooth Primer





## SCIENCE

»PANAVIA™ V5 produced *significantly greater shear bond strength* compared to Multilink Automix<sup>1</sup>, RelyX Ultimate<sup>1</sup> and NX3<sup>1</sup> in the self cure mode both at room temperature and at elevated temperature (37°C).«

› Bond of Resin Cements to Tooth Substrates in Self-cure Mode, R. Radhakrishnan, J.O. Burgess, et al., IADR Meeting, 2015, Boston, Abstract #102

»The amine-free resin cement<sup>2</sup> *showed less color variation* with time than two amine-based cements.«

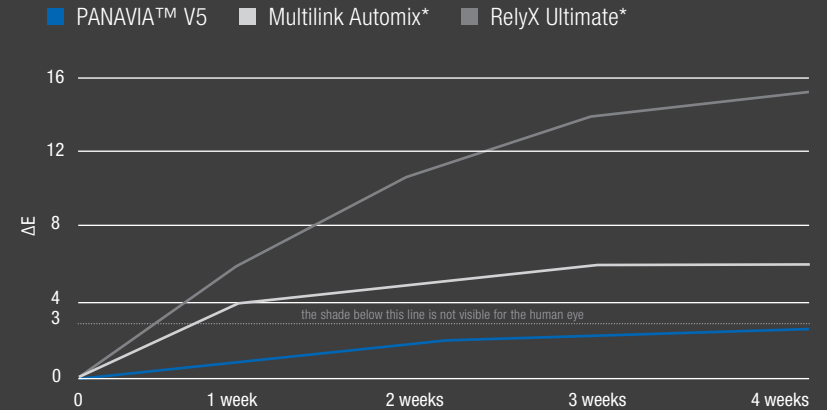
› Color Stability of Amine-free Dental Cement, N. Xiang, J.O. Burgess, et al., IADR Meeting, 2015, Boston, Abstract #2339

»It was indicated that experimental resin cement (HPC-100<sup>3</sup>) would be clinically effective because it showed *high bonding performance* with *simple cementing method*.«

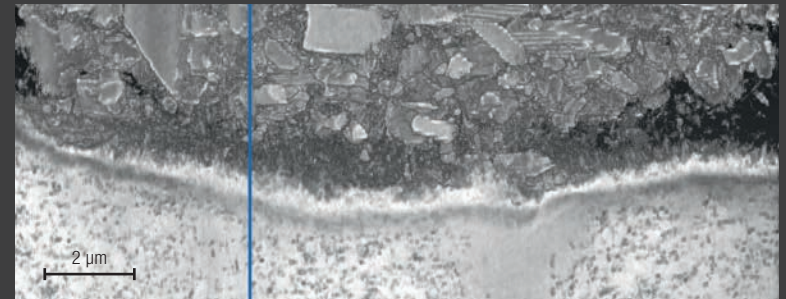
› Bonding Performance of Experimental Resin Cement (HPC-100<sup>3</sup>), R. Ishii, M. Miyazaki, et al., Nihon University, The 140th Meeting of the Japanese Society of Conservative Dentistry, 2014, Shiga, Abstract #P22

The independent and inhouse data shown here is a selection of available data. Please contact us for more scientific data. You are a researcher? After years of R&D we need your help to discover the full potential of PANAVIA™ V5. Contact us. We are happy to provide you with PANAVIA™ V5 for your research.

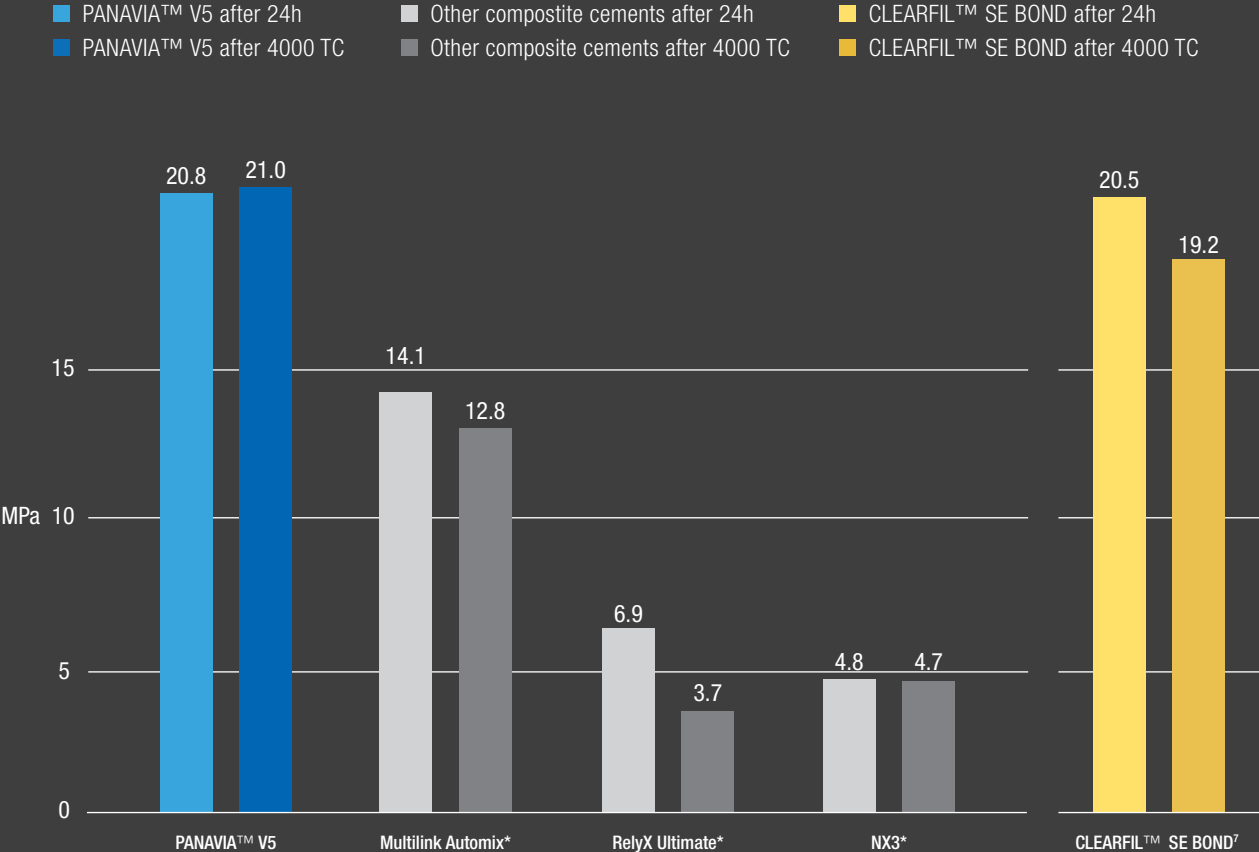
## GRAPH 1: SHADE STABILITY<sup>4</sup>



## PANAVIA™ V5 HYBRID LAYER<sup>5</sup>



# GRAPH 2: TENSILE BOND STRENGTH TO BOVINE DENTIN<sup>6</sup>



# TECH SPECS

## WIDE INDICATION RANGE:

- Cementation of crowns, bridges, inlays and onlays
- Cementation of veneers
- Cementation of adhesion bridges and splints
- Cementation of prosthetic restorations on implant abutments and frames
- Cementation of posts and cores
- Amalgam bonding

Filler loading:	61 wt % (38 vol %)
Flexural strength <sup>8,9</sup> :	127 MPa
Flexural modulus <sup>8,9</sup> :	6.3 GPa
Compressive strength <sup>8</sup> :	310 MPa
Water sorption <sup>8,9</sup> :	21 µg / mm <sup>3</sup>
Film thickness <sup>8,9</sup> :	12 µm
Radiopacity <sup>9</sup> :	180 % Al
Fluoride releasing (28 days) <sup>8</sup> :	58 µg/g
Working time (23 °C):	2 min.

<sup>6</sup>Source: Kuraray Noritake Dental Inc. <sup>†</sup>Not a trademark of Kuraray Co., Ltd. <sup>7</sup>Gold standard adhesive CLEARFIL™ SE BOND is tested with CLEARFIL™ AP-X. And often used as a control adhesive in science.

<sup>8</sup>Dual curing of the paste (combination of self- and light-curing) <sup>9</sup>According to ISO 4049:2009  
Source: Kuraray Noritake Dental Inc. The final result may be influenced by minor evaluation conditions.  
See ISO regulations.

## ORDER INFO

### 1 PROFESSIONAL KIT - # 3600 EU

PANAVIA™ V5 Tooth Primer (2 ml)

CLEARFIL™ CERAMIC PRIMER PLUS (2 ml)

PANAVIA™ V5 Paste [one syringe per shade (2.4 ml / 4.2 g): Universal (A2), Clear, Brown, White, Opaque]

PANAVIA™ V5 Try-in Paste [one syringe per shade (1.8 ml): Universal (A2), Clear, Brown, White, Opaque]

K-ETCHANT Syringe (3 ml), 30 Mixing tips, 10 Endo tips (S), 50 Applicator brushes (fine<silver>),  
1 Mixing dish (FPN), 20 Needle tips (E)

### 2 STANDARD KIT - Universal (A2) # 3601 EU - Clear # 3602 EU

PANAVIA™ V5 Tooth Primer (2 ml)

CLEARFIL™ CERAMIC PRIMER PLUS (2 ml)

PANAVIA™ V5 Paste [one syringe per shade (4.6 ml / 8.1 g): Universal (A2), Clear]

K-ETCHANT Syringe (3 ml), 15 Mixing tips, 5 Endo tips (S), 50 Applicator brushes (fine<silver>),  
1 Mixing dish (FPN), 20 Needle tips (E)

### INTRODUCTORY KIT - Universal (A2) # 3604 EU - Clear # 3605 EU

PANAVIA™ V5 Tooth Primer (2 ml)

CLEARFIL™ CERAMIC PRIMER PLUS (2 ml)

PANAVIA™ V5 Paste [one syringe per shade (2.4 ml / 4.2 g): Universal (A2), Clear], 10 Mixing tips,  
50 Applicator brushes (fine<silver>), 1 Mixing dish (FPN)

### FIVE BEAUTIFUL SHADES<sup>1</sup>

Dual-cure: Universal (A2)  Clear  Brown (A4)  White  Self-cure: Opaque 

<sup>1</sup>The actual shades may differ from the printed shades here



## REFILL

- 1 **PANAVIA™ V5 Tooth Primer** (4 ml), #3635-EU
- 2 **CLEARFIL™ CERAMIC PRIMER PLUS** (4 ml), #3637-EU
- 3 **PANAVIA™ V5 Paste** (4.6 ml / 8.1 g), 20 Mixing tips  
Universal (A2) #3611-EU, Clear #3612-EU,  
Brown (A4) #3613-EU, White #3614-EU,  
Opaque #3615-EU
- 4 **PANAVIA™ V5 Try-in Paste** (1.8 ml),  
Universal (A2) #3621-EU, Clear #3622-EU,  
Brown (A4) #3623-EU, White #3624-EU,  
Opaque #3625-EU
- 5 **K-ETCHANT Syringe** (3 ml), 20 Needle tips (E), #3252-EU  
  
**Mixing tip** (20 Mixing tip), #3626-EU  
**Endo tip (S)** (20 Endo tip (S)), #3629-EU

