Admira Fusion

NANO-HYBRID ORMOCER® RESTORATIVE MATERIALS
Admira® Fusion

**PURELY CERAMIC-BASED**

The highly innovative ORMOCER® technology – developed by the Fraunhofer Institute for Silicate Research ISC – was first used by VOCO as early as 1999, for the restorative composite Admira. Since then, this pioneering technology has been the subject of continued consistent and meticulous research and development. The aim was to launch an ORMOCER® restorative material completely free of classic monomers, while also implementing the nano-hybrid technology developed by VOCO, which was first employed in 2003 for the manufacture of the composite material Grandio.

The outstanding results are the nano-hybrid ORMOCER® restorative materials of the Admira Fusion range.

**“Pure Silicate Technology” inside**

Silicon oxide forms the chemical base for all Admira Fusion products, not only for the fillers (nano fillers as well as glass ceramics) but also – and this represents the innovative achievement in development – for the resin matrix. This unique “Pure Silicate Technology” makes Admira Fusion the worldwide first purely ceramic-based restorative material and offers several remarkable advantages in one.

**ORMOCER® = Highly biocompatible**

Admira Fusion contains no classic monomers, such as Bis-GMA, TEGDMA or HEMA, thus eliminating the potential for such substances to be released after polymerisation. The ORMOCER®s (organically modified ceramics) which have been used instead consist of large and precondensed molecules of an inorganic matrix with a high degree of cross-linking. The overall verdict on Admira Fusion is one of “excellent biocompatibility”.[1]
Admira Fusion achieves results of highest quality for anterior and posterior restorations. The combination of the innovative ORMOCER® technology with that of the tried and tested nano-hybrid materials means that you are able to work with a product which sets new standards, both with regard to its handling characteristics as well as its strength and stability. Convince yourself of the non-sticky, smooth consistency of this material, which adapts excellently to the cavity walls and can be modelled to perfection. The quick and simple high-gloss polishing procedure, in conjunction with high surface hardness, makes Admira Fusion a guarantor for restorations which are aesthetic and remain intact for a long time. According to requirement and allowing for varying demands, Admira Fusion can be used either in a one-shade or a multiple-shade system. Three levels of translucency, or rather opacity, are available for this purpose, while the 10 universal Vita shades are perfectly balanced, achieving realistic results even with just one shade.

10 universal Vita shades – perfect for everyday use
4 special shades provide helpful support in extraordinary situations
4 opaque dentine shades allow highly aesthetic layer system working

Clinical Cases
Enamel-dentine fracture on tooth 21
Modelling of dentine core (OA2) and incisal edge (I)
Applying the final layer (A2) and sculpting the shape of the tooth
Aesthetic result after polishing

Insufficient amalgam restorations in teeth 46 and 47
Prepared cavities
Modelling of the material which is still malleable at this stage (A2)
Finished, polished restorations

Source: Dr. Sanzio Marques, Passos / Brazil
Admira Fusion sets new standards in restorative therapy in respect of materials science. Now you have the option of placing purely ceramic-based restorations chairside, and in just the same straightforward way as you are accustomed to from working with a good restorative composite. Admira Fusion allows you to offer your patients premium treatments in tooth shades which are of previously never achieved quality.

Fact:
Fillers and resin matrix based purely on silicon oxide, no content of classic monomers.

Your benefit:
Excellent biocompatibility[1], minimised allergy potential.

[1] Leyhausen et al., Hannover Medical School, report to VOCO, 2015.

Fact:
Very high surface hardness (141 MHV), coupled with simple and effective polishing procedure.

Your benefit:
Highly stable and smooth fillings are best able to withstand the loads imposed on a daily basis by chewing, and they also impede the adhesion of microorganisms.
**Fact:**
Extremely low polymerisation shrinkage (1.25% by volume) and very low shrinkage stress (3.87 MPa).

**Your benefit:**
Marginal integrity of the highest standard for fillings remaining intact for the long term.

**Fact:**
Ultimate colour stability, even in extreme conditions (2 weeks storage in red wine).

**Your benefit:**
Lastingly aesthetic restorations equate to highly satisfied patients.
Admira® Fusion Flow

FLOWABLE. BIOCOMPATIBLE. AESTHETIC.

If you value the special properties of flowable restorative materials, then the nano-hybrid ORMOCER® Admira Fusion Flow will be the perfect material for you to create restorations of equally high-level quality, aesthetics and, above all, biocompatibility. Both the packable Admira Fusion and also Admira Fusion Flow utilise the unique “Pure Silicate Technology”, enabling you to optimally treat everyday situations, as well as special cases, with a purely ceramic-based flowable.

Innovative and functional
Thanks to its innovative ORMOCER® technology, Admira Fusion Flow exhibits a particularly low level of volume shrinkage (2.75 %) and very low shrinkage stress (7.27 MPa). Especially for cavities with a high c-factor, Admira Fusion Flow therefore represents an ideal foundation and outstanding supplement for the universal restorative material Admira Fusion.

In addition, it is a first-class aesthetic “troubleshooter” due to its high-grade surface hardness in combination with good - and simple - polishability.

Versatile and aesthetic
The flowable is available in 12 shades of extreme colour stability, which perfectly match the range of Admira Fusion shades. Thus Admira Fusion Flow helps you create durably aesthetic restorations in a convenient manner.

The special shades Bleach-Light (BL) and White-Opaque (WO) also serve to treat extraordinary indications. Bleach-Light can not only be used for whitened teeth, but also in paediatric dentistry. White-Opaque is an excellent foundation for restorations in cases such as discolouration in dentinal areas or core build-ups.

Clinical Case

Mesial caries on tooth 12, disto-palatal caries on tooth 11
Pre-filling work on the prepared cavities according to the rules of adhesive filling therapy
Simple application and optimal wetting behaviour of Admira Fusion Flow
Outstanding result created with Admira Fusion Flow / Admira Fusion

Source: Dr. Walter Denner, Fulda / Germany

“Smart” handling
Admira Fusion Flow is a thixotropic material characterised by the so-called “flow-on-demand” feature, which is of great advantage to the user because the material flows when under pressure but keeps its shape and remains in place as required for light-curing. Outstanding flow characteristics ensure an excellent degree of wetting throughout the entire cavity. The material adapts perfectly to the cavity walls and flawlessly fills even undercuts and tunnel preparations.
Admira® Fusion Flow

NANO-HYBRID ORMOCER® RESTORATIVE MATERIAL

Indications
Filling of small cavities and extended fissure sealing
Blocking out undercuts
Lining or coating cavities
Fillings of class III - V cavities
Repairing fillings, veneers and temporary restorations
Luting translucent prosthetic pieces
Locking, splinting of loose teeth

Presentation
REF 2816  Set syringe 5 × 2 g (A1, A2, A3, A3.5, WO), shade guide, accessories
REF 2146  Application cannulae type 41, 100 pcs.

Advantages
• The worldwide first purely ceramic-based flowable restorative material
  – Pure Silicate Technology, i.e. fillers and resin matrix based purely on silicon oxide
  – contains no classic monomers
• Thanks to the most innovative ORMOCER® technology
  – extremely low polymerisation shrinkage (2.75 % by volume) and particularly low level of shrinkage stress in comparison to conventional flowable restorative composites
  – inert, so highly biocompatible and extremely resistant to discolouration
• “Flow on demand” – the material becomes flowable only when under pressure or in motion. When the application has been completed, it is stable enough not to flow out of the cavity.
• Excellent surface affinity with complete wetting of the cavity walls
• VOCO’s patented, non-running and non-dripping NDT® syringe ensures reliable and perfectly precise application. Undesirable loss of material is thus a thing of the past.
• 12 shades for aesthetic restorations – perfectly matching the shade range of the packable version, Admira Fusion
• Excellent handling, simple high-justre polishing procedure coupled with high surface hardness guarantee first-class long-term results
• Compatible with all conventional bonding agents

Shade | Syringe 2 × 2 g | Shade | Syringe 2 × 2 g
--- | --- | --- | ---
A1 | REF 2818 | B2 | REF 2825
A2 | REF 2819 | C2 | REF 2826
A3 | REF 2820 | Incisal | REF 2828
A3.5 | REF 2821 | OA2 | REF 2829
A4 | REF 2822 | BL | REF 2831
B1 | REF 2824 | WO | REF 2832

74 % w/w radiopacity 240% shrinkage
Admira® Fusion x-tra

QUICK. BIOCOMPATIBLE. BULK.

Admira Fusion x-tra is the bulk fill version of Admira Fusion. This means that this restorative material can be applied in layers of up to 4 mm and then reliably cured. This makes placing posterior restorations particularly quick and economical for you. The universal shade U further simplifies handling, as it provides aesthetic results by adapting, chameleon-like, to the surrounding dental substance.

Marginal integrity of the highest standard

The special ORMOCER® compound molecules in Admira Fusion x-tra reduce the volume shrinkage to an extremely low level (1.25 % by volume) in conjunction with very low shrinkage stress (3.87 MPa). Especially in cases of very large cavities, which are filled in the bulk technique, these two factors guarantee optimal marginal integrity of the restorative material and thus significantly contribute to the long-term success of the restoration.

![Image of Marginal Integrity Comparison]

Methacrylate composites

Admira® Fusion x-tra

High quality achieved with one universal shade

Not only does Admira Fusion x-tra rapidly produce posterior restorations which are of high quality from a material science point of view, it also saves you having to select a shade, which can at times be complicated. At the same time, you will be convinced by the aesthetic final result, which will be to the permanent satisfaction of your patients.

Clinical Case

![Image of Clinical Case]

Source: Dr. Walter Denner, Fulda / Germany

Insufficient composite restoration in tooth 45

Prepared cavity awaiting filling

Application of Admira Fusion x-tra in 4-mm layers

Functional and aesthetic final result
Admira® Fusion x-tra

NANO-HYBRID ORMOCER® RESTORATIVE MATERIAL

Advantages

• Purely ceramic-based, bulk fill restorative material
• Fast and high-quality – reliable curing of 4 mm layers
• Thanks to the most innovative ORMOCER® technology
  – by far the lowest polymerisation shrinkage (1.25 % by volume) and particularly low level of shrinkage stress,
  providing optimal marginal integrity
  – inert, so highly biocompatible and extremely resistant to discolouration
• Excellent handling, simple high-lustre polishing procedure coupled with high surface hardness guarantee first-class long-term results
• Universal shade with chameleon effect
• Compatible with all conventional bonding agents
• In terms of materials science identical to the universal restorative material Admira Fusion – a perfectly matched system

Indications

Class I and II posterior restorations
Base in class I and II cavities
Class V restorations
Locking, splinting of loose teeth
Repairing veneers, small enamel defects and temporary C&B-materials
Extended fissure sealing
Restoration of deciduous teeth
Core build-up

Presentation

REF 2810 Syringe 3 g universal
REF 2811 Caps 15 x 0.2 g universal
REF 9301 Dispenser – Caps

84 % w/w
300 % radiopacity
1.25% shrinkage

max. 4 mm
Added reliability
The placement of increments with packable material can pose a challenge, particularly in hard-to-reach areas. The flowable Admira Fusion x-base cures reliably in increment thicknesses of up to 4 mm, allowing you to work quickly and efficiently. Its self-levelling ability and its excellent adaptation to the cavity walls offer additional handling advantages. Following light-curing, all that remains is to apply an occlusal covering layer.

In combination with extremely low shrinkage (2.5 % by volume), it is possible to fill large cavities reliably and with optimal marginal integrity.

Clinical Case

Occlusal caries in tooth 36
Cavity prepared for further procedure in accordance with the rules of adhesive filling therapy
Selective etching of the tooth enamel
Application of the bonding agent Futurabond M+
Application of Admira Fusion x-base in 4-mm layers
Light-curing
Covering with Admira Fusion, followed by light-curing
Functional and aesthetic final result

Source: Prof. Dr. Jürgen Manhart, Munich / Germany

Source: In-house measurement, 2017
Admira® Fusion x-base

NANO-HYBRID ORMOCER® RESTORATIVE MATERIAL

Indications

- Base in class I and II cavities
- Cavity lining under direct restorative materials in class I and II cavities
- Small, non occlusal stress-bearing class I restorations according to minimally invasive filling therapy
- Class III and V restorations
- Extended fissure sealing
- Undercut blockout
- Repair of small enamel defects
- Repair of small defects in aesthetic indirect restorations
- Repair of temporary C&B-materials
- Core build-up

Advantages

- Purely ceramic-based
- Fast and high-quality – 4 mm restoration base in one simple step
- Thanks to the most innovative ORMOCER® technology – extremely low polymerisation shrinkage (2.5 % by volume) and particularly low level of shrinkage stress, providing optimal marginal integrity
- Inert, so highly biocompatible and extremely resistant to discolouration
- Perfect surface affinity for outstanding adaption
- Excellent handling, even in difficult-to-access areas
- Available in the non-dripping NDT®-syringe
- Compatible with all conventional bonding agents and composites / ORMOCER® restorative materials

Presentation

- REF 2812 Syringe 2 × 2 g universal, accessories
- REF 2148 Application cannulae type 46, 100 pcs.
Admira® Fusion

UNIVERSAL NANO-HYBRID ORMOCER® RESTORATIVE MATERIAL

Indications
Class I to V restorations
Base in class I and II cavities
Reconstruction of traumatically damaged anteriors
Facetting of discoloured anteriors
Correction of shape and shade for improved aesthetic appearance
Locking, splinting of loose teeth
Repairing veneers, small enamel defects and temporary C&B-materials
Extended fissure sealing
Restoration of deciduous teeth
Core build-up
Composite inlays

Advantages
• The worldwide first purely ceramic-based restorative material
  – Pure Silicate Technology, i.e., fillers and resin matrix based purely on silicon oxide
  – contains no classic monomers
• Thanks to the most innovative ORMOCER® technology
  – by far the lowest polymerisation shrinkage (1.25 % by volume) and particularly low level of shrinkage stress in comparison to conventional restorative composites
  – inert, so highly biocompatible and extremely resistant to discolouration
• Completely universal – meeting highest demands in anterior and posterior regions
  – perfect coordination of translucence with opacity for natural results
  – the optimal selection of shades enables highly flexible working using either the single or multiple shade system
• Excellent handling, simple high-lustre polishing procedure coupled with high surface hardness guarantee first-class long-term results
• Compatible with all conventional bonding agents

Presentation

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