Light-Cure, Self-Etching Bonding Agent

CLEARFIL™ SE Protect*

SE Protects Your Patients.

Features from CLEARFIL SE BOND

• Virtually no post-operative sensitivity
• Excellent bond strength for enamel and dentin
• Fast and simple procedure with low technique sensitivity

Advanced New Features

• Antibacterial cavity cleansing effect
• Fluoride-releasing properties
• Higher, more durable bond than CLEARFIL SE BOND

*Formerly called CLEARFIL PROTECT BOND

KURARAY AMERICA, INC.
600 Lexington Avenue, New York, NY 10022 | 800.879.1676 | kuraraydental.com | ©2009 Kuraray America, Inc.
Antibacterial Cavity Cleansing Effect from MDPB

Studies show that the risk of bacteria remaining in a cavity tends to increase with the smaller, “minimal intervention” cavities1). Many doctors are using cavity cleansers, such as Consepsis (Ultradent) to address this tendency. CLEARFIL SE Protect contains a new functional monomer MDPB, which exhibits an “Antibacterial Cavity Cleansing Effect.” The antimicrobial effect with CLEARFIL SE Protect is greater than with current cavity cleansers as shown in Fig. 1, and is biologically safe because MDPB is fixed and will not leak after curing2). In addition, CLEARFIL SE Protect is a cost and time saver by eliminating extra steps.

1) S. Imazato; Dent. Mater. J., 28(1), 11-19, 2009

Fluoride-Releasing

CLEARFIL SE Protect contains a patented***, specially treated sodium fluoride (NaF); the NaF in CLEARFIL SE Protect is coated with a unique polymer capsule that allows release of the NaF while the bonding layer physical properties, including strength, are maintained.

CLEARFIL SE Protect makes an “acid-base resistant zone” (called Super Dentin) interface between the bond and dentin behind the hybrid layer (Fig. 3, SEM image), as a result of the fluoride release. Etch & rinse (total-etch) products like Adper Single Bond cannot make this zone3) 4). This zone is 1.2µm which is thicker than the hybrid layer and very important for resisting the acid generated by bacteria if microleakage does occur3) 4).

3) K. Waidyasekera, J. Tagami et al., J. Dent (37), 604-609, 2009

*** Patent number: US5908879
**Virtually No Post-Operative Sensitivity**

Studies evaluating post-operative sensitivity of CLEARFIL SE Protect were published by Dr. Türkün, Ege Univ. School of Dentistry (Turkey) and THE DENTAL ADVISOR. The results reported that no post-operative sensitivity was experienced during one year\(^5\) and during 6 weeks\(^6\) evaluation period, respectively. The image in Fig. 4 was created using Transmission Electron Microscopy (TEM) technology. It clearly shows that CLEARFIL SE Protect bonds strongly to dentin. No gaps is a key factor in preventing post-operative sensitivity.

---

**Superior Bond Strength and Durability**

<table>
<thead>
<tr>
<th>Bonding Agent</th>
<th>Enamel: 24 hours</th>
<th>Enamel: 1,000 Thermal-cycles</th>
<th>Dentin: 24 hours</th>
<th>Dentin: 1,000 Thermal-cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEARFIL SE Protect</td>
<td>48 MPa</td>
<td>43 MPa</td>
<td>30 MPa</td>
<td>25 MPa</td>
</tr>
<tr>
<td>CLEARFIL SE Bond</td>
<td>45 MPa</td>
<td>40 MPa</td>
<td>28 MPa</td>
<td>23 MPa</td>
</tr>
<tr>
<td>Adper Scotchbond Multi-Purpose*</td>
<td>42 MPa</td>
<td>38 MPa</td>
<td>30 MPa</td>
<td>25 MPa</td>
</tr>
<tr>
<td>Adper Single Bond*</td>
<td>40 MPa</td>
<td>35 MPa</td>
<td>28 MPa</td>
<td>23 MPa</td>
</tr>
<tr>
<td>i Bond*</td>
<td>38 MPa</td>
<td>33 MPa</td>
<td>26 MPa</td>
<td>21 MPa</td>
</tr>
</tbody>
</table>

The test results of tensile bond strength (Fig. 5) show that CLEARFIL SE Protect has clear advantages regarding bond strength and durability compared with 3- or 2-step total-etch (etch and rinse) bonding agents, such as Adper Scotchbond Multi-Purpose* (3-step) or Adper Single Bond* (2-step), and 1-step self-etch such as i Bond*.

In addition, CLEARFIL SE Protect showed excellent clinical performance in high stress bearing areas for at least five years\(^7\).

---

5) L. S. Türkün et al. JADA Vol. 136, 657-664 2005
6) The Dental Advisor, Vol. 21, No. 8, Oct. 2004
Basic Procedure

Prepared Tooth

Primer

Bond

Restoration

- Apply PRIMER and leave for 20 sec.
- Dry with gentle air flow

- Apply BOND
- Air flow gently
- Light-cure for 10 sec.

Ordering Information

Kits

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>PRODUCT NAME</th>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2870KA</td>
<td>CLEARFIL SE Protect Kit</td>
<td>6ml x 1 CLEARFIL SE Protect PRIMER 5ml x 1 CLEARFIL SE Protect BOND Accessories: 2 Brush tip handles, 1 Mixing dish, 1 Light-blocking plate, 1 Outer case, 100 Disposable brush tips</td>
</tr>
<tr>
<td>#2872KA</td>
<td>CLEARFIL SE Protect Value Kit</td>
<td>6ml x 3 CLEARFIL SE Protect PRIMER 5ml x 3 CLEARFIL SE Protect BOND Accessories: 2 Brush tip handles, 1 Mixing dish, 1 Light-blocking plate, 1 Outer case, 300 Disposable brush tips</td>
</tr>
</tbody>
</table>

Refills

<table>
<thead>
<tr>
<th>ITEM #</th>
<th>PRODUCT NAME</th>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2881KA</td>
<td>CLEARFIL SE Protect BOND</td>
<td>5 ml x 1 bottle</td>
</tr>
<tr>
<td>#2882KA</td>
<td>CLEARFIL SE Protect PRIMER</td>
<td>6 ml x 1 bottle</td>
</tr>
</tbody>
</table>

Warranty: Kuraray Medical Inc. will replace any product that is proved to be defective. Neither Kuraray Medical Inc. nor the distributor accepts liability for any loss or damage, direct, consequential or special, arising out of the application or use of or the inability to use these products. Before using, the user should determine the suitability of the products for the intended use and the user assumes all risk and liability whatsoever in connection therein. Some data or information have been taken under the name of CLEARFIL PROTECT BOND in this document. CLEARFIL SE Protect and Kuraray Medical Inc. products are available only through Kuraray authorized dealers. CLEARFIL and CLEARFIL SE are a trademark of Kuraray Co. Ltd. © 2009 Kuraray America, Inc.