ANKYLOS®
Balance Base Abutment

Clinical Application and Laboratory Processing
ANKYLOS® Balance Base Abutment

The Concept

The Balance Base Abutment was specifically designed for an easier and more efficient fabrication of occlusally screw-retained bridges and mesio-structures.

Once more, the proven tapered connection guarantees a stable and anti-rotational joint at the implant. In comparison with the standard abutments, the cone angle of the Balance Abutment is increased to 15°. This leads to a significantly increased range of insertion angles, even if the abutments are non-parallel.

When applying the Balance Base Abutment, the implant position is indicated directly on the model. A minimum of two abutments is required for a screw-retaining of the superstructure.

In accordance with our philosophy to reduce the required parts and tools to a minimum, components like sulcus formers, transfer abutments and implant analogs are adopted from the Balance Posterior System. To give our customers a complete survey, all components are listed in the product guide. However, some are marked as familiar (■).

For further information please read our information on treatment procedures and possibilities on the following pages.

Clinical cases

Photos: Dr. E. Eisenmann, Freie Universität Berlin/D
The Abutment System for Easy Bridgework

- 15° cone angle for an increased range of insertion angles (e.g. in divergences).
- Occlusal screw fixation. Cementation is contra-indicated due to the low abutment height.
- Abutments to be fitted at least in pairs. As they allow for rotation, they must not be used for single crowns.
- High marginal precision due to the 0.5 mm circumferential shoulder.
- Transmucosal collar section for maximum tissue contact and excellent stability of the gingiva.
- Approved anti-rotational ANKYLOS® tapered connection.
- Fabrication of the superstructure in the laboratory and on original abutments.
ANKYLOS® Balance Base Abutments

Product Guide

Sulcus Formers

Transfer Abutments

Abutments

Implant Analog, Wax-Up Copings, Fixation Screws

Gold Copings, Soldering Abutments

Screwdrivers

Finisher

Scale reduced (1:5 : 1)

Scale reduced
### Product Guide for Balance Base Abutments

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Description</th>
<th>Material</th>
<th>Fig.</th>
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<tbody>
<tr>
<td>3102 1528</td>
<td>Sulcus former for Balance Posterior 0.75</td>
<td>Ti6Al4V</td>
<td>27</td>
</tr>
<tr>
<td>3102 1530</td>
<td>Sulcus former for Balance Posterior 1.5</td>
<td>Ti6Al4V</td>
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<tr>
<td>3102 1535</td>
<td>Sulcus former for Balance Posterior 3.0</td>
<td>Ti6Al4V</td>
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### Balance Base Abutments

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<tr>
<td>3102 1668</td>
<td>Balance Base Abutment 0.75 Ø 5.5 mm, H 2 mm</td>
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<tr>
<td>3102 1670</td>
<td>Balance Base Abutment 1.5 Ø 5.5 mm, H 2 mm</td>
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<tr>
<td>3102 1680</td>
<td>Balance Base Abutment 3.0 Ø 5.5 mm, H 2 mm</td>
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<tr>
<td>3102 1690</td>
<td>Balance Base Abutment 4.5 Ø 5.5 mm, H 2 mm</td>
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### Transfer Posts

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<tr>
<td>3104 5410</td>
<td>Transfer post for Balance abutments, short</td>
<td>Med. grade steel</td>
<td>7</td>
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<tr>
<td>3104 5412</td>
<td>Transfer post for Balance abutments, long</td>
<td>Med. grade steel</td>
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<td>3104 5400</td>
<td>Transfer screw, short</td>
<td>Ti6Al4V</td>
<td>8</td>
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<tr>
<td>3104 5402</td>
<td>Transfer screw, long</td>
<td>Ti6Al4V</td>
<td>9</td>
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<tr>
<td>3104 5415</td>
<td>Repositioning post for Balance abutments</td>
<td>Med. grade steel</td>
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### Laboratory Parts

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<tr>
<td>3104 5270</td>
<td>Implant analog A</td>
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<tr>
<td>3104 5320</td>
<td>Wax-up coping for Balance Base Abutment</td>
<td>POM</td>
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<tr>
<td>3104 5330</td>
<td>Soldering post for Balance Base Abutment</td>
<td>Med. grade steel</td>
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<tr>
<td>3104 5211</td>
<td>Wax-up screw, short</td>
<td>Ti6Al4V</td>
<td>14</td>
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<tr>
<td>3104 5213</td>
<td>Wax-up screw, long</td>
<td>Ti6Al4V</td>
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### Prefabricated Copings

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<tbody>
<tr>
<td>3105 6200</td>
<td>Gold coping for Balance Base Abutment, incl. screw</td>
<td>Permador® PDF*</td>
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<tr>
<td>3105 6210</td>
<td>Gold coping for Balance Base Abutment, incl. screw</td>
<td>Degunorm***</td>
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<tr>
<td>3105 6215</td>
<td>Retention coping for Balance Base Abutment</td>
<td>Ti6Al4V</td>
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### Fixation Screws

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<tr>
<td>3105 6021</td>
<td>Retaining screw, occlusal hexagon</td>
<td>Ti6Al4V</td>
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### Instruments

<table>
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<th>Fig.</th>
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<tr>
<td>3103 3495</td>
<td>Insertion key for Balance Base Abutment</td>
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</tr>
<tr>
<td>3103 3626</td>
<td>Insert for prosthetic ratchet, screw driver 1.0 mm hex, short</td>
<td>Med. grade steel</td>
<td>30</td>
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<td>3103 3627</td>
<td>Insert for prosthetic ratchet, screw driver 1.8 mm hex for Balance Base Abutment</td>
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<td>3103 3455</td>
<td>Screwdriver insert 1.0 mm hexagon</td>
<td>Med. grade steel</td>
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<tr>
<td>3103 3456</td>
<td>Screwdriver insert 1.0 mm hexagon, short</td>
<td>Med. grade steel</td>
<td>22</td>
</tr>
<tr>
<td>3103 3570</td>
<td>Finisher for Balance Base Abutment</td>
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</tr>
<tr>
<td>3103 3580</td>
<td>Finisher for taper occlusal retention screw</td>
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### Au, Pt, Ag, Cu, Zn, Ir, In, TEC

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<th>Au</th>
<th>Pt</th>
<th>Ag</th>
<th>Cu</th>
<th>Zn</th>
<th>Ir</th>
<th>In</th>
<th>TEC</th>
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<tr>
<td>* Permador® PDF</td>
<td>60</td>
<td>39</td>
<td>1</td>
<td>1.5</td>
<td>12.1</td>
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<tr>
<td>** Degunorm**</td>
<td>73.8</td>
<td>9.0</td>
<td>9.2</td>
<td>4.4</td>
<td>2.0</td>
<td>0.1</td>
<td>1.5</td>
<td>16.7</td>
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</table>

Please refer to the product information on our laser (Connexion), laser material, and bar sleeve activating tools.

Components from the Balance Posterior System or the Standard Abutment System.
**Removing the Cover Screw**

Expose the implant by incision or punching of the mucosa. The sulcus former must be removed prior to inserting the cover screw: Please apply the unscrew instrument for cover screws with the large handle.

**Insertion the Sulcus Former Balance Posterior**

The Balance Posterior sulcus former is a one-part component. Please select a sulcus former according to mucosa thickness and insert it with the hex screwdriver into the inner thread of the implant. The recommended torque is 6 Ncm. The sulcus former must be sterilized prior to use (see brochure Instruction for Sterilization and Instrument Care), it remains in situ for approximately 14 days.
Fixing the Transfer Post
(open tray technique)

Please remove the sulcus former prior to impression taking. Remove any residual tissue from the tapered connector. Now insert the transfer post into the tapered connector of the implant and fix it with the transfer screw. Please tighten the transfer screw gently by hand (the hex screwdriver is only applied to loosen the screw) and ensure that the transfer post properly fits in the tapered connector of the implant. If necessary, the transfer screw can be shortened and provided with a slot.

Impressions are taken with an open tray. Once the impression material has set, please loosen the transfer screw and remove the impression with the transfer posts. The impression with the transfer posts can now be forwarded to the laboratory for further processing (please refer to technical section).

Fixing the Transfer Post,
(repositioning technique)

Please remove the sulcus former prior to impression taking. Remove any residual tissue from the tapered connector and place the repositioning post into the tapered connector of the implant. Please tighten the abutment gently by hand (the hex screwdriver is only to loosen the screw) and block out the hex slot before impression taking. Ensure that the transfer post properly fits in the tapered connector of the implant.

Please use a standard impression tray with soft silicone or hydrocolloid. Once the impression material has set, remove the impression and replace the transfer post. Please ensure that all block-out material is removed from the hex and no impression material is left behind.
Placing the Abutment

Once the laboratory has delivered the restoration, please remove it from the model and unscrew the abutment from the implant analog. Now clean and disinfect the abutment (see Instructions for Sterilization and Instrument Care).

Please unscrew the sulcus former from the implant, rinse the tapered connector of the implant with water-air spray and blow-dry it thoroughly. Fix the abutment in the implant with a torque ratchet (1.8 mm hex) or the insertion key for Balance Base abutment (1.8 mm hex). The recommended torque for the one-piece base abutment is 25 Ncm. If less torque is applied, the abutment may not be rotation-free.

Cave:
The base abutment must not be inserted with the 1.0 hexagon screwdriver as it might damage the occlusal thread.

Reassembling the Sulcus Former

Regardless of the impression technique please reposition the sulcus former after impression taking in order to avoid a collapsing of the created gingiva emergence profile and to protect the implant lumen.
Placing the Superstructure

Please check the fit of the superstructure on the abutment, then clean and disinfect the superstructure.

Screw retention:
Please use the occlusal screw supplied by the laboratory and exert 10 Ncm torque to fit the superstructure in the abutment.

Cave:
The restoration cannot be cemented as the abutment height does not ensure adequate retention.
Fixing the Implant Analog

Please use the transfer screw to fix the implant analog to the transfer abutment in the impression. A removable gingiva analog facilitates the correct wax-up of interproximal spaces.

Producing the Model

Cast the model with type IV extra hard stone (e.g. Duralit top rock). Please make sure that the model is high enough to cover the implant analog with stone. Now remove the transfer screw and pull off the impression.

Placing the Abutment

Insert the abutment with the insertion key for Balance Base Abutments in the implant analog. The sulcus former determines the sulcus height of the abutment.

_Cave:_
The Balance Base Abutment must not be inserted with the 1.0 hexagon screwdriver as it might damage the occlusal thread.

Fixing, Marking, and Shortening of the Wax-Up Coping

Fix the wax-up coping for the Balance Base Abutment occlusally with the fixation screw and mark the height on the screw channel. Now please shorten the screw channel with a thin separating disk and check the occlusal height.

Cast-on Coping

A prefabricated cast-on coping (Permador® PDF) is the alternative to wax-up copings. Please adhere to the standard casting technique. The use of finishing instruments is not necessary.
Please wax-up and invest the bridge as usual. Ensure that the interproximal spaces allow proper oral hygiene. Only screw-retained restorations can be fabricated as the abutment height does not provide adequate retention for cementation.

Finishers are available for the trimming of the inner areas of the cone and the screw channel.

Cave:
Please do not trim or modify the abutment as the intraoral position of the abutment may deviate from the model.

Please use the occlusal screw finisher to smoothen any rough areas in the screw channel. Insert the finisher in the screw channel and rotate it carefully until the surface is smooth and shiny.

Please veneer the bridge as usual and ensure that the interproximal spaces allow proper oral hygiene. Return the original abutments and the superstructure to the dentist. The use of new retention screws is recommended for the final insertion of the restoration in situ.
**ANKYLOS® Balance Base Abutment**

**Laboratory Processing**

**Fabrication of Bar Constructions**

**Inserting the Abutments**
Please fix the abutments with the handle for Balance Base Abutments in the implant analogs of the bar model.

**Cave:**
The base abutment must not be inserted with the 1.0 hexagon screwdriver as it might damage the occlusal thread.

**Fixing the Bar Copings**
Please place the bar copings (Degunorm® or Permador® PDF) on the abutments and fix them with the occlusal fixation screw.

**Fitting the Bars**
Please fit the bar* between the bar copings and keep the gaps between bar and copings as small as possible.

**Laser-Welded Bars**
When laser-welding (e.g. with the DeguDent Connexion Laser) please adhere to the parameters for e.g. Degunorm® or Permador®. Then adjust the height of the bar copings.

**Fixing the Bars for Soldering**
To improve the adhesion of the pattern resin, please sandblast the bar copings in the connecting areas. Use interdental brushes to ensure that the interproximal spaces allow proper oral hygiene.

* DeguDent Bar System, DeguDent, Hanau
Oxidize the soldering posts in a flame, then release the bar and copings from the model and fix the soldering posts with wax-up screws. Now fabricate the soldering model with soldering investment (e.g. Deguvest® L). Please to not re-use the soldering screws for a fixation in situ.

Please keep the soldering model as small as possible. Burn out the pattern resin and apply flux DS 1 or T in the soldering gaps. Keep the flux out of the screw channel (Solder for Degunorm®, solder for HSL).

After soldering, please pickle the bar in neacid and check the fit on the master model. Then adjust the height of the bar copings, trim and polish the bar structure.

Please wax up the teeth on the copings and the bar, then try them in.

Prior to finishing the bar-retained restoration please adjust the activable bar clips, leaving approximately 0.5 mm between clips and coping.
Blocking Out
Prior to Finishing

Please block out the bar construction, leaving the retainers exposed.

Finished
Bar-Retained
Denture

Please finish the bar-retained denture as usual. Activate or deactivate the clips as required for retention.

In order to avoid a fracture of the restoration, a metal reinforcement is required for fragile dentures.

**Special advice for dental alloys***

**Side effects of dental alloys:** Allergies against single components of the alloy or electro-chemically induced unusual tastes or electrical sensations might occur. Systemic side effects of metals contained in the alloy have been reported in individual cases.

**Interactions:** Please avoid occlusal and proximal contact of different alloys.

**Contra-indications:** Evidence of hypersensitivity to a metal contained in the alloy.

* Please adhere to manufacturer’s guidelines.
Selecting the Alloys

The selection of alloys for superstructures must consider the increased requirements of implant-supported reconstructions, leading to specific selection criteria for preferred alloys:

- Preferred use of extra-hard alloys (type 4)
- High heat resistance during ceramic veneering
- High resistance to corrosion
- Good soldering properties for the fabrication of wide-span bridges
- Good connection properties during cast-on of prefabricated components
- Overall safe and easy workability

We are aware that dental offices use a larger variety of alloys than presented here. However, our selection includes alloys which exceptionally well meet the above mentioned requirements and are therefore recommended.

Alloys which are not suitable for ceramic bonding

<table>
<thead>
<tr>
<th>Alloy</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degulor® M</td>
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Ceramic bonding alloys (high-noble alloys)

<table>
<thead>
<tr>
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<tr>
<td>Degudent® H</td>
<td>extra hard</td>
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<tr>
<td>Degudent® U 94</td>
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Ceramic bonding alloys for low-melting ceramics

<table>
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<tr>
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<tr>
<td>Degunorm® Supra</td>
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In order to avoid fractures or fissures in the dental ceramic material which are due to different coefficients of thermal expansion, please ensure that all attachments or implant components are well covered (ca. 0.5 mm) during any casting process.

Palladium-based alloys

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Degupal® 17</td>
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<td>Degupal® G</td>
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<tr>
<td>Pors-on 4</td>
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For detailed information and the exact composition of the above mentioned alloys, please contact:

DeguDent GmbH
Rodenbacher Chaussee 4
D-63457 Hanau-Wolfgang
Tel. +49 6181 5950
info@degudent.de
FRIADENT Class I medical products

Class I medical products compliant with Directive 93/42/EEC are:
- non-active, handheld surgical and prosthetic instruments for implant placement and grafting
- components for impression technique that do not remain in the patient’s mouth
- non-active components for the planning phase

FRIADENT Class IIa, IIb, III medical products

Class IIa, IIb and III medical products compliant with Directive 93/42/EEC are:
- dental implants, membranes, membrane tacks and bone grafting materials
- active surgical instruments for implant placement and grafting
- components for impression technique and prosthetic restoration that remain in the patient’s mouth