



Filtek™

One Bulk Fill Restorative



Shrinkage, stress ... and bulk fill restoratives

Why waste time with incremental layering?

Instead, you can place 3M™ Filtek™ One Bulk Fill Restorative in one layer up to 5 mm deep. You're about to learn why.

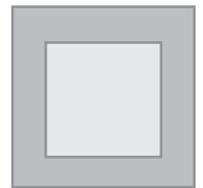


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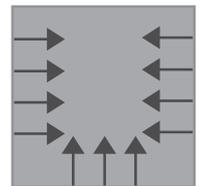


3M™ Filtek™ One Bulk Fill Restorative puts less or equivalent stress on the tooth than common incrementally placed universal composites.

Shrinkage is easy to measure and easy to understand. Polymerisation shrinkage is the change in volume of your composite that occurs as you cure it. The composite shrinks as all the freely moving resin molecules go through the free-radical methacrylate polymerisation reaction.



Stress is a little harder to visualise and a little harder to measure. Stress is the amount of force exerted on the tooth because of polymerisation shrinkage. Stress is what can break the adhesive bond, crack enamel and allow leakage at the margins.



The amount of stress is based on a number of factors

It's not just the amount of shrinkage. Both the shrinkage of the material and the stiffness of the material come into play (Li, 2007).

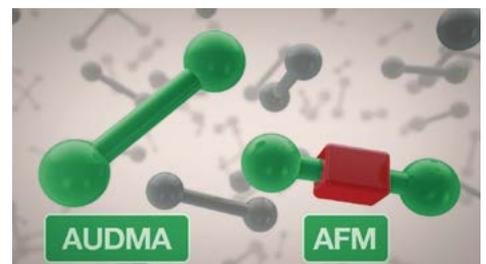
- A sealant, for example, can have very high shrinkage (over 5%!) and place very low stress on the tooth (Kleverlaan, 2005)
- A universal restorative might have 2% shrinkage, but because it is much stiffer, it will place much higher stress on the tooth (Kleverlaan, 2005)

So what enables a dental composite to be placed in bulk?

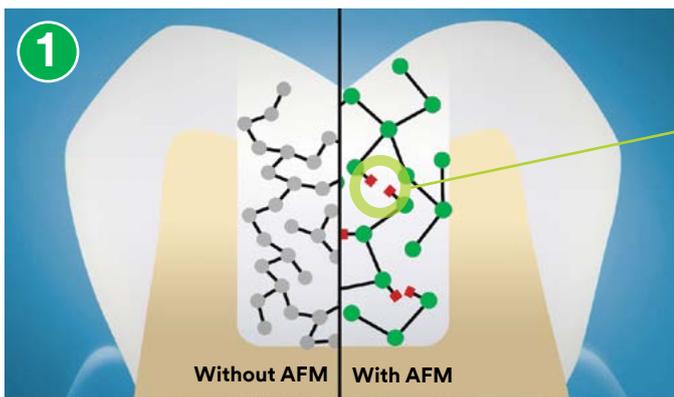
There are recent advances in chemistry that allow us to control polymerisation stress.

3M™ Filtek™ One Bulk Fill Restorative uses two resin components to reduce polymerisation stress.

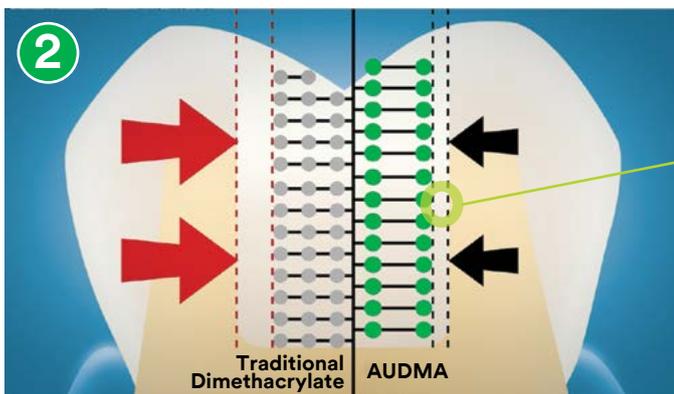
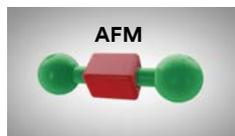
To learn how it works, read on ...



Here's how it works.



The innovative component of the first resin is an addition-fragmentation monomer (AFM). The unique feature of this resin is that, during polymerisation, the central group **can fragment to relieve stress**. The fragments can then re-polymerise in a lower stress state.



The other new resin component is aromatic urethane dimethacrylate (AUDMA). Because it's a larger monomer than found in traditional dimethacrylates, it limits the number of shrinkage zones. That helps **reduce the amount of shrinkage and stress** that occurs during polymerisation.



Ordering Information



3M™ Filtek™ One Bulk Fill Restorative

Refill	Item #	Item #
Shade	Syringe	Capsule
A1	4866A1	4867A1
A2	4866A2	4867A2
A3	4866A3	4867A3
B1	4866B1	4867B1
C2	4866C2	4867C2

SYRINGE SHADE REFILLS include: 1 – 4g syringe; technique guide; Instructions for Use.

CAPSULE SHADE REFILLS include: 20 – 0.2g capsules; technique guide; Instructions for Use.

www.3M.com.au/FiltekOne

www.3M.co.nz/FiltekOne



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