High demands and power

PANAVIA™ F 2.0
Anaerobic-curing universal resin cement – for high clinical demands and reliable cementations.
The unique anaerobic-curing resin cement

The PANAVIA™ brand looks upon a scientific and clinical track record of more than 20 years. Being recommended as the universal adhesive resin cement of first choice, PANAVIA™ is regarded as the guarantee for permanent adhesive techniques in the areas of high-quality and difficult restorations, of all ceramic and metal restorations as well as endodontic post cementations. PANAVIA™ F 2.0 is accepted as a premium product by leading universities, displaying a high bond strength to tooth structures, metals and ceramics. In combination with the self-etching primer system, PANAVIA™ F 2.0 reduces post-operative sensitivity and provides consistently good results. The anaerobic-curing* properties which do not begin until direct contact has been made with the restoration (no more contact with oxygen) and the smooth consistency make PANAVIA™ F 2.0 a popular aid in daily practice due to the user’s self-defined working time. Even after releasing fluoride, the cement maintains its high mechanical strength due to the special surface coating technology with sodium fluoride.

Characteristics and advantages of PANAVIA™ F 2.0

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Advantages</th>
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<tbody>
<tr>
<td>Universal adhesive resin cement with proven high bond strength</td>
<td>Usage also for difficult clinical situations</td>
</tr>
<tr>
<td>Unique self-etching primer system</td>
<td>Mild etching leading to a reduction of post-operative sensitivities. In addition, the catalyst system accelerates the polymerization of the cement from the tooth/cement interface to reduce the polymerization shrinkage stress.</td>
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<tr>
<td>Anaerobic properties</td>
<td>No time pressure even when cementing difficult restorations due to long working time</td>
</tr>
<tr>
<td>No silane-treatment necessary for zirconia restoration</td>
<td>Time saving due to less working steps</td>
</tr>
<tr>
<td>Special surface coating technology with sodium fluoride</td>
<td>High mechanical strength remains even after releasing fluoride into tooth structures</td>
</tr>
</tbody>
</table>

*def. ‘anaerobic’: not using oxygen from the air (compare Oxford English Dictionary 2008)

Indication

- Cementation of metal/ceramic composite restorations (crowns, bridges, inlays, onlays and veneers)
- Cementation of adhesion bridges
- Cementation of endodontic cores and prefabricated posts
- Amalgam bonding

Application

- Metal, metal alloys (e.g. gold alloy or titanium)
- Metal oxide ceramics (e.g. zirconia)
- Silica-based ceramics
- Hybrid ceramics (e.g. ESTENIA™ C&B)
- Composites
- Metal or glass-fiber post
PANAVIA™ F 2.0 – properties and application

PANAVIA™ F 2.0 is a dual-cure resin cement with anaerobic properties. Thus, the excess paste of PANAVIA™ F 2.0 can be light-cured by conventional halogen or LED lights. The cement which the light cannot reach is cured by its self-curing reaction.

ED PRIMER II – the perfect prime and etch

The self-etching ED PRIMER II is an advanced development – a convenient one-step procedure for etching and priming. ED PRIMER II penetrates gently and effectively enamel and dentin in one step. That enables the perfect penetration by the well-proven MDP*. When PANAVIA™ F 2.0 then contacts the dried ED PRIMER II surface, the paste polymerizes from the adhesion interface. This is due to the polymerization accelerators in ED PRIMER II. The unique self-etching primer system reduces the polymerization stress on the adhesion interface. In consequence the optimal bond strength is guaranteed and the potential development of margin gaps is reduced. The result is a favorable clinical integration.

*MDP: Please see page 5

Dual-cure polymerization system with ED PRIMER II

ED PRIMER II – in brief

• Simplified pre-treatment: the self-etching ED PRIMER II enables the effective and gentle penetration of enamel and dentin in one step.
• Prevention of post-operative sensitivity through optimally harmonized, mild pH value (pH 2.4)
• Simple and forgiving handling through the water-based primer
• Chemical bond to the hydroxylapatite is created within the clinically relevant time period.

CLEARFIL™ CERAMIC PRIMER

The newly developed CLEARFIL™ CERAMIC PRIMER is a one-bottle ceramic primer that contains MDP, γ-MPS and ethanol. It maintains excellent adhesion properties on ceramic restorations in a long-term storage through the optimum combination of these ingredients. Besides the proven adhesive monomer MDP for bonding to metal or metal oxide ceramic, it also contains the silane coupling agent γ-MPS, which ensures a strong hold on silica-based ceramics.
### Technical Data

<table>
<thead>
<tr>
<th>Material</th>
<th>Shear Bond Strength 24 hours</th>
<th>Shear Bond Strength 3000 thermal cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human enamel</td>
<td>28.7 MPa</td>
<td>28.0 MPa</td>
</tr>
<tr>
<td>Human dentin</td>
<td>15.8 MPa</td>
<td>15.4 MPa</td>
</tr>
<tr>
<td>Zirconia (Cercon™)</td>
<td>43.4 MPa</td>
<td>34.4 MPa</td>
</tr>
<tr>
<td>Alumina (Procera™)</td>
<td>32.4 MPa</td>
<td>28.4 MPa</td>
</tr>
<tr>
<td>Gold Alloy (Type IV)*</td>
<td>28.0 MPa</td>
<td>32.3 MPa</td>
</tr>
<tr>
<td>Titanium (Titain 100)</td>
<td>38.8 MPa</td>
<td>37.6 MPa</td>
</tr>
<tr>
<td>Porcelain (VITA CELAY)**</td>
<td>24.9 MPa</td>
<td>25.7 MPa</td>
</tr>
</tbody>
</table>

*with ALLOY PRIMER.
**with CLEARFIL™ CERAMIC PRIMER

Source: Kuraray Medical Inc.

### Clinical procedure

#### Cementation of precious & semi-precious metal crowns, PFM crowns, bridges, inlays and onlays

1. Sandblast, wash & dry.
2. Apply ALLOY PRIMER to internal surface of precious metal restoration.

#### Sandblasting

1. Sandblasting.
2a. Apply K-etchant GEL (40% phosphoric acid) to clean surface for 5 sec. Rinse and dry.
2b. Apply CLEARFIL™ CERAMIC PRIMER to the internal surface of the restoration and dry.

#### For cementation of metal oxide ceramic restorations (e.g. zirconia), a silane pretreatment (2a, 2b) is not required due to the adhesive monomer MDP included in the paste.

#### Cementation of ceramics/composite restorations

1. Sandblasting.
2a. Apply K-etchant GEL (40% phosphoric acid) to clean surface for 5 sec. Rinse and dry.
2b. Apply CLEARFIL™ CERAMIC PRIMER to the internal surface of the restoration and dry.

#### Common steps

3. Mix equal amounts of ED PRIMER I A & B and apply to the tooth. Then wait 30 sec.
4. Gently air dry.
5. Dispense equal amounts of paste A&B.
7. Apply the mixture of the paste to the sandblasted crown.
8. Remove excess cement. (For easy clean-up, partially light-cure the excess cement for 2–3 sec, with conventional halogen or LED light, then remove the excess.)
9. Light-cure the margins. 20 sec. per surface (conventional halogen or LED light) 5 sec. per surface (Plasma arc or fast halogen light).
9a. Self-cure material by applying OXYGUARD™ to the margins. Then wait for 3 min.
Strong bond strength & consistent marginal integrity

Kuraray’s unique adhesive monomer MDP in the primer creates a strong chemical bond to hydroxylapatite. Being in use for more than 20 years, the MDP has a proven excellence in adhesion. It is a guarantee for a high bond strength and shows a reliable adhesion durability to the tooth structures.

The excellent test results in detail.
PANAVIA™ F 2.0 order information

PANAVIA™ F 2.0: Kit
# 485 EU TC
# 486 EU White
# 487 EU Opaque
# 488 EU Light

CONTENT:
- 1 PANAVIA™ F 2.0 A PASTE: 5.0 g (2.3 ml)
- 1 PANAVIA™ F 2.0 B PASTE: 4.6 g (2.3 ml)
- 1 ED PRIMER II Liquid A (4 ml)
- 1 ED PRIMER II Liquid B (4 ml)
- 1 ALLOY PRIMER (1 ml)
- 1 OXYGUARD™ II (6 ml)

Accessories: 1 mixing plate, 1 spatula, 1 mixing dish, 1 small brush holder, 200 disposable brush tips, 20 disposable nozzles, 1 light blocking plate

PANAVIA™ F 2.0: Introductory Kit
# 480 EU TC
# 481 EU White
# 482 EU Opaque
# 483 EU Light

CONTENT:
- 1 PANAVIA™ F 2.0 A PASTE: 2.1 g (1 ml)
- 1 PANAVIA™ F 2.0 B PASTE: 1.9 g (1 ml)
- 1 ED PRIMER II Liquid A: 1 ml
- 1 ED PRIMER II Liquid B: 1 ml
- 1 ALLOY PRIMER (1 ml)
- 1 OXYGUARD™ II (1.5 ml)

Accessories: 1 mixing plate, 1 spatula, 1 mixing dish, 1 small brush holder, 50 disposable brush tips, 5 disposable nozzles, 1 light blocking plate

PANAVIA™ F 2.0: Refill

A PASTE
# 493 EU (5.0 g/2.3 ml)

B PASTE
# 494 EU TC (4.6 g/2.3 ml)
# 497 EU Light (4.6 g/2.3 ml)
# 495 EU White (4.6 g/2.3 ml)
# 496 EU Opaque (4.6 g/2.3 ml)

ED PRIMER II
# 491 EU Liquid A (4 ml)
# 492 EU Liquid B (4 ml)

OXYGUARD™ II
# 490 EU (6 ml)

OXYGUARD™ II Disposable Nozzles
# 917 EU (5 pcs.)

CLEARFIL™ CERAMIC PRIMER
# 2550 EU (4 ml)

K-etchant GEL
# 013 EU (6 ml)

ALLOY PRIMER
# 064 EU (5 ml)

Available in four color shades
- TC (tooth color)
  Color support for the natural tooth.
- Light (translucent)
  Transparent, ideal for veneers, restorations made of metal oxide ceramics.
- White
  But not opaque. Affects dark tooth and tooth discolorations optimally and naturally.
- Opaque
  Covers the underlying surface completely. Especially suitable for precious/non-precious alloys and adhesion/Maryland bridges.

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