



Leading the way
to a new standard

G2-BOND Universal

The new standard
of 2-bottle
Universal Bonding

, 'GC', '



Since 1921
100 years of Quality in Dental

Leading the way to a new standard

With over 1 billion composite restorations and a century of competence in dental materials, GC is leading the way to new standards in adhesive dentistry. With its proprietary **Dual H-Technology**, an advanced optimization of the bonding both to the tooth and the composite, G2-BOND Universal is an **all-around universal 2-bottle system** combining what clinicians would expect from existing self-etch (SE) and etch-and-rinse (ER) Gold Standards, and even more:



- Your choice of preferred etching mode
- High durability and bond strength
- Excellent resistance to marginal staining
- Easy dispensing and low technique sensitivity
- Multiple indications¹

Evaluations by clinicians worldwide resulted in many restorations performed with G2-BOND Universal.² The results indicate:

- Remarkable sealing effectiveness with virtually no post-op sensitivity³
- 97% satisfaction in SE and ER etching modes
- 98% satisfaction with product handling and dispensing
- 89% satisfaction with the ergonomic bottle design



"The flexibility to bond in self-etch or etch-and-rinse mode, to seal and repair existing restorations is now applied to a 2-bottle adhesive."⁴

¹ Indications: Direct Composites | Intra-oral Repair | Immediate Dentin Sealing (IDS) | Treatment of hypersensitive teeth | Treatment of exposed root surfaces | Luting of indirect restorations (with G-CEM LinkForce™) | Post luting & Core Build-up (with GRADIA™ CORE & G-Premio BOND DCA).

² Data on File.

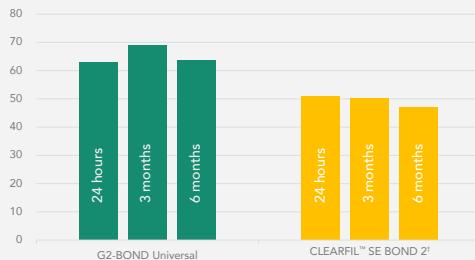
³ Results confirmed by independent study from University of Siena, Italy.

⁴ Prof Van Meerbeek, KU Leuven, Belgium.

Leading the way to...

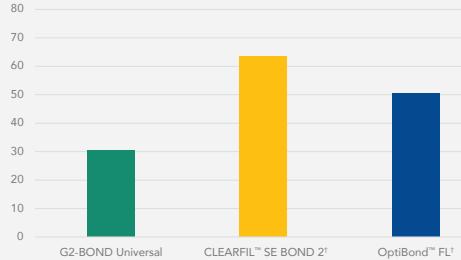
...High durability and bond strength

Micro-tensile bond strength to human dentin (MPa)



Source: Dr Mine, Osaka University, Japan

Water sorption [$\mu\text{g}/\text{mm}^3$]



Source: Prof Van Meerbeek, KU Leuven, Belgium

G2-BOND Universal creates a **physically stronger, more durable** adhesive layer as the **Dual-H Technology** ensures a **higher bond strength immediately after placement**, with lower water sorption which **decreases the risk of degradation** for optimal durability.

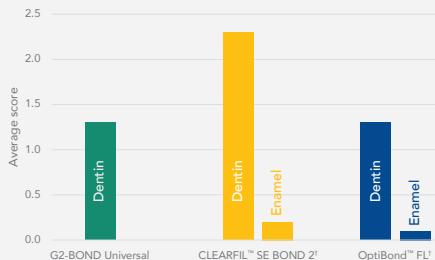
...Outstanding marginal quality

Gap formation [%]



Source: Prof Tagami, Tokyo Medical and Dental University, Japan

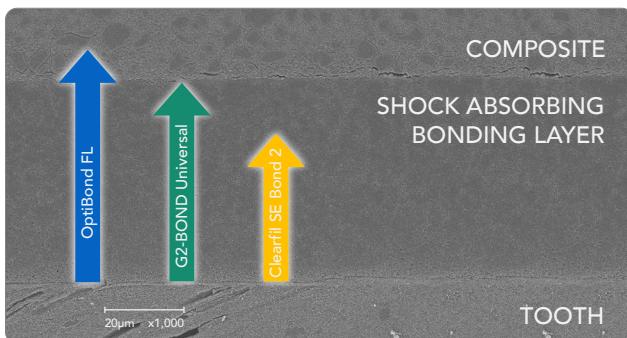
Microleakage



Source: Prof Ferrari, University of Siena, Italy

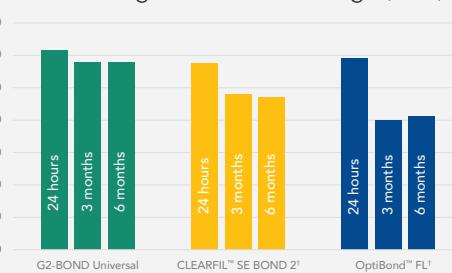
A strong bond layer that assists the aesthetic transition from the composite to the tooth, **avoid gap formation and microleakage** to maintain marginal quality over time.

...Shock absorbing layer



Source: (SEM picture) Prof Miyazaki, Nihon University, Japan
(Film thickness) GC R&D, Japan, 2020, Data on File

Flexural strength after water storage (MPa)



Source: GC R&D, Japan, 2020, Data on File

The **optimal thickness** and **flexural strength** of G2-BOND Universal may act as a shock absorbing layer to **avoid debonding**. It functions **as a base** in large cavities and can overcome the polymerisation shrinkage, **compensating for the stress caused by the over layered composite**. Now clinicians can enjoy the benefits of a thick bonding layer in all etching modes.

Leading the way to...

...Superb clinical handling

IDS technique



Etching the tooth structure



Application of 1-PRIMER



Application of 2-BOND



After photopolymerisation,
the sealed dentin is ready
for digital impression.

Courtesy of
Dr Jean Meyer, France

Class II restoration



Selective enamel etching



Application of 1-PRIMER



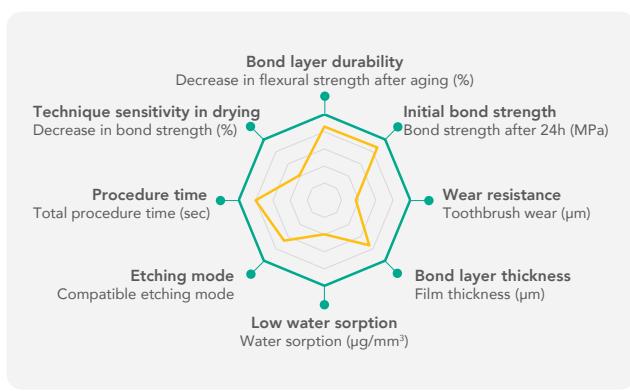
Application of 2-BOND



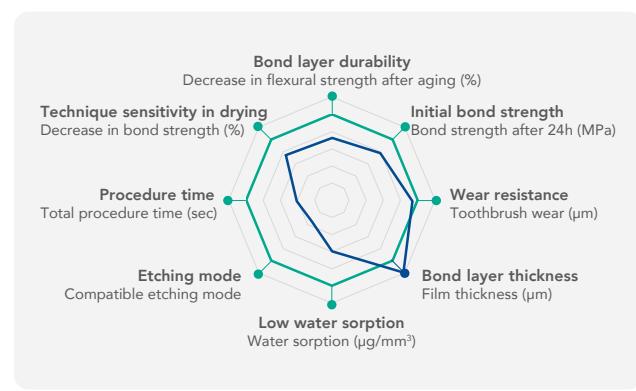
After photopolymerisation,
the restorative material is applied.

Courtesy of
Dr David Gerdolle, Switzerland

...a new 2-bottle bonding standard in all etching modes



G2-BOND Universal *CLEARFIL™ SE BOND 2[†]*



G2-BOND Universal *OptiBond™ FL[†]*

GC R&D, Japan, 2020, Data on File

The spider graphs above show the all-around performance of G2-BOND Universal that leads the way to:

- Long-lasting restorations
- Virtually no post-operative sensitivity and aesthetic bonding layer
- Optimal handling and dispensing



For all-around satisfaction and comfort of your patients!

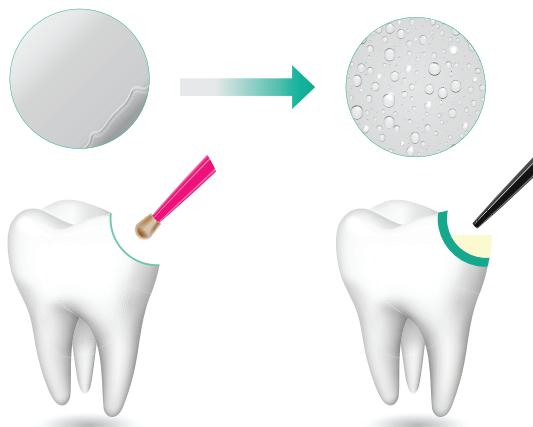
G2-BOND Universal Dual H-Technology

Challenged to **improve on existing 2-bottle benchmarks**, GC researchers focused on strengthening the adhesive layer and significantly reducing the potential for water degradation over time. The new GC proprietary **Dual-H Technology** provides a smooth transition from hydrophilic to hydrophobic characteristics in the primed surface, which is then further strengthened by a truly hydrophobic protective bond layer.⁵

Hydrophilic primer wets and self-etches the tooth surface effectively.

Without hydrophilicity?

- Insufficient resin infiltration to dentin surface
- Higher risk for gap formation



Highly hydrophobic bond layer results in strong bonding to composite.

Without hydrophobicity?

- Hydrolytic degradation of bond layer
- Increased risk for debonding

All-around performance of a unique composition

- 4-MET for a reliable adhesion to enamel & dentin
- MDP for an excellent adhesion to enamel & dentin, zirconia, alumina and non-precious metals
- MDTP to bond to precious metals
- HEMA-free bonding system for a clinically proven outstanding durability⁶

G2-BOND Universal (0% HEMA)

Clearfil SE BOND 2 (10-30% HEMA)

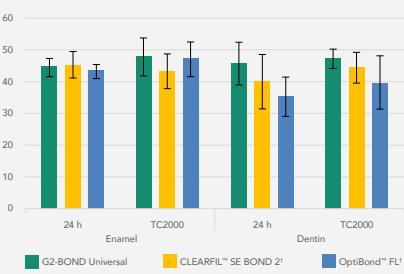
Optibond FL (20-40% HEMA)

Shear Bond Strength, Self-etch Mode (MPa)



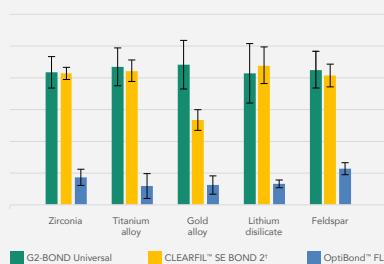
Source: GCC R&D

Shear Bond Strength, Total-etch Mode (MPa)



Source: GCC R&D

Shear Bond Strength to Indirect Materials (MPa)



Source: GCC R&D

⁵ GC R&D Date, Japan, 2020, Data on File.

⁶ Van Dijken JW. A randomized controlled 5-year prospective study of two HEMA-free adhesives, a 1-step self etching and a 3-step etch-and-rinse, in non-carious cervical lesions. Dent Mater. 2013 Nov;29(11):e271-80.

Order no.	Description	Content
013646	G2-BOND Universal Bottle Kit	1x 1-PRIMER 5mL 1x 2-BOND 5mL accessories
013651	G2-BOND Universal 1-PRIMER Refill 5ml	1x Refill 5mL
013652	G2-BOND Universal 2-BOND Refill	1 x Refill bottle 5mL
013657	G2-BOND Universal 1-PRIMER Bottle Cover	1 x Bottle cover
013658	G2-BOND Universal 2-BOND Bottle Cover	1 x Bottle cover



Related products

G-ænial™ Universal Injectable

Injectable High-Strength Ultra-Fine Particle Composite



G-ænial Sculpt®

Universal Composite Restorative



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¹CLEARFIL™ SE BOND 2 is a trademark of Kuraray America, Inc. OptiBond™ FL is a trademark of Kerr Corporation.

'GC'