

# Clinical Performance of a Self-etch Adhesive Evaluated: Year-One Results

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## INTRODUCTION

The purpose of this practice-based evaluation is to compare the performance of paired restorations formed in Filtek Supreme XTE™\* and placed using Scotchbond™ Universal\* (\* 3M™ ESPE™, 3M Deutschland GmbH, Seefeld, Germany) adhesive in total-etch and self-etch applications in a split mouth design study over a period of three years. The restorations were placed by practitioner (GDP) members of a UK-wide Practice-Based Research Group, The PREP Panel (Product Research and Evaluation by Practitioners), established in 1993, and has presently 33 members, has completed over 80 projects, and published over 50 papers (15 in peer-reviewed journals) reporting handling evaluations and clinical trials carried out by the group.

## METHOD

After obtaining ethical approval for the practice-based multi-centre study, five GDP members (one of whom was female) of average time since graduation 27 years (range of 19 - 30 years) were asked to place ten paired Class I or Class II composite restorations using the Scotchbond™ Universal adhesive in total-etch mode for one restoration and self-etch mode for the other. The restorations were reviewed at one-year,+/- 3 months, by one independent examiner together with the practitioner who placed the restorations, using modified USPHS criteria.

## MATERIALS

Scotchbond™ Universal is a dispensed from a flip-top vial (Fig. 1) and offers one-step, one-coat application with bonding to enamel, dentine, composites, glass ceramic, zirconia, and precious & non- precious metals without the need for additional primers. Filtek Supreme XTE™ is a nano-filled composite restorative material and the blue-coloured Scotchbond™ Universal Etching Gel is 34% phosphoric acid with a pH of 0.1.

## RESULTS

To date 51 restorations (8 Class 1 and 43 Class II & mean age 12.8 months), 25 of each placement mode plus one extra unpaired total etch restoration, in 20 patients (13 Female & & Male) have been reviewed at 4 of the 5 centres. No secondary caries was detected and no sensitivity reported. The results are tabulated below.

Criteria	Total-etch group	Self-etch group	Overall
Retention	100%	100%	100%
Anatomic form	96% A, 4% B	88% A, 12% B	92% A
Marginal Integrity	77% A, 23% B	88% A, 12% B	83% A
Marginal staining	73% A, 27% B	88% A, 12% B	81% A
Percentage of margin stained	3 % (range 2 to 10%)	7.0% (range 5 to 10%)	4%
Colour match	100% A	100% A	100% A
Surface roughness	88% A, 12% B	96% A, 4% B	92% A

28% of restorations restored one/+ cusps, & 31% of the restorations were placed under rubber dam isolation.



Fig. 1



Fig.2 16 Class II (total etch)



26 Class II (self etch)

Same mouth at one-year review

## CONCLUSION

The results indicate that restorations placed using Scotchbond Universal in both modes were performing satisfactorily, in the patients reviewed to date, after one-year.

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