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CATALOGUE

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VMK - ENDONEEDLE

For Endodontic and Periodontic rinsing

The VMK-EndoNeedle is a very thin sterile needle (28G (0.35mm.)*1") with a smooth tip. This needle fits on any standard Luer / Luer Lock syringe. The main objective is to bring the endodontic irrigating solution easily and deeper into the root canal while cleaning and shaping in order to remove pulpal remnants or debris of the canals more easily.

- ***Flexible***: The VMK-EndoNeedle is follows any canal curvatures perfectly.
- ***Rebound effect***: introducing an irrigation solution into the canal under a certain pressure will push pulpal debris upward to the canal tip.
- ***Rounded tip***: no obstruction of the needle; the needle does not prick into the canal.

1. DEFINITIONS

To clean a root canal perfectly until the apex, dentists will use a VMK-EndoNeedle. A good endodontic needle should meet the following requirements:

1. There should be a perfect balance between volume and thickness (or flexibility) of the VMK-EndoNeedle;
2. Through its flexibility the VMK-EndoNeedle should adapt itself to each type of canal;
3. The VMK-EndoNeedle should be able to irrigate a canal completely, including the periodontal pockets.

2. EXTERNAL DIAMETER

The external diameter of the VMK-EndoNeedle is 0.35mm. There are three reasons why precisely this diameter has been chosen (these reasons define also the advantages of the VMK-EndoNeedle):

1. the VMK-EndoNeedle never reaches the Apex where the apical opening is about 0.20mm to 0.30mm;
2. the VMK-EndoNeedle is a flexible 28G needle;
3. the VMK-EndoNeedle reaches far enough into the canal in order to obtain a perfectly cleaned canal, even the Apex will be cleaned.

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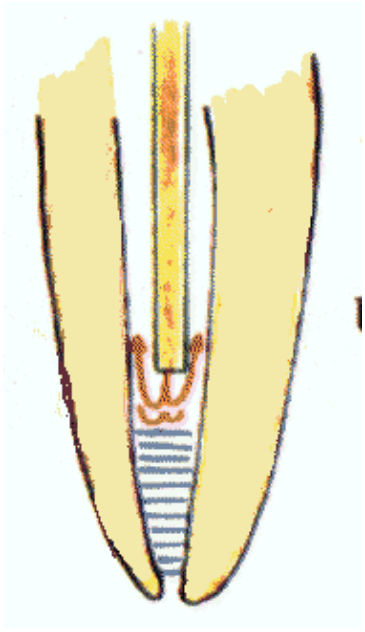
3. INTERNAL DIAMETER

The internal diameter of the VMK-EndoNeedle is between 0.17mm and 0.19mm. There are three reasons why precisely this diameter has been chosen (these reasons define also the advantages of the VMK-EndoNeedle):

1. The dentist is able to "flush" liquid through the VMK-EndoNeedle, but only with a certain pressure. This pressure creates a hydraulic effect. Pulpal debris is removed and pushed upwards the root canal. This is the so-called ***REBOUND-EFFECT***.
2. ***The dentist will withdraw the needle by 1mm when he feels resistance (could be the Apex at the end). By "flushing" the liquid into the root canal, the Apex will be cleaned too.***
3. While the VMK-EndoNeedle is big enough, it never will stick into the canal and the needle will never will be obstructed by pulpal debris.



4. TIP OF THE VMK-ENDONEEDLE

The rounded tip of the VMK-EndoNeedle also allows irrigating the periodontal pockets and removal of pulpal debris from that area.

The rouded tip allows inserting the VMK-EndoNeedle into the canal smoothly and easily.

5. ENDO-SYRINGE - STERILE

This syringe has been developed with a fourth element. This eliminates the risk of being able to remove the piston from its body.
Also the VMK-EndoNeedle will be screwed onto the syringe. During the irrigation procedure, the VMK-EndoNeedle cannot be detached from the syringe.

Code	Description	
99 010	Box of 100 needles	28G * 1" (0,35mm * 25mm)
27 002	Box of 100 syringes	2,5 Ml. Luer Lock
27 006	Box of 100 syringes	5 Ml. Luer Lock

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VMK - VACUNEEDLE

The VMK-VacuNeedle is a bendable and solid needle, especially designed to allow aspiration of liquids and debris in areas most difficult to reach. This needle allows you to dry an area by aspiration (root canal). The connector and the adapter are autoclavable.

The VMK-VacuNeedle is compatible with any aspiration system, supporting a connection of 6 mm, 11 mm, 16 mm.

1. Description

The VMK-VacuNeedle is a bendable and solid needle, especially designed to allow the aspiration of liquids and debris in areas mot difficult to reach. This needle allows you to dry an area by aspiration (root canal). The connector and the adapter are autoclavable.

Available Needles :

0,6 mm diameter, 38 mm long.	**Only use the VMK-VacuNeedle in order to assure the good functioning of the equipment.**
0,8 mm diameter, 38 mm long.	
0,9 mm diameter, 38 mm long.	

2. Connection to the equipment

Connection 6 mm

Connect the metal connector directly to the aspiration tube. Connect a needle to the connector. The needle can be bent if necessary. After use, sterilise the connector and destroy the needle.

Connection 11 mm.

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Connect the metal connector directly to the aspiration tube. Connect a needle to the connector. The needle can be bent if necessary. After use, sterilise the connector and destroy the needle.

Connection 16 mm.

Connect the adapter directly to the aspiration tube. Connect the metal connector directly to the adapter. The needle can be bent if necessary. After use, sterilise the connector and the adapter, destroy the needle.

3. Application for each needle

Needle 0,6 mm. This needle designed to aspirate different liquids from the root canals. After this aspiration, the root canal is almost dry. Less paper points will be needed to clean the root canal. It is a faster and easier way of working.

Needle 0,8 mm. This needle designed to aspirate different liquids from areas difficult to reach. After this aspiration, these areas are clean and dry. It is a faster and easier way of working.
In addition, the needle fits the periodontal procedures perfectly. With its rounded tip, the dentist has an easy, safe and fast access to the periodontal pockets. This way of working allows the dentist to clean the pockets.

Needle 0,9 mm. This needle designed to aspirate different liquids from areas difficult to reach. After this aspiration, these areas are clean and dry. It is a faster and easier way of working. The difference with the 0,8 mm needle is its thickness. The bigger the needle, the more a dentist can aspirate.
In addition, this needle will be used to deliver liquids, gels and other chemical agents to a precise location. Using the standard syringe, it is easy and fast to perform that kind of tasks.

Code	Description
99011	***Starter Kit*** : Connector ;Adaptor ;25 * 0.6 mm ;25 * 0.8 mm ;25 * 0.9 mm ;
99012	***Refill*** : Box with 100 needles 0.6 mm
99013	***Refill*** : Box with 100 needles 0.8 mm
99014	***Refill*** : Box with 100 needles 0.9 mm

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VMK - ENDOPREP

VMK-EndoPrep is a carbamide-peroxide and EDTA containing gel in syringes that facilitates root canal preparation. It lubricates the root canal and facilitates endodontic instrument preparation. Due to its effervescent properties it makes the cleaning of the root canal easier.

Characteristics

- Antibacterial action
- Easy to use, no cross contamination possible: the tips on the syringe are single use.
- Effervescence in contact with Sodium Chloride: elimination of debris
- Very efficient cleaning of the walls of the root canal

The use of VMK-EndoPrep, in combination with the VMK-EndoNeedle and 3% Sodium Chloride, when rinsing the root canal creates a chemical reaction by means of bubbles. This chemical action will accelerate the up-stream of the pulpal debris. This chemical action enforces the mechanical action (the so-called rebound-effect) of the VMK-EndoNeedle. Both actions will allow you to prepare a perfect root canal.

VMK-EndoPrep is easy to use. The product can be used in the pulp chamber, as well as in the root canal.

In general VMK-EndoPrep should be used repeating the following sequences

1. Coat the instrument to be used with the gel for lubrication
2. Shape the root-canal to the desired number
3. Rinse with a 3% sodium hypochlorite solution

Pulp Chamber

1. Open the pulp chamber in the usual manner
2. Fit the attached needle tip to the syringe and apply the VMK-EndoPrep
3. Rinse with a 3% sodium hypochlorite solution to remove pulp debris and clear the entrance to the root canal
4. Remove the liquids by aspiration

Root-canal

1. The anatomical features of the root canal are a decisive factor for the way in which to use VMK-EndoPrep. For the preparation of wide and relatively straight root-canals, VMK-EndoPrep can be used starting with the first instrument number
2. For narrow, calcified and irregular shaped canals it may be necessary to estimate the shape and working length. Start the reaming to achieve a sufficient size before applying the VMK-EndoPrep
3. Proceed by coating the instruments with VMK-EndoPrep, working in the usual way. Rinse the root canal with 3% sodium hypochlorite solution
4. Dry and fill the canal as usual

Code	Description
99038	***Starter Kit*** : syringe 3 ml.

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VMK - FlowCore

VMK-FlowCore is a dual-curing flowable hybrid composite for core build-ups and cementation of posts

VMK-FlowCore meets the requirements of the international ISO 4049 standard.

1. Description and purpose

VMK-FlowCore is a dual-curing radiopaque flowable hybrid composite-based material for core-build-up and cementation of posts. Delivered in auto-mixing 1:1 MINIMIX-syringes it can be easily dispensed and applied directly.

VMK-FlowCore exhibits a short setting time without high heat generation. The dual-cure properties also enable the dentist to carry out cementations and core build-ups in cases where light cure is not guaranteed sufficient.

2. Procedure for use

1. Preparing the MINIMIX-Syringe

   - Remove the cap of the MINIMIX-syringe and throw it away (do not use again!). It is replaced by a special 1:1 mixing cannula.
   - Turn the cannula 90° until it locks in position.
   - The Material is now ready to be applied.

   Note:

   - Discard the first 2-3 mm of the extruded material. This must be done for each new mix.
   - Store used MINIMX-syringe with fixed used mixing cannula in the dark.
   - The working time (23°C (74°F)) of VMK-FlowCore in the self-cure mode is 1:30 minutes from start of mixing.

2. Root canal preparation

   For canal preparation, we advise to use VMK-RadIX. Since VMK-RadIX is a dual-cure flowable root canal sealing and filling material based on methacrylates, it will be the perfect basis for further build up of the tooth.

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3. Core-Build-Up

3.1 Cavity Preparation

Remove all existing old restorations and decay from the tooth.

3.2 Pulp Protection

Cavity floor of deep excavations should be covered with a thin layer of hard setting calcium-hydroxide material.

3.3 Etching

- Recommended is the total etch technique.
- Apply ETCHING GEL onto the enamel and dentine surfaces beginning with the enamel bevels.
- Leave the etching gel in place for 20 seconds.
- On primary teeth and teeth high in fluoride, a 60 second etch is recommended
- Rinse for 20 seconds with water.
- Dry it in a water and oil-free airstream, but do not desiccate. A slightly wet dentine surface is important for the function of PR.-BOND ETHANOL.
- The etched enamel bevel should have a chalky white appearance.

Etching Precaution:

It is essential, that etched areas are not contaminated by anything. If contamination occurs, re-etch, rinse with water and dry as stated above. Avoid etching gel contact with oral soft tissues, eyes and skin. If accidental contact occurs, flush immediately with copious amounts of water.

3.4 Application of PR.-BOND ETHANOL / PR.-BOND ACTIVATOR

- Apply immediately the PR.-BOND ETHANOL / PR.-BOND ACTIVATOR-mix generously with a brush onto the whole area of the enamel and dentine surfaces for 30 seconds with agitation. The adhesive should build a uniform coating on the whole area of dentine and enamel.
- Re-apply the mixture as needed to ensure that the dentine surfaces are kept wet with the primer mixture for the specified time. Remove excess material carefully.
- Dry cautiously with oil free air for about 15 seconds to remove all volatile components and to disperse the adhesive to an even layer.
- Do no desiccate the dentine.
- Optional: cure the coating with a dental halogen light unit for 20 seconds.

3.5 Finishing preparation

- An application of a second layer of the dual-cure priming and bonding mixture is strongly recommended before application of VMK-FlowCore. For 30 seconds coat again all areas to be primed in the same way as described above.
- The dual-cure system will auto cure after application under the restorative placement within ca. 3 minutes in cases where light cure is not guaranteed sufficient.
- It is essential that the primed dentine and enamel surfaces are dry and contaminant free for the application of VMK-FlowCore.

3.6 Application

- If necessary place any pins or posts. Refer to directions of the selected post manufacturer.
- Place the mixing cannula directly into the preparation and press out the paste.

VMK-FlowCore is automatically mixed when dispensed with slight and even pressure. Filling should occur bottom upward to prevent voids. To facilitate placement of VMK-FlowCore place a matrix band around the prepared tooth.

- VMK-FlowCore may be contoured by using a composite instrument. A flat-ended interproximal carver is recommended.
- Place VMK-FlowCore directly into the preparation and allow the system to self-cure for 3 minutes.
- Afterwards the material should be light-cured (40 seconds). With this technique optimal physical properties will be obtained.
- An explorer can be used to test the complete setting of VMK-FlowCore. Do not remove the matrix before the material has set.
- Final crown preparation on the VMK-FlowCore can be carried out by using crown preparation burs.

Additional Notes

- Do not use any resin to adjust viscosity of composite restorative material.
- Do not use in combination with substances containing eugenol because eugenol can impair the hardening of the composite and may cause discoloration. Do not store the composite material in the proximity of eugenol containing products, nor allow the composite to enter into contact with materials containing eugenol.
- Contact of resin pastes with skin and gingival tissue should be avoided, especially by anyone having known resin allergies.

Code	Description
99041	Minimix syringe of 5 ml. Contents kit : Minimix syringe 5 ml. VMK-FlowCore 5 mixing canulas 8 intra oral tips

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VMK - SILIMASK

VMK-SiliMask is the only silicone-based isolating material providing a safe and comfortable bleaching procedure.

VMK-SiliMask *(fast set)* is a very fast setting addition curing vinyl silicone for isolating the gingiva adjacent to teeth being whitened. It shows excellent flow properties for a precise positioning and for sealing interproximal spaces.

Delivered in MINIMIX-syringes, VMK-SiliMask can be applied directly and bubble-free onto the gingiva.

After tooth whitening it is easy to remove in one or a few large pieces.

*Extra NOTE: VMK-SiliMask can also be used for **extremely fine adjustment** of crowns, procera-caps, implants, … It's fast acting and bubble-free extra putty characteristics*

As described below, the procedure to apply and remove the VMK-SiliMask is:

- easy
- fast
- clean

1. Application of VMK-SiliMask

- Ensure that the teeth to be covered are cleaned thoroughly.
- Apply VMK-SiliMask to build a 4-6 mm wide strip on the gingiva and seal the interproximal spaces.
- Overlap VMK-SiliMask approximately 0.5 mm onto dry enamel.
- Extend VMK-SiliMask to one tooth beyond the last tooth to be bleached.
- Visually check that all gingival tissues at VMK-SiliMask margin are covered and sealing is established.
- VMK-SiliMask has a working time of ca. 25 seconds.
- The setting time in mouth is 1:30 minutes. After setting is completed, the bleaching gel is applied according to user instructions.

2. Removal

- When the bleaching procedure is complete, remove the VMK-SiliMask
- Polish the teeth.

Code	Description
99039	***Starter Kit***: syringe 5 ml and 6 MiniMix mixing canulas.

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VMK - SENSILINE

VMK-SensiLine is soft tissue friendly and will not irritate the gingival. VMK-SensiLine seals the tubules to produce an antimicrobiological barrier (desinfection). VMK-SensiLine has adhesive characteristics, avoiding post-operative sensitivity. VMK-SensiLine is light polimerisable and can also be dried by air.

VMK-SensiLine is an aqueous solution containing photo-initiator. If needed, VMK-SensiLine can be light cured. VMK-SensiLine should be applied to all prepared teeth where dentin is involved. It can be used in combination with all types of restoration and on areas of cervical sensitivity. VMK-SensiLine can virtually eliminate post-operative sensitivity. VMK-SensiLine exhibits good wetting properties.

1. Introduction

VMK-SensiLine is a dentin desensitiser and liner with photo polymerisation possibilities.

As you will notice, we will basically discuss two issues: ***cervical sensitivity*** and ***sensitivity after restoration***.

We will discuss in this document :

Why sensitivity?
How does VMK-SensiLine work?
How to sell VMK-SensiLine?
How to explain the doctor?

2. Cervical sensitivity

I.1 How is cervical sensitivity created?

Dentin sensitivity is caused by open laying dentin or damaged enamel. Simply brushing teeth, cleaning teeth at the dentist, periodontal patients and scaling, may cause these damages. Symptoms are:

Pain when drinking or eating cold food
Pain when drinking or eating warm food
Pain when touching the dentine.

What happens? Having cold or hot food or drinks makes the dentin move (expansion = heat / contraction = cold). The dentin adapts to external temperature changes. When teeth are in good condition, the dentine is covered and sensitivity problems do not occur. When a patient has problems with open laying dentin, the tubules fill up with water, air and bacteria and enter into direct contact with the open air. When the dentine moves (contraction or expansion), water and air are also moving, but in a different way than the dentin. While tubules are in direct contact with the nerves of the teeth, pressure changes that arise create «pain». This pain is called cervical sensitivity.

I.2 VMK-SensiLine as a solution

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VMK-SensiLine is used as a water carrier because it is a hydrophilic monomer (resin). This means that VMK-SensiLine will be used as a water chaser (just like acetone in a primer). VMK-SensiLine will be carried into the tubule by touching the collagen fibres. These collagen fibres will stand up at that time, VMK-SensiLine will be fixed into the tubule and creates a physical barrier.
VMK-SensiLine will create an anti-microbial barrier.
VMK-SensiLine will activate remineralisation. VMK-SensiLine is a resin which has the same density as dentin. When dentin expands or contracts, the VMK-SensiLine will do the same. Hence pressure tensions are avoided.

I.3 Procedure

1. Clean the area by rinsing with water.
2. Aspirate the surface. Do not dry the surface.
3. Apply VMK-SensiLine. Dry the surface by air. VMK-SensiLine is active as it is dry.
4. Rinse the surface with water
5. Apply VMK- SensiLine a second time. Dry the surface by air. VMK-SensiLine is active as it is dry.

There is no need to proceed with the photopolymerisation. Drying VMK-SensiLine by air is sufficient to activate the desensitising effects of VMK-SensiLine. However, when needed, photopolymerisation can be done.

3. Post-operative sensitivity

I.1 How is post-operative sensitivity created?

Post-operative sensitivity is created when the primer did not do seal or reinforce the dentin.

When using a primer, this primer should normally ensure sealing. As explained hereafter, a primer not always seals correctly. At that time, micro leakage occurs. The tubules are exposed to open air. As explained in I.1 which creates sensitivity problems.

II.2 VMK-SensiLine as a solution

When using a bonding system, the primer's active molecules must be carried as far as 75 microns into the tubule to reinforce the dentin. The only way to carry the active molecules of the primer so deep into the tubule is by using a 'water chaser' or a hydrophilic component. That component is acetone, ethanol or water (water-based primers also have a kind of Acetone to go as far as 75 microns into the tubule). At that moment, e.g. acetone will carry the active molecules of the primer to the bottom of the tubule.

The problem with these kinds of carriers is that they evaporate.

acetone-based primers are the best,
followed by ethanol-based primers
followed by the water-based primers (a kind of acetone is used as water chaser).

Acetone also evaporates the fastest. A primer only can work when there is enough acetone to carry. If not, ***post-operative sensitivity*** is created. This means that the patient will experience problems when trying to eat or drink something cold or warm.

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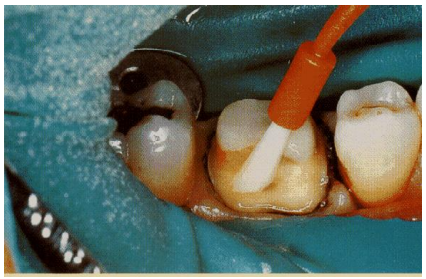
VMK-SensiLine is used as a water carrier because it is a hydrophilic monomer. This means that VMK-SensiLine will be used as 'water chaser' (just like Acetone in a primer). VMK-SensiLine will then be carried into the tubules.

VMK-SensiLine gets into the tubule by touching the collagen fibres. At that time, the active molecules of the primer will be carried into the tubule at 75 microns, not because of the acetone or ethanol, but because of the VMK-SensiLine. In conclusion: ***whether a primer contains or does not contain acetone or ethanol is no longer important when using VMK-SensiLine.*** The primer will always penetrate until 75 microns when it is used in combination with VMK-SensiLine.

I.3 Procedure



1. If an etching agent is used, clean the area by etching.
2. After the etching procedure, aspirate the surface. Do not dry the surface.
3. Working in a dry environment:
   Apply VMK-SensiLine. If the next step of the restoration process requires a DRY surface, DRY the surface by air. Do not start photopolymerisation at this stage.
   Working in a wet environment :
   Apply VMK-SensiLine. If the next step of the restoration process requires a WET-MOIST surface, DO NOT DRY the surface by air. Do not start photopolymerisation at this stage.
4. Depending on the kind of restoration, apply priming/bonding agent or the glass monomer material or the temporary or the permanent cement or amalgam base. Continue the normal restoration procedure.

After or together with the primer, comes the bonding. The fact of using an agent that needs photopolimerisation, the adhesive characteristics of VMK- SensiLine will be activated because of the photopolimerisation of the agent. This effect will create a perfect adhesion in order to eliminate the polymerisation shrinkage stress and postoperative sensitivity.

Code	Description
99 032 Liquid	Bottle of 10 ml. Contents kit : 1 Bottle of 10 ml. VMK-SensiLine 5 Mixing pallets 50 Cavity brushes 50 Surface brushes 1 Brush holder Instructions

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