PANAVIA™ REIMAGINED!

PANAVIA™ V5

One cement. All cement indications.
One prime procedure.

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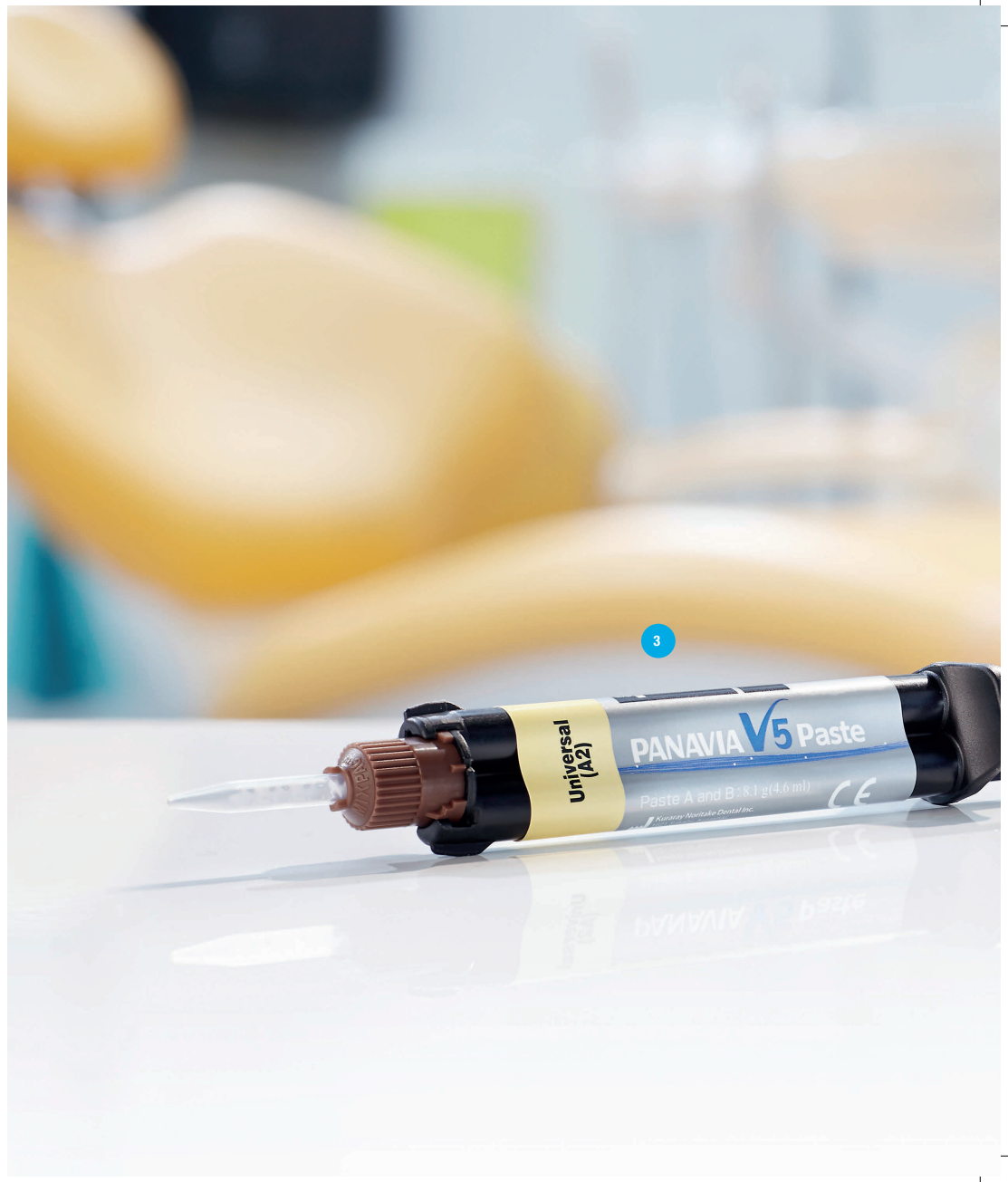
Where do you start when the time comes to improve a gold standard product such as PANAVIA™? For our chemical engineers, the objective was clear. One product that can cement all types of prosthetics, with maximum strength and predictable durability, in one simple procedure. Queue PANAVIA™ V5.

The solution:
(1) Prep and prime the prosthetic.
(2) Prime the tooth.
(3) Apply the cement.
Simple. 1-2-3.

PANAVIA™ V5 is our strongest cement ever developed. With five shades, it is also the most esthetic. This makes a totally new kind of dentistry possible, where you can be confident cementing any prosthetic material with maximum strength, durable adhesion and stable, long term esthetics for all your patients.



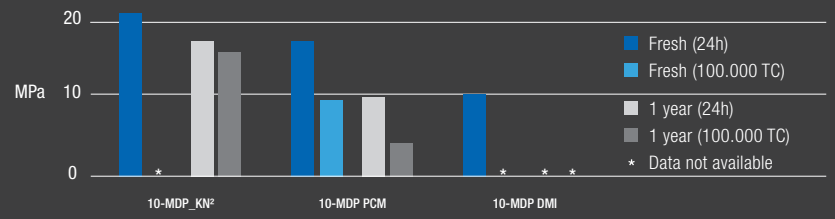
35 YEARS OF EXPERIENCE WITH THE ORIGINAL MDP

Patented since 1981.

Kuraray Noritake Dental invented the original MDP (10-Methacryloyloxydecyl dihydrogen phosphate) monomer in 1981 to improve bond strengths to hydroxyapatite (HAp). The world's first adhesive resin cement, PANAVIA™ EX including the original MDP was launched two years later. That is when the legendary story of the PANAVIA™ brand began. Since then PANAVIA™ has become synonymous with durable, reliable adhesion.

Apart from an impressive chemical bond to hydroxyapatite, the original MDP strongly bonds to metals and ceramics. In recent years, other manufacturers have started working with MDP in a number of adhesive products. However it is one of the most difficult ingredients to produce, especially when it comes to creating a quality MDP mixture with outstanding performance (see graph below). This requires decades of know-how, which is why not all "MDP" products result in long lasting restorations.

Our original MDP still proves to be the most durable HAp connector[1]. This is one of the secrets behind PANAVIA™ V5's primer performance.



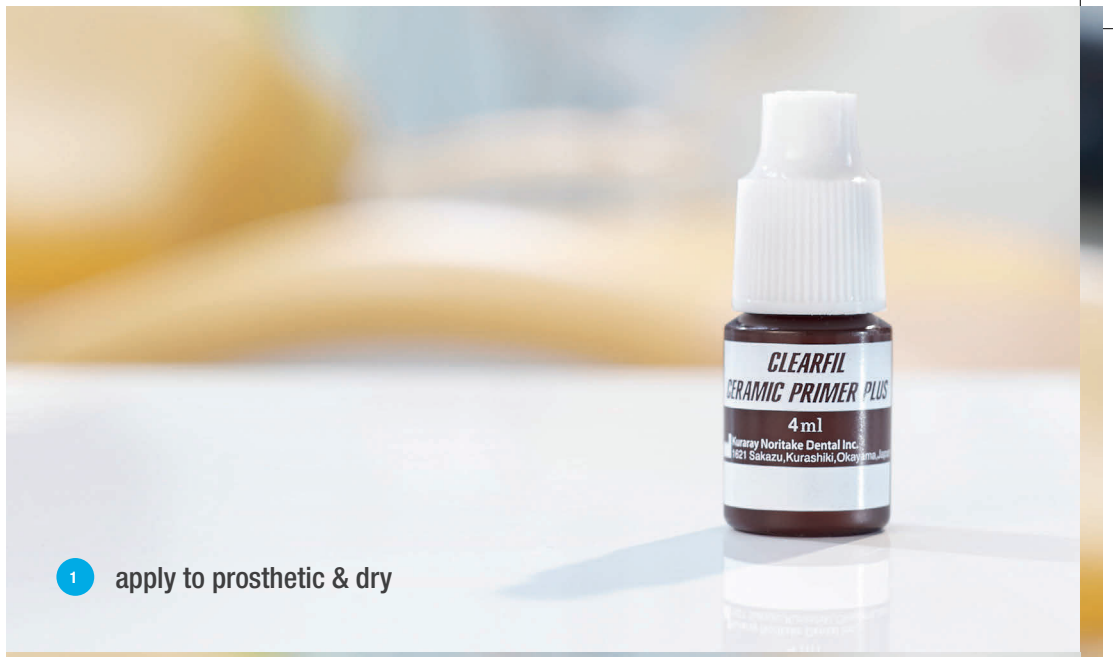
[1]The "experimental self-etch primers" were prepared consisting of 15 % wt 10-MDP functional monomer. Provided by three different sources: KN (Kuraray Noritake Dental), PCM or DMI. The monomers were freshly received ("Fresh") or after they were frozen (-18 °C) for 1 year ("1 year"). Source: K. Yoshihara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

OPTIMAL HANDLING. PREDICTABLE PROCEDURE.

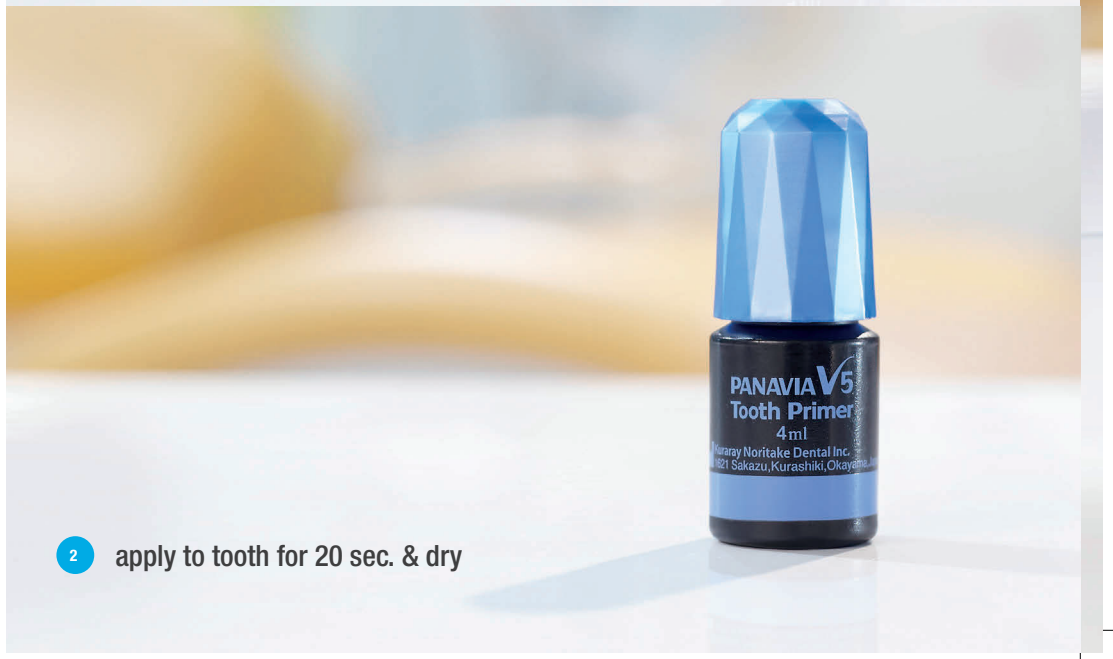
Easy application. Easy seating. Easy clean-up.

Optimal handling is the key to ensure the predictability of your cementation procedure. Applying, seating and cleaning up the excess cement are just a few examples where PANAVIA™ V5 provides simplified workflow and predictable, durable adhesive performance.

(1) Prep and prime the prosthetic. (2) Prime the tooth. (3) Apply the cement & seat. That's it. Thanks to the automix delivery the procedure is fast, simple and precise. With optimized cement paste consistency you can precisely position the prosthetic. Excess cement is tack cured and removed within seconds. The final step is to directly light-cure the PANAVIA™ V5 paste to create a strong, durable seal.



1 apply to prosthetic & dry



2 apply to tooth for 20 sec. & dry

3 apply cement & seat

THE SECRET BEHIND THE PERFORMANCE OF PANAVIA™ V5

Original MDP. Advanced curing technologies. Amine-free[1].

PANAVIA™ V5 is our first dual-cure resin cement with a single bottle tooth primer. With this exclusive combination you achieve bond strength results similar to our 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 secret behind the durability and beauty of PANAVIA™ V5.

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 degree of polymerization. The original MDP in PANAVIA™ V5 Tooth Primer and CLEARFIL™ CERAMIC PRIMER PLUS assures a durable bond on the tooth and the prosthetic, building the stongest tooth-prosthetic or implant-prosthetic integration you can imagine.

Cement durability is only half the story. For esthetic cementations the shade needs to remain stable. Unfortunately, most conventional luting cements show discolouration over time. In order to keep the PANAVIA™ V5 cement shade stable we developed an amine-free self-cure mechanism. Thanks to the amine-free paste the most natural, esthetic restorations remain beautiful.

[1] Amine-free is related to the self-curing process.

THE BEST CEMENTATION STRATEGIES

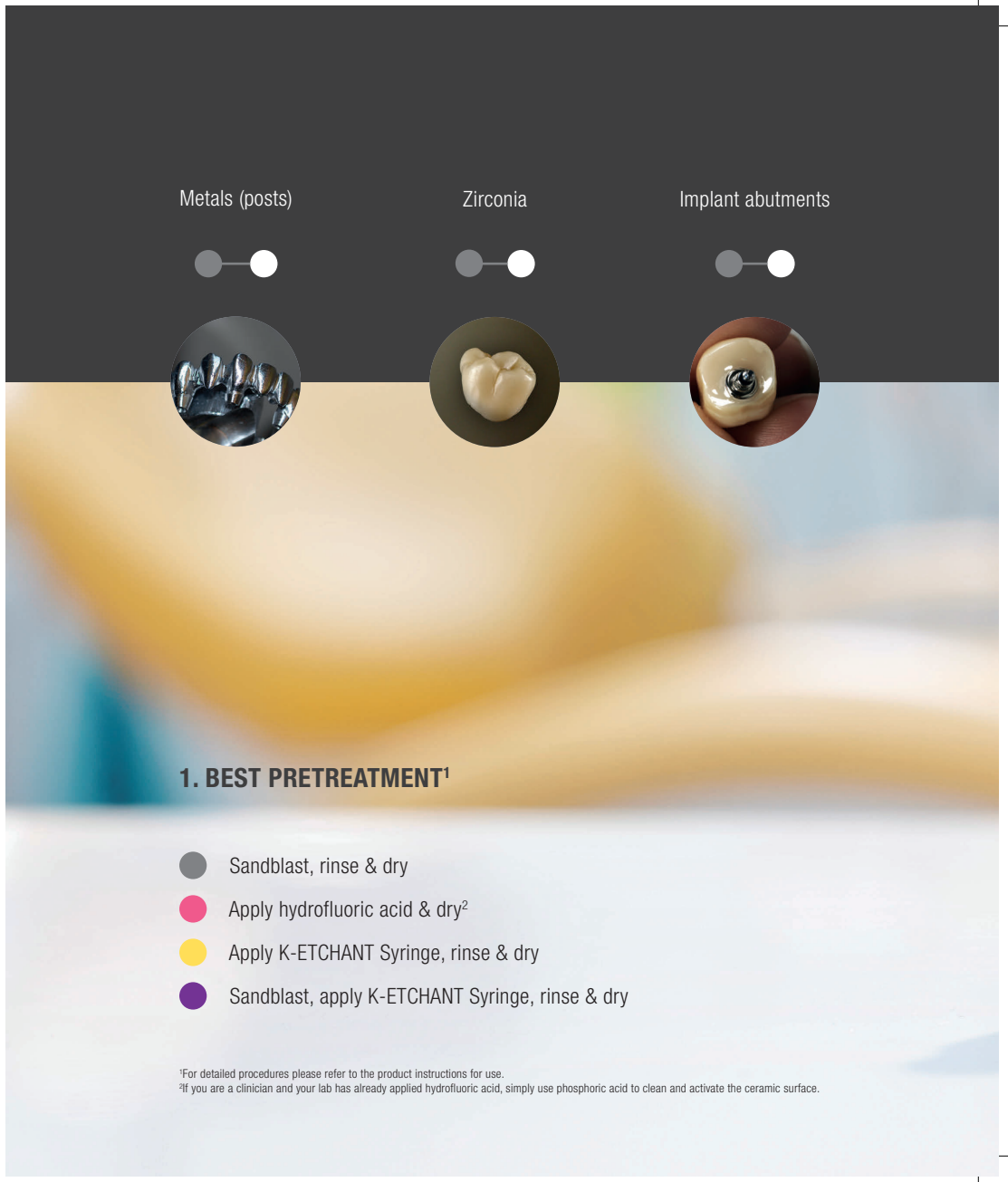
Optimal pretreatments for all cement indications.

Are you tired of looking at annoying instructions for use? Or do you spend too much time to locate the right flow chart before cementing zirconia? To follow the best cementation strategies you need the best knowledge available. To keep it simple we summarized all you need to know in one infographic[1] (right).

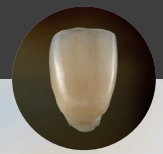
Prep and prime the prosthetic. Prime the tooth. Apply your cement. Simple. Roughen the prosthetic? Yes. To achieve the most durable prosthetic adhesion you definitely need to roughen the surface first. For zirconia, you sandblast it with 30/50 micron alumium oxide particles with low pressure. Prior to final seating you prime (and dry) with CLEARFIL™ CERAMIC PRIMER PLUS.

When it comes to tooth pretreatment, priming with PANAVIA™ V5 Tooth Primer is key. Other indications? Follow the infographic[1] to easily select the best pretreatment for all indications. Predictably cement all prosthetics with ease and total peace of mind.

[1]For detailed procedures please refer to the product instructions for use (IFU).



Glass ceramics



Glass fibre posts

Indirect composites

Enamel, dentine, existing composites & metals

Uncut enamel

2. ONE PRIME PROCEDURE[1]

- Apply & dry CLEARFIL™ CERAMIC PRIMER PLUS
- Apply PANAVIA™ V5 Tooth Primer for 20 sec. & dry

SCIENCE

»PANAVIA™ V5 produced significantly greater shear bond strength compared to Multilink Automix[1], RelyX Ultimate[1] and NX3[1] 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[2] 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

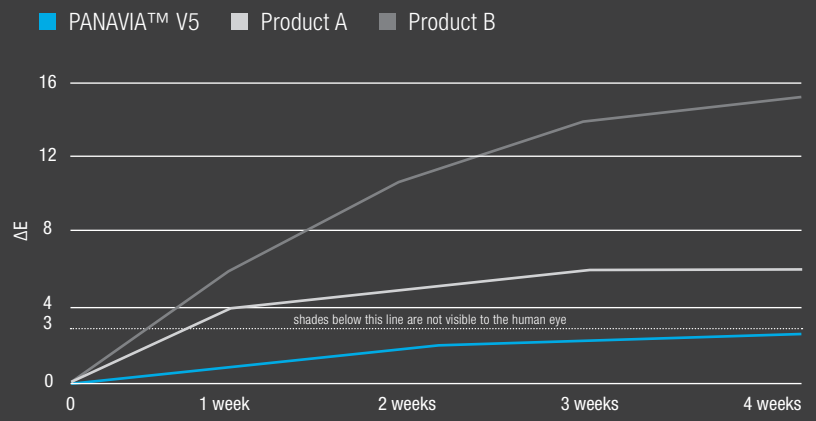
»It was indicated that experimental resin cement (HPC-100[3]) would be clinically effective because it showed high bonding performance with simple cementing method.«

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

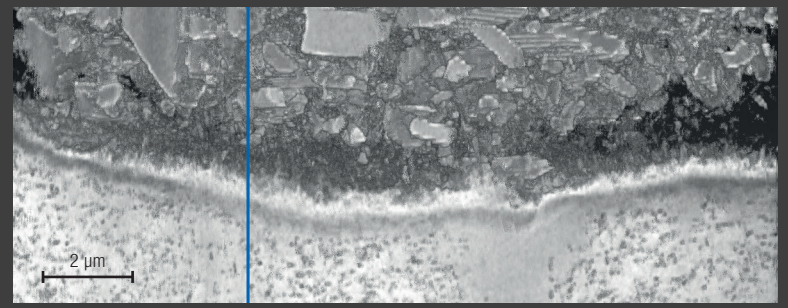
The independent and inhouse data shown here is a selection of available data. Please contact us for additional scientific data.

[1] Not trademark of Kuraray Co., Ltd.
[2] Amine-free resin cement is the description for PANAVIA™ V5.
[3] HPC-100 is the prototype name of PANAVIA™ V5.

GRAPH 1: SHADE STABILITY[4]

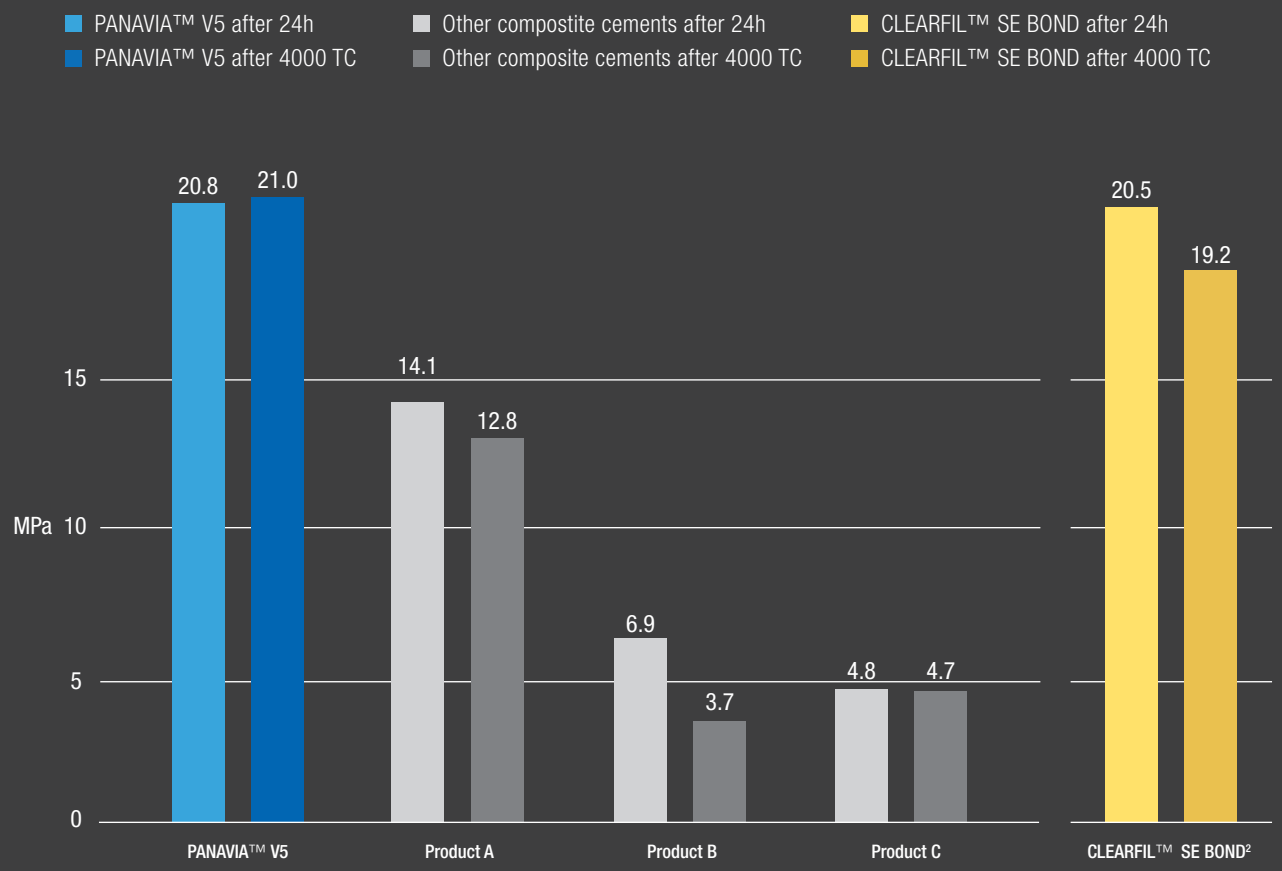


PANAVIA™ V5 HYBRID LAYER[5]



[4] Source: Kuraray Noritake Dental Inc. Test samples aged in water at 70°C.
[5] SEM image: Courtesy of N. Nagaoka and K. Yoshihara, Okayama Univ. Japan

GRAPH 2: TENSILE BOND STRENGTH TO BOVINE DENTINE[1]



[1]Source: Kuraray Noritake Dental Inc.
[2]Gold standard adhesive CLEARFIL™ SE BOND is tested with CLEARFIL™ AP-X.

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[3,4]:	127 MPa
Flexural modulus[3,4]:	6.3 GPa
Compressive strength[3]:	310 MPa
Water sorption[3,4]:	21 µg / mm^3
Film thickness[3,4]:	12 µm
Radiopacity[4]:	180 % Al
Fluoride releasing (28 days)[3]:	58 µg/g
Working time (23 °C):	2 min.

Source: Kuraray Noritake Dental Inc.
[3]Dual-curing of the paste (combination of self and light-cure)
[4]According to ISO 4049:2009

ORDER INFO

1 PROFESSIONAL KIT - #281600
PANAVIA™ V5 Tooth Primer (2ml)
CLEARFIL™ CERAMIC PRIMER PLUS (2ml)
PANAVIA™ V5 Paste [one syringe per shade (2.4ml/4.2g): Universal (A2), Clear, Brown (A4), White, Opaque]
PANAVIA™ V5 Try-in Paste [one syringe per shade (1.8 ml): Universal (A2), Clear, Brown (A4), White, Opaque]
K-ETCHANT Syringe (3ml), 30 Mixing tips, 10 Endo tips (S), 50 Applicator brushes,
1 Mixing dish, 20 Needle tips

2 STANDARD KIT - Universal (A2) #281601, Clear #281502
PANAVIA™ V5 Tooth Primer (2ml)
CLEARFIL™ CERAMIC PRIMER PLUS (2ml)
PANAVIA™ V5 Paste [one syringe per shade (4.6ml/8.1g): Universal (A2), Clear]
K-ETCHANT Syringe (3ml), 15 Mixing tips, 5 Endo tips (S), 50 Applicator brushes,
1 Mixing dish, 20 Needle tips

FIVE BEAUTIFUL SHADES[1]

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

[1] The actual shades may differ from the printed shades in this publication.

REFILL

1. **PANAVIA™ V5 Tooth Primer** (4ml) **#282635**

2. **CLEARFIL™ CERAMIC PRIMER PLUS** (4ml) **#282637**

3. **PANAVIA™ V5 Paste** (4.6ml/8.1g), 20 Mixing tips
   Universal (A2) **#281511**, Clear **#282612**
   Brown (A4) **#282613**, White **#282614**
   Opaque **#282615**

4. **PANAVIA™ V5 Try-in Paste** (1.8 ml),
   Universal (A2) **#282621**, Clear **#282622**,
   Brown (A4) **#282623**, White **#282624**,
   Opaque **#281625**

5. **K-ETCHANT Syringe** (3ml), 20 Needle tips **#282252**

   Mixing tip (20 Mixing tip), **#282626**
   Endo tip (S) (20 Endo tip), **#282629**

MANUFACTURER

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