

PRODUCT WATCH



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Fill-Up!

Fill-Up!, an innovative, dual-cure, bulk-fill composite, is the newest addition to the company's restorative product line. Fill-Up! is said to combine the esthetics and radiopacity of resin-based composites with simplified and efficient handling, allowing the bulk-fill restoration to be completed in a single step. Its dual-cure properties (chemical plus light curing) are designed to allow the material to be administered to an arbitrary filling depth without the need of an additional cover layer.

COLTENE

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COLTENE's new Fill-Up! bulk-fill composite

Simon Sutter, composite R&D manager, helps us take a close look at this new bulk-fill composite. [by [Lauren Krzyzostaniak](#)]

COLTENE has created filling materials (particularly resin matrix composites) since the late 1970s. Having proven its stance as an innovator since then (think duo shade systems, natural layering techniques and prefabricated composite veneers), it's no surprise Fill-Up! bulk fill has arrived on the market to praise and accolades.

COLTENE developed Fill-Up! with the intention of providing a basic tooth-colored filling material that could be applied efficiently and still result in a functional restoration. The material can be placed as easily as a glass ionomer cement with the properties of a composite. Most impressive, however, is the dual curing capability. While light curing loses its effectiveness with every composite layer added, implementing a self-curing mechanism alongside the light curing technique results in a safe, effective solution.

"We realized many dentists don't trust the light curing method of bulk-fill composites so we wanted to provide a reliable material and a robust application method," said Simon Sutter, COLTENE's composite R&D manager. "The dual-curing material of Fill-Up! is able to fill really large cavities in one step with unlimited depth, guaranteed curing and extremely good sealing."

What sets it apart

Fill-Up! has enhanced esthetics and a simpler procedure, according to Minnesota dentist Frank Milnar, DDS, who has used Fill-Up! since it was first released for beta testing.

"It's a one-product fill, which really saves time and money, plus it has a much deeper curing depth," he said.

As opposed to other bulk fills on the market, the extra layers it takes to fill the deepest cavity are still curable. Where the light can't reach, the self-curing mechanism takes over.

It's more effective, as well, because chemical curing materials start curing from the center and shrink toward the center as opposed to light curing materials, which shrink toward the light source, away from the cavity walls.

It's especially suitable in situations in which there is limited time. One layer and one color mean you don't have to manage the color or layer the composite. Performing the job quickly and efficiently means a more successful outcome for patients who aren't able to sit still for long periods of time.

"We are aware that all materials have limitations," Sutter said. "Dual-curing materials are reliable but inferior in aesthetics to light curing composites. Therefore, we position Fill-Up! as a basic restoration when time and/or lowest cost are of highest importance. This means only one universal shade and no color matching procedure, which is very simple."

How it works

Fill-Up! is a microhybrid two-component composite made up of a base and catalyst paste. The base and paste are mixed during extrusion in a static mixer and, after a delay, the curing starts. The material can be placed in one layer with unlimited thickness so no layering technique is needed. As an amalgam replacement, the material can even be used on the tooth surface and in load-bearing chewing positions. Fill-Up! comes in a universal shade and sets to an A2-A3 on the VITA shade guide, but for more specific shade requirements, practitioners

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can add a universal composite as the top layer.

Nearly fail proof

Though no product can possibly claim to be perfect every time in every scenario, Fill-Up! comes close. Because of its dual-curing properties, fillings can be administered in arbitrary thickness. Fill-Up! can also be used when it's not feasible to use curing lights. The increase of stress is much slower with chemical curing composites, which means shrinkage forces are not at work within the tooth. The science behind chemical curing ensures doctors and patients won't see bonding failure, gap building and secondary caries.

The biggest challenge, Sutter said, was to develop the most robust application procedure on the market and select the best-suited bonding for the purpose. It seems they've overcome that challenge: Dr. Milnar enthusiastically called Fill-Up! "perfect" throughout several interviews and emails. Try it out and let us know what you think. ●



[Figs. 1-3] Left to right: COLTENE's Fill-Up! Intro Kit with ParaBond (Fig. 1); Fill-Up! Refill (Fig. 2); and the Fill-Up! Economy Kit (Fig. 3). To order online, visit fill-up.coltene.com.

HOW TO USE

Prepare: Remove the caries or old restoration, clean the area, create a dry working area and place a curved matrix.

Etch: Bevel enamel edges and apply etchant gel, starting with enamel and ending with the dentin for a total-etch technique. Wait 15 seconds for gel to take effect. Rinse with water for 20 seconds before blowing the area dry using a gentle stream of oil-free air for two seconds.

Bond: Mix one drop of adhesive A and one drop of adhesive B, apply and massage for 30 seconds. Blow the area dry using a gentle stream of oil-free air for two seconds.

Fill: Put an arched matrix around the tooth then dispense material to level the base and cat. Choose one of the mixing tips and fill for one minute with the mixing tip inside the composite, starting at the deepest point. Here, you want to overfill the cavity.

Apply a covering layer (optional): Stop applying Fill-Up! under the occlusal preparation margin then light cure to reduce the inhibition layer of Fill-Up! (This area may not be contaminated. If contamination occurs, repeat the application of ParaBond Adhesive A and B.) Finally, place a covering layer and light cure according to the manufacturer's instructions.

Cure: Wait for the setting then cure for five to 10 seconds (depending on the polymerization lamp). Tip: Short curing with a maximum power of 1600 mW/cm² will have a positive effect on shrinkage stress, preventing postoperative sensitivities.

Polish and finish: Glycerin gel can be applied to diminish the inhibition layer before finishing with finishing diamonds of 80, 40 or 15 μm. Apply a constant wiping motion and copious spraying with water with a speed of 5,000 to 15,000 RPM.

WHAT IS FILL-UP!?

Fill-Up! is a dual-curing bulk fill composite that will cure Class I and II cavities in depths that competitors fail to reach. It has a natural tooth color with great esthetics and works as an excellent amalgam replacement. It also has a medium viscosity, making it easily adaptable to the cavity, cavity liner and core buildup. The color makes it look natural under UV light, but it's visible under X-rays because it is fluorescent and radiopaque. It also offers anti-bacterial zinc oxide, reducing bacteria proliferation on the restoration surface.

Fill-Up!™

A hole in one!

Dual cure bulk-fill composite



Deep. Fast. Perfect.

Unlimited cure depth
Single step application
Minimal shrinkage



2 x 4.5 g Fill-Up!™ Universal
1 x 2.5 ml Etchant Gel S
2 x 3 ml ParaBond Adhesive A & B

Watch the product tutorial on ColteneLearning.com!

fill-up.coltene.com

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