

Why should you consider composite warming?

Warming your composite can provide a number of benefits for your restorative procedure, including better flow, lower extrusion force, and more. But don't take our word for it: several studies demonstrated the advantages of warming dental composite.

1 Better flow and viscosity



Heat increased flowability during placement¹

Rheological measurements of 3M™ Filtek™ Supreme Ultra Universal Restorative were taken at 25, 45, and 60°C.

Preheating of dental composites might be helpful in clinical practice both to increase the slumping resistance when minimal manipulation is used and to increase flowability when manipulation entailing high shear strain is applied.



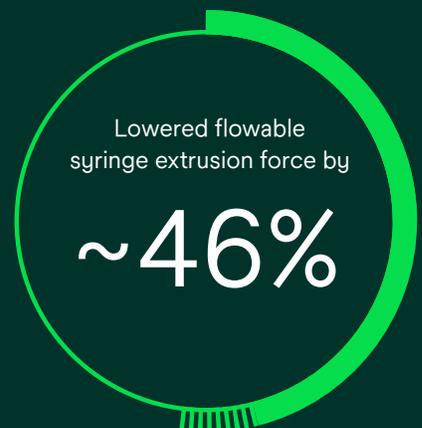
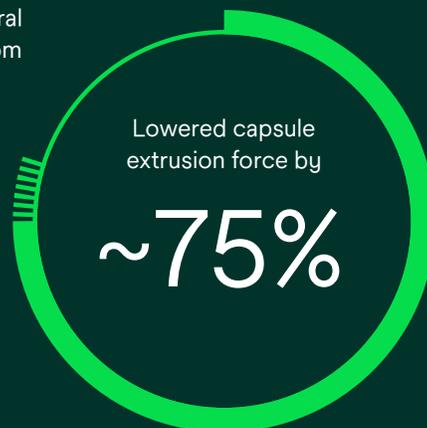
Heat decreased viscosity, simplifying placement²

Four room temperature and heated composite materials were inserted into molds and tested for viscosity and microhardness. Heated materials were found to have decreased viscosity and increased microhardness.

Heating lowered extrusion force³

We tested the extrusion force of several 3M™ Filtek™ Dental Restoratives at room temperature and after warming.³

Warming:



¹ Ahn KH, Lim S, Kum KY, Chang SW. Effect of preheating on the viscoelastic properties of dental composite under different deformation conditions. Dent Mater J. 2015;34(5):702-6. doi: 10.4012/dmj.2015-042. PMID: 26438995.

² Ayub KV, Santos GC Jr, Rizkalla AS, Bohay R, Pegoraro LF, Rubo JH, Santos MJ. Effect of preheating on microhardness and viscosity of 4 resin composites. J Can Dent Assoc. 2014;80:e12. PMID: 24598328.

³ Internal Data

2 Improved adaptation and fewer voids



Warming considerably improved adaptation and reduced voids¹

150 human molars were prepped with occlusal cavities, then restored with one incremental and four bulk-fill composites using conventional, warmed and sonic placement and tested for adaptation.

There were fewer voids in all heated composite restorations, and in all but one composite, heating and sonic placement improved adaptation.

The following 3M™ Filtek™ Dental Restoratives can be safely warmed^{2,3}

- 3M™ Filtek™ Supreme Ultra 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.

¹ Demirel G, Orhan AI, Irmak O, Aydın F, Büyüksungur A, Bilecenoğlu B, Orhan K. Effects of Preheating and Sonic Delivery Techniques on the Internal Adaptation of Bulk-fill Resin Composites. Oper Dent. 2021 Mar 1;46(2):226-233. doi: 10.2341/19-241-L. PMID: 34242394.

² Warm capsules to up to 70°C (158°F) for up to 1 hour.

³ Warm flowable syringes to up to 70°C (158°F) for up to 1 hour, up to 25 times