

# Tested for safety – trusted for performance

## 1 The science of composite warming



We know how important patient safety is to your practice. That's why we've conducted rigorous testing to ensure 3M™ Filtek™ Dental Restoratives are safe to warm, without compromising composite physical properties. So, you can warm with confidence:

- All recommended products **toxicology tested**
- **Minimal heat transfer to the pulp**<sup>1,2</sup>
- **Biocompatible** according to ISO-10993-1:2018<sup>3</sup>
- 1st dental composite **tested** for warming<sup>4</sup>

### Filtek Dental Restoratives that are safe to warm<sup>5,6</sup>

- 3M™ Filtek™ Supreme XTE Universal Restorative
- 3M™ Filtek™ Easy Match Universal Restorative
- 3M™ Filtek™ Universal Restorative
- 3M™ Filtek™ One Bulk Fill Restorative
- 3M™ Filtek™ Bulk Fill Flowable Restorative
- 3M™ Filtek™ Supreme Flowable Restorative



Only use approved warming devices with select Filtek Dental Restoratives.

<sup>1</sup> Daronch M, Rueggeberg FA, De Goes MF, Giudici R. Polymerisation kinetics of pre-heated composite. J Dent Res. 2006 Jan;85(1):38-43 6

<sup>2</sup> Internal Data

<sup>3</sup> Based on a review by a board-certified toxicologist

<sup>4</sup> 3M™ Filtek™ Universal Restorative, 2019.

<sup>5</sup> Warm capsules to up to 70°C for up to 1 hour.

<sup>6</sup> Warm flowable syringes to up to 70°C for up to 1 hour, up to 25 times.

## 2 Unchanged physical properties

Not only does composite warming offer many benefits, including **better flow**, **improved adaptation\***, and **reduced extrusion force\*\***, but evidence has also demonstrated that prewarming has no adverse effect on:



- Degree of conversion<sup>1</sup>
- Microhardness<sup>1,2</sup>
- Fracture toughness<sup>2</sup>
- Surface roughness<sup>2</sup>
- Flexural strength<sup>3</sup>
- and other properties tested by Solventum.



**Prewarmed restorations exhibited 100% acceptable aesthetic, functional and biological properties<sup>4</sup>**

35 patients in a randomised clinical trial received two Class I restorations, one unheated and one preheated.

\* Based on a 3M sponsored in vitro study. 11 dentists placed 88 Class II MOD restorations. Teeth were microscopically examined for flaws, defects and voids. Comparisons made between techniques and operators.

\*\* Internal Data

\*\*\* World Dental Federation

<sup>1</sup> Gebril M, Grüll MP, Brilliant MS, Sullivan B, Price RB. Effect of repeated heating and cooling cycles on the degree of conversion and microhardness of four resin composites. J Esthet Restor Dent. 2021 Dec;33(8):1201-1209. doi: 10.1111/jerd.12815. Epub 2021 Aug 23. PMID: 34424606.




<sup>2</sup> Elkaffas AA, Eltoukhy RI, Elnegoly SA, Mahmoud SH. Influence of preheating on mechanical and surface properties of nanofilled resin composites. J Clin Exp Dent. 2020 May 1;12(5):e494-e500. doi: 10.4317/jced.56469. PMID: 32509233; PMCID: PMC7263773.

<sup>3</sup> D'Amario M, Pacioni S, Capogreco M, Gatto R, Baldi M. Effect of repeated preheating cycles on flexural strength of resin composites. Oper Dent. 2013 Jan-Feb;38(1):33-8. doi: 10.2341/11-476-L. Epub 2012 Jul 7. PMID: 22770484.

<sup>4</sup> Elkaffas AA, Eltoukhy RI, Elnegoly SA, Mahmoud SH. 36-Month Randomised Clinical Trial Evaluation of Preheated and Room Temperature Resin Composite. Oper Dent. 2022 Jan 1;47(1):11-19. doi: 10.2341/20-301-C. PMID: 35226749.

### Tips for success



	To temp 	Time 	Frequency 
Heat capsules	70°C	up to 1 hour	once
Heat flowable syringes	70°C	up to 1 hour	up to 25 times

**Remember: Remove your composite from the warmer if it won't be used immediately.**



KCI Medical Australia Pty Ltd | Level 3, Building A, 1 Rivett Road, North Ryde, NSW 2113

KCI New Zealand Unlimited | Suite 1701, Level 17, PwC Tower, 15 Customs Street West, Auckland 1010

©Solventum 2026. Solventum, the S logo and Filtek are trademarks of Solventum or its affiliates. 3M and the 3M logo are trademarks of 3M.