Ketac™ Molar Aplicap™

GC Fuji IX™ GP EXTRA

Glass Ionomer Restorative Material
Manufactured by 3M ESPE AG

Radiopaque Posterior Glass Ionomer
Restorative Cement
Manufactured by GC Corporation

Summary – Ketac™ Molar Aplicap™ offers these advantages:

- The fillings show a significantly higher surface hardness after one day than Fuji IX™ GP EXTRA (Fig. 1). Additionally, Ketac™ Molar Aplicap™ distinguishes itself through its higher flexural strength. Both, together with its excellent compressive strength impart the ability of Ketac™ Molar Aplicap™ to counteract mastication forces and prevent restoration fracture. Two reasons for its clinically proven long-term durability.

- The Young’s modulus, defines the rigidity of a material and is determined on the basis of the same experimental set-up as flexural strength. The Young’s modulus of Ketac™ Molar Aplicap™ is within the desired range for stress bearing restorations (Fig. 2).

- The Young’s modulus of Ketac™ Molar Aplicap™ is significantly higher than Fuji IX™ GP EXTRA (Fig. 2).

- Significantly higher compressive and flexural strength compared to Fuji IX™ GP EXTRA allow for a wider range of indications (Fig. 3-4).

Test results:

**Surface hardness after 24 h**

![Surface hardness graph](attachment:Surface_hardness.png)

**Young’s modulus**

![Young’s modulus graph](attachment:Youngs_modulus.png)

**Flexural strength**

![Flexural strength graph](attachment:Flexural_strength.png)

**Compressive strength**

![Compressive strength graph](attachment:Compressive_strength.png)

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a) 3M ESPE internal sources, test method according to DIN 53456
b) 3M ESPE internal sources, test method according to ISO 4049
c) 3M ESPE internal sources, test method according to ISO 9917
# Competitive Product Comparison

<table>
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<tr>
<th>Ketac™ Molar Aplicap™ Glass Ionomer Restorative Material by 3M ESPE AG</th>
<th>GC Fuji IX™ GP EXTRA Radiopaque Posterior Glass Ionomer Restorative Cement by GC Corporation[^d]</th>
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| **Indications** | • Non-load bearing Class I and II restorations in permanent teeth.  
• Primary teeth fillings.  
• Base material for composite fillings.  
• Semi-permanent posterior restorations.  
• Fissure sealing.  
• Class V restorations.  
• Core build-up prior crown placement.  
• Non-load bearing Class I and II restorations in permanent teeth.  
• Class I and II restorations in deciduous teeth.  
• Intermediate restorative and base material for heavy stress situation in Class I and II cavities using sandwich laminate technique.  
• Class V and root surface restorations.  
• Core build-up. |
| **Shades** | A1, A3, A4, DYO  
A1, A2, A3, A3.5, B1, B2, B3, C4 |
| **Delivery** | Aplicap™ Activator, mixing device and applier.  
Capsule activating, mixing device and applier.  
EXTRA Fast Setting – the improved setting time allows finishing in only 2.5 min – the fastest setting glass ionomer available.  
EXTRA Fluoride – Increased fluoride release is six times higher than previous version for faster caries control.  
EXTRA Strong – High strength for maximum durability and versatility.  
EXTRA Translucency – better translucency for more esthetic restorations. |
| **Claims** | The Aplicap™ System offers simple handling, constant working properties and reliable quality.  
Long-term fluoride release.  
High compressive strength and surface hardness.  
Minimal abrasion.  
Packable.  
9 years clinical experience.  
Ketac™ Molar Quick available.  
EXTRA Fast Setting – the improved setting time allows finishing in only 2.5 min – the fastest setting glass ionomer available.  
EXTRA Fluoride – Increased fluoride release is six times higher than previous version for faster caries control.  
EXTRA Strong – High strength for maximum durability and versatility.  
EXTRA Translucency – better translucency for more esthetic restorations. |

[^d]: Information obtained from [www.gcamerica.com](http://www.gcamerica.com) website, 03.01.2008

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