DENTAL ADVISOR
Product insights you can trust.

3M Filtek™ Supreme Plus and 3M Filtek™ Supreme Ultra Universal Restorative

FIFTEEN-YEAR CLINICAL PERFORMANCE

+++++

dentaladvisor.com RATING SYSTEM: Excellent +++++ Very Good ++++ Good +++

3M
www.3M.com/Dental

96% rating at recall

Introduction

3M Filtek™ Supreme was launched in 2002, ***3M Filtek™Supreme Plus*** in 2005 and ***3M Filtek™ Supreme Ultra Universal Restorative*** in 2009. Since the introduction of ***3M Filtek Supreme*** brand, DENTAL ADVISOR has clinically placed and monitored over 3000 restorations. Some of these restorations date back more than 15 years ago with the initial launch of ***3M Filtek Supreme Universal Restorative.***

3M Filtek Supreme Plus and ***3M Filtek Supreme Ultra Universal Restorative*** are indicated for both anterior and posterior composite restorations. The Dentin, Enamel and Body shades are filled 63% by volume with a combination of 4-20 nm particles and 0.6-20 micron clusters. The Translucent shades are filled 56% by volume. ***3M Filtek Supreme Ultra Universal Restorative*** is fluorescent, opalescent and radiopaque and available in 36 shades and 4 opacities (dentin, body, enamel and translucent).

Fig. 1. Distribution of ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** at recall.

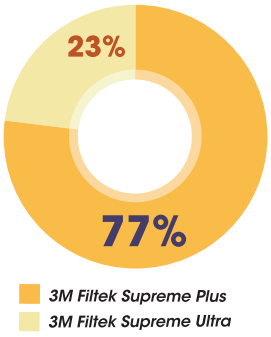


Fig. 2. Distribution of ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** Anterior and Posterior Restorations at recall.

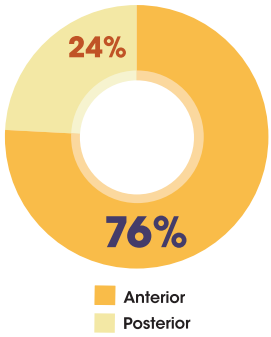
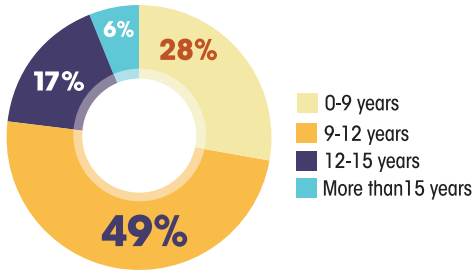


Fig. 3. Years in service of ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** at recall.



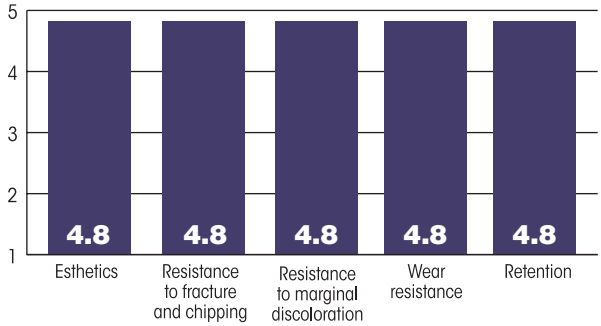
Clinical Evaluation Protocol

More than 3000 restorations were placed since the year 2000. Twenty-three percent of the restorations were not recalled due to patient attrition. Of the 2310 remaining restorations, 77% were ***3M Filtek Supreme Plus*** and 23% were ***3M Filtek Supreme Ultra Universal Restorative*** (Figure 1). Both anterior and posterior restorations were evaluated (Figure 2). The distribution of the recalled restorations by years of service is shown in Figure 3.

These restorations were evaluated in the following categories: esthetics, resistance to fracture/chipping, resistance to marginal discoloration, and wear resistance. Each parameter was rated on a 1-5 scale:

1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent

Fig. 4. Results of ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** at recall.



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Results at 15 years

Esthetics

The many shades of ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** blended very well with the surrounding enamel and dentin. Eighty-eight percent of the restorations received an excellent or five rating, while 10% received a very good or 4 rating, and only two percent received a rating of good or 3 (Figure 4). The improvement in fluorescence achieved with the new formulation of ***3M Filtek Supreme Ultra Universal Restorative*** is noticeable. There has also been an improvement in shade stability over time. Only a handful of the restorations were replaced due to lack of esthetics. Many of the recalled restorations exhibited a very shiny and smooth surface texture, making it almost impossible to distinguish from the actual tooth.

Resistance to Fracture/Chipping

Ninety-five percent of the recalled ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** restorations exhibited no chipping or fracture (Figure 4). Five percent of the restorations chipped or fractured. Only two percent required replacement; the remaining restorations were smoothed, re-contoured or repaired with flowable composite.

Resistance to Marginal Discoloration

Ninety-two percent of the recalled ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** restorations had no visible staining at the margin and received a rating of 5 (Figure 4). Six percent had minimal staining at the margins not requiring replacement with a rating of 3 or 4. Only two percent of the restorations needed to be replaced due to marginal discoloration. Marginal discoloration is often the result of compromised bonding or excessive stress resulting in weakening of the bond and subsequent micro-leakage.

Wear Resistance

Ninety-six percent of the recalled ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** restorations exhibited no wear, while two percent exhibited minimal to moderated wear with a rating of 4 or 3 (Figure 4). Another two percent required replacement due to excessive wear. Half of these replaced restorations were anterior restorations with wear on the incisal edges due to bruxism. The remaining replaced restorations were in second molars.

Clinical Observations

- There were 80 debonds (3.5%) recorded. Most of these debonds were associated with Class V restorations. These failures are most often related to the bonding agent and placement technique.
- Fourteen percent of the restorations were replaced due to decay. These failures are most likely due to the bonding agent or even the clinician's technique.
- Five percent of the restorations were on teeth that were crowned at a later date. It is likely that the composite restorations were placed as interim restorations.

"GREAT LOOKING RESTORATIONS AFTER YEARS OF SERVICE."

Consultants' Comments

- *"In 15 years of using **3M Filtek Supreme Plus** and **3M Filtek Supreme Ultra Universal Restorative,** they have proven to be reliable and very esthetic restorative composite materials."*
- *"This composite holds up really well, even in large four-surface posterior restorations."*
- *"Great selection of shades to meet all my needs."*
- *"On rare occasions, I have noticed some staining and microleakage at the composite-tooth interface."*

DENTAL ADVISOR

3M Filtek Supreme Plus and 3M Filtek Supreme Ultra Universal Restorative 15-Year Clinical Performance

Conclusion

Over 2,300 ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** were placed and monitored since 2000. The performance of these restorations has been exceptional, regardless of the size of the restoration. Excellent esthetics, low rate of fracture/chipping, minimal marginal discoloration, and minimal wear have been instrumental to the long-term success rate of these restorations. ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** earned a clinical performance rating of 96%.

At 15 years, ***3M Filtek Supreme Plus*** and ***3M Filtek Supreme Ultra Universal Restorative*** received a clinical performance rating of **96%** +++++

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