

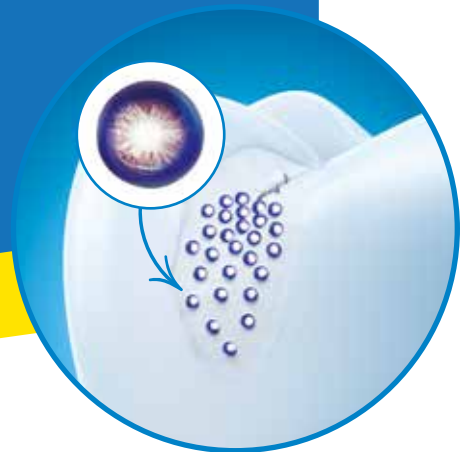


The strong solution for
when it needs to be easy

DeltaFil

glass ionomer filling material

Your amalgam alternative



Specially adapted range of shades
for children and the elderly



High mechanical stability
thanks to micelle technology

DMG

Impressive results – easy to use

Vulnerable patients, such as children, senior citizens or people with physical or mental disabilities, require a filling material that is adapted to special requirements. DeltaFil is a strong solution that enables needs-adapted restorations thanks to the excellent flexural strength and durability offered by elastomeric micelle technology (EMT) as well as ease of handling and the absence of any need for absolute isolation.

Equally impressive is the range of shades specially adapted for primary teeth and teeth that have been bleached or exhibit significant signs of age-related discolouration. Together with its other properties, DeltaFil's outstanding biocompatibility and pleasant working consistency make for happy patients – young and old alike – and satisfied clinicians.



Indications

- **Permanent restorations**
Class I, II* and V; including for sandwich technique
- **Temporary restorations**
Class I, II, III and V
- **Restorations on milk teeth**
Class I, II, III and V
- **Extended fissure sealing**
- **Base/liner**
- **Core build-up**

* Suitable for areas subject to occlusal load, provided the isthmus measures less than half of the intercuspal area.

DeltaFil – a practical alternative to amalgam

Although amalgam had been the standard material for treating carious lesions in the posterior region for roughly 100 years, on 1 January 2025 the European Union introduced substantial restrictions regarding its use in dental treatments. Time will tell what effect this will have on amalgam restoration worldwide.

But the question everyone should be asking is: what alternatives are there? There is no one substitute material for amalgam. That said, in addition to classic composites, glass ionomer cements like DeltaFil offer a flexible and simple solution, especially when isolation is difficult and patient cooperation is limited.

Why DeltaFil makes an ideal amalgam alternative:

Glass ionomer cements offer a range of advantages over light-curing bulk-fill composites that make them indispensable as an amalgam alternative.

User friendly

- Ideal when isolation is difficult
- Absolute isolation is not needed
- Self-adhesive – no bonding necessary
- Low susceptibility to errors in treatment – minimal treatment steps
- Unlimited setting depth – no light-curing necessary

Patient friendly

- Biocompatible – no monomers in the filling material
- Ideal for restricted patient cooperation and difficulty accessing cavity
- Reduced time outlay for overall treatment
- Ideal for high caries risk – promotes remineralisation



Small micelles with a big effect

Elastomeric micelle technology (EMT) makes DeltaFil an innovative GIC with exceptional stability. The micelles incorporated into the material minimise the formation of cracks.

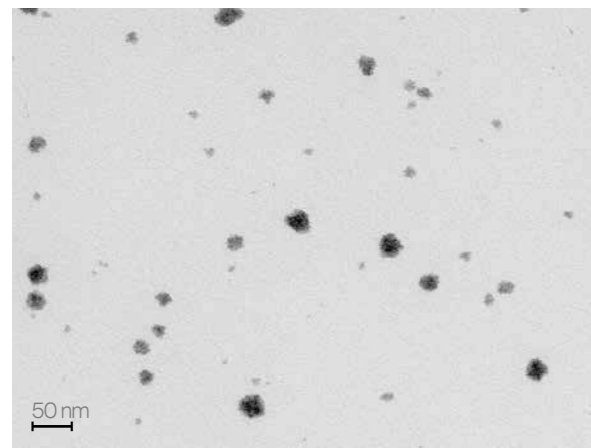


➔ Crack propagation without micelles

In addition to increased stability, the patented new technology developed by DMG ensures particularly easy handling, similar to that of composites.



➔ Minimised crack propagation with micelles



Transmission electron microscope (TEM) image of a DeltaFil micelle suspension. Staining to increase contrast.

Source: Messer-Hannemann et al. Concept of a Novel Glass Ionomer Restorative Material with Improved Mechanical Properties. J Funct Biomater. 2023 Oct 24;14(11):534.

What are micelles?

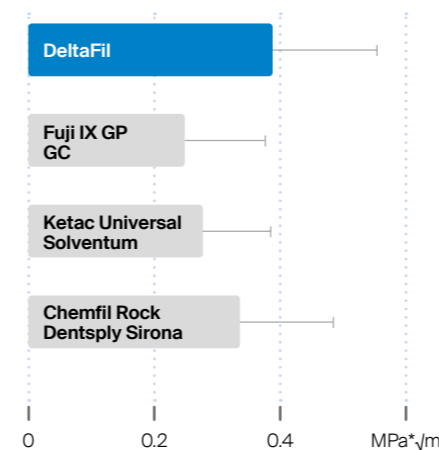
Micelles are spherical aggregates that form spontaneously in polar solvents. They consist of molecules that have an amphiphilic character. This causes the molecules to combine to form a spherical structure, with their hydrophilic heads pointing outwards, facing the polar solvent, and their hydrophobic tails pointing inwards.

DeltaFil significantly outperforms the competition

DeltaFil improves not only the resistance of restorations through the dispersion of elastomeric micelles, but also the clinically relevant flexural strength and

fracture toughness. Preclinical data confirms DeltaFil's superiority in this regard over competing products.

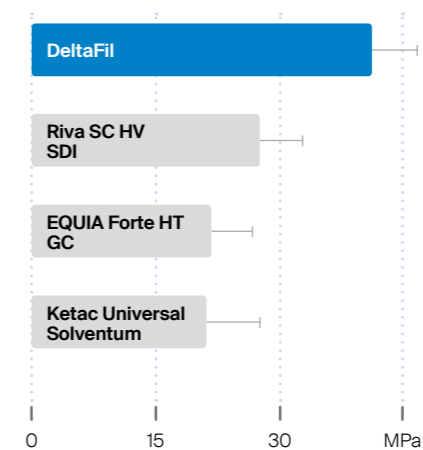
Fracture toughness



The fracture toughness of a material is an important parameter and assesses how well a material can withstand the formation and spread of cracks. It measures how much energy a material can absorb before it breaks. DeltaFil demonstrates the highest fracture toughness here compared with tested competitor products.

Source: Ilie et al., LMU Klinikum, March 2020. Data not published.

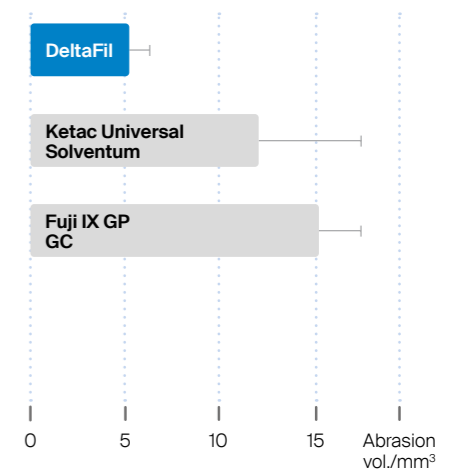
Flexural strength



Flexural strength indicates how much force can be exerted on a material before it breaks. In dentistry it serves as a decisive factor in assessing the durability and stability of a filling material. Here too, DeltaFil delivers outstanding results in comparison to the competitor products tested.

Source: Irie et al., Okayama University, August 2020. Data not published.

Abrasion behaviour



Abrasion behaviour describes the wear of a material due to mechanical friction, during chewing or teeth grinding, for example, and is also an important parameter in the evaluation of the durability of a product. DeltaFil has a significantly lower abrasion volume than all other materials tested. This is indicative of the material's high wear resistance.

Source: Messer-Hannemann et al. Evaluation of a Method to Determine Wear Resistance of Class I Tooth Restorations during Cyclic Loading. Materials (Basel). 2022 Aug 8;15(15):5440.



Find out more about the studies in our [study flyer](#)



DeltaFil boasts optimal aesthetics – and much more

DeltaFil is a hit with patients and clinicians alike, with optimal aesthetics and great versatility thanks to its practical selection of shades. This extended range of shades has been specially developed for children and older people and those with severely discoloured teeth.

Greater choice thanks to specially adapted range of shades:

DeltaFil is available in the shades White, A1, A2, A3, A4 and Dark.



Special range of shades



- White:** Ideal for the treatment of primary and bleached teeth
- Dark:** Ideal for the treatment of older patients whose teeth may be severely discoloured

Your DeltaFil benefits at a glance



- Improved mechanics thanks to innovative micelle technology
- Natural surface lustre
- Easy to use, no isolation necessary
- Promotes remineralisation through fluoride release
- Self-adhesive
- Excellent biocompatibility
- Suitable for atraumatic restorative treatment (ART)
- Range of shades adapted to specific patient groups

Everything in hand – thanks to newly developed application tongs

Experience the utmost precision and convenience with DMG's newly developed application tongs for the DeltaFil capsule variant. Your indispensable tool for precision application. The capsule holder is made from a high-performance plastic to minimise wear and allow capsules to be mounted precisely and easily.

Thanks to their innovative, ergonomic design, the tongs are comfortable to hold and the inverted design allows for effortless dosing and precision application of the material – even in hard-to-reach areas.

Designed for perfect results

Our new capsule design sees us combine timeless design with optimised handling. The capsule is made of a transparent bio-modified plastic that provides you with information about the product quality at all times, so you can check the integrity of the powder, monitor

the mixing result and see how much material is still available during application. Our capsule outlet ensures a pleasant application thanks to minimised contact pressure.



Quick and easy handling



- Simple to mould
- Does not stick to the instrument
- Perfect adaptation to the cavity wall
- Optimised consistency
- Convenient processing time
- Excellent setting behaviour
- Suitable for use with metal matrices
- Time-saving application with inverted tong design



Other system components

Coating

DeltaFil Coat is a light-curing, TPO- and MMA-free protective varnish for glass ionomer cements. It is applied at the end of the treatment and protects the glass ionomer cement from drying out and from becoming contaminated with moisture. The coating also ensures optimum surface quality and lustre, significantly reducing the need for fine polishing and improving the aesthetics of the restoration.

Conditioner

DeltaFil Conditioner is a polyacrylic acid solution for removing the smear layer after preparation and conditioning the cavity. This optimises the bond between DeltaFil and the tooth structure, promoting the durability of the restoration with optimum retention.



The ideal solution for every preference

For classic, cost-effective treatment, DMG also offers the tried-and-tested hand-mix version of DeltaFil.



DeltaFil: Packaging

DeltaFil

Capsule pack: 50 Applicaps @ 370 mg powder, 0.07 ml liquid (75 mg)

Shade White	REF 520005
Shade A1	REF 520000
Shade A2	REF 520001
Shade A3	REF 520002
Shade A4	REF 520004
Shade Dark	REF 520006

Accessories: Please only use the Applicap Dispenser from DMG.
1 Applicap Dispenser REF 520051

Handmix starter pack: 1 Bottle @ 15 g powder, 1 Bottle @ 8 ml liquid, Mixing pad, Measuring spoon

Shade White	REF 520045
Shade A1	REF 520030
Shade A2	REF 520031
Shade A3	REF 520032
Shade A4	REF 520034
Shade Dark	REF 520046

DeltaFil Conditioner

Pack: 1 Bottle @ 8 ml REF 520020

Capsule version expected to be available as of Q3/2025

Handmix refill pack:

1 Bottle @ 15 g powder, Measuring spoon

Shade White	REF 520047
Shade A1	REF 520035
Shade A2	REF 520036
Shade A3	REF 520037
Shade A4	REF 520039
Shade Dark	REF 520048

1 Bottle @ 8 ml liquid REF 520040
1 Mixing pad REF 520041

DeltaFil Coat

Pack: 1 Bottle @ 5 ml REF 520050
50 Single-use Brushes White REF 109320



You can find further product information at:
de.dmg-dental.com/deltafil



A smile ahead
together



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