Let’s Join Forces!

Smart solutions
from GC
for all your luting challenges
How to choose the optimal luting cement?

Today more than ever you are spoilt for choice when planning and delivering indirect restoration. From the moment your patient comes in, you have much to consider before deciding on the treatment plan.

As a dentist you know that no two patients are alike and it is therefore important to follow a holistic approach in treatment planning considering the choice of indirect restoration and type of preparation which is best suited to the patient’s clinical situation.

An important part of this process is choosing the right luting cement

The key questions you should ask before making the final choice are:

Which is the optimal luting cement to help me

Protect the tooth structure?

Protect the prosthetic restoration?

The selection of the optimal luting cement is the guarantee for a beautiful smile and long-term patient satisfaction.
Discover our High 5 solutions for all your luting challenges

With more than 95 years of experience and one of the most comprehensive product portfolios, we at GC believe we are the ideal partner to guide you towards the most appropriate luting solution.

Because after all, efficient luting is a team effort.

Each of the GC luting solution is suited to different clinical situations and offers you their unique features like physical properties, working time, protocol of use and cost...

Let’s Join Forces!

Download the GC Luting Guide

GC Luting Solutions
When to cement?

Cementation is typically used when your preparations allow mechanical retention.

The following clinical aspects will define your choice for the optimal CEMENTATION procedure:

- **Retentive Preparation**
  - Select **GI & RMGI** cement that offers the best balance of ease of use, speed and tooth protection.

- **Isolation not possible**
  - Select **GI** or **RMGI** cement as they offer moisture tolerance with excellent chemical adhesion to the tooth.

- **Moderate aesthetics needed**
  - Select **GI** or **RMGI** cement when your clinical situation and/or selected substrate (zirconia, metal & porcelain fused to metal) does not require a very high aesthetic cement.

- **Patients with special needs**
  - Select **GI** or **RMGI** cement for high caries risk and geriatric patients.

"Most of the time the margins of the preparation are subgingival and total control of humidity proves to be difficult!"

DR LUCILE DAHAN, FRANCE

Source: Dr Lucile Dahan, France (1) and Prof Jean-François Lasserre, France (2, 3 and 4)
When to bond?

Bonding is typically used when extra adhesion is required or when aesthetics are of the utmost importance.

**Preparation is not retentive**

Select **adhesive resin cement** or **self-adhesive cement with tooth primer** when the preparation is not retentive.

**Self-adhesive cement alone** (ease of use) can be used for moderate retentive preparations.

**Isolation possible**

Select **self-adhesive** or **adhesive resin cement** when a dry working field can be assured.

**High aesthetic needed**

Select **self-adhesive** or **adhesive resin cement** for highly aesthetic outcomes.

**Extra adhesion needed**

Select **adhesive resin cement** or **self-adhesive cement with tooth primer** for bonding veneers and hybrid ceramics (e.g. CERASMART270).

**Your options**

Self-adhesive resin cement | GC’s solutions: G-CEM ONE and G-CEM Capsule
Self-adhesive resin cement with tooth primer | GC’s solution: G-CEM ONE with G-CEM ONE Adhesive Enhancing Primer
Adhesive resin cement | GC’s solutions: G-CEM LinkForce (dual-cure) and G-CEM Veneer (light-cure)

Source: Prof Jean-François Lasserre, France (1, 2 and 3)
Our solutions for permanent cementation

<table>
<thead>
<tr>
<th>Glass ionomer based cements</th>
<th>Composite resin based cements</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC Fuji® I</td>
<td>G-CEM ONE™ &amp; G-CEM® CAPSULE</td>
</tr>
<tr>
<td>Conventional glass ionomer (GI) cement</td>
<td>Self-adhesive resin cement</td>
</tr>
<tr>
<td>• Cost-effective solution</td>
<td>• Efficient self-cure mode</td>
</tr>
<tr>
<td>• Resin-free cement</td>
<td>• Easy-to-use</td>
</tr>
<tr>
<td>Page 7</td>
<td>Page 10</td>
</tr>
<tr>
<td>GC Fuji PLUS®</td>
<td>G-CEM LinkForce®(dual-cure)</td>
</tr>
<tr>
<td>Resin-modified glass ionomer (RMGI) cement</td>
<td>Adhesive resin cement</td>
</tr>
<tr>
<td>• Long-term clinical success</td>
<td>• High adhesion</td>
</tr>
<tr>
<td>• Worry-free cement</td>
<td>• High aesthetics</td>
</tr>
<tr>
<td>Page 8</td>
<td>Page 11</td>
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<tr>
<td>GC FujiCEM™ 2</td>
<td>G-CEM® Veneer (light-cure)</td>
</tr>
<tr>
<td>GC FujiCEM™ Evolve</td>
<td>Adhesive resin cement for restoration lower than 2 mm thick</td>
</tr>
<tr>
<td>Resin-modified glass ionomer (RMGI) cement</td>
<td>• High aesthetics</td>
</tr>
<tr>
<td>• Easy-to-use</td>
<td>• Easy placement</td>
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<tr>
<td>• Versatile</td>
<td>Page 12</td>
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<tr>
<td>• High bond to zirconia</td>
<td></td>
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<tr>
<td>Page 9</td>
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</tbody>
</table>

Our solutions for temporary cementation

<table>
<thead>
<tr>
<th>Zinc oxide cement</th>
<th>Conventional glass ionomer cement</th>
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<tbody>
<tr>
<td>FREEGENOL TEMPORARY PACK</td>
<td>GC Fuji TEMP LT®</td>
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<tr>
<td>Page 13</td>
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</tbody>
</table>
GC Fuji I

Conventional Glass Ionomer cement

The biocompatible, resin-free luting solution with 25 years of great clinical success.
GC Fuji I, GC’s first luting GI cement, is widely used across the world. Discover why GC Fuji I is still a material of choice.

Key clinical advantages
- Chemical adhesion to tooth structure, ensuring an excellent marginal seal
- Moisture-tolerant solution when a dry field cannot be assured
- Quick and easy without the need for etching and bonding steps of the tooth
- Resin-free cement for patients allergic to methacrylate (resin)
- Virtually no post-operative sensitivity: a pulp friendly solution

Practical advantages
- Cost efficient and easy-to-use solution for metal-based-restorations
- Economic consideration: €

Shade range
- Powder/Liquid: Light yellow
- Capsules: Light yellow

Clinical applications

<table>
<thead>
<tr>
<th></th>
<th>Metal / PFM</th>
<th>Zirconia / Alumina</th>
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<tr>
<td>Inlays / onlays</td>
<td>●</td>
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</tr>
<tr>
<td>Crowns / bridges</td>
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<td>Posts/ inlay cores</td>
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“GC Fuji I is perfectly indicated for the permanent cementation of fixed elements on implant abutments. The removal of excess is simple and easy to control, thereby reducing the risk of peri-implantitis.”

DR EMMANUEL D’INCAU, FRANCE

Source: Dr Emmanuel d’Incau, France
GC Fuji PLUS
Resin-Modified Glass Ionomer cement

Efficient and proven over 20 years - a predictable, worry-free solution.
GC Fuji PLUS is one of the most well-known products and it is considered a benchmark material in its class, offering the tooth protection of a glass ionomer cement balanced with the strength and aesthetics of a resin cement.

Key clinical advantages
• Chemical adhesion to tooth structure, ensuring an excellent marginal seal
• Moisture-tolerant solution when a dry field cannot be assured
• Quick and easy: no need for etching and bonding of the tooth
• Rubbery consistency for easy removal of excess
• Virtually no post-operative sensitivity: a pulp friendly solution

Practical advantages
• Proven and predictable performance for most routine cases
• Available in different shades
• Also available in extended working time (EWT) version for long-span bridges
• Economic consideration: €€€€€

Shade range
• Powder/Liquid: A3, Yellow, Translucent
• Capsules: A3, Yellow

Clinical applications
<table>
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<tr>
<th>Metal / PFM</th>
<th>Feldspathic / leucite ceramics* (e.g. GC Initial LRF)</th>
<th>Lithium Disilicate (e.g. GC Initial LiSi Press)</th>
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“Our office has been using GC Fuji Plus for almost 2 decades. I don’t remember any failure yet and we have cemented more than 5000 crowns & bridges!”

DR HAN HEESSEN, NETHERLANDS

* Feldspathic & leucite-reinforced ceramics
GC FujiCEM 2 / GC FujiCEM Evolve

Resin-Modified Glass Ionomer cement

Simplicity is innovation!
The resin-modified glass ionomer cement in paste-paste delivery form. This easy-to-use and versatile luting cement is your perfect partner for most of your routine cementation.

Key clinical advantages
• Chemical adhesion to tooth structure, ensuring an excellent marginal seal
• Moisture-tolerant: a “must-have” when moisture control cannot be guaranteed
• Quick and easy: no need for etching and bonding of the tooth
• Rubbery consistency for easy removal of excess, with tack-cure option for GC FujiCEM Evolve
• Virtually no post-operative sensitivity: a pulp friendly solution
• Strong bonding to restorative, mainly Zirconia for GC FujiCEM Evolve

Practical advantages
• Choose from handmix or automix: the choice is yours!
• Economic consideration: €€€€€

Shade range
• GC FujiCEM 2: Light yellow
• GC FujiCEM Evolve: Universal

Clinical applications

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“GC FujiCEM Evolve is a very user-friendly luting agent, combining ease of use, moisture tolerance and versatility. It is ideal to cement both zirconia and metal-ceramic restorations, particularly in the presence of iuxta- and sub-gingival margins. Furthermore, cement excess removal is extremely easy and safe and field isolation is not mandatory. A smart material to make cementation procedures easier and quicker.”

PROF ROBERTO SORRENTINO, ITALY

* Feldspathic & leucite-reinforced ceramics
Looking for a solution to simplify your daily luting procedures, and even more?
Choose G-CEM ONE, a dual cure self-adhesive resin cement with high adhesive bond strength for daily procedures, which can also be used in challenging and non-retentive situations when applying the optional tooth primer.

### Key clinical advantages
- **Reliable**: efficient chemical polymerization even under opaque or thick restorations
- **Flexible**: increased tooth adhesion thanks to the Touch Cure technology of the Adhesive Enhancing Primer (AEP)
- **Aesthetic**: excellent wear resistance for long lasting invisible margins

### Practical advantages
- **Universal**: reliable performance for any type of restoration, including non retentive ones (when using the Adhesive Enhancing Primer)
- **Technique insensitive**: moisture tolerance, ideal viscosity, easy excess removal
- **Simple**: standardized protocol with very easy handling
- **Economic consideration**: € € € €

### Shade range
- A2, Translucent, AO3, White Opaque

### Clinical applications

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<tr>
<td>Veneers</td>
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</table>

“Excesses of G-CEM ONE are super easy to remove and the system is easy to use. We also like the flexibility to decide whether you need the primer or not and the assurance that everything sets well even in the self-cure mode. It’s a great product!”

**DR MELIKE AND DR DAVID BERGFORT, GERMANY**

* Feldspathic & leucite-reinforced ceramics
G-CEM LinkForce

Dual-cure adhesive resin cement

Strength and aesthetics in one system for all indications, all substrates.
G-CEM LinkForce is the universal adhesive resin cement that is ideal to use whenever additional retention is needed and a must-have for all CAD/CAM ceramic and hybrid ceramic blocks such as CERASMART270.

Key clinical advantages
• Secure adhesion in all situations with only one system, three base elements:
  • G-Premio BOND bonds to ALL Preparations with no compromises
  • G-Multi Primer ensures a stable adhesion to ALL Restorations
  • G-CEM LinkForce provides a strong link in ALL Indications
• Optimal light-curing feature for veneer indications
• Efficient self-cure mode, useful for luting more opaque or thick restorations

Practical advantages
• Optional use of G-Premio BOND Dual-Cure Activator for post luting
• The universal, aesthetic and powerful solution to all your adhesive cementation challenges
• Choice of four aesthetic shades and their corresponding try-in pastes
• Economic consideration: € € € €

Shade range
• A2, Translucent, Bleach, Opaque

Clinical applications

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</table>

“I use G-CEM LinkForce as a first choice in all clinical indications. Day after day it still surprises me.”

DR CASTI, ITALY

* Feldspathic & leucite-reinforced ceramics
G-CEM Veneer
Light-cure adhesive resin cement

A versatile resin cement for easy luting of restorations with 2mm thick.
G-CEM Veneer: a light-cure resin cement for high aesthetic demand with easy placement featuring Full-coverage Silane Coating (FSC) technology.

Key clinical advantages
- **Thixotropic consistency** for easy placement of veneers and easy excess removal.
- Superior performance thanks to **high filler rate** of 69% (w/w): high wear resistance, high bond and flexural strength for long-term aesthetics.
- The alternative to heated composites with less risk of failures for thin indirect restorations.

Practical advantages
- Easy to use and universal system with G-Premio BOND and G-Multi PRIMER.
- 4 aesthetic shades matching all cases, with G-CEM Try-in pastes.
- Ergonomic syringe.
- Economic consideration: €€€€€

Clinical applications

**Glass-ceramics**
(e.g. GC Initial LRF, GC Initial LiSi Press)

**Hybrid ceramics**
(e.g. CERASMART270)

**Composite**
(e.g. GRADIA PLUS)

<table>
<thead>
<tr>
<th>Veneers</th>
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<th>Hybrid ceramics</th>
<th>Composite</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(&lt; 2.0 mm thickness)</td>
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<td>(&lt; 2.0 mm thickness)</td>
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</tbody>
</table>

“"To me, G-CEM Veneer kit seems to be particularly suited for the modern luting challenges linked to minimally invasive ceramic restorations. It demonstrates a good flowability, while keeping a high viscosity in order to maintain good marginal sealing ability before polymerisation."

PROF JEAN-FRANCOIS LASERRE, FRANCE

Shade range
- A2, Translucent, Bleach, Opaque

Source: Dr Javier Tapia Guadix, Spain (1) & Dr Olivier Etienne, France (2, 3 & 4)

* Feldspathic, leucite-reinforced ceramics and lithium disilicate
GC’s temporary cements...

FREEGENOL TEMPORARY PACK
Zinc oxide cement

Key features
- All-purpose temporary solution
- Adjustable consistency and setting times
- Easy removal of excess
- Eugenol free, avoid interaction with resin cements

GC Fuji TEMP LT
Conventional glass ionomer cement in Paste-pak cartridge

Key features
- Assured retention and easy removal
- Easy seating thanks to low film thickness (6μm)
- Rubbery consistency for easy removal of excess
- Radiopaque
- Ideal for cementation on implant abutments

Also discover GC’s Primers...
Whether you prefer a specialised or a universal primer, GC has a solution.

Universal solution
G-Multi PRIMER
One universal primer for ALL your indirect restorations.

Specialised solutions
CERAMIC PRIMER II
A specialised primer for all aesthetic indirect restorations. Compatible with glass-ceramic, hybrid ceramic, zirconia, alumina and composite restorations.

METAL PRIMER Z
The hero for all your metal and porcelain fused to metal restorations.
GC Luting navigation chart. Find the right cement(s) to master your luting challenges!

**Glass Ionomers**
- Conventional
  - GC Fuji I
  - GC Fuji PLUS
  - GC FujiCEM Evolve
- Resin Modified
  - GC Fuji PLUS
  - G-CEM ONE
  - G-CEM ONE + AEP
- Self-adhesive
  - G-CEM ONE
  - G-CEM Link Force
- Light-Cure
  - G-CEM Veneer

**Resins**
- Conventional
  - GC Fuji I
  - GC Fuji PLUS
  - GC FujiCEM Evolve
- Resin Modified
  - GC Fuji PLUS
  - G-CEM ONE
  - G-CEM ONE + AEP
- Self-adhesive
  - G-CEM ONE
  - G-CEM Link Force
- Light-Cure
  - G-CEM Veneer

### Crowns & bridges
- Metal
- Zirconia
- Lithium disilicate (e.g. Initial LiSi Press)
- Composite (e.g. GC GRADIA PLUS)
- Feldspathic & Leucite reinforced ceramics (e.g. Initial LRF)
- Hybrid ceramics (e.g. CERASART270)

### Inlays & onlays
- Metal
- Zirconia
- Lithium disilicate (e.g. Initial LiSi Press)
- Composite (e.g. GC GRADIA PLUS)
- Feldspathic & Leucite reinforced ceramics (e.g. Initial LRF)
- Hybrid ceramics (e.g. CERASART270)
- Inlays
- Inlays

### Veneers
- Lithium disilicate (e.g. Initial LiSi Press)
- Composite
- Feldspathic & Leucite reinforced ceramics (e.g. Initial LRF)
- Hybrid Ceramics (e.g. CERASART270)

### Posts & inlay cores
- Metal
- Zirconia
- Fibre reinforced

### Shades
- Light yellow
- Yellow, Translucent & A3
- A3
- Yellow & A3
- Light yellow
- A2, Translucent, AO3 & BO1
- A2, Translucent, AO3 & White Opaque
- A2, Translucent, Opague & Bleach
- A2, Translucent, Opague & Bleach

### Mixing time
- 20 sec
- 10 sec
- 20 sec
- 10 sec
- 10 sec
- 10 sec
- N.A.
- N.A.
- N.A.

### Working time
- 2 min
- 2 min 15
- 2 min 30
- 2 min
- 2 min 15
- 2 min 30
- 2 min 30
- 3 min
- 3 min
- N.A.

### Final finishing time (commencing time)
- 4 min 30
- 4 min 30
- 4 min 30
- 5 min 45
- 4 min 15
- 4 min 30
- 4 min
- 4 min
- 4 min

Notes:
- *1 For indirect restorations with thin thickness (≤ 2mm) that enable the use of a purely light-curing technique.
- ** if handmix
Let’s Join Forces! Discover our key luting solutions for all your luting challenges

GC FujiCEM 2, GC FujiCEM Evolve & GC Fuji PLUS
Resin-modified glass ionomer cement
Proven to be a benchmark in their class. They also are ideal worry-free solutions for your routine procedures, especially for metal, porcelain fused to metal & zirconia. They are your ‘must-haves’, especially when moisture control becomes a challenge!

1 | Perfect solution for subgingival margins!
2 | Easy dispensing
3 | Easy removal of excess
4 | Full protection for the tooth

G-CEM ONE
Dual cure self-adhesive resin cement
Simple solution for all luting indications with predictable results. Even non-retentive indications can be covered thanks to the optional tooth primer with Touch Cure technology. The excellent self-curing ability provides perfect results even with thick or opaque restorations.

1 | can be used for retentive preparation alone and for non-retentive preparations in combination with AEP
2 | Technique insensitive & moisture tolerant
3 | Easy handling and excess removal
4 | Aesthetic results in time

G-CEM LinkForce & G-CEM Veneer
Adhesive resin cement
When uncompromised adhesion is needed, this product is THE solution. This universal adhesive resin cement allows you to work in a standardised way and offers a strong bond in all indications.

1 | Easy application of G-Premio BOND
2 | Light-curing of the thin bonding layer for optimal adhesion
3 | Universal Primer for stable adhesion to all substrates
4 | Easy seating and perfect adaption

Source: Prof Jean-François Lasserre (1), Dr Frédéric Raux (2 and 4) & Dr Emmanuel d’Incau (3), France
Source: Dr Kazunori Otani, Japan
Source: Dr Antonio Saiz-Pardo, Spain
The following products are trademarks of GC: GC Fuji I, GC Fuji PLUS, GC FujiCEM 2, GC FujiCEM Evolve, G-CEM, G-CEM ONE, G-CEM LinkForce, G-CEM Veneer, FREEGENOL TEMPORARY PACK, GC Fuji TEMP LT, CERASMART270, GRADIA PLUS, Initial Zirconia disk & Initial Cast NP.

Please also refer to the instructions for use of the respective products.