Grandio®

INNOVATION
COLOUR
E-MODULUS
CONSISTENCY
ABRASION

THE DENTAL ADVISOR ++++ Editors' Choice

THE DENTAL ADVISOR "Best of 2005, 2006, 2007 Prefered Product"

2009 REALITY Four Star Award ★★★★

nanohybrid technology

NDT non dripping technology

Grandio

THE NANO-CLASSIC

VOCO THE DENTALISTS

Grandio®

NANO-TECHNOLOGY: SMALL PARTICLES – BIG EFFECT

Dentists want composite restoratives that have a smooth, non-tacky consistency and also facilitate a simple and efficient procedure. They additionally want composite restoratives that exhibit high chewing and margin stability in the cured state, plus high aesthetics and an optimum shade match.

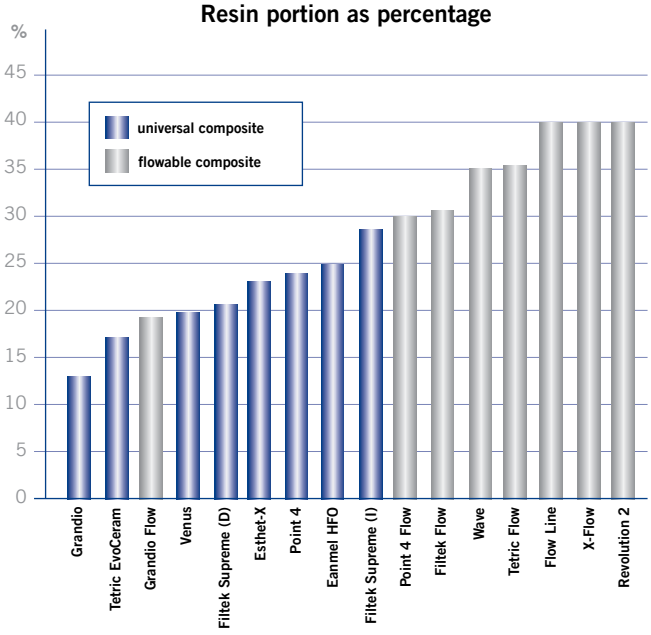
With Grandio, VOCO offers a composite that combines ideal processing with outstanding material properties. These special attributes found in Grandio result from the use of trendsetting nano-technology.

All composites are composed of a resin matrix and filler. The proportion of these two components determines the physical properties of the restoration. The aim of dental research: A material with the highest amount of filler possible, that is still easy to process. VOCO fulfills this demand with Grandio. Because of Grandio, nano-technology is used: The tiniest fillers, each a millionth of a millimeter, permit an especially high filler content of 87 w/w %.

With Grandio, VOCO had already set a new standard in 2003 as the first manufacturer of a new generation of nano-hybrid composites. Proven worldwide a million times over, Grandio has long been regarded as a nano-classic. Grandio ranks among the internally most successful restoratives as a result of its outstanding material properties, universal application with all cavity classes and simple handling. With Grandio, dentists and scientists from all over the world confirm the success of the quality and durability of restorations in both the anterior and posterior regions.

Because of nano-technology, Grandio is a high performance composite that features both convincing physical qualities and persuasive, optimum handling attributes.

Resin portion as percentage



Resin portion as percentage according to manufacturer's statements

Grandio®

THE ALLROUND-TALENT

Grandio® stands for:

- Ideal consistency and simplest handling
- E modulus comparable to natural tooth substance
- Pronounced abrasion resistance and chewing stability
- High biocompatibility thanks to the low resin portion

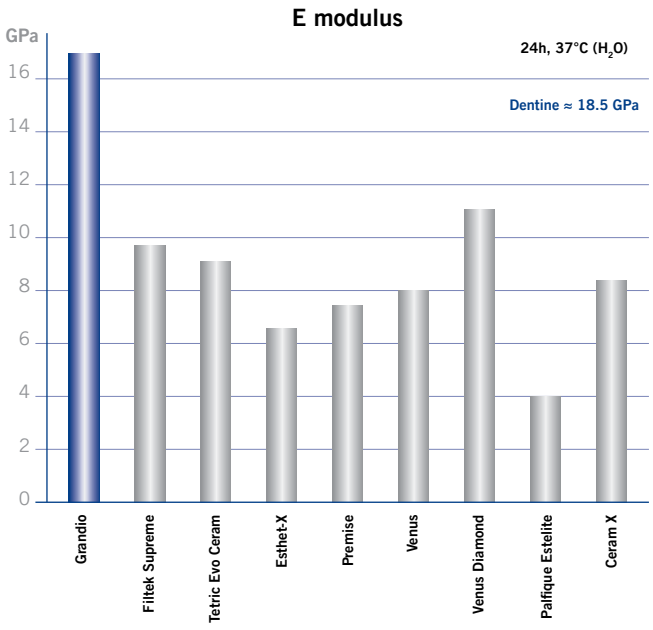
Grandio is a modern, light-curing, nano-hybrid composite. Nano-particles evenly imbedded in the resin matrix are effectively combined with glass ceramic fillers, for which the particle size has been exactly coordinated. This yields an extremely high filler portion (87 w/w %), a simultaneous reduction in the resin portion and a small amount of polymerisation shrinkage (1.57 %). The extremely high filler content provides Grandio with a very hard surface, high tensile and transverse strength, plus high edge stability and distinct abrasion resistance.

Grandio also exhibits an E modulus (17.1 GPa) that is comparable to dentine and its behaviour is equally stable and elastic like the surrounding tooth substance under chewing pressure. This also applies to thermal expansion behaviour of Grandio (α = 19 [10^{-6} / K]). The tensions on the cavity walls are considerably reduced and the potential for stress between tooth and restorative is avoided. The risk of both fractures and marginal leakage is reduced and thus the danger of the development of secondary caries.

Grandio is available in 16 popular shades and delivers the foundation for restorations that are close to the natural model with its tooth-like translucency. With just the one-shade technique, highly aesthetic restorations can be realised with only a minimum amount of effort. The shade guide, made from light-cured original material, simplifies coordination with the natural tooth substance in every case. In combination with the simple application of the material, Grandio proves to be exceptionally user-friendly.

As a universal composite, Grandio is suitable for multiple dental indications: Class I - V restorations, repairing restoratives, reconstruction of traumatically damaged anteriors, veneering of discoloured anteriors, correction of shape and shade for better aesthetics, splinting and locking of loosened teeth, veneer repairs, core build-ups and composite inlays.

With an E modulus of 17.1 GPa, Grandio® behaves like natural tooth substance under chewing pressure.



Measurements according to ISO 4049, VOCO GmbH

Grandio®

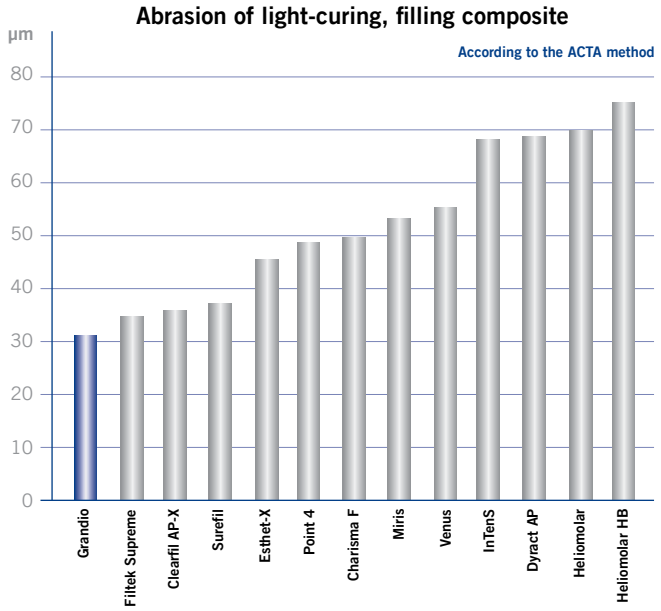
HIGH STABILITY AND LONGEVITY

Grandio offers a substantially higher surface hardness and resistance to abrasion than traditional composites. The extremely high filler content provides Grandio with a distinct surface hardness (285 MHV) that is superior to traditional composites. Grandio is thus an extremely abrasion resistant material. In comparison tests with other composites made by well-known manufacturers, Grandio exhibited the least amount of abrasion with 32.5 µm (ACTA method).

The extreme surface hardness and abrasion resistance not only benefit uniform chewing stability and thus clinical stability of the restoration, but also the durability of the polish.

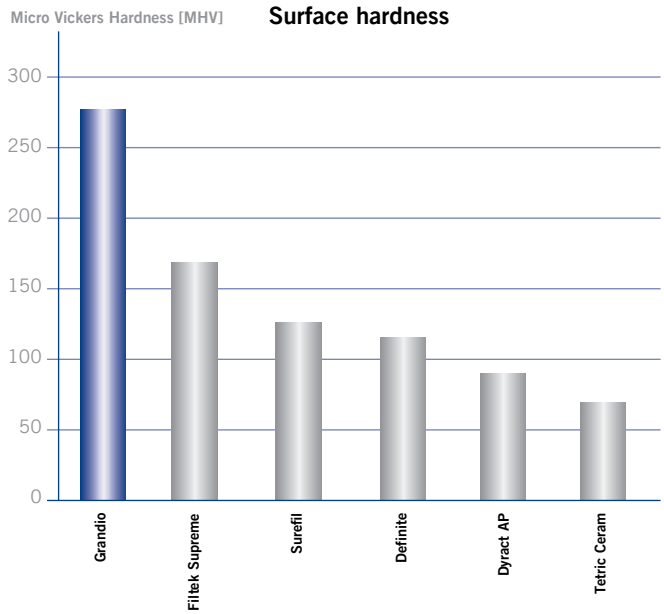
Source: Dr. Marcelo Balsamo

Grandio® displays the lowest abrasion with 32.5 µm in comparison to other composites.



Source: Dabanoglu, A., Kunzelmann, K.H., Hickel, R., Koray, F.,University of Istanbul, Munich, Three Body Wear Resistance of Resin Composites, DGZ / EFCD Conference, Munich 2003

Through the use of nano-particles, Grandio® features a distinct surface hardness (285 MHV) and extremely high filler content (87 w/w %).



Source: Prof. Dr. U. Behrend, University of Rostock, 2003

Grandio®

SIMPLEST HANDLING, BEST RESULT

Grandio is pleasantly smooth with contemporaneously high filler content and it offers ideal handling properties. Grandio is characterised by its non-tacky consistency and excellent stability. This consistency makes Grandio easy to mould and it facilitates adaptation to the existing morphology of the tooth. The short exposure time of 20 seconds provides for a considerable time advantage.

The result: stable restorations and natural aesthetics.

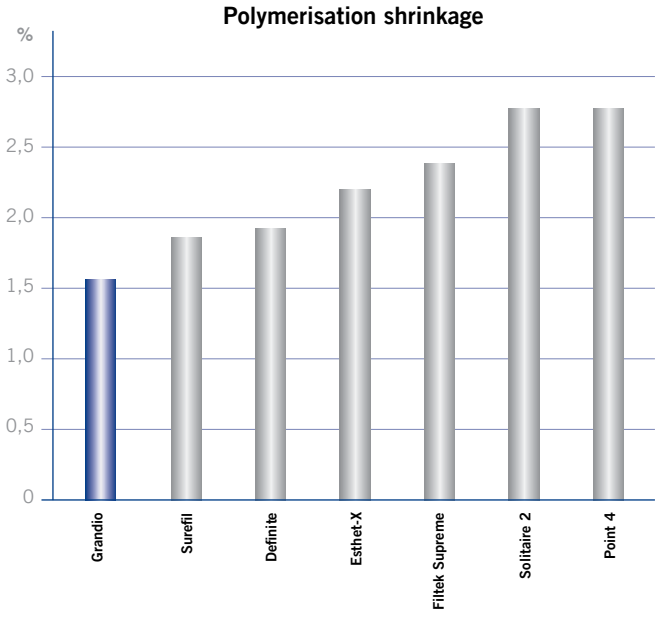
Initial situation

Preparation and Grandio Flow liner

Completed restoration with Grandio

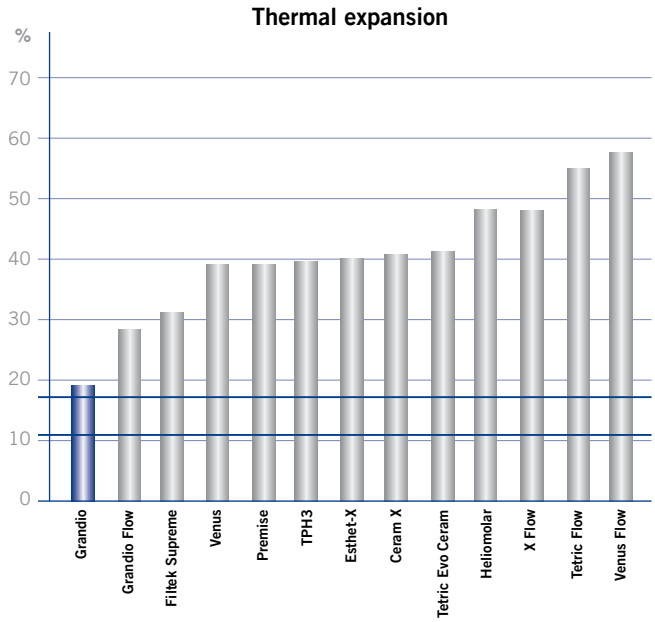
Source: Dr. Marcelo Balsamo

The extremely low shrinkage value of Grandio® (1.57 %) provides for less tension stress and outstanding margin behaviour.



Source: Prof. Dr. Watts, University of Manchester

The thermal expansion of Grandio® (α = 19 [10^{-6} / K]) also corresponds to that of natural tooth substance.



Source: Dr. H. Wolter, Fraunhofer-Institute for Silicate Research ISC, 2005 (VOCO GmbH)

Grandio® Flow

THE FLOWABLE FOR ALL CAVITY CLASSES

Scientifically proven and demonstrated in the surgery numerous times, Grandio Flow is the flowable composite for all restorative indications. Grandio Flow is thus universal in its application. It is also a very reliable, well-established restorative for the indication-appropriate treatment of all cavity classes and ranges of use. Grandio Flow combines all of the advantages of the nano-hybrid composite valued by dentists in its material properties, but it is also still flowable.

The material is only flowable for modeling under pressure and movement, due to its flow-on-demand properties (exactly adjusted thixotropy). It is so stationary after modeling is completed that it does not flow out of the cavity. Grandio Flow is ideally suited for minimally invasive restoration of Cavity Classes I to V as well as for treatment of cavities in deciduous teeth and expanded fissure sealing.

Also Grandio Flow comes now in VOCO's new syringe with Non-Dripping-Technology. Unintentional loss of material is now a thing of the past.

Grandio Flow is offered in 12 shades that are coordinated with the Grandio shade selection.

Non-standard indications can also be fulfilled with the special shades Bleach Light (BL) and White Opaque (WO).

80.2 w/w % filler content – but flowable!

Bleach Light is not only suitable for bleach teeth, but also for paediatric dentistry.

White opaque forms an excellent restoration foundation (e.g. with discoloured dentine areas or core build-ups).

Advantages

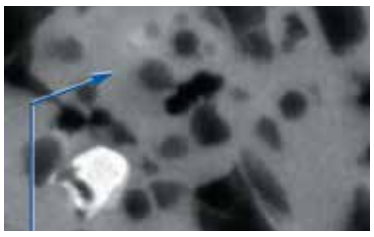
- Excellent wetting properties
- Ideal flowability and simultaneous high filler content
- Outstanding physical properties
- Significantly less polymerisation shrinkage than conventional flow materials
- Extremely high resistance to abrasion
- High transverse strength

Grandio® Flow

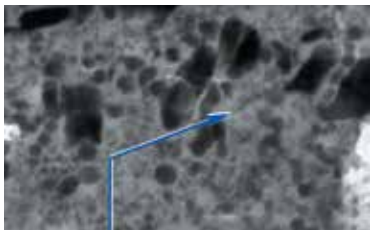
THE HIGHEST LEVEL OF TECHNOLOGY

In contrast to other flow materials, Grandio Flow has a considerable head-start in terms of technology. Grandio Flow has a resin portion that is up to 50 % less than traditional flow materials and even lower than some pasty hybrid-composites.

Grandio Flow offers ideal physical properties as a result, e.g., surface hardness and abrasion resistance. Grandio Flow also surpasses other flowables and most pasty hybrid-composites in this respect.



Traditional flowable, unfilled area

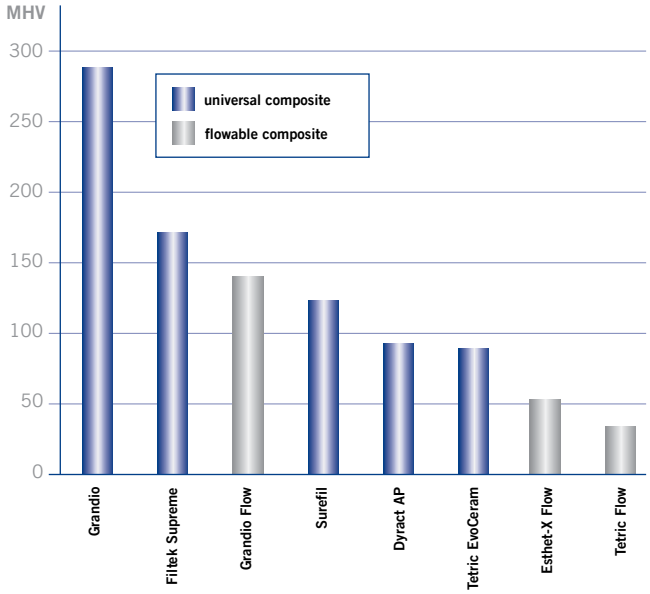


Grandio Flow, filled with nano-particles

Indications

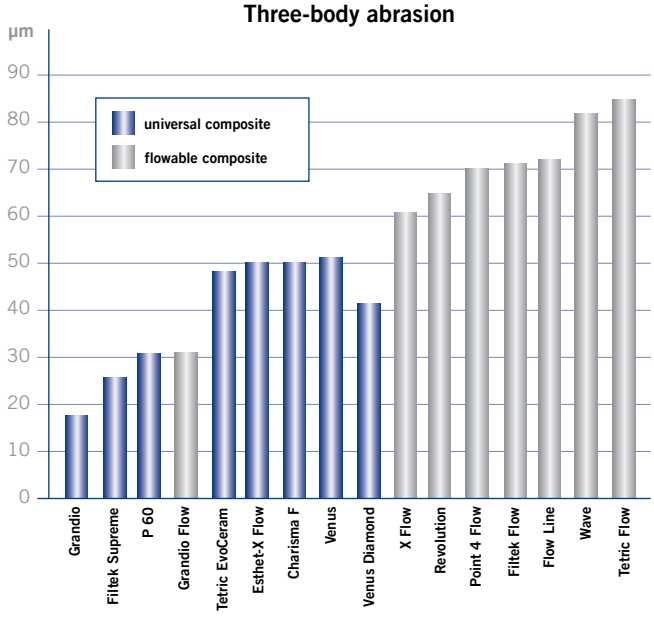
- Filling small class I cavities
- Restoration of Cavity Classes II to V
- Treatment of cavities in deciduous teeth
- Extended fissure sealing
- Possibility of the CBF technique (Composite-Bonded to Flow)

Micro Vickers Hardness



Source: Prof. Dr. U. Behrend, University of Rostock, 2005

Three-body abrasion



Source: Voco GmbH, internal measurement analogous to J.Dent. Suppl. 1, 22 (1994)

Grandio®

PRESENTATION

Presentation Grandio®

REF 1800 Set syringe 5 × 4 g (A1, A2, A3, A3.5, B2), shade guide

REF 1801 Set + bond
syringe 5 × 4 g (A1, A2, A3, A3.5, B2), shade guide
+ 50 Futurabond NR *SingleDose* 50 pcs., accessories

REF 1830 Set Caps 50 × 0.25 g (10 each A1, A2, A3, A3.5, B2), shade guide

REF 1831 Set + bond
Caps 50 × 0.25 g (10 each A1, A2, A3, A3.5, B2), shade guide + Futurabond NR *SingleDose* 50 pcs., accessories

Presentation Grandio® Flow

REF 1860 Set syringe 8 × 2 g (A1, 2 × A2, 2 × A3, A3.5, B2, OA2), shade guide

REF 1861 Set + bond
syringe 8 × 2 g (A1, 2 × A2, 2 × A3, A3.5, B2, OA2), shade guide + Futurabond NR *SingleDose* 50 pcs., accessories

REF 1877 Set Caps 40 × 0.25 g (8 each A1, A2, A3, A3.5, OA2), shade guide

REF 1878 Set + bond
Caps 40 × 0.25 g (8 each A1, A2, A3, A3.5, OA2), shade guide + Futurabond NR *SingleDose* 50 pcs., accessories

Individual shades

Shade	Syringe 4 g	Caps 20 × 0.25 g
A1	REF 1810	REF 1840
A2	REF 1811	REF 1841
A3	REF 1812	REF 1842
A3.5	REF 1813	REF 1843
A4	REF 1814	REF 1844
B1	REF 1824	REF 1854
B2	REF 1815	REF 1845
B3	REF 1816	REF 1846
C2	REF 1817	REF 1847
C3	REF 1818	REF 1848
D2	REF 1825	REF 1855
D3	REF 1819	REF 1849
I	REF 1820	REF 1850
OA2	REF 1821	REF 1851
OA3.5	REF 1822	REF 1852
BL	REF 1823	REF 1853

Individual shades

Shade	Syringe 2 × 2 g	Caps 20 × 0.25 g
A1	REF 1863	REF 1880
A2	REF 1864	REF 1881
A3	REF 1865	REF 1882
A3.5	REF 1866	REF 1883
A4	REF 1868	REF 1884
B1	REF 1869	REF 1885
B2	REF 1867	REF 1886
C2	REF 1873	REF 1887
D2	REF 1874	–
OA2	REF 1870	REF 1889
BL	REF 1871	–
WO	REF 1872	REF 1891

VOCO GmbH
Anton-Flettner-Straße 1-3
27472 Cuxhaven
Germany

Tel.: +49 (0)4721-719-0
Fax: +49 (0)4721-719-140

info@voco.com
www.voco.com

Available from: