

# Glass ionomer materials

## PRODUCT OVERVIEW

# Glass ionomer materials from VOCO

## MORE THAN 20 YEARS' RESEARCH DEVELOPING PRODUCTS OF THE HIGHEST QUALITY

VOCO has been researching and manufacturing glass ionomer materials for use in the dental field for more than 20 years. The glass ionomer restorative and luting materials cover a wide range of applications in restorative and prosthetic dentistry when used in accordance with their indications.

The glass ionomers from VOCO now form part of a class of material that provides excellent treatment for the most important indications – either as a direct restorative treatment, as a fissure sealant, or for the final luting of restorations fabricated in the laboratory.

The following overview of VOCO's glass ionomer materials illustrates the comprehensive range of applications of the various products.

|   | Ionolux / AC       | Voco Ionofil Molar / AC | Voco Ionofil Molar AC Quick | Ionofil Plus / AC |
|---|--------------------|-------------------------|-----------------------------|-------------------|
| Mixing time   | 30 s. / 10 s.      | 50–60 / 10 s.           | 10 s.                       | 10 s.             |
| Working time  | > 3 min.           | 2.5 / 2 min.            | 1.5 min.                    | 2 min.            |
| Setting time  | 20 s. light curing | 4.5 / 4 min.            | 2.5 min.                    | 4 min.            |
| Temporary restorations  | ●                  | ●                       | ●                           |                   |
| Restorations of deciduous teeth   | ●                  | ●                       | ●                           | ●                 |
| Cavity liners   | ●                  | ●                       | ●                           | ●                 |
| Build-up restorations   | ●                  | ●                       | ●                           | ●                 |
| Core build-up   | ●                  | ●                       | ●                           |                   |
| Class V cervical restorations   | ●                  | ●                       | ●                           | ●                 |
| Class III anterior restorations   | ●                  |                         |                             | ●                 |
| Small class I posterior restorations  | ●                  |                         |                             | ●                 |
| Large class I + II semipermanent posterior restorations   |                    | ●                       | ●                           |                   |
| Use on root caries  | ●                  | ●                       | ●                           | ●                 |
| Extended fissure sealing  |                    |                         |                             | ●                 |
| Luting on / of  |                    |                         |                             |                   |
| <b>Core build-ups</b><br>made of dental hard tissue, amalgam, composite and glass ionomers  |                    |                         |                             |                   |
| <b>Crowns and bridges</b><br>Ceramic veneer with metal frame, all-ceramic made of silicate, zirconium oxide or aluminium oxide ceramics |                    |                         |                             |                   |
| <b>Inlays and onlays made from</b><br>composite, ceramic, precious metal and non-precious metal   |                    |                         |                             |                   |
| <b>Root posts</b><br>Metallic and non-metallic  |                    |                         |                             |                   |
| <b>Orthodontic bands</b>  |                    |                         |                             |                   |

## Advantages of glass ionomer materials

Glass ionomer materials have many material-specific advantages which is one of the reasons why they are used on a daily basis in dental practices.

The chemical bonding of glass ionomer materials to the dental hard tissue without the use of an adhesive and their ease of application in a relatively dry treatment area are just two of the

many advantages of these materials. These advantages have proved to be of crucial importance, especially in paediatric dentistry, gerodontology and when dealing with non-compliant patients.

The release of fluoride from the glass ionomer products provides effective protection against secondary caries.

| Aqua Ionofil Plus | Argion / Argion Molar AC | Ionobond | Ionoseal                                      | Meron Plus / AC   | Meron  | Aqua Meron |
|-------------------|--------------------------|----------|---|-------------------|--------|------------|
| 30–40 s.          | 50–60 s. / 10 s.         | 30 s.    | not applicable<br>(single-component material) | 30 s. / 10 s.     | 30 s.  | 30 s.      |
| 3 min.            | 2.5 min. / 2 min.        | 2 min.   |   | 2–4 min. / 2 min. | 3 min. | 3 min.     |
| 5.5 min.          | 4.5 min. / 4 min.        | 4 min.   | 20 s. light curing                            | 4 min.            | 6 min. | 6.5 min.   |
|                   | – / ●                    |          |   |                   |        |            |
| ●                 | ●                        |          |   |                   |        |            |
| ●                 | ●                        | ●        | ●   |                   |        |            |
| ●                 | ●                        |          |   |                   |        |            |
|                   | ●                        | ●        |   |                   |        |            |
| ●                 |                          |          |   |                   |        |            |
| ●                 |                          |          |   |                   |        |            |
| ●                 |                          |          |   |                   |        |            |
|                   | – / ●                    |          |   |                   |        |            |
| ●                 | – / ●                    |          |   |                   |        |            |
| ●                 |                          |          | ●   |                   |        |            |
|                   |                          |          |   |                   |        |            |
|                   |                          |          |   | ●                 | ●      | ●          |
|                   |                          |          |   | ●                 | ●      | ●          |
|                   |                          |          |   | ●                 | ●      | ●          |
|                   |                          |          |   | ●                 | ●      | ●          |
|                   |                          |          |   | ●                 | ●      | ●          |

## VOCO Ionofil® Molar AC / Quick

### SELF-CURING GLASS IONOMER MATERIAL FOR PERMANENT RESTORATIONS IN THE POSTERIOR REGION

The restorations that are subjected to the greatest loads during the masticatory process are those in the posterior region. These restorations must have a very high compressive and flexural strength and abrasion resistance. The glass ionomer restorative materials VOCO Ionofil Molar AC and VOCO Ionofil Molar AC Quick from VOCO provide you with a tried and tested material concept for tooth-coloured posterior restorations that not only has excellent physical properties but is also extremely easy to handle.

VOCO Ionofil Molar AC and VOCO Ionofil Molar AC Quick have been approved for many different indications: Class I posterior restorations, temporary long-term restorations of class I and II cavities, build-up restorations and cavity liners, core build-ups, restorations of deciduous teeth, as well as restorations of wedge-shaped defects and enamel erosion in the cervical region. The specially developed application capsule with an extra long cannula and a small outlet enables the material to be applied with pin-point accuracy, and thus with maximum convenience, for all indications named.

#### VOCO Ionofil® Molar AC

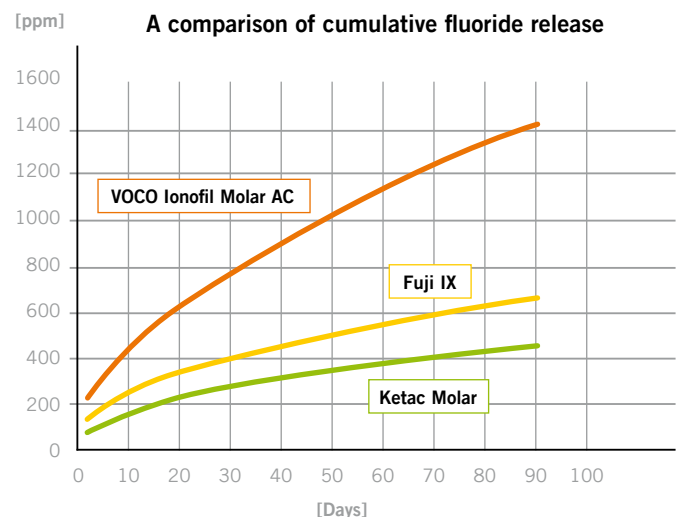
VOCO Ionofil Molar AC can be used straight from the practical application capsule without conditioning. It has a packable, high-viscosity and non-sticky consistency immediately on being dispensed. This glass ionomer restorative material guarantees extremely stable restorations without marginal gaps, thanks to its secure adhesion to dentine and enamel. Its tooth-like translucency gives the restoration a natural, aesthetically pleasing look.

VOCO Ionofil Molar AC has a high level of biocompatibility because it contains no harmful ingredients. In addition, its continuous release of fluoride contributes to the prevention of secondary caries. VOCO Ionofil Molar AC is radiopaque (250 % Al) and is available in the shades A1, A2 and A3. The high radiopacity of VOCO Ionofil Molar AC makes it very easy to differentiate it from the dental hard tissue.

#### And for even quicker treatment there is VOCO Ionofil® Molar AC Quick.

When choosing the restorative materials for carious deciduous teeth, the dentists and their teams are often faced with the special problems entailed in treating children. The most critical factor for the dentist here is often time. VOCO Ionofil Molar AC in its Quick variant with a setting time of just two

and a half minutes enables treatment to be carried out even more quickly. The material is particularly suitable for treating children and nervous patients. This is because treatment can be carried out in a relatively dry treatment area without conditioning the dental hard tissue, and because the material sets rapidly. VOCO Ionofil Molar AC Quick, too, is available in the three shades A1, A2 and A3.



Source: VOCO, in-house study, 2006

Fuji IX and Ketac Molar are not registered trademarks of VOCO GmbH

## VOCO Ionofil® Molar AC / Quick

### PACKABLE LIKE AMALGAM

The excellent workability of the glass ionomer material is crucially determined by its packability.



A comparison of VOCO Ionofil Molar and material from a competitor. It is clearly recognisable that, as soon as the VOCO material is dispensed, it has a packable consistency that can be sculpted immediately.

#### Advantages of VOCO Ionofil® Molar AC

- 40 % more material available in one capsule than with other manufacturers
- Immediately packable
- Non-sticky consistency
- Very high abrasion resistance, compressive and flexural strength
- Firm adhesion to dentine and enamel
- Continuous fluoride release
- High radiopacity
- High biocompatibility
- Tooth-like translucency

#### Advantages of VOCO Ionofil® Molar AC Quick

- This variant of VOCO Ionofil Molar AC sets in only 2.5 min.
- Particularly suitable for the treatment of children and nervous patients



#### Presentation

##### VOCO Ionofil Molar

- REF 1441 set 3 × 15 g powder (A1, A2, A3), 10 ml liquid, 3 ml Final Varnish LC
- REF 1447 powder 15 g A1
- REF 1442 powder 15 g A2
- REF 1443 powder 15 g A3
- REF 1448 liquid 10 ml

##### VOCO Ionofil Molar AC

- REF 1463 set 48 capsules (8 × A1, 8 × A2, 32 × A3), 3 ml Final Varnish LC
- REF 1464 48 capsules A1
- REF 1460 48 capsules A2
- REF 1465 48 capsules A3

#### Presentation

##### VOCO Ionofil Molar AC Quick

- REF 1630 set 48 capsules (8 × A1, 8 × A2, 32 × A3), 3 ml Final Varnish LC
- REF 1469 set 20 capsules A3, AC Activator, AC Applicator
- REF 1631 48 capsules A1
- REF 1634 48 capsules A2
- REF 1632 48 capsules A3

## Ionolux®

### LIGHT-CURING GLASS IONOMER RESTORATIVE

Ionolux is a light-curing glass ionomer restorative material available in shades A1, A2 and A3 which has been developed to be used for various indications in restorative and preprosthetic dentistry. Because of its optimum material and handling properties, Ionolux is particularly recommended for use in cases where the treatment of patients presents a particular challenge to the dentist, for example in paediatric dentistry and gerodontology as well as in pain and emergency therapy.

Ionolux is also suitable for use in preprosthetic treatment cases where extensive dental hard tissue defects have to be treated so that abutments can be prepared subsequently and permanent restorations carried out.

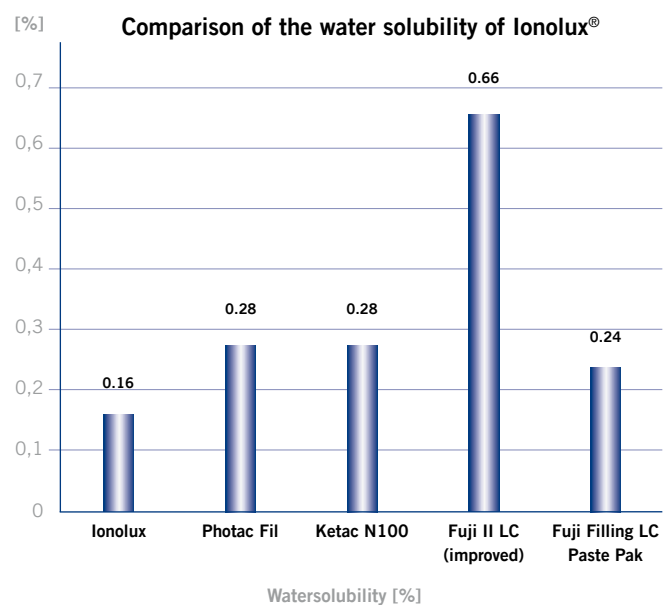
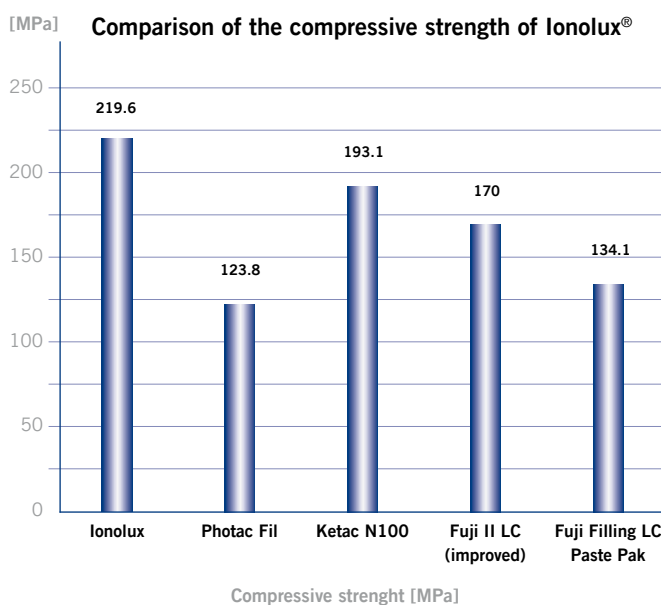
#### Optimum material and handling properties

Ionolux can be applied quickly after creating a treatment area that only needs to be relatively dry. The material is packable and sculptable immediately after being inserted into the cavity without sticking to the instrument. It can be fitted perfectly to the cavity walls. With Ionolux it is not necessary to condition the dental hard tissue before placing the restoration, nor to use a varnish after curing. The polymerisation time of 20 seconds per layer is short and practice-oriented. Ionolux has a variable working time which can be individually set by the dentist by using the polymerisation device. The specific material composition of Ionolux makes it easy to polish. Ionolux is also biocompatible and protects the tooth from secondary caries by releasing fluoride.

#### Highest values for permanent restorations

Ionolux has a very high compressive strength (219.6 MPa) as well as very low water solubility (0.16 %) and therefore produces stable, permanent restorations. Apart from the practical capsule variant, Ionolux is also available in an extremely economical hand-mixed form which can be used with a minimum amount of equipment.

**Use Ionolux® to benefit from the combined advantages of glass ionomer and composite: simply fill, polymerise, finish: that's all there is to it!**



Source: VOCO in-house measurements 2009, data on file

Photac Fil, Ketac N100, Fuji II LC (improved) and Fuji Filling LC Paste Pak are not registered trademarks of VOCO GmbH

## Ionolux® in use



upper anterior region: requires restoration...



... and immediately after restoration

Source: Dr. Isma Goltz, Bremen



Pain case: teeth 16, 15 following excavation



Finished Ionolux restoration

Source: Prof. Hervé Tassery, MCU-PH, Faculty of Odontology, University of Marseille

## Advantages of Ionolux®

- Easy to apply, can be modelled immediately
- Does not stick to the instrument
- No conditioning of dental hard tissue
- No varnish required
- Ideal for Sandwich technique
- Does not flow from the cavity
- Easy, direct and bubble-free application
- High biocompatibility



## Presentation

|          |  |          |  |
|----------|--|----------|--|
| REF 1980 | set 50 capsules (10 × A1, 10 × A2, 30 × A3), accessories | REF 1990 | 12 g powder A1, 5 ml liquid, mixing pad, accessories |
| REF 1981 | Intro set 20 capsules A3, AC Applicator, AC Activator    | REF 1991 | 12 g powder A2, 5 ml liquid, mixing pad, accessories |
| REF 1984 | 20 capsules A1   | REF 1992 | 12 g powder A3, 5 ml liquid, mixing pad, accessories |
| REF 1985 | 20 capsules A2   |          |  |
| REF 1986 | 20 capsules A3   |          |  |

## Ionofil® Plus /AC

### MEDIUM-VISCOSITY GLASS IONOMER RESTORATIVE MATERIAL

The transition from the enamel to dentine region presents a challenge for every restorative material. There are crucial advantages in using Glass ionomer materials in this critical transition region because of their properties such as chemical bonding to enamel and dentine as well as their ease of application without previous conditioning.

The excellent material properties of Ionofil Plus / AC, such as the easy modelling of convex surfaces, its high fluoride release and excellent wetting properties have come to be appreciated by dentists all over the world.

#### Advantages

- Spreadable consistency
- Simple, direct, bubble-free application
- Good marginal adaptation
- Excellent wetting properties
- Continuous fluoride release



#### Presentation

##### Ionofil Plus AC

|          |  |
|----------|--|
| REF 1700 | set 48 capsules (8 × A1, 32 × A3, 8 × B3), 3 ml Final Varnish LC |
| REF 1701 | 48 capsules A1   |
| REF 1702 | 48 capsules A3   |
| REF 1703 | 48 capsules B3   |

#### Ionofil Plus

|          |  |
|----------|--|
| REF 1520 | set 3 × 15 g powder (A1, A2, A3), 10 ml liquid, 3 ml Final Varnish LC, accessories |
| REF 1521 | powder 15 g A1   |
| REF 1525 | powder 15 g A2   |
| REF 1522 | powder 15 g A3   |
| REF 1524 | liquid 10 ml   |

## Aqua Ionofil Plus

### WATER-MIXABLE GLASS IONOMER RESTORATIVE MATERIAL

Aqua Ionofil Plus is a water-mixable glass ionomer restorative material from VOCO with optimum radiopacity (>200 % Al) and high translucency. The chemical bonding of Aqua Ionofil Plus to dentine and enamel enables permanent restorations to be carried out. The continuous release of fluoride provides protection against secondary caries.

There is no risk of overacidification because the material is mixed with water – the powder contains all the required components in the right proportions. This has the additional benefit of simplifying the storage of materials.

#### Advantages

- High radiopacity
- Excellent aesthetics in three shades
- Simplified storage of materials because product can be mixed with water



#### Presentation

##### Aqua Ionofil Plus

|          |  |
|----------|--|
| REF 1509 | set 3 × 15 g powder (A1, A2, A3), 3 ml Final Varnish LC, accessories |
|----------|--|

|          |                               |
|----------|-------------------------------|
| REF 1510 | powder 15 g A1                |
| REF 1513 | powder 15 g A2                |
| REF 1511 | powder 15 g A3                |
| REF 2110 | Aqua Ionofil Plus shade guide |

## Argion / Molar AC

### PACKABLE, SILVER-REINFORCED GLASS IONOMER RESTORATIVE MATERIAL – IDEAL FOR CORE BUILD-UPS

Fine silver particles of highest purity increase the mechanical strength in glass ionomer materials and ensure extremely high radiopacity of up to 400 % Al. Argion and Argion Molar AC are two silver-reinforced glass ionomer materials that are ideal for building up fillings and for cavity linings. Argion Molar AC can be conveniently mixed in the capsule and is applied bubble-free and with pinpoint accuracy by a fine cannula. It has a high viscosity, giving it a packable consistency that is valued by many dentists. Both Argion and Argion Molar AC release fluorides and feature excellent adhesion to dentine and enamel. This is one of the most important prerequisites for permanent restorations with no marginal deficiencies.

The main advantage of Argion in its hand-mixed form is that it only needs to be mixed with water. This eliminates in particular the possibility of overacidification because all the glass ionomer components except water are contained in the powder. The storage of materials, too, is considerably simplified because the product is mixed with water.

#### Advantages

- Excellent packability and modelling properties
- Non-sticky consistency
- Highly radiopaque due to finely dispersed silver particles
- Very high abrasion resistance, compressive and flexural strength
- Secure adhesion to dentine and enamel
- Continuous high fluoride release



#### Presentation

##### Argion

REF 1176 powder 15 g with dropping bottle

##### Argion Molar AC

REF 1476 48 capsules, 3 ml Final Varnish LC

## Easy Glaze®

### PROTECTION AND HIGH LUSTRE FINISH FOR GLASS IONOMER MATERIALS

Easy Glaze is a light-curing protective varnish for surface sealing which is filled with nanoparticles, easy to apply and can be used for a wide range of applications on different materials.

Using the product on glass ionomer restorations is simplicity itself and saves much time: a fine coating is sufficient to produce a high lustre surface that is extremely smooth. Easy Glaze can be simply cured with halogen or LED polymerisation lamps. It is not necessary to condition the restorative material beforehand.

The nanofillers contained in Easy Glaze increase the resistance of glass ionomer restorations to abrasion, discolouration and plaque build-up.

The application of Easy Glaze to a glass ionomer restoration protects the restoration against moisture for the first 48 hours, that is during the initial period of sensitivity to water. The restoration is also noticeably smoother and harder when it has fully cured,

resulting in a significant reduction in abrasions and discolourations in the restoration. An additional advantage of applying Easy Glaze to the glass ionomer restoration is that the newly placed restoration is isolated before an impression is taken, for example with an alginate.



Before: glass ionomer restoration with its typical surface.



After: not only does the restoration with Easy Glaze finish feel smoother to the patient, but it also has an improved aesthetic appearance.

Source: Dr. Marcelo Balsamo, São Paulo



#### Advantages

- Simple to use
- Protects against moisture and drying out immediately after placing the restoration
- Protects against discolouration
- High lustre, aesthetic surfaces
- Natural sheen
- Tooth-like fluorescence



#### Presentation

##### Easy Glaze

REF 1016 bottle 5 ml, accessories

## Ionobond

### SELF-CURING GLASS IONOMER CEMENT FOR CAVITY LINING

Ionobond is a radiopaque glass ionomer cement for cavity lining and core build-ups. It adheres to dentine and enamel by forming a chemical bond and contains no phosphoric acid or monomers. This ensures a high level of pulp compatibility, making the material particularly suitable as a lining and build-up material. Ionobond is also suitable for use in the vicinity of the pulp because it does not generate any heat during setting.

Ionobond also has a cariostatic effect thanks to its continuous release of fluoride.

Ionobond can be mixed quickly and easily because of the microfine powder component it contains.

#### Advantages

- Excellent packability
- Secure adhesion to dentine and enamel
- High biocompatibility
- Continuous high fluoride release
- High compressive strength
- Tooth-like thermal expansion coefficient



#### Presentation

##### Ionobond

REF 1083 powder 10 g, liquid 15 ml

## Ionoseal®

### LIGHT-CURING GLASS IONOMER COMPOSITE LINING CEMENT

Ionoseal has proved to be successful in clinical use for over 15 years as a lining material for amalgam, ceramic or composite restorations. Yet VOCO has now succeeded in further improving its formulation and application.

#### The material for day-to-day clinical use

With Ionoseal, syringes that run, drip, leave strings and waste expensive material are things of the past because the material is applied directly from the NDT® syringe (NDT stands for Non-Dripping Technology). This innovative technology, on which the design of the plunger for the syringe is based, ensures that the plunger retracts automatically into the barrel of the syringe after pressure is exerted. This prevents runoff, thereby preventing the syringe from dripping. The required amount of Ionoseal can therefore be placed with pinpoint accuracy without wasting any material.

The formulation of Ionoseal has also undergone further development. The viscosity of the material has been improved without sacrificing any of the tried and tested properties of Ionoseal such as its high compressive and flexural strength. In practical terms this means that the product can be inserted with even greater precision into the prepared cavity and that areas which are difficult to reach can be wetted more effectively than before.

The fact that millions of cavity linings have been placed over more than 15 years testifies to the excellent compatibility of Ionoseal. Various compatibility studies using different model systems confirm Ionoseal's excellent biocompatibility compared with other materials. Moreover, the accompanying release of fluoride prevents the formation of secondary caries.

Ionoseal in the direct application syringe saves time and material because there is no need to mix the product. Ionoseal eliminates the possibility of mixing errors, residues of material

on the mixing pad and the mixing in of air. Moreover, the short light curing time of only 20 seconds reduces the time spent on a cavity lining.

Ionoseal has excellent application and chemico-physical properties. Stable cavity linings can be placed under composites, cements and amalgams, even in shallow cavities, thanks mainly to Ionoseal's high compressive strength of 226 MPa, coupled with its very high flexural strength of 95 MPa. Ionoseal is also completely resistant to acids. A high radiopacity of 200 % Al rounds off the product's excellent properties. This enables you to reliably differentiate dental hard tissue from cavity liner material in every case.



High radiopacity of Ionoseal as well as a gap-free bond between the dental hard tissue, Ionoseal and the restorative material (Grandio®).

#### Advantages

- Ready-to-use one-component material
- Time-saving: light-curing in seconds
- Quick and hygienic application
- High compressive strength (226 MPa)
- Fluoride release against secondary caries
- High biocompatibility
- High radiopacity

#### Presentation

##### Ionoseal

REF 1126 tubes 2 × 4 g

REF 1326 syringes 3 × 2.5 g, application cannulae type 41



## Meron Plus /AC

### RESIN-REINFORCED GLASS IONOMER LUTING CEMENT

Meron Plus AC, the resin-reinforced luting cement, combines the advantages of tried and tested glass ionomer and composite technologies. Thanks to its excellent properties, the cement can be used for the permanent luting of all crowns, bridges, inlays and onlays made of metal, veneer ceramic and all-ceramics. In addition, Meron Plus and Meron Plus AC are ideally suited for cementing high strength zirconium oxide ceramics.

#### The material for day-to-day clinical work

Meron Plus AC is the ideal material for day-to-day clinical work, thanks to its high adhesive strength. At the same time, the product is straightforward and quick in its application. Meron Plus AC is conveniently applied using the application cannula and is self-adhesive. A primer and conditioner are not required. The material is extremely flowable thanks to its film thickness of only 10 µm. The extended elastic soft phase facilitates the removal of excess material.

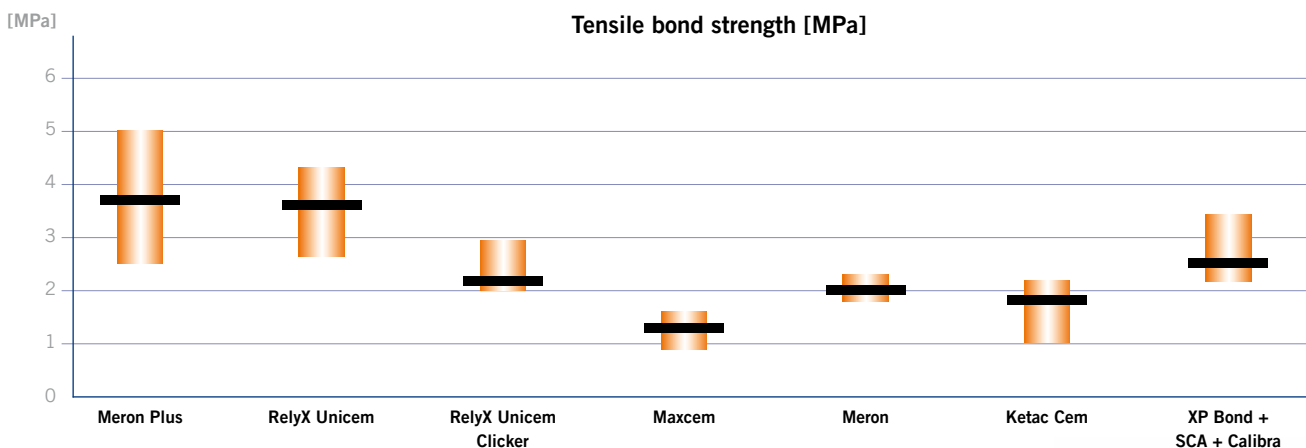
#### Highest values confirmed independently

In a study conducted by the University of Mainz different luting agents were tested for tensile bond strength. In each case the luting agents were applied in the self-curing mode. The illustration, "Tensile bond strength", shows the results of these tensile bond tests. Meron Plus produced the highest values in these tests. The study came to the conclusion that particularly

resin-reinforced glass ionomer cements such as Meron Plus have a very high potential for luting zirconium oxide crowns.

#### Advantages Advantages of Meron Plus and Meron Plus AC

- Self-adhesive: saves time – no separate primer or conditioner needed
- Long elastic phase simplifies thorough removal of excess material.
- Thixotropic: no unwanted run-off
- Specifically suited for zirconia-based ceramic pieces
- Excellent bond to the tooth structure
- Precise marginal fit
- Resistance to moisture and acid



#### Presentation

##### Meron Plus

REF 1731 powder 15 g  
REF 1732 liquid 10 ml

##### Meron Plus AC

REF 1733 48 capsules



\* RelyX Unicem, RelyX Unicem Clicker, Maxcem, Ketac Cem, XP Bond, SCA and Calibra are not registered trademarks of VOCO GmbH

## Meron

### GLAS IONOMER LUTING MATERIAL

The luting of a laboratory-made restoration is the final work step of a prosthetic reconstruction. Meron's thin film thickness of just 15 µm ensures a high accuracy of fit for crowns, bridges, posts and orthodontic bands.

Compared with a conventional phosphate cement that is mixed with phosphoric acid, the use of polyacrylic acid for Meron improves pulp compatibility and facilitates the formation of a chemical bond to the dentine which reinforces the mechanical adhesion strength of the cement. One of the outstanding features of the product in day-to-day clinical work is its extended soft and elastic phase during which excess material can easily be removed.

#### Presentation

##### Meron

REF 1086 powder 35 g, liquid 15 ml

REF 1090 powder 15 g, liquid 7 ml



Source: Dr. Marcelo Balsamo, São Paulo

#### The Advantages of Meron

- Pulp-friendly
- Excellent biocompatibility
- Excellent physical properties



## Aqua Meron

### WATER-MIXABLE GLASS IONOMER LUTING CEMENT

The water-mixable luting cement Aqua Meron, is ideally suited for luting crowns, bridges, inlays, onlays and orthodontic bands. The main advantage of this material is its low acidity, a property which is often of crucial importance when carrying out treatment on teeth that have undergone extensive grinding and on cavities in the vicinity of the pulp.

The microfine consistency of Aqua Meron ensures optimum wetting properties, resulting in thin and even layers. There is no risk of an increase in bite elevation caused by excessive film thickness.

#### Presentation

##### Aqua Meron

REF 1172 powder 35 g with dropping bottle

As with other VOCO "Aqua cements", Aqua Meron simplifies the storage of materials because it is mixed with water.

#### Advantages

- Exceptionally flowable
- Low solubility in the mouth
- Low acidity



## Application capsules from VOCO

### EXCELLENT MATERIAL PROPERTIES WITH AN IDEAL MEANS OF APPLICATION

There are many benefits in using capsules in restorative treatment with glass ionomer materials: the components are contained in optimum proportions and are thoroughly mixed. In addition, air inclusions are minimised. The mixing errors that can occur with manually mixed products, which lead to a deterioration of their physical properties and can therefore impair clinical success, can be avoided.

Application capsules were developed and patented by VOCO to facilitate application and to prevent mixing errors associated with manual mixing. The application capsules from VOCO offer the dentist two key benefits: optimum ratio of both components as well as a user-friendly application. At the same time, the capsules have been matched to the viscosities of the materials so that application capsules adapted to high and medium viscosity glass ionomer materials are available for each.

#### Extremely simple application with perfect results

The interior mechanism of an application capsule comprises two chambers. The larger chamber contains the powder and doubles as the mixing chamber. There is a sachet on the side which is separated from the interior by a foil barrier and which contains the liquid. When the capsule is activated, this sachet is opened and the liquid is emptied into the interior of the capsule. All of the liquid must be discharged to achieve an optimum mix ratio of the two components.

#### Controlled activation

After the capsule has been correctly positioned in the activator (see illustration), press the lever of the activator downwards with even pressure (not abruptly) and hold at the stop for approx. 2 seconds. The important thing to watch when activating the capsule is that an equal load is placed on both shoulders. Older activators in which the gap between the pressure transmitters is too great due to wear must be replaced.

Then mix the capsule for 10 seconds in a capsule mixing device at a (mixing) frequency of 4,000 to 4,500 oscillations per minute.

#### Opening the capsule

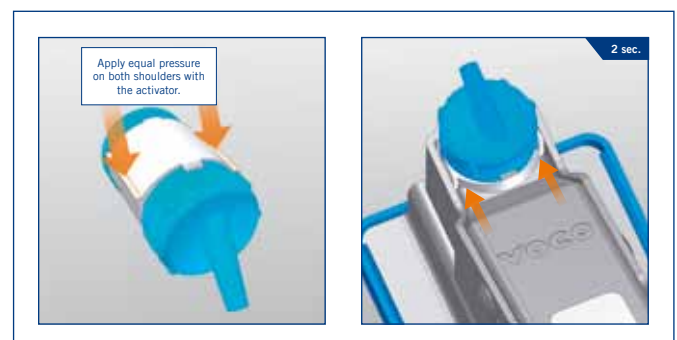
After the capsule has been successfully mixed, open it by turning the outlet through 180°. The capsule can now be inserted into the applicator.

If the mixing tip is to be aligned at a certain angle to the longitudinal axis of the applicator, the entire capsule must always be rotated. Merely rotating the lid with the tip will result in the capsule's not being fully opened or re-closed.

The VOCO glass ionomer materials have been so formulated that they can be applied immediately after mixing, without any delays.

#### The application capsules from VOCO have a number of advantages over the hand-mixed versions:

- Guaranteed correct mix ratio of the components
- The capsule protects the components from light and moisture
- Reduced risk of the incorporation of air
- The material has optimal homogeneity
- The more intensive mixing process ensures an instantly perfect, workable consistency, unlike manual mixing



## Application capsules from VOCO

### ENHANCING THE EXCELLENT MATERIAL PROPERTIES

The AC Activator is a forceps for activating the application capsules.

The AC Applicator is an application forceps for inserting the contents of a VOCO application capsule directly into the cavity.

Both devices are extremely easy to operate and are of high quality workmanship.



#### Presentation

REF 9300 AC Activator  
REF 2331 AC Applicator



## VOCO Mix 10

### CAPSULE MIXER



The VOCO Mix 10 is a capsule mixing device specially designed for optimally mixing VOCO application capsules. VOCO Mix 10 is robust, quiet in operation and is almost vibration free. The mixing times can be varied according to the material at a frequency of 4,300 oscillations per minute.

The key benefits of VOCO Mix 10, apart from its outstanding technical properties, are its safety and convenience in use. The VOCO Mix 10 can be operated only with the safety cover closed, thereby providing complete safety for you and the patient. VOCO Mix 10 can be programmed for mixing times from 1 to 99 seconds. For your convenience the most recent time setting is saved. The large display also considerably eases your work.

#### Presentation

REF 9048 VOCO Mix 10 (220 – 240 V / 50 Hz)  
REF 9049 VOCO Mix 10 (110 V / 60 Hz)

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