

VITA MFT®

Setup guide

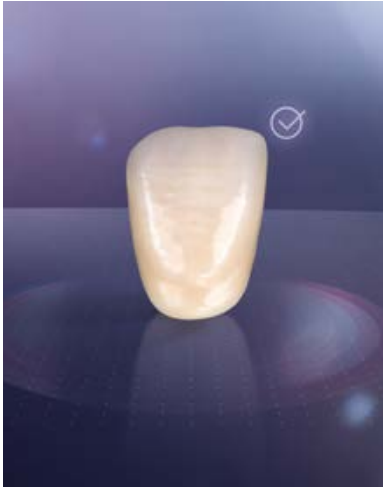


VITA – perfect match.

VITA

VITA MFT® ANTERIOR TOOTH

For solid, esthetic results, thanks to natural shape



What?

- basic anterior teeth made of HC polymer material for solid, standard dentures

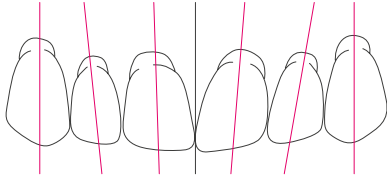
Benefits?

- **reliable production of solid, esthetic dentures**
thanks to natural incisal edge characteristics and angle features
- **simple replication of a natural play of light**
thanks to a balanced enamel-dentine relationship, integrated mamelons and texture
- **reliable shade reproduction**
thanks to good accuracy to the VITA shade standard (VITA classical A1–D4®)

What for?

- for solid standard provisions with full/partial dentures

Setup of the upper anteriors

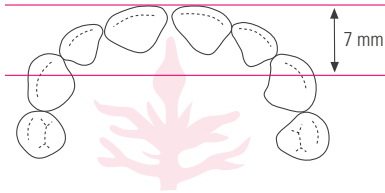


The following suggestions should be followed to ensure a natural appearance of the anterior setup:

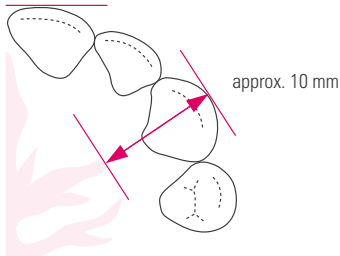
- The central incisors are upright.
- The cervical portion of the lateral incisors is inclined distally.
- The canines are tendentially upright, with the tooth neck inclined vestibularly.
- The incisal edges **of the upper central incisors** run parallel to and are situated approximately +/- 1-2 mm above the occlusal plane.
- The incisal edges **of the upper lateral incisors** run parallel to, and do not touch the occlusal plane.
- The tips **of the canines** are situated approximately on the occlusal plane.

The teeth are mostly positioned according to the atrophy of the upper jaw in front of the alveolar ridge – with their labial surfaces above the vestibule.

Setup of the upper anteriors

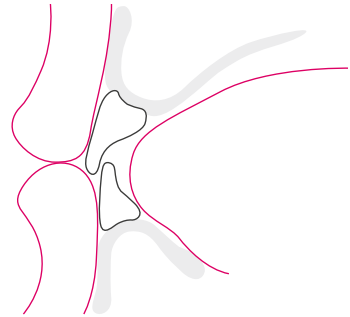


In normal occlusion, the upper anteriors are positioned at a distance of approx. 7 mm in front of the center of the incisal papilla.

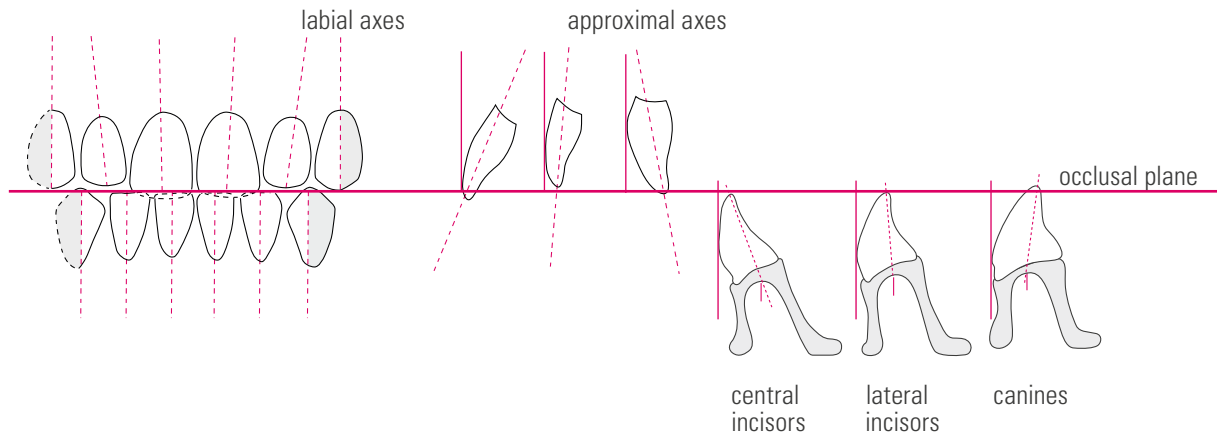


The labial surfaces of the upper anteriors provide support to the upper lip. The incisal edges of the central incisors ensure a harmonious lip contour.

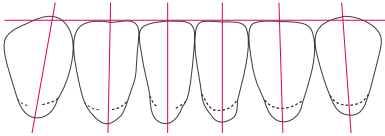
The tips of the two canines are positioned at a distance of approx. 10 mm from the end of the first pair of palatal rugae.



Setup of the anteriors with reference to the occlusal plane



Setup of the lower anteriors



The lower anterior setup should display the following characteristics:

- The incisal edges of the lower incisors are level with and run parallel to the occlusal plane.
- The tips of the canines are situated slightly above the occlusal plane.

From the labial view:

- The central incisors are straight and upright.
- The lateral incisors show a slight mesial inclination.
- The canines are straight or show a slight mesial inclination.
- The distal facet of the canine points in the direction of the molars.

When positioning the tooth necks on the alveolar ridge, the following rule of thumb can be applied: the central incisors are on, the lateral incisors at and the canines are outside of the lower alveolar ridge path.

VITA MFT® posterior teeth

For simplified setup due to function-optimized occlusal surfaces



What?

- basic posterior teeth made of HC polymer with multifunctional occlusal surfaces

Benefits?

- **simplified setup of dentures**
through predefined contact points for automatic occlusion
- **high degree of setup reliability**
through function-optimized occlusal surfaces for a controlled centric occlusion
- **reduced grinding work**
thanks to optimized basal design
- **can be reliably used for all prosthetic concepts**
thanks to the multifunctional occlusal surface design

What for?

- for solid standard provisions with full/partial dentures

Significance / benefits of lingualized occlusion in dental prosthetics



The main characteristic of lingualized occlusion is an optimal positional stability of a dental prosthesis.

In both static and dynamic occlusion, it is important to ensure that all occlusal forces in close occlusal contact are aligned towards the center.

When setting up the teeth, the focus should be on the central palatal contact relationship.

Significance / benefits of lingualized occlusion in dental prosthetics

Good results regarding both medical and static occlusion:

- Prosthetic restorations are improved when there are unfavorable static or strongly diverging conditions in the upper and lower jaw. This means that in the case of larger lower and smaller upper dental arches – which are often solved by setting up a crossbite – the teeth in the upper jaw can be set up further buccally without compromising the stability of the prosthesis. This can also help avoid the build-up of pressure areas.
- Thanks to the axial direction of force, this concept prevents excessive strain on the rest area of the prosthesis, which is particularly beneficial in the case of implant prosthetics. This is mainly due to the fact that this offers protection, to a great extent, against horizontal shear forces.
- The greater accuracy in the positioning of the elements of mastication in the so-called "neutral zone" (i.e., muscular balance), leads to better cheek contact of the teeth and noticeably more tongue space for the patient. This cheek contact prevents the formation of a food bolus in the vestibular area and helps horizontally stabilize the prosthesis.

Significance / benefits of lingualized occlusion in dental prosthetics

For the patients this means:

- More tongue space, resulting in a greater degree of comfort.
- Less biting of the cheek through reduction of buccal contacts.
- Alleviates pressure areas.
- Small, regulatory checking movements (Dr. Hiltbrandt) with slight disclusion are possible.

Benefits for the dental technician / laboratory

- Clear, unmistakable and reproducible contact relationships.
- Understandable and verifiable setup criteria.
- Time is saved by efficient and accurate setup procedures.

Setup of the lower anteriors and the first premolar

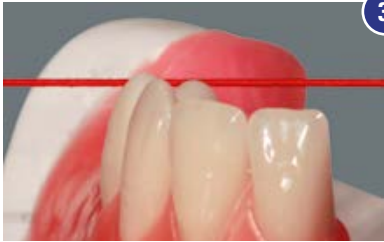


The lower incisors are aligned to the occlusal plane with the labial surfaces pointing in the direction of the upper anterior sulcus.
The longitudinal axis of the canines is inclined at right angles to the occlusal plane and should be situated approximately 1 mm above it



The setup of the first lower premolar is identical to the canine. As a result, it is aligned at right angles to the occlusal plane.
The mesial area of the buccal facet is above the occlusal plane, as is the canine; the distobuccal area follows the line of the occlusal plane.

Checking the setup of the first lower premolar



3

- The tooth axis is aligned at right angles to the occlusal plane
- Fig. 3: the mesiobuccal area is situated above the occlusal plane
- Fig. 4: the setup of the distobuccal area follows the line of the occlusal plane
- Fig. 5: the lingual cusp tip is located in the area of the occlusal plane



4



5

Please note: To achieve an optimal contact point relationship, the lingual cusp of the first lower premolar is given a functionally oriented design corresponding to its dominance.

See also Figs. 16, 21, 23

Setup of the second lower premolar



6

The neck of the second lower premolar shows a slight distal inclination in comparison to the first premolar.



7

Mesially to the first premolar, the teeth should be set up with a harmonious rounded contour, which facilitates the correct functional setup of the first upper premolar. See also Fig. 19



8

The lingual cusp is also aligned to the occlusal plane.
See also Figs. 10, 13

The setup follows an imaginary line, which runs from the canine distal facet, through the central fissures of the premolars and molars. See also Fig. 11

Setup of the first lower molar **without** the setup of the second lower molar



9

Following the setup pattern of the second premolar, the first molar is raised distally so that the distobuccal cusp reaches the level of the canine and the first premolar. (i.e. it is situated approx. 1 mm above the occlusal plane): Fig. 9.



10

The lingual cusps are aligned to the occlusal plane: Fig. 10
See also Fig. 13



11

The setup follows an imaginary line, which runs from the distal facet of the canine, through the central fissures of the premolars and molars. Fig.11

Setup of the lower posteriors



12

Aids for checking the setup (important: do not use contact points for this):

In addition to using rubber thread to help mark the lingual cusp tips of the lower VITA MFT posteriors (important: do not use contact points), it is very simple to verify the correct orientation of the posterior setup and the identical height of the posterior teeth, with reference to the occlusal plane.



13

This view clearly shows the cuspal progression of the setup from lingual to buccal, as well as from buccal to lingual. It shows that all cusps up to the buccal cusp of the first premolar and the distal cusps of the first molar are aligned to the occlusal plane.

Setup of the first lower molar with the setup of the second lower molar



14

In this case, continuing the trend of the second premolar, the first molar is set up flat (i.e., with its distobuccal cusp touching the occlusal plane).



15

The lingual cusps are also in contact with the occlusal plane.



16

The setup follows an imaginary line, which runs from the distal facet of the canine, through the central fissures of the premolars and molars.

Setup of the lower posteriors



17

In addition to checking the setup using rubber thread, it is very simple to verify the correct orientation of the posterior setup with the aid of markings on the lingual cusp tips of the lower VITA MFT posteriors.



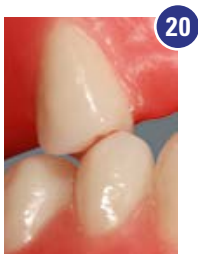
18

This perspective shows the straight lingual progression of the cusps from mesial to distal.

Setup of the upper posteriors - first upper premolar



19



20

Fig. 19: The first upper premolar is positioned at a right angle to the occlusal plane, resulting in a tooth-to-tooth relationship with its antagonist.
See also Figs. 4, 7

Fig. 20: The first upper premolar is set up slightly opened towards the buccal side, and the first lower premolar has contact on the mesial marginal ridge, in the area of the mesiocentral fossa of the first upper premolar.



21

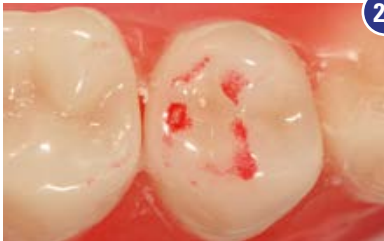
In order to improve the static occlusion, the first upper premolar achieves a secure contact relationship in the central fossa of its lower antagonist.

First upper premolar: contact relationship



The mutual contact relationship of the first premolars is clear, unmistakable and always reproducible:

The mesial marginal ridge of the palatal cusp in the upper jaw forms a clear mutual tripodization (three-point support) with the distolingual fossa of the lower premolar.



It is important to ensure sufficient buccal freedom. This is required in order to benefit from the free space in the molar area.

See also Fig. 20

Setup of the first upper molar



24

With a reliable and specific setup pattern of the teeth (highest number of reference points), it is advantageous to set up the first molar before the second premolar.

The first molar, like the premolars, is set up with a tooth-to-tooth relationship.



25

Besides the centric palatal contact relationship, care should also be taken to ensure sufficient free buccal space.

A space of between 1 and 2 mm is generally required.

See also Figs. 26, 27, 28

Setup of the second upper premolars



The second upper premolar is then set up in the remaining space. From a functional viewpoint, it is also in a tooth-to-tooth relationship and approximately at a right angle to its antagonist in the lower jaw.



The second upper premolar is also set up with buccal freedom. According to its size, this is positioned between the first premolar and the first molar. The goal is to achieve a harmonious transition in which the free space is increased successively from the first premolar to the last molar.

Contact relationships of the upper to the lower posteriors



29

The contact relationship of the VITA MFT posterior tooth:

Fig. 29: The focus is mainly on the palatal support.

Fig. 30: The palatal cusps bite precisely into the fossae of the mandibular teeth.



30

This type of setup contributes to the stabilization of the restoration by improving the statics, and at the same time, allowing for increased tongue space.

The forces that are transferred to the mucosa and the underlying bone here can be minimized.



31

This is beneficial to the denture-bed (i.e., protects against undue strain) and can be an important factor for the survival rate of placed implants.

Fig. 31: The palatal view shows optimum intercuspation.

The finished prosthesis



32

The mesial, buccal and palatal view of the completed setup up show the connection between clear, reproducible function and esthetic harmony.



33

The excellent (high-precision) palatal contact relationship is guaranteed through the consistent application of the lingual occlusion principles, according to Prof. Dr. Gerber. At the same time, the requirements regarding the correct functional alignment of the teeth are fulfilled through a statically correct setup.

Special tooth moulds



The first upper premolar in particular, plays a key part in complete denture prosthetics.

Just like natural dentition, in addition to providing centric palatal support, it helps guide the mandible, while sliding into the centric position.



34

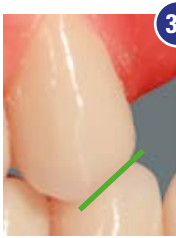
To make this guidance more active or more passive, the first upper premolar can be exchanged, quadrant-wise, prior to setting up. No change is made to the setup of the lower teeth. The centric contact relationship of the premolars remains virtually unchanged.

Exchange 14/24



35

Tooth 14 straight from the teeth set



36

exchanged: tooth 24

As illustrated here, a further essential difference can be seen if tooth 14 is exchanged with tooth 24.

Fig. 35: The occlusal contact surface on the first premolar is clearly recognizable from the distobuccal view.

Fig. 36: When tooth 14 is replaced by tooth 24, this occlusal contact surface changes from distal to mesial. This increases the free space buccally around the centric position and strengthens the palatal contact relationship.



A



B

This makes virtually no difference to the alignment of the tooth axis or the tooth-to-tooth relationship.

Figs. A and B: The appearance of the contact relationship remains identical in its arrangement, despite the exchange of the two teeth.

Reliable achievement of the contact points



Its defined centric occlusion with the stable tripodization of the molars in the mesial, central and distal area of the lower fossa, highlights the multifunctionality of VITA MFT.



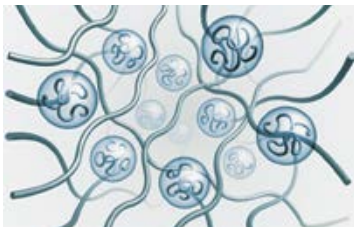
In the case of a mesial shift, the tripod function remains fully intact - this plays a decisive part in both the combined technique and in implant prosthetics.

The finished prosthesis



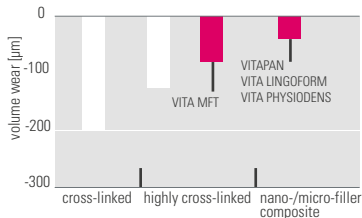
The finished prosthesis with **VITA MFT®**.

VITA MFT® – Made of top material



PMMA pearls Cross-linked PMMA

Two-body abrasion¹



¹The results of in-vitro wear resistance study of Universitätsklinikum Regensburg. Nov. 2009

Excellent material quality

The three-dimensional, highly cross-linked plastic material, ensures excellent material density and excellent biocompatibility throughout.

- color-stable
- abrasion-resistant
- tissue-friendly
- plaque-resistant
- shatter-proof grindability
- excellent polishability
- perfect bond with the prosthesis base
- free of restomonomers
- craquelure-resistant

Sources

Hofmann-Axthelm, Lexikon der Zahnmedizin

Hohmann-Hielscher, Lehrbuch der Zahntechnik, Quintessenz Verlag 2001

Stuck /Horn "Zahnaufstellung in der Totalprothetik"

Parsche E., Funktionslehre/Biomechanik Graz 2006

Gründler, H./Stüttgen, U., Die Totalprothese, Verlag Neuer Merkur GmbH 1995

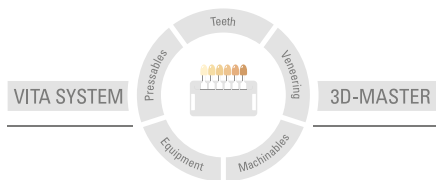
Linke u.a., 2001

Tschirch, 1966

VITA, A Guide to Complete Denture Prosthetics, 2010

We would like to thank Mr. Karl-Heinz Körholz for his support in writing this setup guide.

This product group is available in the VITA SYSTEM 3D-MASTER and VITA classical A1 – D4 shades. Shade compatibility with all VITA 3D-MASTER and VITA classical materials is guaranteed. With the unique VITA SYSTEM 3D-MASTER, all natural tooth shades can be systematically determined and perfectly reproduced.



Please note: Our products must be used in accordance with the instructions for use. We accept no liability for any damage resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications. We cannot accept any liability if the product is used in conjunction with materials and equipment from other manufacturers that are not compatible or not authorized for use with our product and this results in damage. The VITA Modulbox is not a required component of the product. Date of issue of this information: 06.19

After the publication of this information for use, any previous versions become obsolete.
The current version can be found at www.vita-zahnfabrik.com

VITA Zahnfabrik has been certified and the following products bear the CE mark **CE 0124**:

VITA MFT

VITA

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