

DENTAL MATRIX BAND RETAINERS:

Rings

Rings № 1.099A, № 1.099c, № 1.199,

Delta rings № 1.299, № 1.299c,

D ring № 1.166,

M ring № 1.177,

MD rings № 1.167, № 1.167c,

NiTi rings №2.167P, №2.167M,

Rings for saddle matrices № 1.033, № 1.033A, № 1.033c,

Rings for perforated matrices № 1.022,

Slot ring № 1.044

Springclips

Springclip for perforated matrices №1.002,

Springclips for saddle matrices №1.003, №1.005,

Slot springclip №1.004,

Springclip №1.009

Matrix retainers

№ 1.006, № 1.007

Strip holders

№1.106, №1.106C, №1.105

Overmat Matrix Holder

№1.124

Proxicut holders

№1.369, №1.389

Arc strip holders

№1.106D, 1.106E, 1.369CB

Matrix pliers

№1.154, №1.164

Forceps

№№ 1.099-1, 1.099-2, 1.099-3

Contact formers

№ 1.943

№ 1.1901, № 1.1902, № 1.1904

Handles

№№ 1.107, 1.109, 1.100, 1.100T

Name of manufacturer

TOR VM Ltd.

Registered trade mark of manufacturer

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The products are CE marked

PRECAUTION

Devices in plastic packages should be stored away from heating devices to avoid packaging damage.

Dental matrix band retainers are intended for professional use in dental clinic only. Operating with matrix retainers is well known procedure. No special training needed.

INSTRUCTIONS FOR USE

Revision 22

Revised May 06, 2025

The devices are for multiple use.

Target groups

No limitations for target treatment group – dental *matrix band retainers* can be used for all groups of patients without restrictions.

Benefits

Dental *matrix bands retainers* provide the following benefits:

- 1) Improved safety of restoration procedure due to:
 - reliable and atraumatic clamping of the matrix to the neck of the tooth.

- 2) Consistent high quality of restoration due to:
 - creation of proper tight contact point;
 - providing right anatomy of the proximal surface of the teeth;
 - to ensure a tight contact of the matrix band with the walls along the entire perimeter of the filling area.

- 3) Reduction of restoration time due to:
 - operating reliability and simplicity of use;

- easy adaptation and easy removal from the tooth;
- prevention of the release of the filling material beyond the side edges of the cavity.

Warnings and precautions

- 1) Prior to use dental matrix bands retainers (devices) make sure of integrity of the device and absence of rust on it and that device surface is free from cracks and rough edges.
- 2) The devices are supplied in non-sterile state and after each use are to be sterilized as follows:
 - submerge device in cleaning agent solution with neutral pH for 20 min;
 - rinse the device thoroughly with purified water for 3-5 min;
 - perform standard steam sterilization procedure following the sterilizer instructions.
- 3) When operating with rings and springclips:
 - open the device for a width not more than 10 - 12 mm (between ring / springclip tines);
 - open the device for necessary width outside the patient mouth before placing it on a tooth;
 - avoid device high-speed opening and/or pressing.
- 4) The devices cannot be placed in the inflamed gingiva as it can cause bleeding.

STERILIZATION

Dental matrix bands retainers (devices) are supplied in non-sterile state and require sterilization to be carried out before each use of the devices.

Presterilizing clearing

In order to remove any inorganic and organic contaminants (including protein, fat, mechanical and others), including drug residues from medical device and to decrease in general microbial contamination to facilitate subsequent sterilization presterilizing clearing is carried out.

The devices can be cleaned in two ways:

- a) mechanical cleaning;
- b) ultrasonic cleaning.

A. Mechanical cleaning

- 1) Soak devices with full immersion in the cleaning agent with filling the cavities and channels with cleaning agent right after the use;
- 2) Wash devices in the same cleaning agent in which it was soaked using a brush;
- 3) Rinse with running water (channels - using a syringe or electric suction);
- 4) Rinse with distilled water (channels - using a syringe or electric suction);

It is up to end user to ensure that cleaning agent is suitable for medical devices mechanical cleaning and use it in accordance with its instruction on use.

B. Ultrasonic cleaning

- 1) Fill the ultrasonic bath container with the devices (collapsible products were placed in disassembled form; products with locks - open), then the cleaning agent was added to at least 1/3 and not more than 2/3 of the volume of the container of the ultrasonic bath;
- 2) Process in an ultrasonic bath with the temperature of the cleaning agent at least 18°C;
- 3) Rinse with running water (channels - using a syringe or electric suction);
- 4) Rinse with distilled water (channels - using a syringe or electric suction);

It is up to end user to ensure that cleaning agent is suitable for use in ultrasonic baths and use it in accordance with its instruction on use.

Sterilization process:

Procedure:

- 1) Disinfect your hands;

- 2) Put on disposable gloves;
- 3) Put the cleaned the devices in the autoclave bag;
- 4) Carry out the sterilization in accordance with the instruction of the autoclave manufacturer at 134°C for 5 minutes (for rings 2.167M, 2.167P, 1.033c, 1.099c, overmat matrix holder 1.124 – 121°C for 20 minutes).

Dental matrix band retainers as reusable medical devices withstand 500 cycles of pre-sterilization cleaning and sterilization cycles.

The user is responsible for inspecting the devices prior to each use and for the use of damaged and dirty devices. The life time of devices depends on the frequency of use, the care by the user and proper reprocessing methods.

Warning:

- 1) Do not use cleaning agents, detergents or disinfectants containing high percentage of chlorine and cleaners containing oxalic acid, strong alkalines (pH>9), strong acids (pH<4), phenols or iodophors, hydrogen peroxide, interhalogenic agents, halogenic hydrocarbons, strong oxidizing agents, organic solvents, aldehydes.
- 2) Do not keep instruments in liquid medium for more than 3 hours.
- 3) Dry the devices thoroughly before sterilization.
- 4) Follow instructions of autoclave (sterilizer) manufacturer.
- 5) To avoid corrosion of the metal due to electrolysis, do not place devices in autoclave together with products made of aluminum, brass and copper.
- 6) Do not use / sterilize the devices in case of presence of traces of rust on the surface or traces of surface damage.

OPERATING INSTRUCTIONS

RINGS

Preparation

1. Open the packaging.
2. Make sure that there are no:
 - signs of violation of the integrity of the device (including cracks and chips),
 - traces of rust or dirt on the surface.
3. Carry out disinfection, pre-sterilization cleaning and sterilization according to current instruction for use (in case of re-use).

Operating procedure

Rings

Rings № 1.099A, № 1.099c, № 1.199, D ring № 1.166, M ring № 1.177, MD rings № 1.167, № 1.167c, NiTi rings №2.167P, №2.167M

1. Place the matrix (strip) and the fixing wedge on the prepared tooth.
2. Using the forceps outside the oral cavity spread the ring and fix it in the extended state.
3. Insert the tines of the forceps with the ring into the oral cavity to the prepared tooth.
4. Install the ring so that its tines are located at the vestibular and lingual surfaces of the tooth, fixing the matrix (strip).
5. Release the handles of the forceps, while the tines of the ring cover the tooth.
6. Disengage the tines of the forceps from the ring and remove the forceps from the oral cavity.
7. Carry out the necessary manipulations.

8. Remove the ring from the oral cavity using forceps, observing the sequence of actions opposite to the described sequence of actions for setting.

Delta rings № 1.299, № 1.299c

1. Install matrix and fixing wedge (if appropriate) onto the tooth under restoration.
2. Using forceps outside the mouth open the ring so that distance between ring tines does not exceed 10-12 mm.
3. Put add-on wedges on the tines of the ring.
4. Insert forceps with the ring with add-on wedges into the mouth.
5. Install the ring with add-on wedges onto the matrix.
6. Withdraw forceps from the mouth.
7. Perform restoration.
8. Remove the ring with add-on wedges from the mouth using forceps.

Warning:

When operating with ring:

- 1) make sure of integrity of the ring and absence of rust on it;
- 2) avoid high-speed opening;
- 3) open the ring for width not more than 10-12 mm;
- 4) open the ring for necessary width outside the mouth before placing it on a tooth;
- 5) use with rubber dam.

Rings for saddle matrices № 1.033, № 1.033A, № 1.033c, ring for perforated matrices № 1.022, Slot ring № 1.044

1. Outside the oral cavity, the matrix (strip) is connected to the ring.
2. Insert the tines of the forceps with the ring and matrix into the oral cavity to the tooth.
3. Cover the tooth with the matrix.
4. Release the handles of the forceps, while the matrix should tightly cover the tooth, isolating its inner surface.
5. Disengage the jaws of the forceps from the ring and remove the forceps from the oral cavity.
6. Carry out the necessary manipulations.
7. Separate the ring from the matrix and remove from the oral cavity using the same setting forceps.

Warning:

When operating with ring:

- 1) make sure of integrity of the ring and absence of rust on it;
- 2) avoid high-speed opening;
- 3) open the ring for width not more than 10-12 mm;
- 4) open the ring for necessary width outside the mouth before placing it on a tooth;
- 5) use with rubber dam.

Springclips

Springclip for perforated matrices №1.002

1. Install perforated matrix and fixing wedge (if appropriate) onto the tooth under restoration.
2. Outside the mouth draw apart tines of the springclip.
3. Insert springclip into the mouth thus that edges of its tines fit in appropriate holes of perforated matrix.
4. Perform restoration.
5. Remove springclip with matrix from the mouth.

Springclips for saddle matrices №1.003, №1.005

1. Outside the mouth draw apart tines of the springclip.
2. Take saddle matrix of the necessary type.
3. Insert tines of springclip into the side tubes of saddle matrix.
4. Insert springclip with saddle matrix into the mouth.
5. Install the system onto the tooth under restoration.
6. Perform restoration.
7. Remove springclip with saddle matrix from the mouth.

Slot springclip №1.004

1. Outside the mouth draw apart tines of the springclip.
2. Take matrix of the necessary type.
3. Insert matrix edges into the slots of the springclip.
4. Insert springclip with matrix into the mouth.
5. Install the system onto the tooth under restoration.
6. Regulate matrix length and fix it by curving matrix edge.
7. Perform restoration.

Springclip №1.009

1. Place the matrix (strip) and the fixing wedge on the prepared tooth.
2. While pressing the handles of the springclip, dilute the springclip outside the oral cavity.
3. If necessary install add-on wedges №1.861, №1.866 or tubes №1.862 on the tines of springclip.
4. Insert the springclip into the oral cavity to the prepared tooth.
5. Install the springclip so that its tines are located at the vestibular and lingual surfaces of the tooth, fixing the matrix (strip).
6. Release the springclip knobs, while the tines of the springclip encircle the tooth.
7. Carry out the necessary manipulations.
8. Remove the springclip from the oral cavity using forceps, observing the sequence of actions opposite to the described sequence of actions for setting.

Warning:

When installing the springclip:

- carry out all dilution manipulations outside the patient's oral cavity,
- avoid sharp dilution of the springclip,
- do not allow the tines of the springclip to spread over a distance of more than 10-12 mm.

Matrix retainers № 1.006, № 1.007, № 1.124

Ivory Retainer № 1.006

Preparation

1. Open the packaging.
2. Make sure that there are no:
 - signs of violation of the integrity of the device (including cracks and chips),
 - traces of rust or dirt on the surface.
3. Carry out disinfection, pre-sterilization cleaning and sterilization according to current instruction for use (in case of re-use).
4. Install perforated matrix and fixing wedge (if appropriate) onto the tooth under restoration.
5. Outside the mouth draw apart tines of retainer by driving the screw.
6. Insert retainer into the mouth thus that edges of its tines fit in appropriate holes of perforated matrix.
7. Fix matrix by driving the screw of the retainer.
8. Perform restoration.
9. Ease off the screw of retainer and remove retainer with matrix from the mouth.

Matrix retainers № 1.007

1. Outside the oral cavity, combine the matrix retainer with the matrix.
2. Install the system on the restored tooth.
3. Carry out the restoration procedure.
4. Remove the matrix-retainer system from the oral cavity.

Overmat matrix holder № 1.124

1. Outside the oral cavity open the holder grip by pushing wheel away from you.
2. Arrange overmat matrix on the holder and close the holder grips by pressing the wheel towards you.
3. Install the system on the tooth and provide the required matrix tension via rotating the wheel.
4. Reset the matrix by opening the holder grips and withdraw the overmat holder from the mouth & perform restoration.

Strip holders №1.106, №1.106C

Posterior Strip Holders №1.106, №1.106C

1. Outside the patient's mouth, insert the strip, stepping back from the edge of 2-3 mm, into the shaped slot of the holder until it stops.
2. Fold the short end out of the holder.
3. Fold the long end towards the second leg of the holder.
4. Squeeze the holder by hand to the required width.
5. Insert the strip into the second shaped slot until it stops.
6. Fold the free end out of the holder.
7. Stretch the strip by releasing the holder (№1.106), or rotating the nut (№1.106C).
8. Check the reliability of fixing the strip.
9. If necessary, cut off the long edge of the strip, leaving 2mm of the strip beyond the break.
10. Insert the holder with the strip into the interdental space.
11. Move the holder with the strip back and forth to clean the interdental space from tartar or filling material.
12. Remove the holder with the strip from the oral cavity.
13. Compress the holder by hand (№1.106), or by rotating the nut №1.106C).
14. Sequentially pull the edges of the strip out of the slots.

Recommendations for work

When installing the saw strip №1.384 (1), orient the saw edge away from the holder plates.

Proxicut holders 1.369, №1.389

Do-All Proxicut Holder №1.369

1. Outside the patient's mouth, insert the strip into the slots of the holder.
2. Tighten the tightening screws with a 1.369K key. The tightening screw must be screwed in from the clamping side.
3. Stretch the strip by rotating the nut between the arches of the holder.
4. Insert and fix the holder in the handle №1.107.
5. Insert the holder with the strip into the interdental space.
6. Move the holder with the strip back and forth to clean the interdental space from tartar or filling material.
7. Remove the holder with the strip from the oral cavity.
8. Loosen the strip tension by rotating the nut, remove the strip, separate the holder and the handle.

Recommendations for work

When installing the saw strip №1.384 (1), orient the saw edge away from the holder plates.

Proxicut holder №1.389

1. Outside the patient's mouth, place the strip with a hole on the finger of the holder arc (the serrated edge of the strip should be oriented away from the holder arches).
2. Wrap the strip around both arcs of the holder with a figure eight.
3. Place the strip with the second hole on the pin of the opposite arc.
4. Stretch the strip by turning the handle of the holder.
5. Insert the holder with the strip into the interdental space.
6. Back and forth to clean the interdental space from tartar or filling material.
7. Remove the holder with the strip from the oral cavity.
8. Release the tension by rotating the holder knobs and remove the strip.

Recommendations for work

When installing the saw strip №1.384 (2), orient the saw edge away from the holder plates.

Arc strip holders №1.106D, №1.106E, №1.369CB

(only for saw blades № 1.379HT and diamond strips №№ 1.379HC, 1.379HM, 1.379HF)

Arc strip holders №1.106D, №1.106E

1. Outside the patient's mouth press the holder and put the blade (strip of 1.379 series) on the protrusions on the holder legs.
2. Fix the blade (strip) by releasing the holder (№ 1.106E or rotating the nut (№1.106D)).
3. Check the reliability of fixing the blade (strip).
4. Insert the holder with the blade (strip) into the interdental space.
5. Move the holder with the blade (strip) back and forth to clean the interdental space from tartar or filling material.
6. Remove the holder with the blade (strip) from the oral cavity.
7. Compress the holder by hand (№1.106E), or by rotating the nut (№1.106D) and put off the blade (strip) from the arc holder.

Arc strip holder №1.369CB

1. Outside the patient's mouth put the blade (strip) onto the holder tabs.
2. Fix the blade (strip) by rotating the threaded handle.
3. Insert the system into the interdental space.
4. Move the system back and forth to clean the interdental space from tartar or filling material.
5. Remove the system from the oral cavity.
6. Loosen the holder by rotating the threaded handle and remove the blade (strip).

Matrix pliers №1.154, №1.164

Linear Matrix Plier №1.154

1. Select a matrix, wedge, cotton roll holder or any other dental accessory (accessory).
2. Outside the oral cavity, unclench the matrix plier / tweezer and place the accessory with the hole on the holder pin (plier) or ridged edges.
3. Fix the accessory by releasing the pressure on the arches of the matrix plier / tweezer.
4. Place the accessory with the plier / tweezer in the oral cavity.
5. If necessary, use the plier / tweezer to change the position of the die.
6. Remove the matrix plier / tweezer from the oral cavity.
7. Perform the necessary dental procedures.

8. Remove the accessory using the plier / tweezer.
9. Outside the oral cavity, separate the accessory and matrix plier / tweezer.

Cross Matrix Plier №1.164

1. Select a matrix of size and shape corresponding to the size of the tooth and cavity in it.
2. Outside the oral cavity, take the matrix with the matrix plier.
3. Fix the matrix by pressing the matrix plier's handles and fix the plier.
4. Place the matrix with the plier in the oral cavity.
5. To remove the plier from the fixation - press the plier's handles.
6. If necessary, use the plier to change the position of the die.
7. Remove the matrix plier from the oral cavity.
8. Perform the necessary dental procedures.
9. Remove the matrix using the matrix plier.
10. Outside the oral cavity, separate the matrix and matrix plier.

Forceps № 1.099-1, № 1.099-2, № 1.099-3

1. Outside the oral cavity insert forceps tines into the ring, open the ring and fix it in the extended state.
2. Insert forceps with the ring into the oral cavity to the tooth, on which the matrix or strip and the fixing wedge are previously installed.
3. Place the tines of the ring at the vestibular and lingual sides of the outer surface of the matrix or strip and release the handles of the forceps, while the tines of the ring should cover the tooth.
4. Disengage the tines of the forceps from the ring and remove the forceps from the oral cavity.
5. Carry out the necessary dental procedures.
6. Remove the ring from the tooth using forceps, observing the sequence of actions opposite to the described sequence of actions for setting.

Warning:

In order to avoid premature failure of the forceps and the ring, the ring opening with the forceps must be performed to the minimum required level that ensures the setting and removal of the ring (up to a distance between the tines of no more than 11 mm).

Handles №1.100, №1.100T, №1.109, №1.107, №2.109

1. Outside the mouth, connect the holder with the required element.
2. Fix the required element in the handle.
3. Insert the holder with the required element into the patient's mouth.
4. Carry out the necessary dental procedures.
5. Remove the handle-holder with the required element from the oral cavity.
6. Release the required element.
7. Disconnect the holder from the required element.

Contact-formers № 1.943, № 1.1901, № 1.1902, № 1.1904

Contact-formers № 1.943

1. Choose a contact-former, the working part of which is capable of providing pressure on the matrix in the required direction and with the required distribution over the matrix area when placed in the cavity of the tooth, isolated by the matrix.
2. Connect the contact-former with a threaded connection to the holder handle (when using a detachable version).

3. Put the silicone tip on the contact-former (if necessary, modify the working part of the contact-former).
4. Insert the working part of the contact-former into the cavity and squeeze the matrix towards the adjacent tooth until the cavity assumes the correct anatomical shape.
5. Start the filling procedure by periodically applying pressure to the matrix in the desired direction.
6. After the matrix has reached a stable and correct position, remove the contact-former from the isolated zone and from the oral cavity.

Contact-formers № 1.1901, № 1.1902, № 1.1904

1. Choose a contact-former, the working part of which is capable of providing pressure on the matrix in the required direction and with the required distribution over the matrix area when placed in the cavity of the tooth, isolated by the matrix.
2. Put the silicone tip on the contact-former (if necessary, modify the working part of the contact-former).
3. Insert the working part of the contact former into the cavity and squeeze the matrix towards the adjacent tooth until the cavity takes the correct anatomical shape.
4. Begin the filling procedure by periodically applying pressure to the matrix in the desired direction.
5. After the matrix has reached a stable and correct position, remove the contact-former from the isolated zone and from the oral cavity.

Storage

Store *matrix bands retainers* in a dry place. Devices in plastic packages should be stored away from heating devices to avoid packaging damage.

Product shelf-life

Shelf-life of *matrix bands retainers* is unlimited.

Disposal

Unusable *matrix bands retainers* are to be disposed as class 3a "other non-hazardous wastes" according to WHO-UNEP/SBC 2005 coding recommendations.

Warranty

Matrix bands retainers are multiple-use devices and are to be sterilized after each use.

TOR VM will replace the product that is proved to be nonconforming.

It is up to user to ensure that the product is suitable for the intended process and purpose.

The user is responsible for inspecting the devices prior to each use and for the use of damaged and dirty devices. The life time of *matrix bands retainers* depends on the frequency of use, the care by the user and proper reprocessing methods.

Any serious incident or non-compliance that has occurred in relation to TOR VM *matrix bands retainers* should be reported by e-mail torvm77@gmail.com and/or tor.vm.de@googlemail.com.