



## Show the ravages of time your teeth

### SCHOTT “DentalGlass Resist“ makes dental fillings even more resistant

**Landshut/Cologne (Germany) March 07, 2013 – Glass powders provide dental fillings like composites and similar material mixtures with outstanding stability and a very attractive appearance. SCHOTT will launch a special glass that exhibits particularly high chemical stability at the International Dental Show (IDS). It will make dental fillings last even longer and withstand all types of acidic and alkaline attacks that are experienced during the ingestion of food.**

Today, dental composites are the material of choice when it comes to aesthetic tooth restoration. The stability and durability of the versatile glass-polymer mixture has constantly been improved since it was first introduced to the market more than 40 years ago. By expanding its range of dental glass powders, the international technology group SCHOTT has actively contributed to this development, as composite fillings consist of up to 80 percent high-purity glass.

The latest development is “DentalGlass Resist,” a new glass that belongs to the chemical resistance class 1. Tests involving acids, alkaline solutions and water show how this glass is literally invulnerable to attack. In fact, it is even more resistant than borosilicate glass, which is often used in various chemical laboratory applications. For this reason, this inert material for use in extremely durable dental fillings effectively resists vinegar, fruit juices or acidic oral flora – the surface of the filling remains in its original condition.

#### **For faster curing fillings**

Thanks to its high resistance to acids, this glass is also ideally suited for use in resin-reinforced glass-ionomer cements. These innovative systems normally contain an acidic formula. They cure both chemically and with the help of UV light in

**SCHOTT AG**  
International Dental Show  
Cologne, Germany  
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Hall 02.2, Booth A041

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combination with the glass powder base. This enables them to be applied more quickly in layers at the dentist's office. Furthermore, more fluoride can be added to the filling to prevent the development of secondary caries.

Finely ground, this special glass ensures that dental composites and resin-reinforced glass-ionomer cements resemble natural dental enamel very closely in terms of both their mechanical properties and their appearance. "DentalGlass Resist" comes with refractive indexes of 1.53 nd and 1.55 nd and is available in all standard grain sizes. In addition, fine pigment shades allow for the color of the fillings to be adjusted to match the respective tooth just perfectly, therefore they are nearly invisible.

### **Broad portfolio of dental glasses**

The expectations of patients, dentists and health insurance companies in respect to filling materials vary considerably and are quite high. For this reason, SCHOTT invests a great deal of resources in research and in helping companies that manufacture filling materials to develop even higher-quality products. Depending on the polymer used, customers today can choose from approximately twenty different types of glasses with refractive indexes of between 1.47 nd and 1.83 nd, including several glasses that even offer enhanced radiopacity.

For more information: [www.schott.com/epackaging](http://www.schott.com/epackaging)

*The SCHOTT plant in Landshut is the leading manufacturer of special glass powders that exhibit certain physical, chemical and bioactive properties. Through its many competence centers around the world, SCHOTT EP offers state-of-the-art dental powders in the highest possible purities and finest grain sizes for use in aesthetic tooth restoration. The company that is part of the international technology group SCHOTT that has 16,000 employees all over the world is supported by more than 125 years of experience in developing, manufacturing and reliably supplying specific solutions to its customers all over the world.*

*SCHOTT is an international technology group with more than 125 years of experience in the areas of specialty glasses and materials and advanced technologies. SCHOTT ranks number one in the world with many of its products. Its core markets are the household*

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*appliance, pharmaceuticals, electronics, optics, solar power, transportation and architecture industries. The company is strongly committed to contributing to its customers' success and making SCHOTT an important part of people's lives with its high-quality products and intelligent solutions. SCHOTT is committed to managing its business in a sustainable manner and supporting its employees, society and the environment. The SCHOTT Group maintains close proximity to its customers with manufacturing and sales units in 35 different countries. Its workforce of around 16,000 employees generated worldwide sales of approximately 2 billion euros for the 2011/2012 fiscal year. SCHOTT AG, with its headquarters in Mainz, Germany, is owned by the Carl Zeiss Foundation.*

Download link to a video that shows how SCHOTT dental glass is manufactured and applied:

<http://www.schott.com/epackaging/english/glass/dental/index.html>

Download link to a ZIP file that contains this photograph in printable quality:

[http://www.schott-pictures.net/presskit/196504.dentalglassresist\\_e](http://www.schott-pictures.net/presskit/196504.dentalglassresist_e)



Photo ID 191737: SCHOTT DentalGlass resist: Finely ground, this glass of the chemical resistance class 1 is perfectly suited as a filling material for extremely long-lasting dental composites and resin-reinforced glass-ionomer elements. Photo: SCHOTT



Photo ID 139718: Dental composite: dental fillings based on dental composites are cured in a matter of seconds using light. This material's properties are similar to natural teeth due to its high proportion of up to 80 percent glass powder. Photo: SCHOTT

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Photo ID 17486: Glass powder from SCHOTT: dental fillings made of glass powder and polymers have largely replaced amalgam fillings that contain mercury. SCHOTT supplies leading manufacturers of high-quality dental composites all over the world with glass powder. Source: Foto



Photo ID 139717: Dental composite: (1.) After it has cooled down, glass is ground during a multi-step process. (2.) Grain sizes significantly smaller than one micrometer can be achieved with SCHOTT UltraFine technology. (3.) The dental composite consists of up to 80 percent glass powder and a liquid polymer mixture. (4.) Fine pigment shades make it possible to individually adjust it to match existing tooth material. (5.) Light that is applied with the help of glass fiber rods is normally used to cure composites. Photo: SCHOTT



Photo ID 11885: Manufacturing a dental composite: SCHOTT melts well over 100 different types of glass for use in various applications, 20 of which are used in dentistry. Photo: SCHOTT

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Photo ID 11884: Manufacturing a dental composite: the poured glass that has cooled down is ground using a multi-step process. Photo: SCHOTT



Photo ID 11883: Manufacturing a dental composite: SCHOTT NanoFine® exhibits a grain size that is only 180 nm in diameter. Photo: SCHOTT



Photo ID 11882: Manufacturing a dental composite: A dental composite consists of up to 80 percent glass powder and a liquid polymer mixture. Photo: SCHOTT



Photo ID 11881: Manufacturing a dental composite: fine pigment shades allow for the color of the fillings to be adjusted to match the color of the natural tooth just perfectly. Photo: SCHOTT

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Photo ID 11880: Manufacturing a dental composite: light that is applied using glass fiber rods like the ones SCHOTT manufactures is generally used to cure composites. In the process, the glass powder uses polymerization shrinkage and offers outstanding mechanical and optical qualities. Photo: SCHOTT

More press photographs are available for downloading here:

[www.schott-pictures.net](http://www.schott-pictures.net)

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