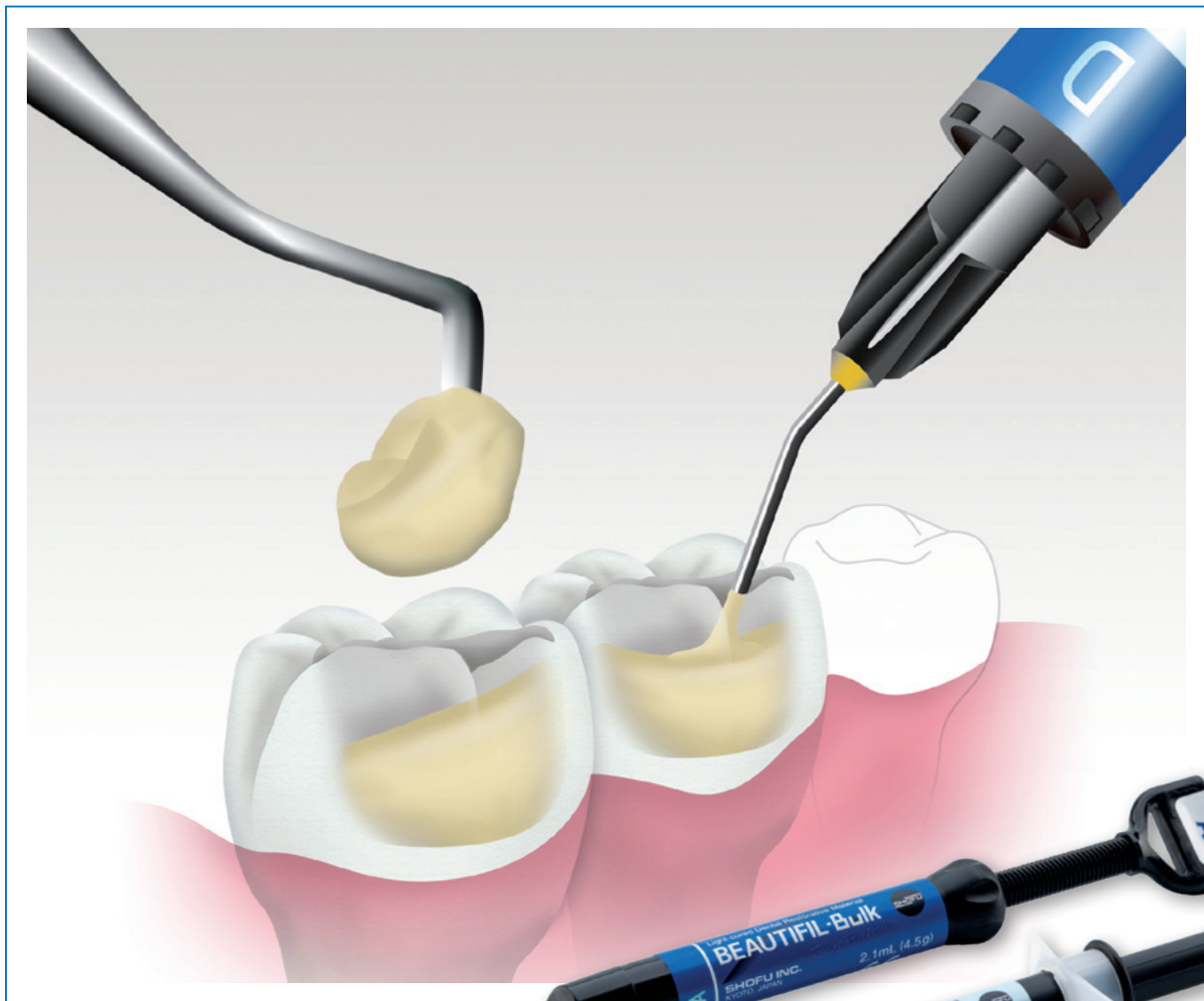


# BEAUTIFIL-Bulk

One bulk-fill composite – two viscosities



PRG  
Technology  
Giomer



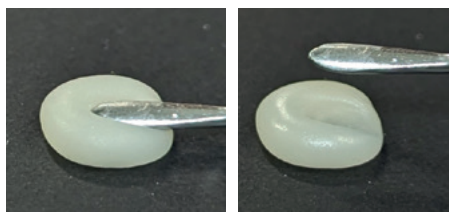
# Practical, quick and reliable

Incremental placement is the method of choice to offset the shrinkage stress developed by conventional composite materials. Excessive stress may lead to debonding of the restoration especially at the margins and the floor of the cavity. The resulting problems include marginal staining, recurrent caries and postoperative sensitivity.

For this reason, the material-specific parameters of polymerisation shrinkage and shrinkage stress and their control are critically important to the use of restoratives in the bulk-filling technique.

BEAUTIFIL-Bulk is a light-cured, Giomer based direct resin composite developed for faster, easier and simpler restoration with one single increment of up to 4 mm. This system features not only deep cure, low polymerisation shrinkage and optimal physical properties with remarkable shade match to natural teeth, but also fluoride release and recharge as well as superior aesthetics.

## One bulk-fill composite – two viscosities



The system consists of two materials with different viscosities and the same filler structure. BEAUTIFIL-Bulk Flowable is particularly suitable for use as a cavity base, thanks to its good self-levelling and handling characteristics.

BEAUTIFIL-Bulk Restorative is a pasty, well-sculptable material designed for direct posterior restorations and resistant to occlusal stress.

### BEAUTIFIL-Bulk Flowable

- Base in class I and II direct restorations
- Liner under direct restorative materials
- Restorations of small posterior cavities (including occlusal restorations)

### BEAUTIFIL-Bulk Restorative

- Direct posterior restorations

## The Giomer concept

All BEAUTIFIL-Bulk products are multifunctional Giomer composites, characterised by filler particles. In the manufacturing process, these fillers are coated with a durable glass ionomer phase ("S-PRG") before being embedded in the matrix.

The special structure and the glass core of the filler particles provide natural light diffusion and transmission, creating a well-balanced chameleon effect in both dentin and enamel areas.

So, exceptionally aesthetic and highly opaque restorations can be achieved with only one composite shade.

The S-PRG fillers that release 6 ions including fluoride, give the composite specific features, such as the recharge and release of fluoride or acid neutralisation.



1. Cavity after preparation and conditioning
2. Initial thick increment of BEAUTIFIL-Bulk Flowable, used as a base
3. Final occlusal capping with BEAUTIFIL-Bulk Restorative

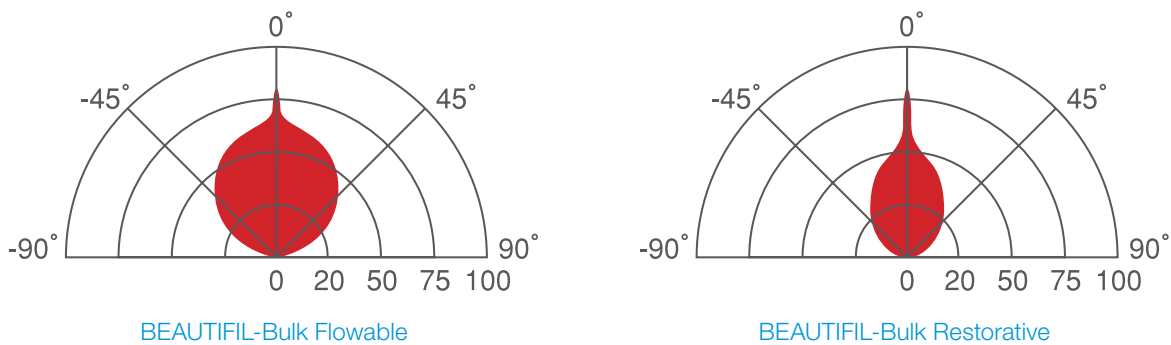
Photos: Dr Markus Th. Firla, Hasbergen-Gaste, Germany



## Aesthetic results

Aesthetic restorations and user-friendly handling properties are not incompatible!

Conventional bulk-fill composites have to be highly translucent to ensure a depth of cure of 4 mm. However, highly translucent materials will hardly match the shade of the surrounding natural tooth structure. The BEAUTIFIL-Bulk system in contrast is optically balanced thanks to its filler structure and therefore opaque enough to optimally harmonise with natural teeth.

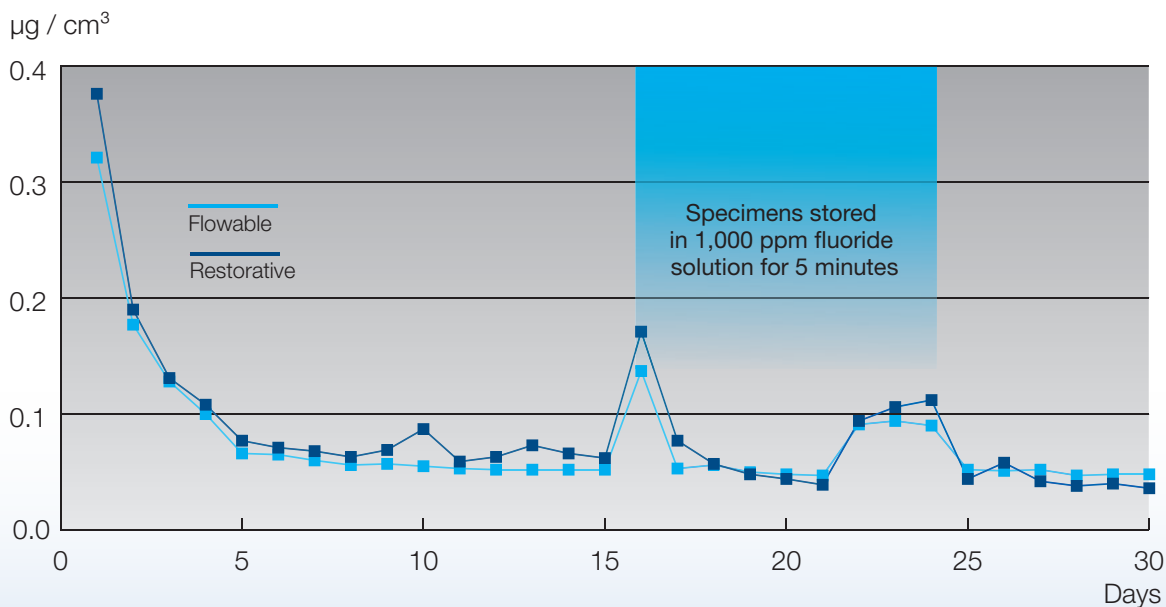


Incident light is both diffused by the glass ionomer phase and transmitted straight through the multifunctional glass core of the filler particles. The fillers of the flowable material imitate the light diffusion effects of dentine, while the fillers of the packable material combine the diffusion effects of the enamel-dentine complex.

## Fluoride recharge and release

The following illustration shows how much fluoride is released in a period of 30 days. To recharge fluoride, specimens were stored in a 1,000 ppm sodium fluoride solution for five minutes. The test indicates that the amount of fluoride released directly after recharge is up to three times higher than the amounts released at other times. So the use of fluoride-containing toothpaste can be expected to lead to a sustained increase in the fluoride release of the restorative.

Fluoride release of BEAUTIFIL-Bulk Flowable and Restorative

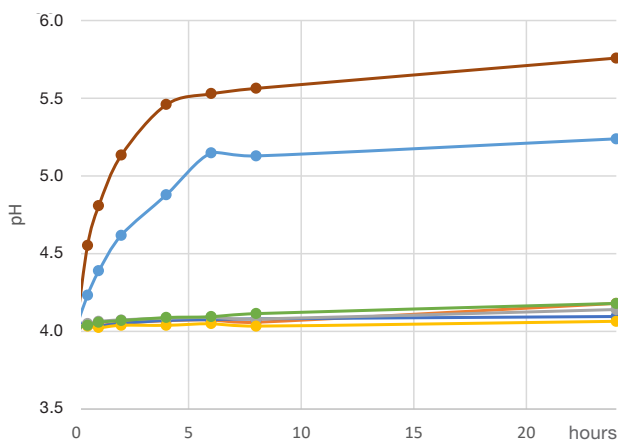


## Acid neutralisation

Occlusal surfaces of posterior teeth are under continual stress, so there is an increased risk of marginal gap formation between tooth and restoration in Class I and II cavities. These marginal imperfections may easily be colonised by bacteria, e.g. *Streptococcus mutans*, which produce acids that may demineralise the tooth structure and, as a consequence cause recurrent caries.

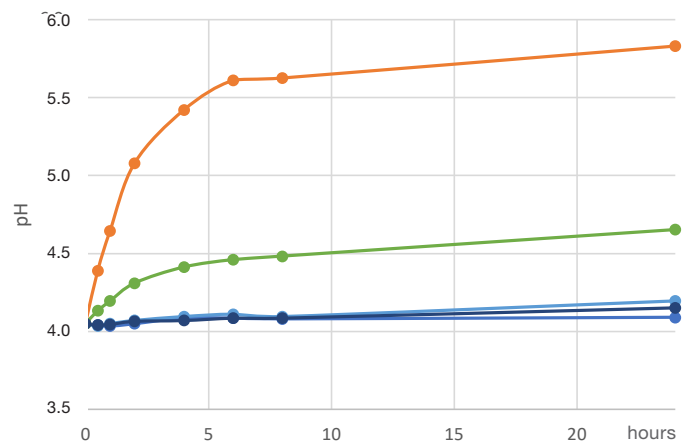
To test the ability of the BEAUTIFIL-Bulk system to neutralise acids in comparison with other bulk-fill systems, cured specimens of various materials were stored in a pH 4 lactic acid solution, and changes in the pH-value over time were measured. The results shown in the following diagrams confirm that both BEAUTIFIL-Bulk Flowable and BEAUTIFIL-Bulk Restorative can excellently neutralise acids.

### BEAUTIFIL-Bulk Flowable



- Lactic acid solution (control)
- BEAUTIFIL-Bulk Flowable
- 3M Filtek Bulk Fill Flowable Restorative\*
- Tetric EvoFlow Bulk Fill\*
- Omnichroma Flow Bulk\*
- SDR flow+ Bulk Fill Flowable\*
- G-aenial BULK Injectible\*

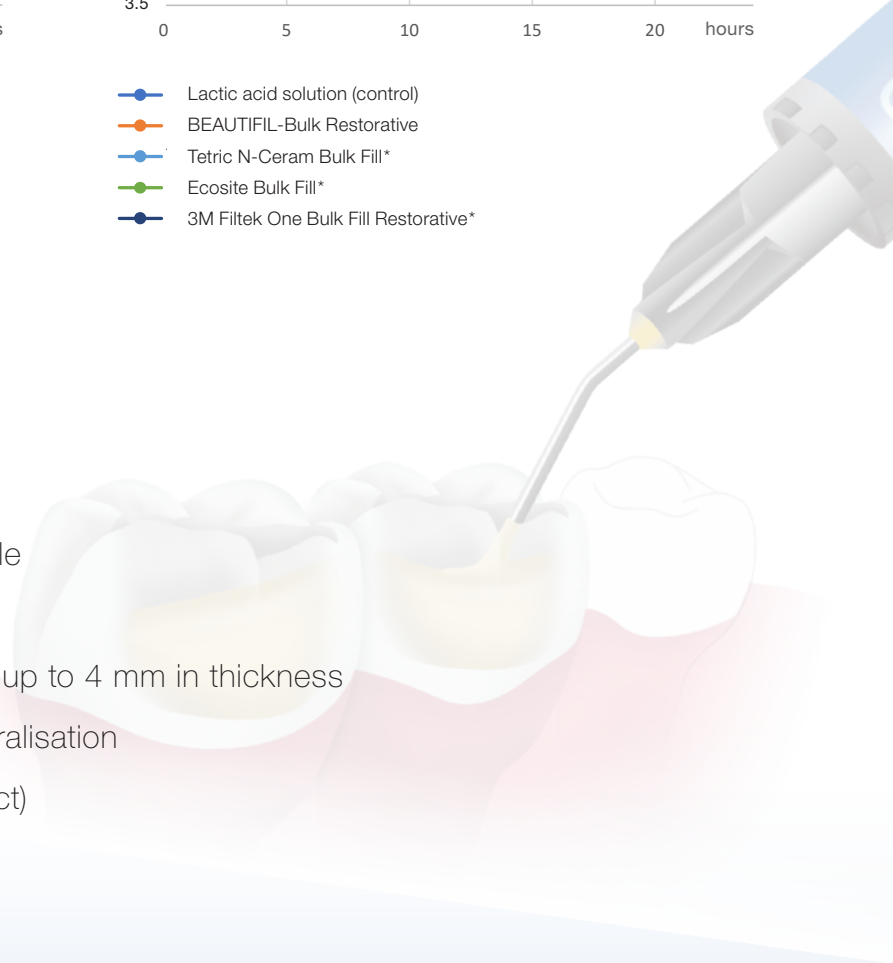
### BEAUTIFIL-Bulk Restorative



- Lactic acid solution (control)
- BEAUTIFIL-Bulk Restorative
- Tetric N-Ceram Bulk Fill\*
- Ecosite Bulk Fill\*
- 3M Filtek One Bulk Fill Restorative\*

## Highlights

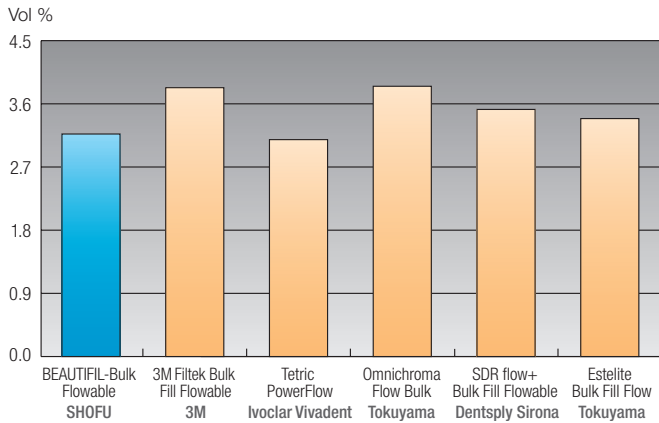
- Two viscosities – packable and flowable
- Low polymerisation shrinkage
- Excellent depth of cure for increments up to 4 mm in thickness
- Acid neutralisation and dentine remineralisation
- Optimal shade match (chameleon effect)
- High radiopacity
- Easy and good polishability



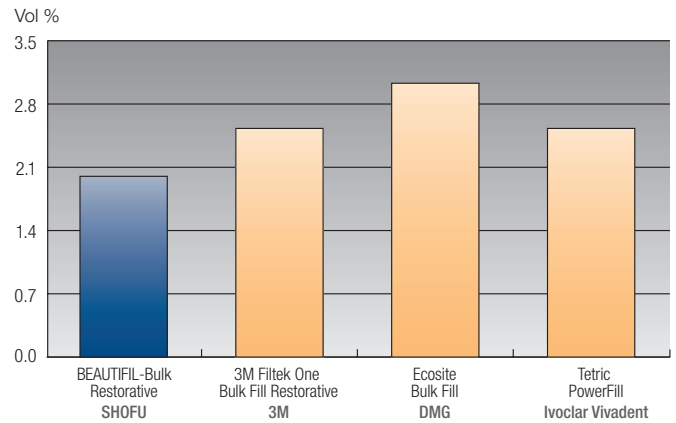
## Low polymerisation shrinkage (tested to ISO17304:2013)

The diagrams show the polymerisation shrinkage in comparison with competitive products. BEAUTIFIL-Bulk Flowable and the packable BEAUTIFIL-Bulk Restorative exhibit low or very low volumetric shrinkage compared to the other products tested.

### BEAUTIFIL-Bulk Flowable



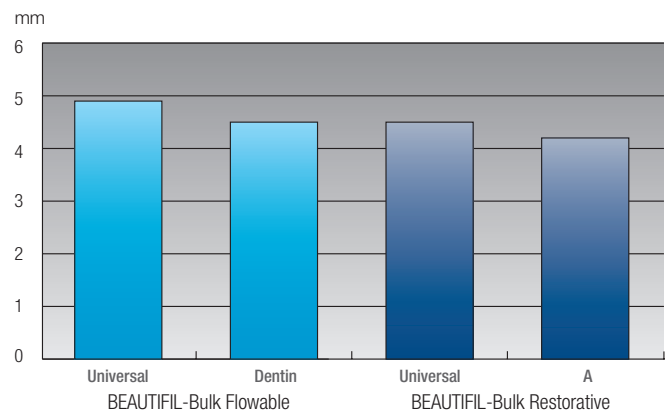
### BEAUTIFIL-Bulk Restorative



## Depth of cure

The light transmission of composites varies, depending on their filler contents and shades.

The diagram on the right depicts the depth-of-cure measurements. For comparison halogen or LED light-curing units were used as light sources. All BEAUTIFIL-Bulk materials tested showed values of more than 4 mm after light-curing.



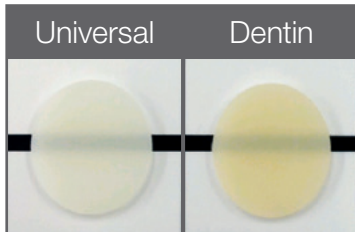
## Physical properties

BEAUTIFIL-Bulk shade Universal	Filler loading (wt% / vol.%)	Compressive strength (MPa)	Flexural strength (MPa)	Toothbrush wear (wt%)	Vickers hardness (HV)	Radiopacity (Al:mm)
Flowable	73.0 / 52.0	288.5	126.2	0.16	45.1	3.0
Restorative	87.0 / 74.5	334.9	116.4	0.19	55.0	3.1

## Order information

The system features an uncomplicated range of shades. Both viscosities come in a Universal shade. In addition, the flowable material is available in a Dentin shade, for natural-looking cavity bases, and the pasty material in an A-shade.

### BEAUTIFIL-Bulk Flowable



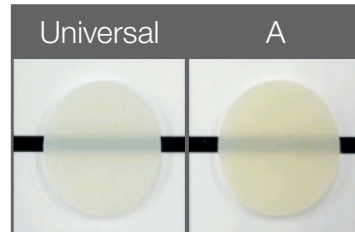
Syringes of 2.4 g in the following shades

- Universal REF YE2030
- Dentin REF YE2031

20 Tips of 0.23 g in the following shades

- Universal REF YE2028
- Dentin REF YE2029

### BEAUTIFIL-Bulk Restorative



Syringes of 4.5 g in the following shades

- Universal REF YE2034
- Shade A REF YE2035

20 Tips of 0.25 g in the following shades

- Universal REF YE2032
- Shade A REF YE2033

## Related products



### BeautiBond Xtreme Set

Universal all-in-one adhesive REF YE2448

### Super-Snap coated disks

Used for polishing microfilled and hybrid composites, available in different grits, in standard (ø 12 mm) and mini size (ø 8 mm), 50 pieces per pack

REF L501-L502, L506-L509, L519, L521-L522 and L528

### OneGloss Set

This instrument set allows you to finish and polish composite restorations in one step.

REF 0180



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