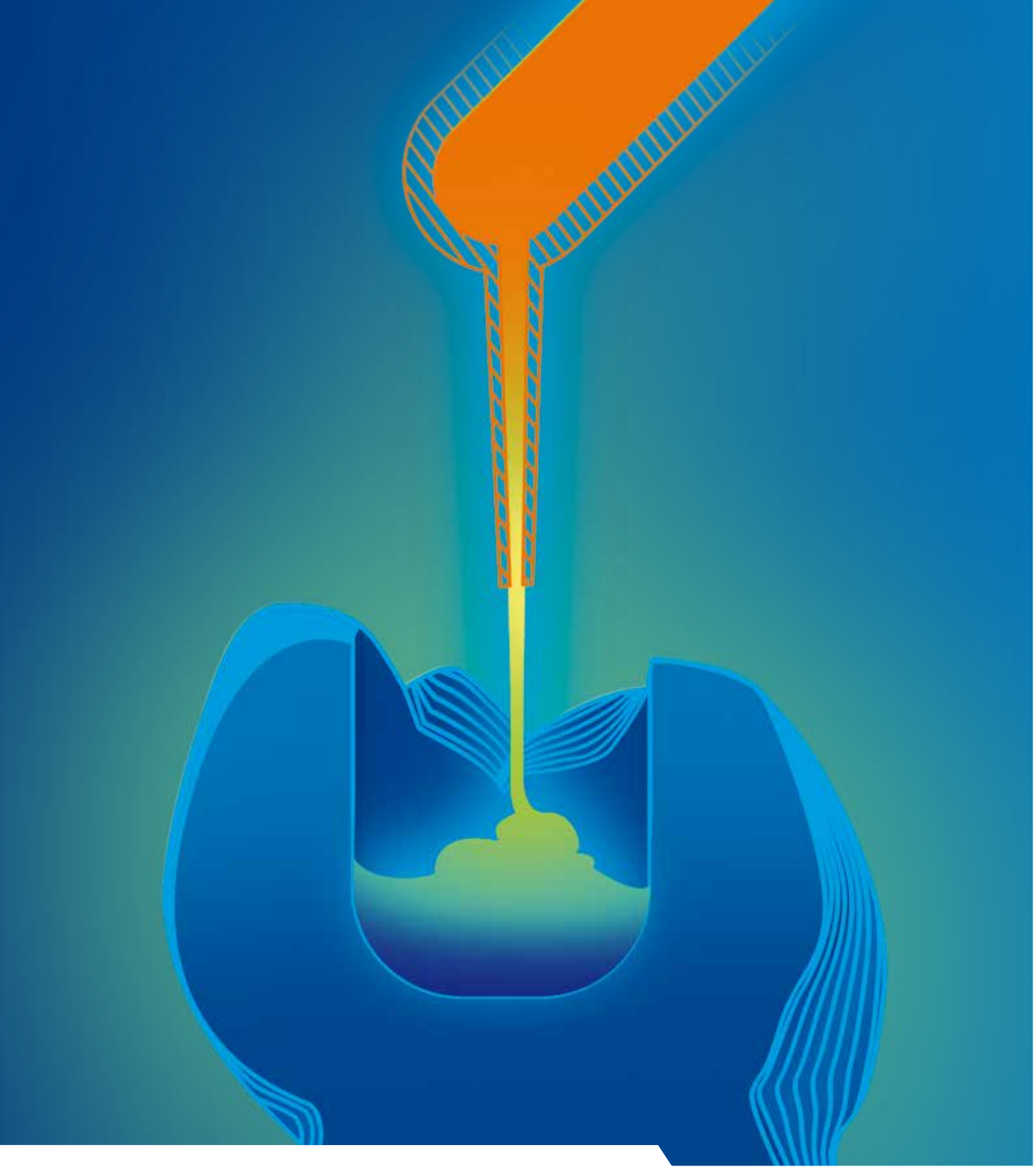


*Vis*Calor bulk

THERMOVISCOUS BULK FILL COMPOSITE

VOCO
THE DENTALISTS

VisCalor® bulk

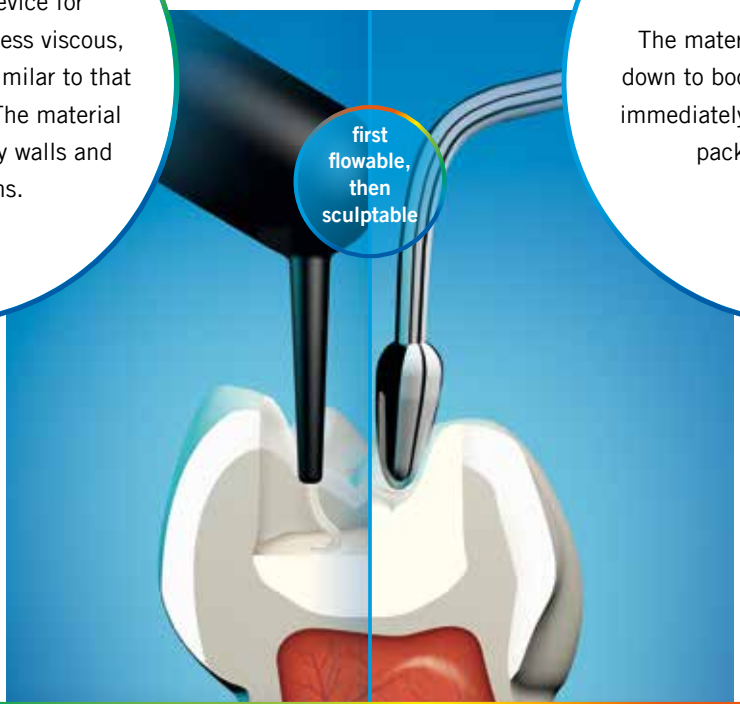
COMBINES FLOWABILITY AND SCULPTABILITY

Packable bulk-fill composites are suitable for the reliable filling of large posterior cavities as part of secondary treatments. These materials cannot easily be used to fill very deep and narrow cavities that have undergone defect-oriented and minimally invasive preparation: perfect adaptation to the cavity floors and walls is often difficult to achieve. The use of flowable composites as base materials is a good alternative for this type of deep, narrow cavity, but they still need to be coated with a covering layer of packable composite. This two-phase process makes placing a restoration a time-consuming task.

VisCalor bulk follows a completely new approach: the material combines the flowability of a flowable composite during application with the sculptability of a packable composite. VisCalor bulk is therefore a material that can be used for both large and narrow cavities, without having to compromise with regards to adaptation or strength.

Combines flowability **and sculptability**

As VisCalor bulk is heated using a preheating device for composites, it becomes less viscous, allowing for application similar to that for a flowable material. The material flows optimally on cavity walls and undercut regions.



The material quickly cools back down to body temperature and can immediately be sculpted just like a packable composite.

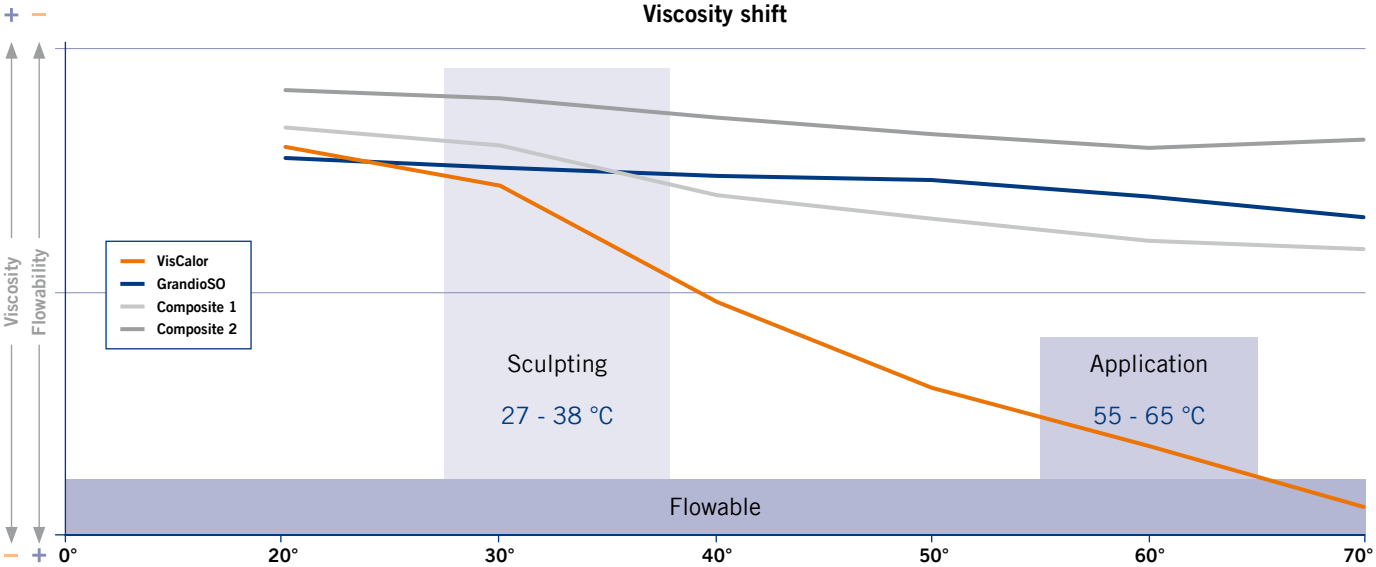
As a result, VisCalor bulk offers the benefits of both a flowable composite and a packable composite during the placement of a restoration.

This allows for efficient single-phase restorations without multiple working steps for base filling, increments or covering layers.

VisCalor® bulk

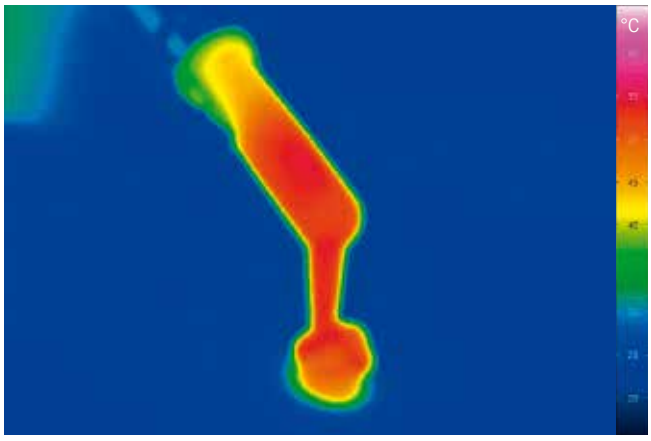
UNIQUE VISCOSITY BEHAVIOUR

VisCalor bulk is the world's first material to use thermo-viscous-technology. The special surface treatment on the fillers and a coordinated resin matrix help to significantly extend the normal viscosity-reduction effect when the temperature is increased. This results in a material that acquires the consistency of a flowable material when heated up in a standard 68 °C composite warmer, or to full benefit in the new VisCalor Dispenser, but that is sculptable like a packable composite at body temperature.



Source: VOCO GmbH

The graph shows the viscosity behaviour of various materials. Only VisCalor bulk has a similar viscosity to a flowable material when heated up to 68 °C. When the material is cooled down to 38 - 27°C, it becomes significantly more viscous and can be easily sculpted. During the application phase, VisCalor bulk stands out thanks to its optimal consistency that conventional composites cannot achieve when heated up.



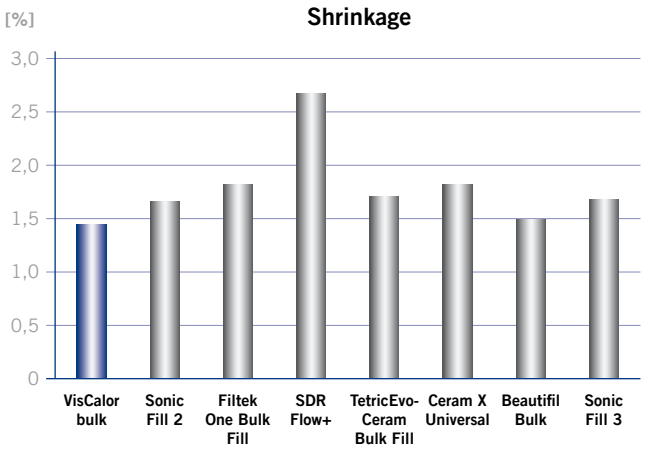
Source: Prof. Braun, Universität Marburg

The image taken by a thermal imaging camera shows that VisCalor bulk cools quickly to body temperature already during application when it comes into contact with the cavity surfaces.

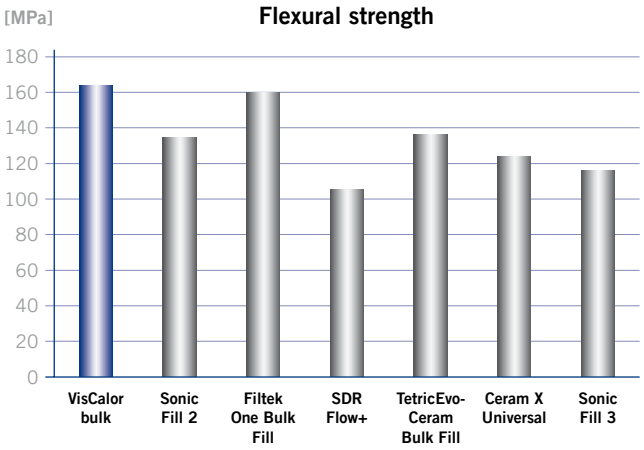
VisCalor® bulk

A STRONG MATERIAL

4 mm increments: this means a relatively high proportion of the composite surface is in contact with the cavity margin, which turns the focus to the issue of shrinkage. With a volume shrinkage of 1.44 % by volume and a shrinkage stress of 4.6 MPa, VisCalor bulk is in a class of its own among bulk-fill composite materials.



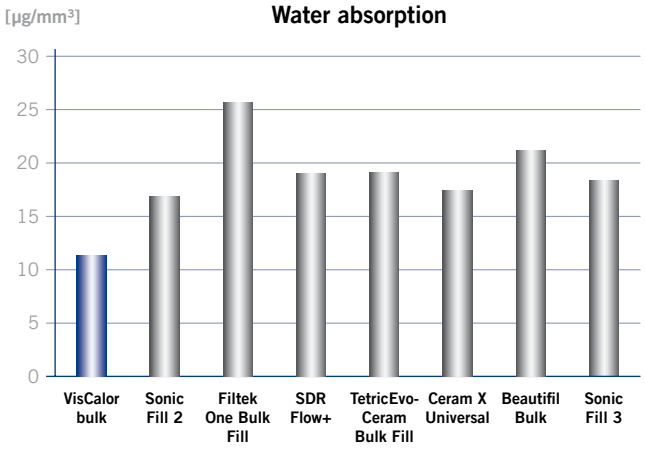
Source: Internal measurement



Source: Internal measurement

The flexural strength measurements also prove that VisCalor bulk is the ideal material. The material has a flexural strength of 164 MPa, and the compressive strength of 335 MPa also indicates impressive longevity. Restorations performed with VisCalor bulk can therefore withstand day-to-day stresses for a long time.

Since discolouring substances can also penetrate into the restoration when water is absorbed, VisCalor bulk also shows its strengths here – for restorations that are reliable and aesthetically pleasing over the long term.



Source: Internal measurement

VisCalor® bulk

TIME-SAVING AND AESTHETICALLY PLEASING

4 mm with no covering layers

With VisCalor bulk, you can place single-phase bulk fillings without a separate covering layer, base fill or base. When applied at the bottom of the cavity, the material flows onto all regions like a flowable material to create a bubble-free monoblock restoration that then needs only to be finished and cured. The very impressive physical parameters mean that there is no need to apply a covering layer. The narrow, flexible cannula allows for direct application even in difficult-to-access areas and narrow cavities.

Timescale

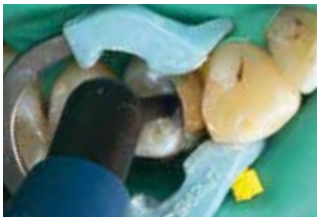
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Total time + material*
Placing a restoration with flowable material and 2 mm composite	Bonding 35 sec.	Coating the bottom layer with flowable material 20 sec.	Light-curing 20 sec.	Applying the first composite layer 20 sec.	Light-curing 20 sec.	Applying the second composite layer 20 sec.	Sculpting 30 sec.	Light-curing 20 sec.	ca. 3:05 min. min. 2 Caps
Placing a restoration with bulk-flowable and bulk-fill material	Bonding 35 sec.	Applying bulk flowable material 20 sec.	Light-curing 20 sec.	Applying sculptable bulk-fill material 20 sec.	Sculpting 30 sec.	Light-curing 20 sec.			ca. 2:25 min. min. 2 Caps
Placing a restoration with VisCalor bulk	**Bonding 35 sec.**	**Applying VisCalor bulk 20 sec.**	**Sculpting 30 sec.**	**Light-curing 20 sec.**					**ca. 1:05 min.** min. **1 Cap**

* Sample calculation for minimally invasive cavity of 4 mm depth

Clinical case

Initial situation

Minimally invasive prepared cavity at tooth 14



Filling the cavity with VisCalor bulk

Restoration two months after filling

Source: Dr. Walter Denner, Fulda / Germany

VisCalor® bulk

THERMOVISCOUS BULK FILL COMPOSITE

Indications

Class I and II posterior restorations

Base in class I and II cavities

Class V restorations

Locking, splinting of loose teeth

Repairing veneers, enamel defects and temporary C&B-materials

Extended fissure sealing

Restoration of deciduous teeth

Core build-up

Advantages

- **Unique and innovative** – Heating of the material makes it flowable for the application and then sculptable immediately afterwards (thermo-viscous-technology)
- **High-quality application** – Optimal flowing to margins and undercut regions
- **Time-saving** – No covering layers required
- **Simple handling** – 4 mm bulk fill and bubble-free application with slender cannula

Four shades – The choice is yours

U

Universal shade
Optimal adaptation to the surrounding tooth substance, with a curing time of just 10 seconds (at 1.000 mW/cm²).

Individual tooth shades
Three additional shades are available for aesthetically pleasing restorations. Curing time: 20 seconds (at 1.000 mW/cm²).

A1 A2 A3

Presentation

REF 6065	Caps 16 × 0,25 g universal
REF 6066	Caps 16 × 0,25 g A1
REF 6067	Caps 16 × 0,25 g A2
REF 6068	Caps 16 × 0,25 g A3

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