Admira Fusion

NANOHYBRID 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 nanohybrid technology developed by VOCO, which was first employed in 2003 for the manufacture of the composite material Grandio.

The outstanding results are the nanohybrid 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 BisGMA, 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

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

### Surface hardness

![Surface hardness graph](image)

<table>
<thead>
<tr>
<th>Material</th>
<th>Surface Hardness (MHV)</th>
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</thead>
<tbody>
<tr>
<td>Admira Fusion</td>
<td>150</td>
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<tr>
<td>Ceram X Mono</td>
<td>130</td>
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<tr>
<td>Filtek Supreme XTE</td>
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<tr>
<td>Kalore</td>
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<tr>
<td>Tetric EvoCeram</td>
<td>80</td>
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<tr>
<td>Venus Diamond</td>
<td>60</td>
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</table>

Source: Prof. Dr. D. Behrend, University of Rostock, 2014
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 achieves results of highest quality for anterior and posterior restorations. The combination of the innovative ORMOCER® technology with that of the tried and tested nanohybrid 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.

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. Sândio Marques, Passos / Brazil
Admira Fusion x-tra is the fast-track 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.

**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**

*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*

Source: Dr. Walter Denner, Fulda / Germany
Admira® Fusion x-tra

**NANOHYBRID ORMOCER® RESTORATIVE MATERIAL**

### Advantages

- Purely ceramic-based, fast-track 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 discoloration
- 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 anteriors
- Extended fissure sealing
- Repairing veneers, small enamel defects and temporary C&B-materials
- Restoration of deciduous teeth
- Core build-up

### Presentation

- REF 2810 Syringe 3 g universal
- REF 2811 Caps 15 × 0.2 g universal
- REF 9301 Dispenser – Caps
Admira® Fusion Flow

FLOWABLE. BIOCOMPATIBLE. AESTHETIC.

If you value the special properties of flowable restorative materials, then the nanohybrid 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

**“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

NANOHYBRID 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-lustre polishing procedure coupled with high surface hardness guarantee first-class long-term results
- Compatible with all conventional bonding agents

<table>
<thead>
<tr>
<th>Shade</th>
<th>Syringe 2 × 2 g</th>
<th>Shade</th>
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Radiopacity: 240%
Admira® Fusion

**UNIVERSAL NANOHYBRID ORMOCER® RESTORATIVE MATERIAL**

### 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

### Indications

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

### Presentation

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* (3 each of B1, B3, D3, BL, Incisal)

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