

Scientific Sheet – Clinical studies

G-Bond®

3-year clinical effectiveness of One-Step Adhesives in Non-Carious Cervical Lesions

S.G. MORETTO, E.M.A. RUSSO, R.C.R. CARVALHO, J. DE MUNCK, K. VAN LANDUYT, M. PEUMANS, B. VAN MEERBEEK, M.V. CARDOSO
J Dent. 2013 Aug;41(8):675-82



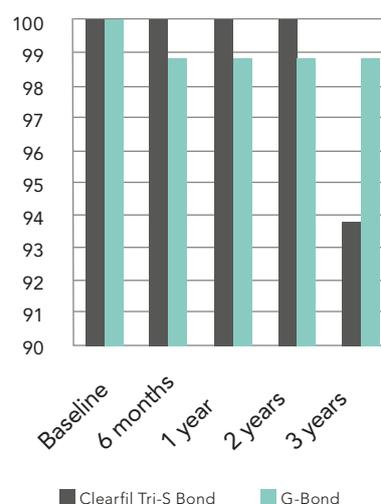
What is being tested?

The clinical success rates of Clearfil Tri-S Bond (HEMA-rich) from Kuraray and G-Bond (HEMA-free) from GC

Clinical Significance

- Both bonding agents present an equally favourable clinical effectiveness at 3 years (G-Bond 97.6%; Clearfil Tri-S 92.6%)
- Both bonding agents present very good retention rates (G-Bond 98.8%; Clearfil 93.8%)
- Small marginal defects were observed with both bonding agents; however they were still considered clinically acceptable and could be eliminated by simple polishing
- No difference was found between the clinical success and retention rates of G-Bond and Clearfil Tri-S Bond
- HEMA-free bonding agents are as effective as HEMA-rich ones, but have the advantage that they do not present an allergenic risk
- Both products demonstrate comparable retention rates, also comparable to those reported in the literature for "gold standard" etch-and-rinse systems

Retention rates (%)



Adapted from:
S.G. MORETTO et al., J Dent. 2013 Aug;41(8):675-82

Five-year Clinical Performance of a HEMA-free one-step self-etch adhesive in non-carious cervical lesions

K. VAN LANDUYT, J. DE MUNCK, B. ERMIS, M. PEUMANS, B. VAN MEERBEEK
Clin Oral Invest (2014) 18:1045-1052



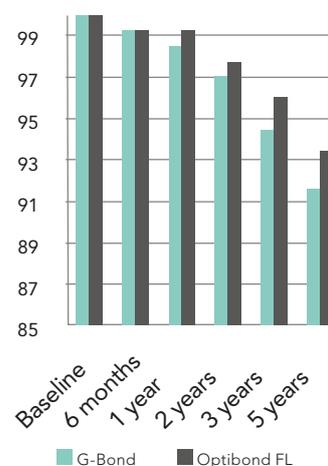
What is being tested?

The clinical success and retention rates of two adhesives: G-Bond (GC) and the gold standard Optibond FL (Kerr)

Clinical Significance

- The two adhesives achieved statistically equal clinical success and retention rates at both 36 and 60 months
- Small but still clinically acceptable marginal defects were found on enamel for G-Bond. However these defects could easily be removed by polishing and did not necessitate the renewal of restorations
- Both adhesives display the same clinical success rate after three and five years
- G-Bond is more user-friendly, less technique-sensitive and has a procedure time three times shorter than Optibond FL
- Overall G-Bond offers the best benefit

Retention rates (%)



Adapted from:
K. VAN LANDUYT et al., Clin Oral Invest (2014) 18:1045-1052

'GC.'

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

J.W.V. VAN DIJKEN

Dent Mater 2013; 29:271-280



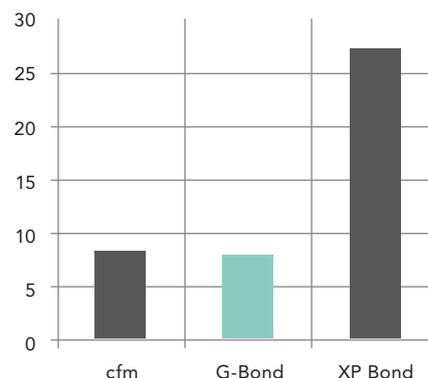
What is being tested?

- The 5-year clinical dentin bonding effectiveness of two HEMA-free adhesives in Class V non-carious cervical lesions, compared to a control HEMA-containing etch-and-rinse adhesive
- G-Bond (GC), HEMA-free self-etch adhesive cfm51 (Saremco), 3-step HEMA/TEGDMA-free etch&rinse XP Bond (Dentsply), control HEMA-containing etch-and-rinse

Clinical Significance

- All adhesives fulfilled the full acceptance criteria at 18 months (marginal adaptation/discoloration, surface roughness, color match, caries)
- At 5 years the HEMA-free adhesives showed significantly higher dentin retention compared to the HEMA-containing one
- No post-operative sensitivity was reported by the participants and no secondary caries were observed
- The durability in non-carious cervical lesions of the HEMA-free adhesives was successful after 5 years
- G-Bond achieved one of the best reported clinical dentin bonding effectiveness
- G-Bond performs as well as etch-and-rinse systems at 5 years
- The HEMA-free composition improves significantly the dentin retention
- A proof that self-etch systems are as reliable as the 4th generation considered gold standard

Number of lost restorations at 5 years (%)



Adapted from:
J.W.V. VAN DIJKEN, Dent Mater 2013; 29:271-280

A 6-year prospective evaluation of a one-step HEMA-free self-etching adhesive in Class II restorations.

J.W.V. VAN DIJKEN

Dent Mater 2013; 29: 1116-1122



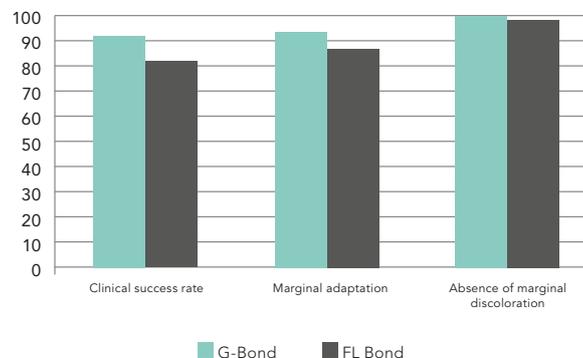
What is being tested?

The bonding capacity in vivo of G-Bond (GC) and FL Bond (Shofu) in Class II posterior cavities

Clinical Significance

- No post-operative sensitivity was reported
- The annual failure rates were 1.4% for G-Bond and 3.0% for FL Bond
- A significant decrease in color match was observed between baseline and 6-years for both resin composites ($p < 0.05$)
- Slight marginal discoloration was observed in both groups, which was significantly higher for FL Bond
- G-Bond showed a good clinical durability in Class II cavities after 6 years while FL Bond showed a rather high failure frequency
- The clinical effectiveness of G-Bond at 6 years is highly acceptable and in line with the best etch-and-rinse adhesives

Percentage of restorations considered acceptable at 6 years



Adapted from:
J.W.V. VAN DIJKEN, Dent Mater 2013; 29: 1116-1122